1946

Library of the Museum

OF

COMPARATIVE ZOÖLOGY,

AT HARVARD COLLEGE, CAMBRIDGE, MASS.

Founded by private subscription, in 1861.

Deposited by ALEX. AGASSIZ.

No. 2250

NOTES

FROM THE

LEYDEN MUSEUM.

NOTES

FROM THE

LEYDEN MUSEUM

FOUNDED BY THE LATE

Prof. H. SCHLEGEL,

CONTINUED BY

Dr. F. A. JENTINK,
Director of the Museum.

VOL. IX.

LEYDEN
E. J. BRILL.
1887.

CONTENTS OF VOL. IX.

MAMMALIA.

Page

On Mammals from Mossamedes. By Dr. F. A. Jentink . . . . . 171.

On three rare South-American Mammals. By Dr. F. A. Jentink. (Plate 3). 223.

AVES.

On a collection of Birds made by Dr. C. Klaesi in the Highlands of Padang (W. Sumatra) during the winter 1884—85. By J. Büttikofer. . 1.

REPTILIA and PISCES.

On a collection of Reptiles and Fishes from the West-Indies. By Dr. Th. W. van Lidth de Jeude. (Plate 2) . . . . . 129.

INSECTA.

COLEOPTERA.

Cinq espèces nouvelles de Coléoptères exotiques appartenant au Musée de Leyde. Décrites par J. W. van Lansberge . . . . . 107.

Description of a new genus and four new species of Longicorns. By J. R. H. Neervoort van de Poll. . . . . 113.

A new genus and new species of Languriidae from the collection of the Leyden Museum. Described by the Rev. W. W. Fowler. . . . . 121.

Nova species Buprestidarum. Descripsit J. R. H. Neervoort van de Poll. 126.

A new species of the Longicorn genus *Chloridolum* Thoms. Described by C Ritsema Cz. . . . . 127.

Nova species Cucujidarum. Auctore J. R. H. Neervoort van de Poll . . 140.

Description d'une espèce nouvelle de Buprestide de l'Afrique. Par J. W. van Lansberge. . . . . 141.

Description d'une espèce nouvelle de Cérambycide de Sumatra. Par J. W. van Lansberge . . . . . 143.

Coléoptères nouveaux ou peu connus du Musée de Leyde. Décrits par L. Fairmaire . . . . . 145.

Page

Description d'un genre nouveau et de six espèces nouvelles de Scarabaeides des Indes orientales. Par J. W. van Lansberge . . . . . 163.

Description d'une *Trachys* nouvelle, et quelques remarques Buprestérologiques. Par J. R. H. Neervoort van de Poll . . . . . 181.

On the male of *Rosenbergia megalocephala* van de Poll. By J. R. H. Neervoort van de Poll . . . . . 184.

Synonymical remarks about *Dichrosoma Lansbergei* Krtz. By J. R. H. Neervoort van de Poll. . . . . 185.

Description d'un Elatéride nouveau de l'Amérique méridionale. Par E. Candèze. . . . . 187.

Quatre espèces nouvelles d'Elatérides de l'île de Sumatra. Décrites par E. Candèze. . . . . 189.

Description d'une espèce nouvelle du genre *Casnonidea* Fairm. Par L. Fairmaire . . . . . 192.

Description de cinq espèces nouvelles de la famille des Cantharides. Par L. Fairmaire . . . . . 193.

Description d'un genre nouveau de la famille des Clérides. Par L. Fairmaire. 197.

Trogides nouveaux. Décrits par J. W. van Lansberge . . . . . 199.

Sur le genre *Apoleon* Gorh. Par L. Fairmaire . . . . . 212.

On a few Coleoptera from the island of Riouw. By C. Ritsema Cz. . . 213.

Alphabetical list of the described species of the Longicorn genus *Batocera* Cast., with indication of the synonyms. By C. Ritsema Cz. . . . . 219.

Descriptions of some new genera and species of Phytophagous Coleoptera contained in the Leyden Museum. By Martin Jacoby . . . . . 229.

Description d'un Dytiscide nouveau. Par M. Régimbart . . . . . 244.

Remarques sur trois espèces de Gyrinides. Par M. Régimbart . . . . 245.

Clytride et Eumolpides nouveaux de l'Afrique tropicale occidentale, et des îles de Sumatra et de Banka. Décrits par Ed. Lefèvre . . . . . 259.

Description de deux Dytiscides nouveaux. Par M. Régimbart. . . . . 267.

Description d'un Gyrinide nouveau. Par M. Régimbart. . . . . 269.

Contributions to the knowledge of the Longicorn group of the Batoceridae. By J. R. H. Neervoort van de Poll . . . . . 271.

On the forma priodonta of *Odontolabis Dalmani* Hope, and the forma teledonta of *Odontolabis celebensis* Leuthn. By J. R. H. Neervoort van de Poll. . . . . 279.

Synonymical remarks on Madagascar Cetoniidae. By J. R. H. Neervoort van de Poll . . . . . 282.

Description of a new species of the Australian Longicorn genus *Brachytria* Newm. By J. R. H. Neervoort van de Poll. . . . . 283.

Descriptions d'Elatérides nouveaux, provenant de Normantown: baie de Carpentaria (Australie septentrionale). Par E. Candèze . . . . . 285.

Description of two new species of *Aesernia*. By Martin Jacoby . . . . 300.

LEPIDOPTERA.

Nouvelle espèce de Lépidoptère de la famille des Lycaenides. Décrite par P. C. T. Snellen. . . . . 217.

MOLLUSCA.

Page
Die van Hasselt'schen Nudibranchien. Von Dr. R. Bergh (Tafel 6). . . 303.

VERMES.

Descriptions of Earthworms. By Dr. R. Horst. I. (Plate 1). . . . . 97.
Descriptions of Earthworms. By Dr. R. Horst. II. (Plate 4) . . . . 247.
Descriptions of Earthworms. By Dr. R. Horst. III. (Plate 5) . . . . 291.

Vol. IX was issued in parts in the following order:

N°. 1 — January 1887, Note I—XIII.

N°. 2 — April 1887, Note XIV—XXVI.

N°. 3 — July 1887, Note XXVII—XXXIII.

N°. 4 — October 1887, Note XXXIV—XLIII.

NOTE I.

ON A COLLECTION OF BIRDS

made by Dr. C. KLAESI

in the Highlands of Padang (W. Sumatra) during the winter 1884—85.

BY

J. BÜTTIKOFER.

Repeated and successful attempts have been made within the last 10 years to increase our knowledge of the Avifauna of Sumatra, and though much is still left undone, the time cannot be very far, that we shall have a tolerably good idea of it and its relation to that of the Continent and the great neighbouring Islands of Java and Borneo.

The first intelligence of Sumatran Birds is given by Sir Stamford Raffles in the *Transactions of the Linnean Society*, Vol. XIII, p. 277–331, with an appendix (pp. 339, 340) in 1822. This very important account mentions 168 species, which were collected at Bencoolen (S. W. Sumatra), the residence of Raffles', and its vicinity. More than 50 of these species were considered to be new. — About 10 years later (1830) his widow published a memoir of Raffles, with an appendix from the hand of Vigors', in which 30 more species, also collected by Raffles, are enumerated, so that the number of species, the first knowledge of which is due to Raffles, is brought to the considerable number of 198.

In June 1833 the well-known Dutch traveller S. Müller, accompanied by van Oort, Korthals and Burger, all members of the »Natuurkundige Commissie", were directed to Padang, on the West Coast of Sumatra, a country where formerly but some few objects were collected and forwarded to the Leyden Museum by the Major Henrici[1]). The last months of 1833 and the years 1834 and 1835 were bestowed on the exploration of the Lowlands and Highlands of Padang and enormous collections of every kind were sent to Europe. In September 1834 van Oort died at Padang, and towards the end of 1835 Müller and Korthals returned to Batavia.

Two years later another attempt was made by Dr. Horner, also member of the »Commissie", who, after having made part, together with Müller and Korthals, of the expedition to Banjermassing (Borneo), arrived at Padang on the 24th of June 1837. He was accompanied by the Dutch preparator Overdijk. Notwithstanding most of their time was spent with geological observations, Dr. Horner furnished the Leyden Museum with a considerable number of Birds, collected in the vicinity of Padang and on the Islands along the West Coast, especially at Poelo Tello. He died at Padang after about $1^1/_2$ year's stay in that country, the 7th December 1838.

A report of the Birds collected during the explorations by the mentioned Dutch Naturalists has never been published, but many of them have been described and figured by Temminck in his *Planches Coloriées*, others in the *Verhandelingen over de Natuurlijke Geschiedenis der Nederlandsche Overzeesche Bezittingen* by Müller and Schlegel, Zoologie, and by Müller alone, Land- en Volkenkunde. The large collections, stored up in the Leyden Museum, have also furnished part of the materials for Schlegel's *Catalogue du Musée des Pays-Bas* and for his *Vogels van Nederlandsch*

1) One of these species, *Megalaema Henricii*, not found by any subsequent traveller in Sumatra and thus only known by the typical specimen, figured by Temminck in the *Planches Coloriées*, is rediscovered by Dr. Klaesi.

Indie, for Bonaparte's *Conspectus Avium*, and many other publications.

After these investigations a long space of time elapsed without any remarkable ornithological news from this vast Island, until Mr. Buxton made his collection in the Lampongs, S. E. Sumatra. This gentleman, during the summer months of 1876, collected a great number of Birds, representing 152 species, amongst which two were new to science. This very important collection was described by the late Lord Tweeddale, Ibis 1877, p. 283—323.

In 1877 (April to December), Mr. Snelleman, the Naturalist of the Dutch Expedition to Mid-Sumatra, made a collection of Birds in the Highlands of Padang in different stations of the Expedition. The collection, at present incorporated into the Leyden Museum, contained about 280 specimens, referable to 97 species, two of which (*Rhipidura atrata* and *Peloperdix rubrirostris*) were then new to science, but shortly afterwards were also found by Beccari and described by Count Salvadori, before the publications of the Sumatra Expedition had left the press. The ornithological collections are afterwards described by Mr. Snelleman in the work »*Midden-Sumatra, Reizen en onderzoekingen der Sumatra Expeditie, uitgerust door het Aardrijkskundig Genootschap* (1877—1879). Leiden, E. J. Brill.

Another very important collection was made by Mr. Beccari on the Mount Singalàng and in its vicinity, partially in the coast region near Padang. This gentleman, though in first line occupied with botanical collections, obtained during the summer-months, from June to September 1878, 566 specimens, belonging to 179 different species, amongst which no less than 24 are described as new. Count Salvadori's description of this interesting collection is in more than one regard the most eminent publication on Sumatran Birds hitherto offered to Ornithologists. It is contained in the *Annali del Museo Civico di Storia Naturale di Genova*, Vol. XIV, p. 169—253 (1879), under the title of *Uccelli di Sumatra*.

During the same year (August 1878 to January 1879) and partially together with Mr. Beccari, Mr. Bock, a Swedish Naturalist, collected for Lord Tweeddale in the Highlands of Padang, and obtained about 800 specimens, referable to 166 species, 32 of which are not included in the lists given by Tweeddale and Salvadori. Three species have been described as new by Mr. Wardlaw Ramsay in the P. Z. S. 1880, p. 13. One of these, however, *Turdinus marmoratus*, was afterwards shown by Mr. Sharpe to be identical with *T. loricatus* (Müll.).

Two other collections were sent to the International Colonial Exhibition at Amsterdam, and are determined and enumerated by Dr. Jentink in the Exhibition Catalogue, p. 137 (1882). One of both belonged to Mr. F. von Faber, then Comptroller at Loeboe Basong, Priaman (Lowlands of Padang), and contained 36 species. The other was sent by Mr. van Schuylenburg, Assistent Resident at Moeara Doea (Palembang) and contained 43 specimens, representing 36 species. Both collections were afterwards presented to the Leyden Museum.

Very extensive collections were made during 1880 and 1881 by the well-known energetic traveller in the Dutch Indies, Mr. H. O. Forbes in the Residencies Lampong and Palembang, southern and south eastern Sumatra. They contained altogether 148 species, 74 of which were obtained in the Lampongs, and 74 in the Residency of Palembang, 15 from the first country having also been found in the latter. Both collections are described by Mr. Nicholson in Ibis 1882, p. 50—65 and 1883, p. 235—257, and also make part of the List of the Birds of Sumatra, given by Mr. Forbes in his book »A Naturalist's Wanderings in the Eastern Archipelago", p. 269 (1885).

Another, also important collection has been made in Deli, Eastern Sumatra, opposite to Perak (Malacca), in May 1884, and kindly presented by the collector, Dr. B. Hagen, to the Leyden Museum. It contained 112 species which show in a high degree the relationship to the Avifauna of Malacca.

Still another, though much smaller collection, also from Deli, was obtained by Mr. W. Dates and presented by his brother in law, Dr. ten Kate. It contained 34 specimens, referable to 23 species, many of which made not part of Dr. Hagen's collection.

The last important collection of Sumatran Birds was received from Dr. C. Klaesi, of late Surgeon in the Dutch East Indian Army, who, after the expiration of his service, bestowed the time from October 1884 to March 1885 upon zoological investigations in the coast region and the Highlands of Padang, especially in the southern part of the latter. From October 10 to November Dr. Klaesi made a trip along the coast from Padang to Priaman, with the intention to collect marine animals on the small Islands along the coast. Only few Birds, especially Waders, were collected during this trip.

After his return Dr. Klaesi proceeded to the Highlands, staid at Loeboe Soelasi from 5 to 12 November, at Soerian from 14 November to 1 January, at Moeara Laboe (also visited by Mr. Bock) from 2 to 25 January, all three latter places lying in the valley of the upper Batang Hari, and afterwards, from 28 January to 25 March, had his headquarters at Loeboe Gedang, in the valley of a southern confluent of the Batang Hari, at the northern foot of the Goenong Korintji (Pic of Indrapoera). In this last station and its vicinities the most important part of his rich collection was obtained. This place is not far from Bedar Alam, the most distant place from Padang, where ornithological collections were made by the Dutch Sumatra Expedition.

With the aid of his experienced huntsman and birdstuffer Senen, a native who previously accompanied the travellers Beccari and Bock, Dr. Klaesi collected, beside a great number of Mammals, Reptiles, Molluscs and Insects, about 1200 Birds, representing 189 species. This is, with the exception of Raffles' collection, the largest number of species, obtained by one and the same collector in Suma-

tra. As Dr. Klaesi made his collections during the winter, he obtained several migratory species, some of which have also been collected by Mr. Bock, who visited the same country, though only during the first winter months.

As the following list will sufficiently show the importance of this collection, I do not find it necessary to spend much space for an explanation of the most interesting species. I only call attention to the curious fact that Beccari, though his collection was considerably smaller than that of Dr. Klaesi, obtained 24 new species, while the collection of the latter contains only one, which I am much pleased to dedicate to its discoverer. Though undoubtedly many more species are still to be found in that vast Island, there will hardly any place be found to produce as many new ones as the country of Mount Singalang offered to Beccari. The following species are here, as far as I know, for the first time recorded as occurring in Sumatra:

Chrysoccyx maculatus (Gm.).
Serilophus lunatus Gould.
Buchanga stigmatops Sharpe.
Micropus melanoleucus (Eyt.).
Pitta cucullata Hartl.
Myiophoneus flavirostris (Horsf.).
Ortygometra cinerea (Hartl.).

Before I conclude these introductory lines, I have to offer Dr. Klaesi's thanks to the gentlemen who, as much as possible, facilitated his task. They are: Prof. Askenasy at Heidelberg, who kindly furnished his scientific outfit, Mr. J. L. L. van Leeuwen, Assistant Resident at Priaman, Mr. G. van Haren Karspel, Ass. Res. at Solok, Mr. de Lannoy, Comptroller at Moeara Laboe, Mr. L. Stibbe, at Loeboe Soelasi, Mr. Stolz at Soerian, Mr. van Maarsseveen at Loeboe Sampir, Mr. Steller at Oeloe Seliti, and Mr. H. Meyer, of the firm van Houten, Stephan & C°. — Although the Governor of the West Coast of Sumatra (since returned to Europe) neglected most

unkindly to recommend Dr. Klaesi to his different officers in the interior, the many acquaintences the latter made during his sojourn in the mountains enabled him to spend his time in the most successful way.

1. *Microhierax fringillarius.*

Falco coerulescens (nec L.), Horsf. Trans. Linn. Soc. XIII. p. 135 (1821); — Temm. P. C. I. 97 (1824); — Schl. Vog. Ned. Ind. Valkvogels, pp. 7, 48, pl. 2, fig. 1 (1866); id. Mus. P.-B., Revue Accip. p. 46 (1873).

Microhierax fringillarius (Drapiez, 1824), Sharpe, Cat. Birds Br. Mus. Vol. I. p. 367 (1874); — Tweedd. Ibis 1877, p. 286; — Salvad. Ucc. di Sumatra, p. 172 (1879).

4 specimens (3 ♂, 1 ♀).

»Bill and feet black, iris dark brown. Native name: *Sikko Kumbang.*"

2. *Haliaetus leucogaster.*

Falco leucogaster, Gm. S. N. I. p. 257 (1788); — Temm. P. C. I. 49 (1823).

Haliaetus leucogaster, Schl. Valkvogels (l. c.), pp. 9, 50, pl. 4, fig. 1, 2; id. Mus. P.-B., Revue Accip. p. 117 (1873).

2 specimens (1 ♂, 1 ♀).

»Iris light brown, marbled with dark brown, bill bluish horn-color, feet gray. Native name: *Alang laut.*"

3. *Polioaetus humilis.*

Falco humilis, Müll. & Schl. Verhandelingen, Zool. Aves, p. 47, pl. 6 (1839—1844).

Pandion humilis, Schl. Valkvogels (l. c.), pp. 13, 53, pl. 5, fig. 3.

Haliaetus humilis, Schl. Mus. P.-B., Revue Accip. p. 119 (1873); — Snelleman, Sum. Exp. Vogels, p. 44 (1884).

Polioaetus humilis, Wall. Ibis 1868, p. 14; — Salvad. Ucc. di Borneo, p. 6 (1874); — Nicholson, Ibis 1883, p. 240.

1 specimen (ad. ♂).

»Bill brownish black, feet bluish white. Native name: *Alang peikan.*"

4. *Spilornis bacha.*

Spilornis bacha (Daud.), Gray, List Gen. B. I. Ed. p. 3 (1840); — Salvad. Ucc. di Sumatra, p. 173 (1879); — Nicholson, Ibis 1882, p. 52, and 1883, p. 239.

Circaetus bascha, Schl. Valkvogels (l. c.), pp. 36, 71, pl. 22; id. Revue Accip. p. 113 (1874).

Spilornis pallidus, Walden, Ibis 1872, p. 363; — Sharpe, Cat. Birds Br. Mus. Vol. I. p. 290, pl. IX (1873); — Nicholson, Ibis 1882, p. 52.

5 specimens (all females).

»Iris sulphur-yellow, round the eye chrome-yellow, feet dirty whitish yellow. Native name: *Alang tampien.*"

There are some very interesting differences in color amongst these specimens. The most aberrant of all makes the impression of being a young one, having nearly all the feathers on the upper surface, those of the occipital crest not excluded, more or less tipped with white, which is still more the case with the greater wing-coverts and the quills. The feathers on chin and throat are almost entirely white; those of the chest are brown with a white submarginal streak on each side. On the breast these streaks are represented by longitudinal rows of tolerably distinct white spots. Farther down these spots are very large and distinct, and make the impression of white cross-bars, especially on the thighs and still more on the under tail-coverts. The tail is very broadly tipped with white and has two broad and distinct white bars. The edge of the wing is pure white, the under surface almost entirely white, the under wing-coverts brown, with numerous very large white spots.

The second specimen differs from the common plumage by having scarcely any white dots on axillaries and wing-coverts, but by the quills and more especially the secondaries being very broadly tipped with white. The white area on the under surface of the wings is nearly as large as in the preceding specimen. The chest is brown and vermiculated with a somewhat darker tinge of the same color. The inner white bar on the tail is scarcely perceptible.

The third specimen is not dotted above at all, only the secondaries being tipped with white. The throat of this example is ashy grey, the chest grayish brown, without any vermiculations. The lesser wing-coverts are faintly tipped with clear brown.

The fourth specimen differs from the second by the ashy gray chin and throat, and by having the wing-coverts provided with two very obvious white dots at the tip of each feather.

The fifth is characterised by the want of clear spots on the upper surface. The lower surface is uniform brown without paler edgings and vermiculations on the chest. Breast, abdomen, flanks, thighs and under tail-coverts are covered with rounded white spots, without the least tendency to form cross-bars as is the case with the other specimens.

The length of the wing varies between 35 and 37,5 cm.

All five specimens are collected between the 15th of November and the 24th of December.

With the exception of the white edgings to the tips of the feathers on the upper surface and the two distinct white bars on the tail instead of a single one, which characters undoubtedly indicate a young stage of plumage, I consider all the many differences in color due to individual variation only, as is the case with our *Buteo vulgaris*, and not to sex, age nor locality. The strongest evidence for this opinion is the young specimen in the Leyden Museum, figured in Schlegel, l. c. pl. 22, fig. 3, which shows that the plumage of the young bird is, with the exception above mentioned, not different from that of the adult.

5. *Pernis ptilorhyncha.*

Falco ptilorkynchus, Temm. P. C. I. 44 (1823); — Müll. & Schl. Verh. Aves, p. 49, pl. 7 (1839—44).

Pernis cristatus (Cuv.), Schl. Valkvogels (l. c.), pp. 39, 73, pl. 25, 26 (1866); id. Revue Accip. p. 131 (1873); — Tweedd. Ibis 1877, p. 286.

Pernis ptilorhyncha, Salvad. Ucc. di Borneo, p. 9 (1874).

2 specimens (♀ ♀).

»Iris chrome-yellow, bill black, cere and feet yellow. Native name: *Alang bumbun*, *Alang Katutui*."

6. *Haliastur indus.*

Haliaetus indus (Bodd.), Schl. Valkvogels (l. c.), pp. 10, 51, pl. 4; id. Mus. P.-B., Revue Accip. p. 119; — Snelleman, Sum. Exp. Vogels, p. 45 (1884).

Haliastur intermedius, Gurney, Ibis 1865, p. 28; — Tweedd. Ibis 1877, p. 286; — Salvad. Ucc. di Sumatra, p. 173 (1879).

7 specimens.

»Iris brown, upper mandible whitish blue, lower whitish green, feet pale yellow. Native name: *Alang bondok*."

7. *Spizaetus limnaetus.*

Falco limnaetus, Horsf. t. c., p. 138; — Temm. P. C. I. 134 (1823).

Falco caligatus, Raffl. Trans. Linn. Soc. XIII. p. 278 (1822).

Falco niveus, Temm. P. C. I. 127 (1823).

Spizaetus cirratus (Gm.), Schl. Valkvogels (l. c.), pp. 14, 53, pl. 6, 7; id. Mus. P.-B., Revue Accip. p. 52 (1873) (part.).

Spizaetus limnaetus (Gray), Sharpe, Cat. Birds Br. Mus. Vol. I. p. 272 (1874).

Limnaetus caligatus, Salvad. Ucc. di Sumatra, p. 172 (1879).

6 specimens (5 in fully adult, dark brown plumage, the sixth with some remains of white bars on the under surface of quills and tail feathers and on the upper tail-coverts).

»Iris dark brown, bill black, cere and feet orange-yellow. Native name: *Alang itam*."

8. *Astur trivirgatus.*

Falco trivirgatus, Temm. P. C. I. 303 (1824).

Astur trivirgatus, Schl. Valkvogels (l. c.), pp. 18, 57, pl. 10; id. Mus. P.-B., Revue Accip. p. 65 (1873); — Tweedd. Ibis 1877, p. 286; — Nicholson, Ibis 1882, p. 52.

2 specimens (ad. ♂ ♂).

»Iris, cere and feet lemon-yellow. Native name: *Sikko*."

9. *Accipiter virgatus.*

Falco virgatus, Temm. P. C. I. 109 (1823).
Accipiter stevensoni, Gurney, Ibis 1863, p. 447, pl. XI; id. Ibis 1875, p. 482; — Ramsay, P. Z. S. 1880, p. 14.
Nisus virgatus, Schl. Valkvogels (l. c.) pp. 20, 59, pl. 12 (1866); id. Mus. P.-B., Revue Accip. p. 74 (1874).
Accipiter virgatus, Sharpe, Cat. Birds Br. Mus. Vol. I. p. 150.

4 specimens (2 ♂, 2 ♀).

»Iris blood-red, cere yellowish green, feet lemon-yellow. Native name: *Sikko alang.*"

After having compared and measured the specimens of this species at my disposal, I cannot find sufficient reasons to keep *A. stevensoni* specifically distinct from *A. virgatus.*

I have now before me 13 specimens from Java, 3 from Banka, 5 from Sumatra, 5 from Malacca, 1 from China (Chefoo, Swinhoe), 1 from Nepal and 3 from Japan (*A. gularis*).

10. *Ninox scutulata.*

Strix scutulata, Raffl. t. c., p. 280.
Strix hirsuta, Temm. P. C. I. 289 (1824).
Noctua hirsuta et *N. hirsuta minor*, Schl. Mus. P.-B., Revue Noctuae, pp. 23, 24 (1873).
Ninox scutulata, Sharpe, Cat. Birds Br. Mus. Vol. II. p. 156 (1876); — Tweedd. Ibis 1877, p. 287; — Salvad. Ucc. di Sumatra, p. 174 (1879).

1 specimen (ad. ♂).

»Iris and feet orange-yellow. Native name: ?"

11. *Scops lempiji.*

Strix lempiji, Horsf. t. c., p. 140; — Raffl. t. c. p. 280.
Strix noctula, Temm. P. C. II. 99 (1824).
Scops lempiji, Schl. Mus. P.-B., Revue Noctuae, p. 10 (1873); — Salvad. Ucc. di Sumatra, p. 175 (1879); — Nicholson, Ibis 1882, p. 53.

1 specimen (♂).

Iris sulphur-yellow, feet whitish yellow. Native name: *Kua.*"

12. *Ketupa javanensis.*

Strix ketupa, Horsf. t. c., p. 141.
Strix ceylonensis (nec Gm.), Temm. P. C. II. 74 (1823).
Bubo javanensis, Schl. Mus. P.-B., Revue Noctuae, p. 6 (1873).
Ketupa javanensis (Less.), Sharpe, Cat. Birds Br. Mus. Vol. II. p. 8 (1875); — Salvad. Ucc. di Sumatra, p. 176 (1879); — Nicholson, Ibis 1882, p. 53; — Snelleman, Sum. Exp. Vogels, p. 45 (1884).

10 specimens (9 ad., 1 juv.).

»Iris lemon-yellow, bill brownish black, feet bluish gray. Native name: *Kua*."

13. *Phodilus badius.*

Strix badia, Horsf. t. c., p. 139; — Temm. P. C. II. 318 (1825); — Schl. Mus. P.-B., Revue Noctuae, p. 17 (1873).
Phodilus badius, Is. Geoffr. Ann. Sc. Nat. XXI. p. 201 (1830); — Salvad. Ucc. di Borneo, p. 21 (1874).

1 specimen (♂).

»Iris?, feet straw-yellow. Native name: ?"

14. *Psittinus incertus.*

Psittinus incertus (Shaw), Salvad. Ucc. di Borneo, p. 25 (1874); — Tweedd. Ibis 1877, p. 292; — Nicholson, Ibis 1882, p. 57.
Psittacus malaccensis, Lath.; — Raffl. t. c. p. 231; — S. Müll. Verhandl. Land en Volkenk. p. 107 (1839—44).
Psittacus azureus, S. Müll. l. c. p. 377.
Psittacula incerta, Gray; — Schl. Mus. P.-B., Revue Psittaci, p. 32 (1874); — Snelleman, Sum. Exp. Vogels, p. 32 (1884).

7 specimens (3 ♂, 4 ♀).

»Iris straw-yellow, upper mandible crimson, lower yellowish gray, feet yellowish gray. Native name: *Tanan*."

15. *Loriculus galgulus.*

Psittacus galgulus, L. S. N. I. p. 150 (1766); — Horsf. t. c. p. 182; — Raffl. t. c. p. 281; — S. Müll. Verh. Land- en Volkenk. pp. 107, 381 (1839—1844).
Loriculus galgulus, Bp. Consp. I. p. 6 (1850); — Schl. Mus. P.-B., Revue Psittaci, p. 62 (1874); — Tweedd. Ibis 1877, p. 292; — Snelleman, Sum. Exp. Vogels, p. 32 (1884).

17 specimens.

»Iris dark brown, bill black, feet ochraceous. Native name: *Silindi*."

16. *Trogon erythrocephalus.*

Trogon erythrocephalus, Gould, P. Z. S. 1834, p. 25; id. Mon. Trog. pl. 33 (1838); — Snelleman, Sum. Exp. Vogels, p. 33 (1884).

Trogon flagrans, Müll. Tijdschr. Nat. Gesch. en Physiol. 1835, p. 338, pl. 8, fig. 2.

Pyrotrogon erythrocephalus, Cab. & Heine, Mus. Hein. IV. p. 160 (1863); — Salvad. Ucc. di Borneo, p. 28 (1874).

Pyrotrogon flagrans, Salvad. Ucc. di Sumatra, p. 176 (1879).

3 specimens.

»Iris in all three specimens brown, round the eye ultramarine, yielding to lilac, and also the bill, the point of which is black, feet minium-red. Native name: *Kassumbo merah*."

A revision of the specimens of *T. erythrocephalus*, *T. hodgsoni* and *T. flagrans*, contained in the Leyden Museum convinces me that neither of the two latter ones are specifically distinct from the first. I have before me 8 specimens from Sumatra, 7 from Nepal and 2 marked »Hodgson" without any other indication. All the Sumatran specimens are somewhat smaller than those from the Continent, the wings measuring 12,8 to 13 cm. (= 5 inches, the length of wing noticed in the original description of *T. erythrocephalus*). The length of wing in our Indian examples varies between 13,8 and 14,8 cm.

There are three specimens in the Museum (one from Nepal and the two labelled »Hodgson") in which the red on breast, abdomen and under tail-coverts is but faintly represented on the sides of the breast and on some of the under tail-coverts, all the rest being pure white. All three specimens have the head, throat and chest olivaceous brown.

Amongst the three specimens from Dr. Klaesi's collec-

tion there are two with red heads and the third with a brown one. It may be worth of notice, that the latter is labelled as a male, while of the first two the one is labelled as a male, the other as a female. As Count Salvadori has already called attention upon this point (Ucc. di Sum. p. 176), it would not be very surprising to find one day that the birds are not erroneously labelled but that really very old females would assume the plumage of the adult male.

17. *Trogon Mackloti.*

Trogon Mackloti, Müll. Tijdschr. Nat. Gesch. en Physiol. 1835, p. 336, pl. 8, fig. 1; — Snelleman, Sum. Exp. Vogels, p. 33 (1884).

Hapalarpactes macloti, Salvad. Ucc. di Sumatra, p. 177 (1879).

10 specimens.

»Iris dark brown, circle round the eye ultramarine, bill blood-red, gonys green, feet orange-yellow. Native name: *Kassumbar.*"

Amongst the four specimens labelled ♂ is one with back and rump entirely green and without any indication of being a young bird, while among the females is one with a red rump. I therefore rather believe in a collectors mistake when fixing the labels to the birds.

18. *Trogon oreskios.*

Trogon oreskios, Temm. P. C. III. 181 (1823).

Orescius gouldii (Swains.), Salvad. Ucc. di Borneo, p. 31 (1874); — Nicholson, Ibis 1883, p. 240.

2 specimens (♂, ♀).

»Iris ashy gray, wattle round the eye, and feet cobalt-blue, base of bill ultramarine, point black. Native name: *Kassumbo guning.*"

19. *Psilopogon pyrolophus.*

Psilopogon pyrolophus, S. Müll. Tijdschr. Nat. Gesch. en Physiol. II. p. 339 (1835); — Salvad. Ucc. di Sumatra, p. 178 (1879); — Nicholson, Ibis 1883, p. 243.

Bucco pyrolophus, Temm. P. C. III. 597.
Megalaima pyrolopha, Goffin, Mus. P.-B., Buccones, p. 37 (1863); — Snelleman, Sum. Exp. Vogels, p. 35 (1884).

20 specimens.

»Iris chocolate-brown, bill greenish yellow, with a black cross-band down to the lower surface, feet bluish green. Native name: *Laweyan.*"

20. *Megalaema chrysopogon.*

Bucco chrysopogon, Temm. P. C. III. 285 (1824).
Megalaima chrysopogon, Marshall, Mon. Capit. pl. 18; — Goffin, Mus. P.-B., Buccones, p. 14 (1863); — Tweedd. Ibis 1877, p. 299; — Nicholson, Ibis 1882, p. 58; — Snelleman, Sum. Exp. Vogels, p. 35 (1884).
Chotorea chrysopogon, Salvad. Ucc. di Sumatra, p. 179 (1879).

37 specimens.

»Iris brown, bill black, feet grayish green. Native name: *Dagm-dagm gedang.*"

21. *Megalaema mystacophanos.*

Bucco mystacophanos, Temm. P. C. III. 315 (1824).
Megalaima mystacophanos, Marshall, Mon. Capit. pl. 19 (1870—71); — Goffin, Mus. P.-B., Buccones, p. 18 (1863); — Tweedd. Ibis 1877, p. 299; — Nicholson, Ibis 1882, p. 57; — Snelleman, Sum. Exp. Vogels, p. 35 (1884).
Megalaima Humei, Marshall, Ibis 1870, p. 536; id. Mon. Capit. pl. 21 (1871).
Chotorea mystacophanus, Salvad. Ucc. di Borneo, p. 34, pl. 1 (1874); id. Ucc. di Sumatra, p. 179 (1879).

8 specimens (4 ad. ♂, 2 ad. ♀, 2 jun. ♀).

»Iris dark brown, bill black, feet grayish green. Native name: *Dagm-dagm.*"

22. *Megalaema Henricii.*

Bucco Henrici, Boie, Briefe geschr. aus Ostind. No. 15 (1832); — Temm. P. C. III. 524 (1833); — Goffin, Mus. P.-B., Buccones p. 21 (1863).

1 specimen (ad. ♂).

»Iris brown, bill black, feet grayish green. Native name: *Dagm-dagm.*"

23. *Megalaema Oorti.*

Bucco Oorti, S. Müll. Tijdschr. Nat. Gesch. en Physiol. II. p. 341, pl. VIII, fig. 4 (1835).
Megalaima Oorti, Goffin, Mus. P.-B., Buccones, p. 21 (1863); — Marshall, Mon. Capit. pl. 27 (1870—71).
Cyanops Oorti, Salvad. Ucc. di Sumatra, p. 180 (1879).

6 specimens (♂♂).

»Iris dark brown, bill black, feet bluish green. Native name: *Dagm-dagm.*"

24. *Xantholaema haemacephala.*

Bucco haemacephalus, L. S. Müll. S. N. Suppl. p. 88 (1776).
Bucco philippensis, Raffl. t. c. p. 283.
Megalaima flavigula (Bodd.), Goffin, Mus. P.-B., Buccones, p. 24 (1863); — Snelleman, Sum. Exp. Vogels, p. 35 (1884).
Xantholaema haemacephala, Marsh. Mon. Capit. pl. 42 (1871); — Tweedd. Ibis 1877, p. 299; — Nicholson, Ibis 1883, p. 243.

12 specimens.

»Iris brown, bill black, feet vermilion. Native name: *Dagm ketjil.*"

25. *Xantholaema Duvaucelii.*

Bucco australis, Raffl. (nec Horsf.) t. c. p. 285.
Bucco Duvaucelii, Less. Tr. d'Orn. p. 164 (1831).
Megalaima Duvaucelli, Goffin, Mus. P.-B., Buccones, p. 28 (1863).
Xantholaema Duvaucelii, Marshall, Mon. Capit. pl. 33, fig. 1, 2 (1871); — Salvad. Ucc. di Borneo, p. 38 (1874); — Tweedd. Ibis 1877, p. 299.

4 specimens (2 ♂, 2 ♀).

»Iris brown, bill black, feet yellowish green. Native name: *Dagm-dagm ketjil.*"

26. *Calorhamphus fuliginosus.*

Bucco Lathami, Raffl. (nec Gmel.) t. c. p. 284.
Micropogon fuliginosus, Temm. P. C. text without pl. (adult) (1830).
Bucco Hayii, J. E. Gray, Zool. Miscell. p. 33 (jun.) (1832).

Megalorhynchus sanguinolentus (Less.), Sclater, P. Z. S. 1863, p. 210.
Calorhamphus fuliginosus, Goffin, Mus. P.-B., Buccones, p. 73 (1863); — Salvad. Ucc. di Borneo, p. 39 (1874); — Snelleman, Sum. Exp. Vogels, p. 35 (1884).
Caloramphus Hayi, Ramsay, P. Z. S. 1880, p. 14.

4 specimens.

»Iris brown, bill black or brownish yellow, feet minium-red. Native name: ?"

All four specimens, together with a fifth one (a pale-billed female which is retained by Dr. Klaesi) have been shot on the same day and in the same locality and most probably belong to one and the same flock. Unfortunately these specimens leave the question about the sexual differences in the color of the bill still unexplained, as there are two dark-billed specimens, one of which is labelled as a male, the other as a female, and the same is the case with the two pale-billed ones. As the specimens do not differ in the color of the plumage from each other, the difference in the color of the bill can only be due to the difference in sex, and the black-billed female as well as the pale-billed male might have been obtained by confounding their labels when fixing them to the birds.

All four specimens have chin and throat reddish brown and each feather tipped with yellow, and also is the specimen (dark billed male), collected by the Dutch Sumatra Expedition in 1877, as well as one of both specimens collected by S. Müller in that Island. The other of these two specimens however has chin and throat stone-red and cannot be distinguished from the red-throated Bornean specimens. One of the latter, collected by Schwaner, has chin and throat but slightly tinged with reddish brown instead of red, even much less than in Dr. Klaesi's specimens, and agrees perfectly well with the Malacca specimens, of which at this moment two are in our Museum.

Without supposing a change of labels in the mentioned red-throated Sumatran specimen and the pale brown-throated from Borneo, the specifical distinctness of Malaccan and

Sumatran specimens from those from Borneo can hardly be maintained, as Mr. Sclater l. c. and Count Salvadori propose in their respective papers on this subject. I should rather believe that we have to do with different stages of plumage according to the age, instead of with different species, that the pale green throat, slightly undulated with brown, is the plumage of the young bird, that the brown undulations increase with the age and that the stone-red throat is the stage assumed by the adult bird.

27. *Iyngipicus auritus.*

Picus moluccensis, Gm. S. N. I. p. 439 (1788).
Picus minor, Raffl. t. c. p. 290 (nec Linn.).
Iyngipicus fusco-albidus, Salvad. Ucc. di Borneo, p. 42 (1874); — id. Ucc. di Sumatra, p. 180 (1879); — Tweedd. Ibis 1877, p. 290; — Nicholson, Ibis 1882, p. 55.
Iyngipicus auritus (Eyton), Hargitt, Ibis 1882, p. 42; — Nicholson, Ibis 1883, p. 242.

4 specimens (1 ♂, 3 ♀).

»Iris brown, bill and feet gray. Native name: *Si ontong.*"

28. *Xylolepes validus.*

Picus validus (Reinwardt i. l.), Temm. P. C. IV. 378 (♂), 402 (♀) (1825).
Xylolepes validus, Cab. & Heine, Mus. Hein. IV, 2, Picidae, p. 108 (1863); — Salvad. Ucc. di Borneo, p. 43 (1874); id. Ucc. di Sumatra, p. 181 (1879); — Tweedd. Ibis 1877, p. 240; — Nicholson, Ibis 1882, p. 54; id. Ibis 1883, p. 242.

2 specimens (ad. ♂, jun. ♂).

»Adult male: Iris orange-yellow, upper mandible brown, lower black, feet dirty flesh-color."

»Young male: Iris brown, upper mandible pale brown, lower pale ochre, feet dark brown."

»Native name: *Si ontong vimba.*"

29. *Hemicercus sordidus.*

Picus concretus, Temm. (part.) P. C. IV. 90 (descr. mari jun. sed non fig.) ex Banka et Sumatra; — Snelleman, Sum. Exp. Vogels, p. 38 (1884).

Hemicercus concretus, Blyth, J. A. S. B. XIV. p. 195 (1845).
Dendrocopus sordidus, Eyt. Ann. & Mag. Nat. Hist. XVI, p. 229 (♀) (1845).
Hemicercus coccometopus, Rchb. Handb. Picinae, p. 401 (sed non descr. ♂ ad.). t. 656, fig. 4364—65 (1854).
Hemicercus sordidus, Cab. & Heine, Mus. Hein. IV, 2, p. 177 (1863); — Salvad. Ucc. di Borneo, p. 46 (1874); — Tweedd. Ibis 1877, p. 291; — Hume, Stray Feathers, 1877, p. 128. — Salvad. Ucc. di Sumatra, p. 181 (1879); — Sharpe, Ibis 1879, p. 241.
Hemicercus brookeanus, Salvad. Atti R. Acad. Sc. di Torino. III. p. 525 (1868); id. Ucc. di Borneo, p. 44 (1874).

3 specimens (2 ad. ♂, 1 ad. ♀).

»Iris brown, bill black, feet dark gray. Native name: *Si ontong*."

There exists a great confusion in literature about the different forms of this genus which successively has been split into five species, adding to the above mentioned ones that of *H. Hartlaubii* Malh. The most eminent students of Indian and Malayan Ornithology agree that the number of species must be reduced. Salvadori in his »Uccelli di Borneo," doubts somewhat as to the specific distinctness of all the different species, after having united *H. coccometopus* Rchb. with *H. sordidus* Eyton. The Marquis of Tweeddale (Ibis 1877, p. 291) also unites *H. brookeanus* Salvad. with *H. sordidus* Eyton. He considers the Javan *H. concretus* Temm. *seu H. Hartlaubii* Malh. to be a distinct species on account of the entirely red crest in adult males and points out that the confusion between the two species derived from an immature stage of plumage of *H. sordidus*, in which the postoccipital if not the whole crest is flame-colored and which stage occasionally was mistaken for the real red-crested *H. concretus*. According to this author the occurrence of this species beyond Java rests on no good authority. Mr. Hume in his »Birds of Tenasserim"(l. c.) also acknowledges but two species, uniting the entirely red-crested *H. Hartlaubii* Malh. with *H. concretus* of Temminck, and all the other species with gray postoccipital crest, under

the head of *H. sordidus* Eyton, though he yields to the opinion that no distinctive characters can be based upon the color of the crest, but that if both species are really distinct, there must be sought for better characters. Mr. Hume cannot agree with the Marquis of Tweeddale that *H. concretus* seu *Hartlaubii* is restricted to Java only, and mentions the description of fully red-crested specimens from Sumatra by Temminck, the occurrence of such Birds in Borneo according to Malherbe and Salvadori (the latter seems to have some doubts as to the trustworthiness of this locality) and a specimen from Malacca, considered by Mr. Gould to be *H. concretus*. A bird from Nealys (Malacca), considered by Mr. Hume to be a true *H. concretus* (l. c. p. 129), is most probably a nearly adult male, having got already the red crown, while the red occipital plumes are not yet replaced by the gray ones of the adult stage.

Mr. Sharpe (Ibis 1879, p. 241) also throws some light upon this question, though it is not clear to me, why *H. sordidus*, which seems to him to be a distinct species, would have to bear the older title of *H. concretus*. As to the occurrence of *H. Hartlaubii*, Mr. Sharpe considers the localities mentioned by Mr. Hume (vide supra) trustworthy except that of Borneo, and thinks its entirely red crest a good character for distinguishing the species, but would nevertheless not be surprised if it afterwards would turn out to be the very old full-plumaged stage of *H. sordidus*.

A careful examination of all our Museum specimens of this genus, amongst which the types of Temminck's *Picus concretus* from Java, Banka — not Banda, as is erroneously mentioned in the letterpress to pl. 90 — and Sumatra are still contained, convinced me of the impossibility of keeping more than two species — the entirely red-crested Javan form (*H. concretus*) and that with gray postoccipital crest from other localities (*H. sordidus*) — as really distinct. Our Museum Collection contains five specimens from Java, two from Borneo, four from Banka, eight from Sumatra and one from the Continent (Singapore).

Amongst the Javan specimens are both, the young orange-red-crested male with the fawncolored forehead and the adult female, figured on plate 90 (P.C.), and I must say that figures and coloration are very correct. Besides these two specimens are a second female and two entirely red-crested adult males (*H. Hartlaubii* Malh.), which latter have the crest of a very lively vermilion instead of orange-red, and which I think to be nothing but the fully adult stage of Temminck's *P. concretus*. All our adult male specimens from other localities are red-capped with a gray postoccipital crest, not excluded those mentioned by Temminck from Banda (read Banka) and Sumatra. Our material shows very clearly that Temminck counfounded in some way Javan with Sumatran specimens, as we possess no entirely red-crested specimens neither from Banka nor from Sumatra and when he says, when speaking of the birds generally, that those with the gray postoccipital crest (*H. sordidus*) are young males assuming the plumage of the adult, he could only mean Sumatra and Banka specimens, as we possess no such ones from Java.

When speaking of the difference of the Sumatran specimens, he leaves entirely out of consideration those from Banka, which omission could lead to the conclusion that the latter would be identical with those from Java, while they really cannot be distinguished from those from Sumatra.

As to the specimens from all hitherto known localities, except from Java, I fully agree with the Marquis of Tweeddale, that they all undoubtedly belong to one and the same species, of which the oldest title — that of *H. concretus* restricted to the Javan species, figured by Temminck on plate 90 — would be *H. sordidus* Eyton.

The essential distinguishing characters of both species can be formulated as follows:

1. *Hemicercus concretus*, Temm. P. C. IV. 90 (nec descr. mar. jun.); — Rchb. Scansoriae, p. 401, tab. 656, fig. 4361—63.

Hemicercus Hartlaubii, Malh.

Adult male: Whole upper surface of the head and whole crest lively vermilion.

Adult female: Upper surface of the head and whole crest entirely gray, with a more or less olivaceous tinge.

Young male: Entire crown and crest fawn-colored, changing afterwards through orange-red into the vermilion of the adult stage, beginning on the occipital crest and proceeding afterwards onto the forehead.

Hab. Java, as specimens from other localities, exactly similar to the Javan fully adult male, are still wanting in collections.

2. *Hemicercus sordidus*, Eyt. (♀).

Adult male: Entire crown and foremost occipital feathers deep vermilion, perceptibly deeper than in the preceding species, though not crimson as Mr. Hume has called this color; postoccipital crest olivaceous gray.

Adult female: Exactly similar to that of the preceding species.

Young male: Entire crown and occipital crest fawn-colored, leaving sometimes the tips to the occipital feathers brown. In a more advanced stage the fawn color of the long feathers of the crest changes gradually — apparently not by a moult — into a dull vermilion, leaving the olive brown tips, where such existed, intact. Further on the worn out red feathers of the crest are replaced in the way of a moult by the gray ones of the fully mature stage. At the same time, also by a moult, the fawn-colored crown becomes speckled by young feathers of a lively vermilion, which at first is the same as in the adult *H. concretus*, but soon afterwards, when the whole crown has changed into red, assumes its darker appearance. The material upon which these observations are based, is collected by the Dutch Scientific Expedition to Sumatra, in 1877. Now it happens, that the crown assumes its red appearance before the red crest has changed by moult into gray; it is most probably upon such specimens that

the name of *H. Hartlaubii* has been applied whenever this species is mentioned as coming from somewhere else than Java.

In another young male, from Banka, the red on the occipital feathers occupies only the bassal portions, the tips being left fawn-color, and these very worn-looking feathers are already for a great deal replaced by the young gray ones of the adult stage, without any beginning of the appearance of the red feathers on the crown.

All other characters, as differences in the size, and the coloration of the other parts, as under surface and rump, are quite accidental and hardly able to base a species — not even a local variety or difference in age or sex — upon.

Hab. Malacca, Sumatra, Banka, Borneo.

30. *Lepocestes porphyromelas.*

Picus porphyromelas, Boie, Briefe aus Ostind. p. 143 (1832).
Picus rubiginosus, Eyton, Ann. & Mag. Nat. Hist. XVI, p. 229 (1845).
Lepocestes porphyromelas, Salvad. Ucc. di Borneo, p. 48 (1874); id. Ucc. di Sumatra, p. 181 (1879).

1 specimen (♀).

»Iris blood-red, bill ochraceous, feet dark brown. Native name: *Si ontong.*"

31. *Callolophus puniceus.*

Picus puniceus, Horsf. t. c. p. 176; — Temm. P. C. IV. 423.
Callolophus puniceus, Salvad. Ucc. di Borneo, p. 49 (1874); — Tweedd. Ibis 1877, p. 288; — Nicholson, Ibis 1882, p. 54.
Picus miniatus, Snelleman, Sum. Exp. Vogels, p. 38 (1884).

4 specimens (ad. ♂).

»Iris blood-red, upper mandible brown, lower dirty lemon-yellow, feet dirty lemon-yellow. Native name: *Si ontong.*"

32. *Callolophus mentalis.*

Picus mentalis, Temm. P. C. IV. 384 (1826).
Callolophus mentalis, Salvad. Ucc. di Borneo, p. 51 (1874); id. Ucc. di Sumatra, p. 181 (1879); — Tweedd. Ibis 1877, p. 288; — Nicholson, Ibis 1882, p. 55.

5 specimens.

»Iris blood-red, round the eyes and base of bill dirty chrome-green, point bluish white, only the edge and upper mandible black, feet dirty green. Native name: *Si ontong*."

33. *Callolophus malaccensis.*

Picus malaccensis, Lath. Ind. Orn. I. p. 241 (1790).
Chloropicus miniatus Malh. Mon. Pic. II. p. 116, pl. 76, fig. 1, 2 (1862).
Venilia malaccensis, Sclat. P. Z. S. 1863, p. 211.
Callolophus malaccensis, Salvad. Ucc. di Borneo, p. 50 (1874); id. Ucc. di Sumatra, p. 182 (1879); — Tweedd. Ibis 1877, p. 289.

18 specimens (8 ♂, 10 ♀).

»Iris blood-red, upper mandible dark brown, lower whitish blue, feet grayish green. Native name: *Si ontong merah*."

Our seven Javan specimens (*C. miniatus*, Forster), which I compared with those from other localities, seem to me to be sufficiently distinct to form a really good species, as they all — even young birds with much yellow in the postoccipital crest — are easily distinguished by the lively flame-colored occipital crest and by having the interscapulary feathers entirely washed with red in such a manner that no pure green feathers are left. Our material from other localities contains 10 specimens from Borneo, 5 from Banka and 8 from Sumatra, to which I can join the 18 above mentioned ones, collected by Dr. Klaesi. Alle these examples differ very strikingly by the duller red of the crown and occipital crest, by having more yellow postoccipital crest-feathers and the interscapulary feathers, which are green and more or less, but never entirely, tinged with red.

Count Salvadori, in his »Uccelli di Sumatra", believes that the females of this species are distinguished from the males by the whitish speckles on chin and throat, and therefore considers one of his specimens with a uniform rusty brown throat to be a male though it is labelled as a female. The great number of sexed specimens at my disposal shows however to evidence, that those whitish spots

are a character of young birds only, while fully adult specimens of both sexes have chin and throat uniform rusty brown.

34. *Chrysophlegma mystacalis.*

Chrysophlegma mystacalis, Salvad. Ucc. di Sumatra, p. 182 (1879); — Nicholson, Ibis 1883, p. 242.

3 specimens (♀).

»Iris reddish brown, bill lead-color, feet grayish green. Native name: *Si ontong.*"

35. *Tiga javanensis.*

Picus javanensis, Ljungh, Act. Stockh. XVIII. p. 134, t. 6 (1797).
Picus tiga, Horsf. t. c. p. 177; — Raffl. t. c. p. 290; — Snelleman, Sum. Exp. Vogels, p. 38 (1884).
Tiga javanensis, Tweedd. Ibis 1877, p. 288; — Salvad. Ucc. di Sumatra, p. 183 (1879).

11 specimens (7 ♂, 4 ♀).

»Iris reddish brown, bill lead color, feet grayish green. Native name: *Si ontong.*"

36. *Tiga Rafflesii.*

Picus Rafflesii, Vig. App. Mem. Raffl. p. 669 (1831).
Tiga rafflesii, Tweedd. Ibis 1877, p. 288.
Gauropicoides rafflesii, Salvad. Ucc. di Borneo, p. 54 (1874).

1 specimen (♂).

»Iris reddish brown, bill blackish. Native name: *Si ontong.*"

The plumage of this specimen does not differ from that of the adult female.

37. *Miglyptes grammithorax.*

Phaiopicus grammithorax, Malh. Mon. Pic. II. p. 12, pl. 48, fig. 4, 5 (1862).
Meiglyptes tristis, Salvad. Ucc. di Borneo, p. 56; id. Ucc. di Sumatra, p. 184 (1879); — Tweedd. Ibis 1877, p. 290; — Nicholson, Ibis 1882, p. 55.
Miglyptes grammithorax, Hargitt, Ibis 1884, p. 191.

4 specimens (1 ♂, 3 ♀).

»Iris reddish brown, bill black, feet blackish gray. Native name: *Si ontong.*"

As Mr. Hargitt, and already before him Mr. F. Nicholson (On some Birds from W. Java, Ibis 1879, p. 164), pointed out, this species is really distinct from the Javan *M. tristis* (Horsf.) which latter is easily distinguished by its entirely black breast and abdomen. A comparison of our material in the Leyden Museum — 3 specimens (*M. tristis*) from Java, 11 from Borneo, 2 from Banka and 9 from Sumatra — has fully confirmed this opinion.

38. *Micropternus brachyurus.*

Picus brachyurus, Vieill. N. Dict. XXVI. p. 103 (1818); — Snelleman, Sum. Exp. Vogels, p. 38 (1884).
Picus badius, Raffl. t. c. p. 289.
Micropternus badius, Reichb. Handb. Picinae, p. 403, pl. 658, fig. 4374; — Tweedd. Ibis 1877, p. 289; — Salvad. Ucc. di Sumatra, p. 184 (1879); — Nicholson, Ibis 1882, p. 55.
Micropternus brachyurus, Hargitt, Ibis 1885, p. 10.

7 specimens (6 ♂, 1 ♀).

»Iris reddish brown, bill black, feet blackish brown. Native name: *Si ontong.*"

39. *Chrysococcyx maculatus.*

Trogon maculatus, Gm. S. N. I. p. 404.
Chrysococcyx smaragdinus, Blyth, J. A. S. B. 1846, p. 53.
Chrysococcyx Hodgsoni, Moore, Cat. Mus. E. I. Comp. II. p. 705 (1858).
Cuculus Hodgsoni, Schl. Mus. P.-B., Cuculi, p. 32 (1864).
Lamprococcyx maculatus, Walden, Ibis 1869, pp. 334, 338.

2 specimens (♂ ♂).

»Iris chocolate-brown, bill black at tip, rest orange-yellow, feet dark brown. Native name: ?"

The beautiful emerald-green color on upper surface, throat and chest, and the ditto cross-bars on the rest of the lower surface would not allow to confound these specimens with such of any other species. One of them has assumed the fully developed plumage of the adult, the second, in not less

splendid green plumage, has a few feathers on front and chin still barred with white. Like the adult specimens from India, contained in our Museum, they both have the narrow white longitudinal stripe on each of the three first primaries, a character which also distinguishes this species as far as I know from any other of this genus. I do not find that this species ever before has been recorded from Sumatra nor from any other Island of the Archipelago.

40. *Chrysococcyx xanthorhynchus.*

Cuculus xanthorhynchus, Horsf. t. c. p. 179; — S. Müll. Verh. Land- en Volkenk. p. 234; — Schl. Mus. P.-B., Cuculi, p. 32 (1864).
Chrysococcyx xanthorhynchus, Tweedd. Ibis 1877, p. 237; — Salvad. Ucc. di Borneo, p. 62 (1874).

1 specimen (young ♂).

»Iris minium-red, edge round the eye chrome-red; bill black. Native name: ?"

This specimen has all the feathers on the fore-head, a broad superciliary streak, and the sides of the head white, with some indications of bronze-green crossbands.

41. *Surniculus lugubris.*

Cuculus lugubris, Horsf. t. c. p. 175; — S. Müll. Verh. Land- en Volkenk. p. 178; — Schl. Mus. P.-B., Cuculi, p. 28 (1864).
Surniculus lugubris, Tweedd. Ibis 1877, p. 287; — Salvad. Ucc. di Sumatra, p. 184 (1879).

7 specimens (4 ♂, 3 ♀).

»Iris dark brown, bill black, feet slaty gray. Native name: *Tuih.*"

42. *Cacomantis pravata.*

Cuculus pravata, Horsf. t. c. p. 179.
Cuculus fasciolatus, S. Müll. Verh. Land- en Volkenk. p. 178 (1839—1844).
Cuculus Sonnerati, Schl. Mus. P.-B., Cuculi, p. 23 (partim) (1864).
Penthoceryx pravatus, Salvad. Ucc. di Borneo, p. 63 (1874); id. Ucc. di Sumatra, p. 185 (1879); — Nicholson, Ibis 1882, p. 54.

2 specimens (♂ and ♀).

»Iris brown, upper mandible black, lower whitish blue, feet grayish green. Native name: *Sipitoeh.*"

43. *Cacomantis merulina.*

Cuculus merulinus, Scop. Del. Flor. et Faun. Insubr. p. 89 (1786); — Schl. Mus. P.-B., Cuculi, p. 21 (1864).
Cuculus flavus, Gm.; — S. Müll. Verh. Land- en Volkenk. p. 177.
Cacomantis merulinus, Salvad. Ucc. di Borneo, p. 64; id. Ucc. di Sumatra, p. 185 (1879).

11 specimens (7 ad. ♂, 4 ♀).

»Iris reddish brown, upper mandible black, lower yellow at base, yielding to ochraceous towards the tip, feet orange yellow. Native name: *Sipitoeh.*"

44. *Hierococcyx fugax.*

Cuculus fugax, Horsf. t. c. p. 178.
Cuculus varius, Schl. Mus. P.-B., Cuculi, p. 14 (partim) (1864).
Hierococcyx fugax, Salvad. Ucc. di Borneo, p. 65 (1874); id. Ucc. di Sumatra, p. 185 (1879); — Tweedd. Ibis 1877, p. 288.

5 specimens (2 ♂, 3 ♀).

»Iris orange, edged with pale ochre, bill: basal half and utmost tip greenish yellow, the rest black, bare skin round the eyes and the feet orange-yellow. Native name: ?"

45. *Cuculus concretus.*

Cuculus concretus, S. Müll. Verh. Land- en Volkenk. pp. 236, 355; — Schl. Mus. P.-B., Cuculi, p. 13 (1864); — Salvad. Ucc. di Borneo, p. 66 (1874).

2 specimens (♂ ♂).

»Iris pale brown, bill black at tip, rest greenish yellow, feet yellow. Native name: *Pangang kako.*"

In one of the specimens the lower surface is strongly tinged with fulvous instead of pure white; excepting this particularity its appearance is quite that of *C. concretus*, and not of *C. striatus.*

46. *Coccystes coromandus.*

Cuculus coromandus, L. S. N. I. p. 171 (1766).
Cuculus coromandelicus, Müll. Verh. Land- en Volkenk. p. 234.
[*Coccystes coromandus*, Schl. Mus. P.-B., Cuculi, p. 43 (1864).

2 specimens (♂, ♀).

»Iris brown, bill blackish, feet bluish gray. Native name: ?"

This species seems to be rare in Sumatra, as it is not recorded from that Island since S. Müller, from whom one specimen is contained in our Museum collection. Since Prof. Schlegel's Catalogue is issued, the Museum has also received specimens from Banka and some more from Java and Borneo. The male of Dr. Klaesi's specimens (both in adult dress and with fully developed crest) has the throat but slightly tinged with fulvous, which color is very strongly pronounced in the female.

47. *Eudynamis orientalis.*

Cuculus orientalis, L.; — Horsf. t. c. p. 178; — Müll. Verh. Land- en Volkenk. p. 176; — Schl. Mus. P.-B., Cuculi, p. 16 (1864).
Eudynamis malayana, Cab. & Heine, Mus. Hein. IV. p. 52 (1862); — Walden, Ibis 1869, pp. 339, 340; — Salvad. Ucc. di Borneo, p. 68 (1874).

1 specimen (young ♂).

»Iris carmine. Native name: *Tembono* (Javan)."

As the question about the different races, united by Prof. Schlegel under above name, is still far from definitively settled, I prefer to enumerate the Sumatran bird under this name rather than under that of *E. malayana*.

48. *Rhinorta chlorophaea.*

Cuculus chlorophaeus, Raffl. t. c. p. 288.
Phoenicophaus chlorophaeus, Müll. Verh. Land- en Volkenk. p. 234; — Schl. Mus. P.-B., Cuculi, p. 51 (1864); — Snellеman, Sum. Exp. Vogels, p. 34 (1884).
Rhinorta chlorophaea, Salvad. Ucc. di Borneo, p. 69 (1874); id. Ucc. di Sumatra, p. 186 (1879); — Tweedd. Ibis 1877, p. 287; — Nicholson, Ibis 1882, p. 54; id. Ibis 1883, p. 242.

6 specimens (4 ♂, 2 ♀).

»Iris brown, bare skin bluish green, bill sea-green, feet bluish gray. Native name: *Bunai andu.*"

Amongst the four males there are three in which the color of the head is not different from that of the other parts and one with a gray head; all both females have the head gray.

49. *Rhopodytes elongatus.*

Phoenicophaës elongatus, S. Müll. Tijdschr. Nat. Geschied. en Physiol. II. p. 342, pl. 9, fig. 1 (1835); id. Verh. Land- en Volkenk. p. 234; — Schl. Mus. P.-B., Cuculi, p. 55 (1864); — Salvad. Ucc. di Borneo, p. 70 (1874); — Snelleman, Sum. Exp. Vogels, p. 34 (1884).

14 specimens.

»Iris blood-red, bare skin carmine, bill sea-green, feet bluish gray. Native name: *Bunai andu.*"

50. *Rhopodytes Diardi.*

Melias Diardi, Less. Tr. d'Orn. p. 132 (1831).

Phoenicophaës sumatranus (part.), Schl. Mus. P.-B., Cuculi, p. 53 (1864); — Snelleman, Sum. Exp. Vogels, p. 34 (1884).

Rhopodytes Diardi, Tweedd. Ibis 1877, p. 287; — Hume, Stray Feathers, 1878, p. 163; — Salvad. Ucc. di Sumatra, p. 186 (1879); — Nicholson, Ibis 1882, p. 53.

10 specimens.

»Iris ashy gray, bare skin round the eyes blood-red, bill sea-green, feet blackish. Native name: *Bunai andu.*"

Prof. Schlegel, in his above cited Catalogue of the *Cuculi*, erroneously applied the name *Phoenicophaës Diardi* to the Indian and Ceylonese specimens of *Rhop. viridirostris* (Jerd.) and united the true *Ph. Diardi* (Less.) with *Ph. sumatranus* (Raffl.), supposing that the brown vent and under tail-coverts would only be an individual character (»les sous-caudales ordinairement d'un rouge-brun qui se répend quelquefois sur le ventre, mais cette teinte se trouve, dans certains individus, et indépendammant du sexe et de l'âge, remplacée par du noirâtre").

Count Salvadori (Uccelli di Borneo, p. 73) supposes that the specimens from Borneo with gray vent, mentioned by Schlegel in his Catalogue under the head of *Ph. sumatranus* will belong to his smaller, ochraceous-chested *Rhopodytes borneensis* (Bp.). Schlegel however has not mentioned such specimens at all, all three ones from that Island (No. 1—3 of his Catalogue) having the vent brown and thus belonging to the true *Rhopodytes sumatranus*.

Amongst the specimens however, received since the Catalogue is issued, there are two specimens from Borneo, one of which, collected by Mr. Bock in the south eastern part of that Island, undoubtedly belongs to *Rhop. Diardi* having no tinge of ochraceous on the chest, while the other, acquired from Mr. Frank in 1864, is *Rhop. borneensis* (Bp.) as described by Salvadori (Ucc. di Borneo, p. 72).

The present state of this part of our Collection is as follows:

Rhopodytes tristis (Less.).

7 specimens (2 Himalaya, 2 Darjeeling, 1 Nepal, 1 Tenasserim, 1 Bootan (young).

Rhopodytes viridirostris (Jerd.).

5 specimens (2 Ceylon, 2 Hindostan, 1 India).

Rhopodytes elongatus (S. Müll.).

2 specimens (Sumatra).

Rhopodytes borneensis (Bp.).

1 specimen (S. E. Borneo).

Rhopodytes Diardi (Less.).

12 specimens (1 Malay Penins., 1 Penang, 16 Sumatra, 1 Borneo, 1 Banka, 2 locality unknown).

Rhopodytes sumatranus (Raffl.).

14 specimens (3 Sumatra, 5 Banka, 5 Borneo, 1 locality unknown).

51. *Rhamphococcyx erythrognathus.*

Cuculus melanognathus, Raffl. (nec Horsf..) t. c. p. 287.
Phoenicophaus viridirufus, S. Müll. Verh. Land- en Volkenk. p. 234 (partim).

Phoenicophaeus erythrognathus, Hartl. Verz. Mus. Brem. p. 95 (1844); — Schl. Mus. P.-B., Cuculi, p. 49 (1864); — Snelleman, Sum. Exp. Vogels, p. 34 (1884).

Rhamphococcyx erythrognathus, Salvad. Ucc. di Borneo, p. 74 (1874); id. Ucc. di Sumatra, p. 186 (1879); — Nicholson, Ibis 1883, p. 242.

Rhopodytes erythrognathus, Tweedd. Ibis 1877, p. 287.

17 specimens.

»Iris of the male bluish gray, of the female orange-yellow, bare skin blood-red, upper mandible sea-green, lower blood-red, point sea-green, feet leaden gray. Native name: *Bunai andu.*"

52. *Centrococcyx rectunguis.*

Centropus rectunguis, Strickl.; — Schl. Mus. P.-B., Cuculi, p. 67 (1864); — Snelleman, Sum. Exp. Vogels, p. 34 (1884).

Centrococcyx javanensis (Dum.), Wald. Trans. Z. S. VIII. p. 58 (1872); — Salvad. Ucc. di Borneo, p. 76 (1874); id. Ucc. di Sumatra, p. 188 (1879); — Nicholson, Ibis 1883, p. 241.

6 specimens (1 ♂, 5 ♀).

»Iris red, bill and feet slaty. Native name: *Trakot.*"

About the synonymy of this species the same must be said as about that of *Eudynamis orientalis.*

53. *Centropus eurycercus.*

Centropus eurycercus, Hay; — Schl. Mus. P.-B., Cuculi, p. 66 (1864); — Tweedd. Ibis 1877, p. 288; — Nicholson, Ibis 1882, p. 54; — Snelleman, Sum. Exp. Vogels, p. 34 (1884).

Centrococcyx eurycercus, Salvad. Ucc. di Borneo, p. 78 (1874); id. Ucc. di Sumatra, p. 188 (1879); — Nicholson, Ibis 1883, p. 241.

12 specimens.

»Iris red, bill and feet black. Native name: *Boeboet.*"

54. *Buceros rhinoceros.*

Buceros rhinoceros, L. S. N. I, p. 153 (1766); — Raffl. t. c. p. 291; — Müll. & Schl. Verh. Zool. Aves, pp. 21, 25, 26; — Schl. Mus. P.-B., Buceros, p. 3 (1862); — Salvad. Ucc. di Sumatra,

p. 191 (1879); — Elliot, Mon. Bucer. pl. 4; — Nicholson, Ibis 1883, p. 240.

30 specimens (24 ♂, 6 ♀).

Iris and color of bill and feet in adult male, see Nicholson (l. c.).

Adult female: »Iris whitish yellow, other parts like in the male, but without the narrow black stripe, which in the male separates the upper portion of the horn from the lower."

Young: »Iris ashy gray."

Native name: »*Angang kalong*."

55. *Anthracoceros convexus*.

Buceros albirostris, Horsf. (nec Shaw) t. c. p. 175.
Buceros malabaricus, Raffl. (nec Gm.) t. c. p. 291.
Buceros convexus, Temm. P. C. II. 530 (♀) (1832); — Schl. Mus. P.-B., Buceros, p. 7 (1862); — Snelleman, Sum. Exp. Vogels, p. 33 (1884).
Hydrocissa convexa, Salvad. Ucc. di Borneo, p. 80 (1874).
Hydrocissa albirostris, Nicholson, Ibis 1882, p. 56.
Anthracoceros convexus, Elliot, Mon. Bucer. pl. 12; — Nicholson, Ibis 1883, p. 240.

2 specimens (♀♀).

»Iris brownish red, bill whitish yellow, marked with black, bare skin white, tinged with blue, between eye and bill pale blue. Native name: *Angang tiranga*."

56. *Anthracoceros malayanus*.

Buceros malayanus, Raffl.t.c. p. 292; — Temm. P. C. II. text (1832); — Müll. & Schl. Verh. Zool. Aves, pp. 23, 25, 29; — Schl. Mus. P.-B., Buceros, p. 7 (1862).
Buceros anthracinus, Temm. P. C. II. 529 (1832).
Hydrocissa malayana, Salvad. Ucc. di Borneo, p. 83 (1874); — Nicholson, Ibis 1882, p. 56.
Anthracoceros malayanus, Elliot, Mon. Bucer. pl. 15; — Ramsay, P. Z. S. 1880, p. 14.

1 specimen (♀).

»Iris dark rusty, bare skin flesh-color, bill and feet black. Native name: ?"

57. *Rhytidoceros undulatus.*

Buceros undulatus, Shaw, Gen. Zool. VIII. p. 26 (1811).
Buceros plicatus, Lath.; — Schl. Mus. P.-B., Buceros, p. 2.
Rhytidoceros obscurus, Salvad. Ucc. di Borneo, p. 85 (1874).
Rhytidoceros undulatus, Tweedd. Ibis 1877, p. 292; — Salvad. Ucc. di Sumatra, p. 190 (1879); — Elliot, Mon. Bucer. pl. 35.
Rhytidoceros subruficollis, Nicholson, Ibis 1883 . 241.

11 specimens (10 ♂, 1 ♀).

Adult male: »Iris orange-red, a very narrow inner edge pale ochre, bare skin round the eyes madder-red, gular skin pale chrome-yellow with an ultramarine cross-band, bill horny white, feet slaty black."

Young male (with only one faintly developed fold on the ridge of the culmen): »Iris orange-red, inner edge mixed with brown, bare skin, bill and feet like in adult male. Plumage black, only the superciliary region intermixed with yellow feathers."

Adult female (with five folds on the culmen): »Iris fox-red, mixed with brown, a narrow inner edge sulphur-yellow, bare skin round the eyes wine-red, gular skin pale blue, with a violet-blue cross-band, bill and feet like in adult male."

Native name: »*Angang mussin.*"

The deep blue cross-band on the gular pouch in the dried skin of some specimens is scarcely perceptible, though Dr. Klaesi has very minutely mentioned it in all his specimens. I feel therefore pretty sure that the specimen collected by Mr. Forbes in Sumatra and mentioned by Mr. Nicholson (l. c.) as *Rh. subruficollis* will belong to *Rh. undulatus*.

58. *Anorrhinus comatus.*

Buceros comatus, Raffl. t. c. p. 339; — Temm. P. C. II. text (1830); — Müll. & Schl. Verh. Zool. Aves, pp. 23, 29, pl. 4 (ad. ♂) (1839—44); — Schl. Mus. P.-B., Buceros, p. 8 (1862).
Buceros lugubris, Begbie, Malay Penins. 1834, p. 513.
Berenicornis comatus, Bp. Consp. Av. p. 91 (1850).
Anorrhinus comatus, Elliot, Mon. Bucer. pl. 39.

3 specimens (ad. ♂, ad. ♀ and jun. ♂).

No soft parts mentioned.

The adult male is black, with the entire head and neck, breast, an anal spot, tail, tips to the quills and under primary coverts white, while the adult female has only the crest, entire tail and tips to the wing-coverts white. The young male, in transitional stage of plumage, agrees quite well with the description given by Raffles, with the exception of the bill, which in our specimen is white with a dark brown spot on each side of the upper mandible.

Another young male, collected at Priaman by Mr. von Faber, is somewhat more advanced towards maturity, having the white tips to the black tail-feathers longer than is the case with the present specimen.

59. *Anorrhinus galeritus.*

Buceros galeritus, Temm. P. C. II. 520 (1831); — Müll. & Schl Verh. Zool. Aves, pp. 23, 25, 28; — Schl. Mus. P.-B., Buceros, p. 8 (1862).

Anorrhinus galeritus, Salvad. Ucc. di Borneo, p. 79 (1874); — Tweedd. Ibis 1877, p. 292; — Salvad. Ucc. di Sumatra, p. 189 (1879); — Elliot, Mon. Bucer. pl. 42.

13 specimens (7 ♂, 4 ♀, 2 ?).

»Iris reddish brown, paler towards the edge; bill black, feet dirty grayish green, toes blackish, naked skin surrounding the eyes, and throat cobalt-blue (♂). Native name: *Angang kéké.*"

60. *Cranorrhinus corrugatus.*

Buceros corrugatus, Temm. P. C. II. 531 (♂) (1832); — Müll. & Schl. Verh. Zool. Aves, pp. 24, 25, 31 (1839—1844); — Schl. Mus. P.-B., Buceros, p. 9 (1862).

Buceros gracilis, Temm. P. C. II. 535 (♀) (1832).

Cranorrhinus corrugatus, Salvad. Ucc. di Borneo, p. 86 (1874).

1 specimen (ad. ♂), Mount Singalang.

»Iris dark red. Native name: ?"

61. *Rhinoplax vigil.*

Buceros vigil, Forsten, Zool. Ind. p. 40 (1781).
Buceros scutatus, Bodd. Tabl. Pl. Enl. p. 55; — Schl. Mus. P.-B., Buceros, p. 1 (1862).
Buceros galeatus, Gm.; — Raffl. t. c. p. 291; — S. Müll. Verh. Landen Volkenk. p. 439; — Müll. & Schl. Verh. Zool. Aves, pp. 25, 32 (1839—1844).
Rhinoplax scutatus, Horsf. & Moore; — Salvad. Ucc. di Borneo, p. 88 (1874); id. Ucc. di Sumatra, p. 191 (1879).
Rhinoplax vigil, Elliot, Mon. Bucer. pl. 10.

5 specimens (3 ♂, 2 ♀).

»Iris fox-red, somewhat paler in the female, bare skin pale blue with a greenish tinge, marked across with deep blue vermiculations, posteriorly Berlin-blue (in another female the ground-color of the bare skin is said to be Naples-yellow), bill red, anterior part sulphur-yellow, feet red. Native name: *Angang gudun.*"

62. *Merops sumatranus.*

Merops sumatranus, Raffl. t. c. p. 294; — Tweedd. Trans. Z. S. IX. p. 150, pl. 26, fig. 2 (1873); id. Ibis 1877, p. 297; — Salvad. Ucc. di Sumatra, p. 192 (1879); — Nicholson, Ibis 1882, p. 56; id. Ibis 1883, p. 243.
Merops badius, Schl. (nec Gm.) Mus. P.-B., Merops, p. 3 (1863); — Snelleman, Sum. Exp. Vogels, p. 36 (1884).

15 specimens (ad. and juv.).

Adult: »Iris carmine, bill black, feet bluish gray."
Juv. »Iris brown. Native name: *Beri-beri.*"

63. *Nyctiornis amicta.*

Merops amictus, Temm. P. C. IV. 310 (1824); — Schl. Mus. P.-B., Merops, p. 13 (1863); — Snelleman, Sum. Exp. Vogels, p. 36 (1884).
Nyctiornis amicta, Tweedd. Ibis 1877, p. 298; — Salvad. Ucc. di Sumatra, p. 192 (1879); — Nicholson, Ibis 1882, p. 56.

10 specimens.

»Iris orange, bill black, feet bluish green. Native name: *Kumbang.*"

64. *Pelargopsis javana.*

Alcedo capensis, L. S. N. I. p. 180 (1766, ex Briss.).
Alcedo javana, Bodd. Tabl. Pl. Enl. 757 (1783, ex Buff.).
Alcedo leucocephala, Gm. S. N. I. p. 456 (1788, ex Lath.); — Raffl. t. c. p. 293; — Schl. Mus. P.-B., Alced. p. 13 (1863); id. Ois. Ind. Neerl., Martins Pêcheurs, p. 46, pl. II, figs. 2, 3, 4 (1864); id. Revue Alced. p. 7 (1874) (with synonymy).
Pelargopsis frasceri, Sharpe, P. Z. S. 1870, p. 65; id. Mon. Alced. pl. 33; — Tweedd. Ibis 1877, p. 296; — Salvad. Ucc. di Sumatra, p. 194 (1879); — Nicholson, Ibis 1882, p. 56; id. Ibis 1883, p. 243.
Dacelo leucocephala, Snelleman, Sum. Exp. Vogels, p. 35 (1884).

3 specimens.

»Iris brown, eyelid vermilion, bill and feet lake-red. Native name: *Radjah udang.*"

After having carefully examined the numerous specimens in our Museum, I came to the conclusion, that Prof. Schlegel was quite right when uniting all the different species mentioned by Mr. Sharpe in P. Z. S. 1871 and in his Monograph on the Kingfishers, as it seems really impossible to me to make out the species in all our different specimens of this group, without the aid of the locality mentioned on the labels. As the Linnean name *capensis* must be rejected, Boddaert's name *javana* will have the priority above *leucocephala* Gm.

65. *Ceyx rufidorsa.*

Alcedo tridactyla, L.; — Raffl. t. c. p. 293.
Ceyx rufidorsa, Strickl. P. Z. S. 1846, p. 99; — Sharpe, Mon. Alced. text, p. 121; id. P. Z. S. 1868, p. 592; id. P. Z. S. 1869, p. 511; — Tweedd. Ibis 1877, p. 297; — Nicholson, Ibis 1883, p. 243.
Dacelo rufidorsa, Schl. Mus. P.-B., Alced. p. 48 (1863); id. Ois. Ind. Neerl., Martins Pêcheurs, pp. 40, 67, pl. 16, f. 1 (1864); id. Mus. P.-B., Revue Alced. p. 33 (1874) (part.); — Snelleman, Sum. Exp. Vogels, p. 36 (1884).
Ceyx innominata, Salvad. Ucc. di Borneo, p. 97 (1874).

1 specimen (♂).

»Iris dark brown, bill and feet scarlet. Native name: *Sapi udong ketjil.*"

66. *Halcyon coromanda.*

Alcedo coromanda, Lath. Ind. Orn. I. p. 252 (1790).
Dacelo coromanda, Schl. Mus. P.-B., Alced. p. 25 (1863); id. Revue Alced. p. 16 (1874).
Halcyon coromanda, Sharpe, Mon. Alced. pl. 57.

2 specimens.

»Iris brown, bill and feet orange-red."

67. *Halcyon pileata.*

Alcedo pileata, Bodd. Tabl. Pl. Enl. p. 41 (1783).
Alcedo atricapilla, Gm.; — Raffl. t. c. p. 293.
Dacelo pileata, Schl. Mus. P.-B., Alced. p. 27 (1863); id. Revue Alced. p. 18 (1874).
Halcyon pileata, Tweedd. Ibis 1877, p. 296; — Nicholson, Ibis 1883, p. 243.

1 specimen.

»Iris dark brown, bill and feet red. Native name: *Sapi udang.*"

68. *Sauropatis chloris.*

Alcedo chloris, Bodd. Tabl. Pl. Enl. p. 49 (1783).
Alcedo chlorocephala, Gm.; — Raffl. t. c. p. 293.
Dacelo chloris, Schl. Mus. P.-B., Alced. p. 32 (1863); id. Revue Alced. p. 21 (1874); — Snelleman, Sum. Exp. Vogels, p. 36 (1884).
Sauropatis chloris, Tweedd. Ibis 1877, p. 296; — Salvad. Ucc. di Sumatra, p. 194 (1879).

9 specimens.

»Iris brown, upper mandible black, lower whitish at base, feet ashy gray. Native name: *Si kiki.*"

69. *Collocalia fuciphaga.*

Hirundo fuciphaga, Thunb. Act. Holm. 33, p. 151, pl. 4 (1772).
Hirundo esculenta, Horsf. (nec L.), t. c. p. 142; — Raffl. t. c. p. 315.

Cypselus fuciphagus, S. Müll., Verh. Land- en Volkenk. p. 456 (1839—44).
Collocalia nidifica, G. R. Gray, Gen. B. I. p. 55 (1848).
Collocalia fuciphaga, Salvad. Ucc. di Borneo, p. 120 (1874).

1 specimen.

No soft parts mentioned.

70. *Macropteryx longipennis.*

Hirundo longipennis, Rafin. Bull. Sc. Soc. Philom. III. p. 158 (1804).
Hirundo klecho, Horsf. t. c. p. 143.
Cypselus longipennis, Temm. P. C. IV. 83, f. 1 (1823).
Macropteryx longipennis, Tweedd. Ibis 1877, p. 299.
Cypselus klecho, Snelleman, Sum. Exp. Vogels, p. 38 (1884).

13 specimens.

»Iris dark brown, bill and feet black. Native name: *Lajang.*"

71. *Macropteryx comata.*

Cypselus comatus, Temm. P. C. IV. 268 (1824).
Dendrochelidon comata, Sclat. Cypselidae, P. Z. S. 1865, p. 617; — Salvad. Ucc. di Borneo, p. 123 (1874).
Macropteryx comata, Tweedd. Ibis 1877, p. 298; — Salvad. Ucc. di Sumatra, p. 196 (1879); — Nicholson, Ibis 1882, p. 58.

11 specimens.

»Iris, bill and feet black. Native name: *Lajang betul.*"

72. *Chaetura coracina.*

Acanthylis coracina, Bp. Consp. Av. I. p. 64 (1850).
Cypselus coracinus, Schl. Handl. Dierk. I. pp. 221, 479; pl. 2 (Vogels) f. 14 (1857).
Acanthylis leucopygialis, Blyth, J. A. S. B. 1858, p. 809.
Chaetura coracina, Sclat. Cypselidae, P. Z. S. 1865, p. 614; — Salvad. Ucc. di Sumatra, p. 197 (1879).

2 specimens.

»Iris and bill black, feet brown. Native name: *Lajang ketjil.*"

73. *Hirundinapus giganteus.*

Cypselus giganteus, Temm. P. C. IV. 364 (1825).
Chaetura gigantea, Sclat. Cypselidae, P. Z. S. 1865, p. 608. (Sumatra, Mus. Lugd.).
Hirundinapus giganteus, Salvad. Ucc. di Borneo, p. 124 (1874).

1 specimen (♂).

This specimen is not different from our typical specimen with which I compared it, and the rusty brown lores are distinctly visible.

»Iris brown, bill black, feet slaty. Native name: *Lajang gedang*."

74. *Hirundinapus Klaesii*, spec. nov.

H. nudipedi similis, sed minor; mentum gulaque totis, plumis occipitis et nuchae dimidio basali griseo brunneis.

Very similar to *H. nudipes* Hodg., but considerably smaller. Chin and throat, base of the feathers on occiput and hind neck, and inner web of the innermost secondaries grayish smoky instead of white. Entire crown, down to the base of the bill, lores, sides of head and neck, occiput, hind neck, lesser wing-coverts, outer web of innermost secondaries, a stripe running from the base of the tibiae to the rump, rump and upper tail-coverts glossy bluish green, scapularies and back smoky brown, becoming pale straw-color towards the centre of the back; upper surface of wing and tail blackish brown with a somewhat purplish gloss, inner edge of quills, lower surface of wing and tail, chest, breast, abdomen, flanks and thighs smoky brown, a stripe from the base of thighs to the root of the tail and under tail-coverts pure white; the well developed spines to the tail-feathers like in *H. nudipes*.

»Iris dark brown, bill black, naked tarsi, toes and claws brown."

The comparative measurements of both species in question are as follows:

	Long. tot.	alae	cauda	spin.	culmen	tarsi
H. nudipes	18 cm.	19	5,6	0,4	0,9	1,6
H. Klaesii	16,5 »	17,2—17,4	5,1	0,6	0,75	1,6

Native name: »Lajang gedang", like in the preceding species, and killed together with the latter at Loeboe Gedang, 18 Febr. 1885.

Before describing the two specimens as new, I have much hesitated, thinking that they afterwards might turn out to be the young of the first year of *H. nudipes* on their first winter migration, and that the gray color on throat and bases to the feathers of the hind neck and on the inner web of the innermost secondaries would become pure white in the second year. On the other hand, however, the fine metallic gloss on the dark upper parts, so characteristical in adult birds, in connection with the considerably smaller size, induced me to consider the birds specifically distinct. I can really hardly think that migrating young birds, when once arrived in Sumatra would still have to grow in order to reach the size of *H. nudipes*.

I have compared this species with *H. nudipes* which I consider to be sufficiently distinct from the Australian *H. caudacutus* by the want of the white or grayish white loral spot, which latter is always found in Australian specimens. As to the Indian form, so often — and of late by Mr. Dresser in his Birds of Europe — identified with the Australian, I cannot believe that any quite authentical specimen will have the white loral spot, and therefore much agree with Mr. A. Hume, who decidedly and repeatedly has defended the same opinion. (See Stray Feathers, IX, pp. 230, 286).

75. *Eurystomus orientalis.*

Coracias orientalis, L. S. N. I. p. 159 (1766); — Raffl. t. c. p. 302.
Eurystomus orientalis, Schl. Mus. P.-B., Coraces, p. 139 (1867); — Salvad. Ucc. di Borneo, p. 105 (1874); — Snelleman, Sum. Exp. Vogels, p. 37 (1884).

10 specimens (5 ♂, 5 ♀).

»Iris chocolate-brown, bill and feet coral-red. Native name: *Tiong lampej.*"

Peculiarly enough this species is, except by Snelleman,

not recorded from Sumatra since Raffles' time. At present it is represented in our Museum by specimens collected by the Dutch Sumatra Expedition and by Dr. Klaesi in the Highlands of Padang, and by Dr. Hagen in Deli (East coast of Sumatra).

Having looked through our series of nearly 100 specimens of this species, from the most different localities, I fully adhere to the opinion of the late Prof. Schlegel, that the specimens of the Indian, Indo-Malayan and Australian region must be considered as belonging to one and the same species and cannot be separated into *E. orientalis* and *pacificus*, as Count Salvadori and others propose to do.

76. *Psarisomus psittacinus.*

Eurylaimus psittacinus, Müll. Tijdschr. Nat. Gesch. en Phys. II. p. 349, pl. V, f. 6 (1835); — Temm. P. C. III. 297 (1836).
Psarisomus psittacinus, Salvad. Ucc. di Sumatra, p. 198 (1879).

2 specimens (♂ and ♀).

»Iris dirty yellow (♂), dirty rusty red (♀); bill and feet greenish blue. Native name: *Pipi lurejan.*"

The female is similar in color to the male. Certainly the female specimen mentioned by Salvadori (l. c.) with the head green instead of black and the throat green instead of yellow must be an immature bird. One of our Museum specimens (♀ jun.) agrees exactly with the mentioned specimen and has not only the outer web of the two outermost pairs of tail-feathers entirely green, but even the inner tail-feathers are strongly tinged with green, while two newly developed ones have the outer web and a portion of the inner entirely blue. Count Salvadori observed that specimens from Nepal, (*P. Dalhousiae*) have the tail-feathers strongly tinged with green, and that the tail is constantly shorter. I have found the same in our two specimens from Nepal, and this being the only distinguishing characters of the Nepal birds, it will be advisable to keep both species as yet united under the name of *P. psittacinus.*

77. *Eurylaimus ochromelas.*

Eurylaemus ochromelas, Raffl. t. c. p. 297; — Salvad. Ucc. di Borneo, p. 108 (1874); — Tweedd. Ibis 1877, p. 317; — Salvad. Ucc. di Sumatra, p. 198 (1879); — Nicholson, Ibis 1882, p. 64; — Snelleman, Sum. Exp. Vogels, p. 37 (1884).
Eurylaimus cucullatus, Temm. P. C. III. 261 (1824).

7 specimens (5 ♂, 2 ♀).

»Iris chrome-yellow; upper mandible at the base pale ultramarine, resting part green, lower mandible edged with black, the other parts and feet bluish rosy. Native name: *Templanah.*"

Count Salvadori says that the female wants the black pectoral band, but in one of the above said two females this band is as strongly pronounced as in the adult males, while on the other hand in a male (possibly a young one) this band is wanting. Perhaps the mentioned female may have been erroneously sexed.

78. *Cymborhynchus macrorhynchus.*

Todus macrorhynchus, Gm. S. N, I. p. 446 (1788).
Eurylaimus lemniscatus, Raffl. t. c. p. 296.
Eurylaimus nasutus, Temm. P. C. III. 154 (1823).
Cymborhynchus malaccensis, Salvad. Atti R. Ac. Sc. Torino, IX, p. 425 (1874).
Cymborhynchus macrorhynchus, Salvad. Ucc. di Borneo, p. 109; — Tweedd. Ibis 1877, p. 317; — Hume, Stray Feathers VI. p. 92 (1878); — Salvad. Ucc. di Sumatra, p. 199 (1879); — Nicholson, Ibis 1882, p. 64; id. Ibis 1883, p. 254; — Snelleman, Sum. Exp. Vogels, p. 37 (1884).

18 specimens.

»Iris metallic green with a golden gloss, bill ultramarine, except the lower mandible, which is yellowish green on its lower surface towards the base, feet black. Native name: *Mugkoplano.*"

After having gone through the material at my disposal, altogether about fifty specimens from the Continent, Malacca, Sumatra (amongst which specimens from Deli, opposite to Malacca), Banka and Borneo, I cannot have any doubt as to

the identity of the specimens from all the mentioned localities. Amongst Dr. Klaesi's specimens are two in which the four exterior pairs of tail-feathers have the oblique white spot on the inner web decidedly developed, six in which the white exists on three pairs only, eight with two pairs, one with two, of which the inner one scarcely perceptible, and one which shows but a very slight indication of white at the inner edge of the outermost pair. About the same is the case with the ten specimens which were already contained in our collection, amongst which is one which easily could pass for an entirely unspotted specimen. All our specimens from Banka (8) show the white very distinctly, and also do those from Deli, Malacca and Cambodja. As to our material from Borneo (6 specimens), there are one having three pairs with distinct white spots, two with two pairs, two very faintly marked with white on the outermost pair only, and one with no white at all.

79. *Corydon sumatranus.*

Coracias sumatranus, Raffl. t. c. p. 303.
Eurylaimus corydon, Temm. P. C. III. 297 (1824).
Corydon sumatranus, Salvad. Ucc. di Borneo, p. 111 (1874); — Tweedd. Ibis 1877, p. 317; — Salvad. Ucc. di Sumatra, p. 200 (1879); — Nicholson, Ibis 1882, p. 64.
Eurylaemus sumatranus, Snelleman, Sum. Exp. Vogels, p. 37 (1884).

3 specimens (♀♀).

»Iris brown, bare skin round the eyes and base of bill rosy, the latter however varied with white; point of bill cobalt-blue, feet black. Native name: *Limpi limpi.*"

80. *Serilophus lunatus.*

Serilophus lunatus, Gould, Trans. Z. S. I. pl. 25.

1 specimen (♂).

»Iris golden green, bill orange-red at base, other parts cobalt blue, feet pale green."

Probably a young specimen, as the narrow white semicircular collar round chest and sides of the neck is wanting.

Though our Museum contained already three beautiful specimens from Sumatra (Kubang) collected by Horner, I cannot find that this species is hitherto mentioned in literature as to be found in this Island.

81. *Niltava grandis.*

Chaitaris grandis, Blyth, J. A. S. B. XI, p. 189; XII, p. 940.
Niltava grandis, Gray, Gen. B. I. p. 264; — Ramsay, P. Z. S. 1880, p. 14.

2 specimens (♂ ♂, ad. et jun.).

»Iris dark brown, bill and feet black."

The younger male differs from the adult in having the whole plumage intermixed with ochraceous-tipped feathers.

82. *Alseonax latirostris.*

Muscicapa latirostris, Raffl. t. c. p. 312.
Muscicapa cinereo-alba, Temm. & Schl. Faun. Jap. p. 42, pl. 15 (1850).
Alseonax latirostris, Cab. Mus. Hein. I, p. 52 (1850); — Salvad. Ucc. di Borneo, p. 129.

1 specimen (unsexed).

»Iris dark brown, bill black, base dirty orange-yellow, feet black. Native name: *Bubik.*"

Perfectly according to the above cited plate in the Fauna Japonica.

83. *Stoparola thalassinoides.*

Glaucomyias thalassoides, Cab. Mus. Hein. I, p. 53 (note) (1850).
Stoparola thalassinoides, Salvad. Ucc. di Borneo, p. 132 (1874).

1 specimen (♂).

»Iris blue, bill and feet black."

84. *Terpsiphone affinis.*

Tchitrea affinis, Blyth, J. A. S. B. XV, p. 292.
Tschitraea Paradisii, Schl. Dierentuin, p. 147, with fig. (1872).
Terpsiphone affinis, Salvad. Ucc. di Borneo, p. 137 (1874).

1 specimen (immature male).

»Iris black, bill and feet cobalt-blue."

85. *Philentoma velatum.*

Drymophyla velata, Temm. P. C. III. 334 (♂) (1825).
Philentoma velatum, Blyth, Cat. Birds Mus. A. S. B. p. 204 (1849); — Salvad. Ucc. di Borneo, p. 139 (1874).

2 specimens (♂ and ♀).

»Iris blood-red, bill and feet black."

The specimen, labelled ♀, does in no respect differ from the male.

86. *Artamus leucogaster.*

Ocypterus leucogaster, Valenc. Mém. du Mus. H. N. VI. p. 21, t. VII, f. 2 (1820).
Lanius leucorhynchus, Raffl. t. c. p. 306.
Artamus leucorhynchus, Salvad. Ucc. di Borneo, p. 140 (1874); — Tweedd. Ibis 1877, p. 313.
Artamus leucogaster, Salvad. Ucc. di Sumatra, p. 204 (1879); — Snelleman, Sum. Exp. Vogels, p. 42 (1884).

19 specimens.

»Iris dark brown, bill and feet bluish gray. Native name: *Lajang lajang babi.*"

87. *Pericrocotus xanthogaster.*

Lanius xanthogaster, Raffl. t. c. p. 309.
Pericrocotus xanthogaster, Horsf. & Moore, Cat. Birds Mus. E. I. Co. I. p. 142; — Tweedd. Ibis 1877, p. 315; — Nicholson, Ibis 1883, p. 246.

10 specimens (6 ♂, 4 ♀).

»Iris dark brown, bill and feet black. Native name: *Kassumbo metah ketjil.*"

A specimen, labelled ♂, differs from the adult female only by an orange-red tinge on rump, upper tail-coverts, throat and lower surface of the tail.

88. *Lalage terat.*

Turdus dominicus, L. S. Müll. S. N. Suppl. p. 145 (1776).
Turdus terat, Bodd. Tabl. Pl. Enl. p. 17 (1783).
Lanius striga, Raffl. t. c. p. 305.
Lalage dominica, Tweedd. Ibis 1877, p. 313.
Lalage terat, Salvad. Ucc. di Sumatra, p. 206 (1879).

3 specimens.

»Iris dark brown, bill and feet black. Native name: *Kapé kapé.*"

89. *Lalage culminata.*

Ceblepyris culminatus, Hay, Madr. Journ. XIII. p. 157 (1844).
Ceblepyris fimbriatus, Müll. Verh. Land- en Volkenk. p. 190 (1839—1844) (partim).
Volvocivora schierbrandii, Salvad. Ucc. di Borneo, p. 148 (1874).
Volvocivora culminata, Tweedd. Ibis 1877, p. 312.
Lalage culminata, Sharpe, Cat. Birds Br. Mus. IV. p. 104 (1879).

3 specimens (♂ and ♀).

»Iris brown, bill and feet black."

90. *Artamides sumatrensis.*

Ceblepyris novae guineae, Müll. Verh. Land- en Volkenk. p. 190 (1839—1844) (nec Gm.).
Ceblepyris sumatrensis, Müll. l. c.
Graucalus sumatrensis, Salvad. Ucc. di Borneo, p. 150 (1874); — Tweedd. Ibis 1877, p. 312.
Graucalus striatus, Snelleman, Sum. Exp. Vogels, p. 41 (1884).

8 specimens.

»Iris sulphureous, bill and feet black."

Three of the specimens are labelled as males, though they cannot be distinguished from adult females in color and size. If the specimens are really males, they must be young, having not yet assumed the dress of the adult.

91. *Irena crinigera.*

Coracias puella, Raffl. t. c. p. 302 (nec Lath.).
Edolius puellus, Temm. P. C. III. 70, 476, 225 (nec Lath.).

Irena cyanea, Salvad. Ucc. di Borneo, p. 15; id. Ucc. di Sumatra, p. 207 (1879).
Irena turcosa, Sharpe, Ibis 1876, p. 44.
Irena crinigera, Sharpe, Cat. Birds Br. Mus. III. p. 267 (1877); id. l. c. VI. p. 176 (1881); — Nicholson, Ibis 1882, p. 60.
Irena puella, Snelleman, Sum. Exp. Vogels, p. 42 (1884).

42 specimens (both sexes in different ages).

»Iris red, bill and feet black. Native name: *Sikurajo*."

All adult males (27 in number) can easily be distinguished from the Malaccan *I. cyanea* by the under tail-coverts, reaching nearly or entirely the tip of the tail-feathers, or even (in several specimens) a little beyond. A specimen from Deli (Eastern Sumatra) has the under tail-coverts much shorter and may be considered a true *I. cyanea*. I have also compared the adult males with the only adult one in our Museum said to be from Java, but although the label bears Temminck's own handwriting, I hardly think that it is the specimen figured in P. C. 70. On this plate the upper tail-coverts (the lower are not visible) do not reach the tip of the tail-feathers, while in the specimen in question they fully do so. This specimen is in no way distinct from Sumatran ones and if I were quite certain that it was really from Java, I should not hesitate a moment to declare *I. crinigera* identical with the Javan *I. turcosa*.

92. *Chibia sumatrana*.

Dicrurus sumatranus, Ramsay, P. Z. S. 1880, p. 15.

7 specimens (4 ♂, 3 ♀).

»Iris vermilion, bill and feet black. Native name: *Saweh itam*."

Beside an original specimen from Mr. Bock's collection, our Museum was already in possession of a fine adult specimen of this species, collected by S. Müller in the Highlands of Padang, which stood in the collection under the name of *Edolius carbonarius*. Mr. Ramsay, in his above cited original description, compares this species with *Ch.*

bimaensis Bp. I should rather have compared it with *Ch. carbonaria* (Bp.), which, I think, stands nearer on account of the dark bases to the fluffy feathers on the sides of the lower back. The Sumatran species is however at once distinguished from *Ch. carbonaria* by its much shorter tail, of which the lateral feathers show a slight tendency to curl out- and upward. The metallic steel-blue spangles on the feathers of chest and sides of neck are larger than in both above mentioned species, and the metallic purplish coronal feathers, which have a strongly pronounced gloss of steel-green, are broader and larger and form a much more conspicuous metallic coronal patch than in any other species of *Chibia*. Wing 14,3—15 cm., tail 10,5—11, tars. 2,2, bill from front 3,3—3,5.

93. *Chaptia malayensis.*

Chaptia malayensis, A. Hay, J. A. S. B. XV, p. 294 (1846); — Salvad. Ucc. di Borneo, p. 153 (1874); — Tweedd. Ibis 1877, p. 315; — Salvad. Ucc. di Sumatra, p. 207 (1879); — Nicholson, Ibis 1883, p. 245.

Edolius picinus, Bonap. (apud S. Müll.) Consp. Av. I. p. 352 (1850).

4 specimens (2 ♂, 2 ♀).

»Iris chocolate, bill and feet black. Native name: *Saweh itam.*"

94. *Buchanga stigmatops.*

Buchanga stigmatops, Sharpe, P. Z. S. 1879, p. 247.

Dicrurus cineraceus, Snelleman (nec Horsf.), Sum. Exp. Vogels, p. 42 (1884).

11 specimens.

»Iris vermilion, bill and feet black. Native name: *Saweh.*"

All these specimens, as well as the two collected by the Dutch Sumatra Expedition, agree in every respect with the description given by Mr. Sharpe.

95. *Bhringa remifer.*

Edolius remifer, Temm. P. C. III. 178.

Bhringa remifer, Sharpe, Cat. Birds Br. Mus. Vol. III. p. 257 (1877); — Ramsay, P. Z. S. 1880, p. 14.
Dicrurus remifer, Snelleman, Sum. Exp. Vogels, p. 42 (1884).

5 specimens.

»Iris red, bill and feet black. Native name: *Saweh itam*."

96. *Dissemurus platurus*.

Dicrurus platurus, Vieill. N. D. IX. p. 588 (1817).
Edolius retifer, Temm. P. C. III. 1823 (together with *E. remifer*) (partim).
Edolius brachyphorus, Bp. (apud Temm.) Consp. Av. I. p. 351 (1850); — Schl. Handl. Dierk. p. 479 (Vog. pl. 2, fig. 24) (1857).
Dissemurus brachyphorus, Salvad. Ucc. di Borneo, p. 154 (1874).
Dissemurus platurus, Tweedd. Ibis 1877, p. 313; — Salvad. Ucc. di Sumatra, p. 208 (1879); — Nicholson, Ibis 1882, p. 67.
Dicrurus paradiseus, Sharpe, Cat. Birds Br. Mus. Vol. III. p. 258 (1877); — Snelleman, Sum. Exp. Vogels, p. 42 (1884).

37 specimens.

»Iris vermilion, bill and feet black. Native name: *Saweh itam*."

Before I received this large collection I had, according to the view of Salvadori, Tweeddale and others, the Bornean specimens separated from the Sumatran under the name of *D. brachyphorus*. Lord Tweeddale (Ibis 1877, p. 315) says about the distinctness of both: »Count Salvadori somewhat doubts the propriety of separating the Bornean from the Malaccan *Dissemurus*; but the much smaller spatulate termination of the outer pair of rectrices seems to be a constant character in the adults of the Bornean species; and I have examined a very large series, both at Leiden and in my own collection, from Labuan, Sarawak and Banjarmassing."

In fact, a comparison of the specimens standing in our Museum before the arrival of Dr. Klaesi's collection was able to support this view. Though the difference between the largest spatule in Bornean examples and the smallest in Sumatran would not signify much, it could not be denied and was to be considered a distinguishing character.

The examination of Dr. Klaesi's specimens has entirely upset my opinion, as amongst the 35 from the 37, which come into consideration, there are about 12 which with some possibility might be recognized as Sumatran specimens by the somewhat larger spatules on the outermost rectrices, while in the other 23 the spatules are of the same size and even smaller than the larger ones in Bornean specimens. As there are no other characters to distinguish Bornean from Sumatran specimens, both are in future to be united under the name given by Vieillot. Specimens from Banka belong to the same species, and the same is the case with another from the Island Salanga. No crested specimens are found amongst the whole series.

97. *Hemipus intermedius.*

Hemipus intermedius, Salvad. Ucc. di Sumatra, p. 209 (1879).

1 specimen (sex not mentioned).

»Iris sienna yellow, bill and feet black."

This little fly-catching Shrike is only distinguished from *Hemipus intermedius* by having the upper tail-coverts black instead of white, and by having not only the four lateral pairs of tail-feathers, but also the fifth, though very faintly, tipped with white. Like the type of Count Salvadori's *H. intermedius*, this specimen has head and back glossy black like *H. picatus*, but the distribution of the white color on the tail-feathers like *H. capitalis*, which characters are pointed out by Mr. Sharpe (Cat. Birds Br. Mus. III. p. 305) as the principal differences between both latter species.

Though the description of *H. intermedius* is given by such excellent an authority as Count Salvadori, I can hardly believe that the upper tail-coverts in that specimen are really white, while in all known other species of this genus, *H. obscurus* included, they are black. A mistake however might be possible if the said specimen was in bad condition, and the tolerably long white feathers of the rump had been considered to be the upper tail-coverts,

like undoubtedly Captain Legge (Birds of Ceylon, p. 375) did, as he says in his short diagnose of *H. obscurus*: »the upper tail-coverts white." It would really be a very peculiar fact, if in about the same locality two so closely allied species would be found.

Another specimen from the same locality, presented by Mr. van Hasselt in 1880 was already in our Museum. It differs from Dr. Klaesi's specimen only in having the four exterior pairs of tail-feathers tipped with white, instead of five.

Unless the questions about the identity of *H. picatus* with *H. capitalis* be settled, I consider both our specimens in question to belong to Count Salvadori's *H. intermedius*. It is however quite possible that all three so very closely allied forms with the white wing-markings once will turn out to belong to one and the same species, which will have to bear the name *Hemipus picatus*.

98. *Tephrodornis gularis.*

Lanius gularis, Raffl. t. c. p. 304.
Tephrodornis gularis, Blyth, J. A. S. B. XV. p. 304; — ? Salvad. Ucc. di Borneo, p. 156 (1874) (partim); — Sharpe, Cat. Birds Br. Mus. Vol. III. p. 278 (1877).

3 specimens (2 ad. ♂, 1 ♀).

Adult male: »Iris chrome-yellow, bill black, feet brown." Female: »Iris sulphur-yellow, bill horn-brown, feet gray."

As Mr. Sharpe (l. c.) has already pointed out, the Sumatran and Malaccan birds are specifically distinct from those from Java (*virgatus* Temm.) by their larger size, and by the grayish brown color being much darker and reaching up to the chin, leaving the moustaches pure white, and also by the tail-coverts and tail-feathers in adult specimens being edged with gray instead of being entirely black.

In our three specimens from Borneo, amongst which only one fully adult male, the bill is considerably larger and stouter than in those from Sumatra. In the adult

specimen the gray color on the back is darker, and tail-coverts and tail are entirely black like in Javan birds.

If the mentioned characters might prove to hold good in more material than I have at my disposal, I would propose to separate the Bornean specimens under the name of *T. frenatus*, under which name Temminck separated the mentioned three specimens from Borneo from those from Java and Sumatra as a new species, though this latter, as so many others, were never published.

The only Malaccan specimen in our Museum (from Perak, Dr. Hagen) is a female or young male, but with regard to the size of the bill it belongs to the Sumatran form.

99. *Lanius bentet.*

Lanius bentet, Horsf. t. c. p. 144; — Raffl. t. c. p. 304; — Salvad. Ucc. di Borneo, p. 158 (1874); id. Ucc. di Sumatra, p. 210 (1879); — Snelleman, Sum. Exp. Vogels, p. 43 (1884).

6 specimens.

»Iris chocolate brown, bill and feet black. Native name: *Siaras.*"

100. *Lanius tigrinus.*

Lanius tigrinus, Drap. Dict. Class. Hist. Nat. XIII. p. 523 (1828); — Gadow, Cat. Birds Br. Mus. Vol. VIII. p. 289.

Lanius magnirostris, Less. Voy. Bélang., et Compl. Buff. II. p. 415 (1834); — Tweedd. Ibis 1867, p. 220, pl. 6, fig. 1 & 2; id. l. c. 1869, p. 242.

Enneoctonus crassirostris (Kuhl), Bp. Consp. Av. I. p. 362 (1850).

4 specimens (ad. ♂, and jun. both sexes).

»Iris?, bill black, bluish gray at base, feet gray. Native name *Siareh.*"

An examination of the specimens in our Museum shows that there is only one species of thick-billed rufous-tailed Shrikes, which we have represented by one specimen from Singapore, seven from Sumatra, five from Banka, one from Borneo (S. Müller) and five from Java (Kuhl, Blume, Junghuhn and others). A peculiarity of this species is that young (brown-headed) birds have no black stripe

from the base of bill through the eye, the lores being white. In a more advanced stage, in which the crown is already gray but the flanks are still showing the dark cross-bands, the black stripe through the eye has appeared, but is still interrupted by the white loral patch, which afterwards becomes smaller until it disappears entirely in the fully adult stage, in which the said black stripe is so much enlarged as to cover the whole front, the loral and ocular region and the ear-coverts, while the lower surface of the bird has become entirely white.

The specimen from Singapore is in fully adult, that from Borneo in immature stage, the other localities are represented by birds in different stage of plumage.

A revision of the other rufous-tailed Shrikes in the Leyden Museum shows that they belong to the following four species:

1. *Lanius bucephalus*, Schl. Faun. Jap. pl. 14.

8 specimens from Japan.

2. *Lanius cristatus*, L. S. N. I. p. 134 (1766). For further synonymy conf. Gadow, Cat. Birds Br. Mus. Vol. VIII. p. 271 (1883).

8 specimens (Bengal 2, India 2, Hindostan 1, Tenasserim 2, Pegu 1, Amur 2).

3. *Lanius superciliosus*, Lath. (see Gadow, l. c. p. 273).

8 specimens in different stage, all from Java.

It is not easy to keep the two last-named species distinct from each other in all the different stages of plumage, and even fully adult specimens are found with the broad white front of *superciliosus* and the ashy brown back and whitish lower surface of *cristatus*, while on the other hand a fully adult specimen, also from Java, has all the characters of the true *superciliosus*, except the white frontal and superciliary band which is as narrow as in the true *cristatus*. In consequence of this observation I yield to the opinion uttered by Capt. Legge in his Birds of Ceylon, p. 379, that *L. superciliosus* might be a rufous race of *L. cristatus*, if these intermediate forms are not the results

of interbreeding between the two species, as Dr. Gadow (l. c.) believes.

4. *Lanius lucionensis*, L. S. N. I. p. 135 (1766). For further references conf. Gadow, l. c. p. 274.

31 specimens (China 24, of which nearly all are collected by Mr. Swinhoe and Dr. G. Schlegel, Colombo 1, Andamans 2, Borneo 1, Luçon 1, Sanghir 1, Celebes 1).

A few remarks may be welcome to ornitologists about the much-disputed specimens from the latter localities.

The bird from Colombo (Ceylon) is undoubtedly a true and fully adult *L. lucionensis*. As it is one of Diard's specimens, there can be little doubt as to the trustworthiness of the mentioned locality. Of the Andaman specimens one is in fully adult, the other in immature plumage. The specimen from Borneo, collected by Schwaner and called *Enneoctenus Schwaneri* by Bonaparte (Consp. Av. I. p. 363) is a true *L. lucionensis*. The white superciliary streak is by no means absent, as Bonaparte says in his short diagnosis, but merely hidden by the somewhat overhanging feathers of the crown. The specimen from Luçon is a true *L. lucionensis* with ashy gray forehead and crown, but having the lower surface still banded across like young specimens, thus showing the fully adult stage of plumage on the upper, the immature stage on the lower surface. The same is the case in one of our specimens from China. The specimen from Menado (Celebes), collected by Duyvenbode, is a true *L. lucionensis* in nearly adult stage of plumage, with the forehead and fore-part of crown strongly tinged with ashy gray and the lower surface still, though faintly, crossed with dark zigzag bars. I have little doubt that the specimen from the same locality in the Dresden Museum (Blasius, J. f. O. 1883, p. 148) will belong to this species and not to *tigrinus* (*magnirostris*) which latter species is easily recognized by the black-barred back in all stages of plumage. The Sanghir specimen, which was collected by Hoedt, differs from the other specimens of *lucionensis* by the entire forehead and crown being tinged with smoky brown instead of gray,

and therefore stands very near *cristatus*. At it is, according to the cross-bands on the lower surface, an immature bird, the gray color of the forehead may have not been assumed.

101. *Aethopyga siparaja.*

Certhia siparaja, Raffl. t. c. p. 299.
Nectarinea mystacalis (part.), Müll. & Schl. Verh. Zool. Aves, p. 54.
Aethopyga siparaja, Cab.; — Tweedd. Ibis 1877, p. 301; — Salvad. Ucc. di Sumatra, p. 212 (1879); — Shelley, Mon. Nect. p. 57, pl. 19 (1878); — Nicholson, Ibis 1883, p. 252.

3 specimens (1 ♂, 2 ♀♀), Padang.

»Iris dark brown, bill and feet black. Native name: *Boerong koembang*."

102. *Chalcostetha insignis.*

Nectarinea pectoralis, Temm. (nec Horsf.) P. C. IV. 138, f. 3 (1823); — Müll. & Schl. Verh. Zool. Aves, p. 57, pl. 9, fig. 2.
Nectarinea insignis, Jard. Nat. Lib. XXXVI. p. 274 (1842), ex Temm. P. C. IV. 138.
Chalcostetha insignis, Tweedd. Ibis 1877, p. 302; — Shelley, Mon. Nect. p. 87, pl. 30 (1877).

3 specimens (♂ ♂), Padang, on Cocoanut-palms.

»Iris dark brown, bill and feet black. Native name: *Boerong koembang*."

103. *Cinnyris Hasselti.*

Certhia sperata, Raffl. t. c. p. 298 (nec L.).
Nectarinea Hasseltii, Temm. P. C. IV. pl. 376, f. 3 (1825); — Müll. & Schl. Verh. Zool. Aves, p. 59, pl. 10, f. 5.
Nectarophila Hasselti, Tweedd. Ibis 1877, p. 302.
Cinnyris Hasselti, Less.; — Shelley, Mon. Nect. p. 127, pl. 42 (1877); — Nicholson, Ibis 1883, p. 252.

1 specimen (♂), Padang.

104. *Arachnothera robusta.*

Arachnothera robusta, Müll. & Schl. Verh. Nat. Gesch. p. 68, pl. 11, fig. 1 (1846); — Salvad. Ucc. di Borneo, p. 184 (1874); — Gadow, Cat. Birds Br. Mus. Vol. IX. p. 101 (partim) (1884).
Arachnothera sp.? Blyth, J. A. S. B. XV. p. 43 (1846) (Java).

Arachnoraphis robusta (partim), Shelley, Mon. Nectar. p. 367, pl. 118 (1878).

2 specimens (ad. ♂ and ♀).

»Iris brown, bill and feet dark brownish black."

I cannot agree with Capt. Shelley and Dr. Gadow who consider *A. armata* Müll. & Schl. (Verh. Nat. Gesch. p. 68, pl. 11, fig. 2) to be identical with the present species. All three typical specimens of *A. armata* differ from *robusta* by the decidedly grayish olive chin, throat and chest, which parts in *robusta* are olive green and strongly tinged with yellow. The bill in *armata* is much shorter than that of *robusta*, measuring in a straight line from front to tip only 47 mm., while in *robusta* it is in all the five specimens before me 53—55 mm. The difference in the length of the wing is not very remarkable, the wing of the three males in *A. armata* measuring 85, that of the three males in *A. robusta* 88—90 mm. The two females of the latter species have the wings considerably shorter, as they are scarcely as long as in the male of *armata*.

The specimens from which Capt. Shelley described his *A. robusta*, as well as that from the Turin Museum which is figured on the accompanying plate, are all true *A. robusta*, and I think that if this excellent observer had really had before him a true *armata*, this latter would certainly stand in his Monograph as a distinct species. There must be added that the yellowish tinge on throat and chest in *A. armata* Müll. & Schl. (pl. 11, fig. 2) is decidedly incorrect and ought to be represented by a grayish olive color. This incorrect representation is certainly for a great deal the reason that the species is not acknowledged by Capt. Shelley.

Besides the typical specimen of *A. robusta*, the Museum Collection contained a specimen (♀) from Sarawak (Borneo), presented by Mr. Sharpe, and another from Western Sumatra, presented by Mr. von Faber.

105. *Arachnothera modesta.*

Anthreptes modesta, Eyton, P. Z. S. 1839, p. 105.

Arachnothera modesta, Blyth, J. A. S. B. XII. p. 981 (1843); — Sal-

vad. Ucc. di Borneo, p. 183 (1874); id. Ucc. di Sumatra, p. 214 (1879); — Shelley, Mon. Nect. p. 353, pl. 113 (1878); — Nicholson, Ibis 1883, p. 253.

Arachnothera affinis, Gadow, Cat. Birds Br. Mus. Vol. IX. p. 106 (1884) (part.); — Snelleman, Sum. Exp. Vogels, p. 41 (1884).

Arachnothera concolor (n. sp.), Schl. (Pl. 1 to Snelleman's text of *A. affinis*).

6 specimens.

»Iris brown, bill blackish, lower mandible paler, feet pale flesh-color. Native name: *Pidantong*."

Dr. Gadow is certainly wrong in uniting this species with the closely allied *A. affinis*. I have before me 10 specimens of *A. modesta*, one of which is from Singapore, the others from Western Sumatra, against 16 specimens of *A. affinis*, all of which are from Java. All the specimens of *A. modesta* are easily distinguished by the strongly pronounced greenish tinge on the lower surface, while these parts in *A. affinis* are gray with very little or no greenish tinge. In both species throat and chest have olivaceous shaft-stripes, which latter are more developed in *A. affinis* than they are in *A. modesta*. The difference in size is not constant, as I have before me specimens of *A. modesta* from Sumatra, which are fully as large as *A. affinis* from Java.

106. *Arachnothera chrysogenys*.

Certhia longirostra, Raffl. t. c. p. 299.

Arachnothera chrysogenys, Temm. P. C. IV. 388, fig. 1 (1826); — Müll. Verh. Land- en Volkenk. p. 405 (1843); — Müll. & Schl. Verh. Zool. Aves, p. 69 (1846); — Salvad. Ucc. di Borneo, p. 181 (1874); id. Ucc. di Sumatra, p. 214 (1879); — Tweedd. Ibis 1877, p. 301; — Shelley, Mon. Nect. p. 365, pl. 117 (1879); — Gadow, Cat. Birds Br. Mus. IX. p. 108 (1884).

1 specimen (♀).

»Iris chestnut brown, bill black, lower mandible at base pale horny, feet horny gray. Native name: *Pidjantong*."

107. *Arachnothera flavigaster*.

Anthreptes flavigaster, Eyton, P. Z. S. 1839, p. 105.

Arachnothera flavigastra, Blyth, J. A. S. B. XIV. p. 557 (1845); — Tweedd. Ibis 1877, p. 300.

Arachnothera Eytonii, Salvad. Ucc. di Borneo, p. 182 (1874).
Arachnoraphis flavigastra, Shelley, Mon. Nect. p. 373, pl. 120 (1879).
Arachnothera flaviventris, Gadow, Cat. Birds Br. Mus. Vol. IX. p. 109 (1884).

4 specimens.

»Iris Van Dijk-brown, bill dark brown, underneath paler, feet dirty orange. Native name: *Pidjantong.*"

108. *Aegithina viridis.*

Turdus scapularis, Raffl. t. c. p. 311 (nec Horsf.).
Jora viridis, Bp. Consp. Av. I. p. 397 (1850); — Snelleman, Sum. Exp. Vogels, p. 40 (1884).
Jora scapularis, Salvad. Ucc. di Borneo, p. 190 (1874).
Aegithina scapularis, Tweedd. Ibis 1877, p. 304; — Salvad. Ucc. di Sumatra, p. 216 (1879).
Aegithina viridis, Sharpe, Cat. Birds Br. Mus. Vol. VI. p. 11 (1881).

1 specimen (♀).

»Iris pale ochre, ridge of bill black, edges, lower mandible and feet cobalt. Native name: ?"

109. *Choropsis zosterops.*

Chloropsis zosterops, Vig. App. Mem. Raffl. p. 674; — Sharpe, Cat. Birds Br. Mus. Vol. VI. p. 24 (1881); — Nicholson, Ibis 1882, p. 59.
Phyllornis viridis, Tweedd. Ibis 1877, p. 305.
Phyllornis sonnerati, Salvad. Ucc. di Sumatra, p. 217 (1879).

7 specimens.

»Iris dark brown, bill and feet leaden black. Native name: *Timai-tinggih.*"

110. *Chloropsis media.*

Phyllornis media, Bp. Consp. Av. I. p. 396 (ex Müll. M S.); — Ramsay, P. Z. S. 1880, p. 14.
Chloropsis media, Sharpe, Cat. Birds Br. Mus. Vol. VI. p. 27 (1881).

12 specimens.

»Iris dark brown, bill and feet dark leaden gray. Native name: *Djulu Djulu daun.*"

111. *Chloropsis icterocephala.*

Turdus cochinchinensis, Raffl. (nec Gm.) t. c. p. 309.
Phyllornis malabaricus, Temm. (nec Gm.) P. C. IV. 512, fig. 2.
Phyllornis icterocephala, Lesson, Rev. Zool. 1840, p. 164; — Tweedd. Ibis 1877, p. 305.
Chloropsis icterocephala, Sharpe, Cat. Birds Br. Mus. Vol. VI. p. 30 (1881); — Nicholson, Ibis 1882, p. 59.

4 specimens.

Iris, bill and feet like in the preceding species.

112. *Chloropsis cyanopogon.*

Phyllornis cyanopogon, Temm. P. C. IV. 512, fig. 1; — Tweedd. Ibis 1877, p. 305; — Salvad. Ucc. di Sumatra, p. 217 (1879).
Chloropsis cyanopogon, Sharpe, Cat. Birds Br. Mus. Vol. VI. p. 32 (1881); — Nicholson, Ibis 1883, p. 247; — Snelleman, Sum. Exp. Vogels, p. 40 (1884).

2 specimens.

Iris, bill and feet like in the preceding species.

113. *Chloropsis venusta.*

Phyllornis venusta, Bp. Consp. Av. I. p. 396 (1850).
Chloropsis venusta, Sharpe, Cat. Birds Br. Mus. Vol. VI. p. 34 (1881).

2 specimens (♂ ♂).

»Iris black, bill black, feet leaden gray. Native name: *Burong bindalo.*"

One of the specimens of this fine species has been collected at Loeboe Soelasi, on the 10th of November, the other at Soerian, on the 23rd of the same month. This species was hitherto only known from the three typical specimens in the Leyden Museum.

114. *Trachycomus ochrocephalus.*

Turdus ochrocephalus, Gm. S. N. I. p. 821; — Temm. P. C. II. 136.
Trachycomus ochrocephalus, Cab. Mus. Hein. I. p. 109; — Salvad. Ucc. di Borneo, p. 196 (1874); id. Ucc. di Sumatra, p. 218 (1879); — Sharpe, Cat. Birds Br. Mus. Vol. VI. p. 93 (1881).
Alcurus ochrocephalus, Tweedd. Ibis 1877, p. 306.
Ixos ochrocephalus, Snelleman, Sum. Exp. Vogels, p. 40 (1884).

21 specimens.

»Iris rusty brown, bill black, feet leaden gray. Native name: *Baro*, *baro*."

115. *Pycnonotus bimaculatus.*

Turdus bimaculatus, Horsf. t. c. p. 147.
Ixus bimaculatus, Salvad. Ucc. di Sumatra, p. 218 (1879).
Pycnonotus bimaculatus, Sharpe, Cat. Birds Br. Mus. Vol. VI. p. 138 (1881); — Nicholson, Ibis 1883, p. 247.

1 specimen (ad. ♀).

»Iris dark brown, bill and feet leaden black. Native name: *Braba rimbo*."

116. *Pycnonotus analis.*

Turdus analis, Horsf. t. c. p. 147; — Raffl. t. c. p. 310.
Pycnonotus analis et *P. gourdinii*, Salvad. Ucc. di Borneo, pp. 197, 198 (1874).
Ixus analis, Tweedd. Ibis 1877, p. 306; — Salvad. Ucc. di Sumatra, p. 219 (1879).
Pycnonotus analis, Sharpe, Cat. Birds Br. Mus. Vol. VI. p. 140 (1881).
Ixos psidii, Snelleman, Sum. Exp. Vogels, p. 40 (1884).

6 specimens.

»Iris Van Dijk-brown, bill and feet blackish. Native name: *Braba*."

117. *Pycnonotus plumosus.*

Pycnonotus plumosus, Blyth, J. A. S. B. XIV. p. 567; — Salvad. Ucc. di Borneo, p. 198 (1874); — Sharpe, Cat. Birds Br. Mus. Vol. VI. p. 152 (1881); — Nicholson, Ibis 1883, p. 247.
Brachypus plumosus, Tweedd. Ibis 1877, p. 306; — Salvad. Ucc. di Sumatra, p. 220 (1879).

5 specimens.

»Iris orange, bill black, feet yellowish brown. Native name: *Braba rimbo*."

118. *Pycnonotus simplex.*

Pycnonotus simplex, Less. Rev. Zool. 1839, p. 167; — Sharpe, Cat. B. Br. Mus. VI. p. 153, pl. IX (1881); — Nicholson, Ibis 1882, p. 60.

1 specimen.

No colors of the soft parts mentioned.

119. *Rubigula dispar.*

Turdus dispar, Horsf. t. c. p. 150; — Raffl. t. c. p. 310; — Temm. P. C. II. 137.

Rubigula dispar, Blyth, J. A. S. B. XIV. p. 576; — Tweedd. Ibis 1877, p. 306; — Salvad. Ucc. di Sumatra, p. 220 (1879); — Sharpe, Cat. Birds Br. Mus. Vol. VI. p. 167 (1881).

7 specimens.

»Iris fire-red, bill black, feet dark brown. Native name: *Braba rimbo.*"

120. *Rubigula cyaniventris.*

Turdus sp. 6, Raffl. t. c. p. 311.

Ixidia cyaniventris, Salvad. Ucc. di Sumatra, p. 220 (1879).

Rubigula cyaniventris, Sharpe, Cat. B. Br. Mus. Vol. VI. p. 169 (1881).

2 specimens (♂ ♂).

»Iris chocolate, bill black, feet dirty brown. Native name: *Kamadja.*"

121. *Rubigula Webberi.*

Ixidia squamata, Salvad. (nec Temm.) Ucc. di Borneo, p. 200 (1874).

Ixidia Webberi, Hume, Stray Feath. 1879, pp. 40, 63.

Rubigula Webberi, Sharpe, Cat. Birds Br. Mus. Vol. VI. p. 171. (Sumatra).

1 specimen (♀).

»Iris fire-red, bill and feet black.

Another specimen of this species, also from Western Sumatra, was presented to our Museum by Mr. von Faber in 1880.

122. *Micropus melanocephalus.*

Lanius melanocephalus, Gm. S. N. I. p. 309.

Turdus melanocephalus, Raffl. t. c. p. 310.

Turdus atriceps, Temm. P. C. II. 147.

Brachypodius melanocephalus, Salvad. Ucc. di Borneo, p. 201 (1874);

— Tweedd. Ibis 1877, p. 307; — Salvad. Ucc. di Sumatra, p. 221 (1879).

Micropus melanocephalus, Sharpe, Cat. B. Br. Mus. VI. p. 65 (1881).

7 specimens.

»Iris cobalt-blue to sky-blue, bill and feet blackish. Native name: *Kamadja*."

123. *Micropus melanoleucus.*

Microtarsus melanoleucus, Eyton, P. Z. S. 1839, p. 102; — Salvad. Ucc. di Borneo, p. 202 (1874).

Micropus melanoleucus, Sharpe, Cat. B. Br. Mus. Vol. VI. p. 69 (1881).

1 specimen (n°. 775).

»Iris chocolate, bill and feet black."

124. *Hemixus cinereus.*

Iole cinerea, Blyth, J. A. S. B. XIV. p. 573 (1845).

Hemixus cinereus, Sharpe, Cat. Birds Br. Mus. Vol. VI. p. 52 (1881) (Sumatra).

2 specimens.

»Iris?, bill and feet black."

125. *Hemixus malaccensis.*

Hypsipetes malaccensis, Blyth, J. A. S. B. XIV. p. 574 (1845); — Salvad. Ucc. di Borneo, p. 202 (1874); id. Ucc. di Sumatra, p. 221 (1879).

Hemixus malaccensis, Sharpe, Cat. Birds Br. Mus. Vol. VI. p. 52 (1881).

5 specimens.

»Iris brown, bill brown, lower mandible paler, feet brownish yellow. Native name: *Braba kampong*."

126. *Tricholestes criniger.*

Brachypodius? criniger, Blyth, J. A. S. B. XIV. p. 577 (1845).

Tricholestes minutus, Salvad. Ucc. di Borneo, p. 205 (1874).

Tricholestes criniger, Tweedd. Ibis 1877, p. 306; — Sharpe, Cat. B. Br. Mus. Vol. VI. p. 89 (1881).

1 specimen.

Color of soft parts not mentioned.

127. *Criniger gutturalis.*

Trichophorus gutturalis, Bp. Consp. Av. I. p. 262 (1850).
Criniger gutturalis, Salvad. Ucc. di Borneo, p. 206 (1874); — Sharpe, Cat. Birds Br. Mus. Vol. VI. p. 80 (1881); — Nicholson, Ibis 1883, p. 247.

7 specimens.

»Iris brown, bill leaden gray, feet pale brown. Native name: *Braba rimbo.*"

128. *Iole olivacea.*

Iole olivacea, Blyth, J. A. S. B. XIII. p. 386 (1844); — Salvad. Ucc. di Borneo, p. 210 (1874); — Tweedd. Ibis 1877, p. 307; — Sharpe, Cat. Birds Br. Mus. Vol. VI. p. 55 (1881); — Nicholson, Ibis 1882, p. 59; id. Ibis 1883, p. 247.

2 specimens (♂ and ♀).

»Iris pale roe-brown, bill blackish, lower mandible yellowish at base, feet dirty yellow. Native name: *Braba.*"

129. *Pitta coerulea.*

Myiothera coerulea, Raffl. t. c. p. 301.
Pitta gigas, Temm. P. C. II. 217.
Pitta coerulea, Vig. App. Mem. Raffl. p. 659; — Schl. Vog. Ned. Ind. Pitta, p. 1, pl. 1, f. 1, 2, 3 (1863); id. Mus. P.-B., Pitta, p. 1 (1863); id. Pitta, Revue, p. 1 (1874).

1 specimen (♀).

»Iris dark brown, bill brownish black, feet brown. Native name: *Sintau.*"

130. *Pitta cyanoptera.*

Pitta cyanoptera, Temm. P. C. II. 218; — Müll. & Schl. Verh. Zool. Aves, pp. 7, 17, 20; — Schl. Mus. P.-B., Pitta, p. 9 (1863); id. Pitta, Revue, p. 15 (1874); — Salvad. Ucc. di Borneo, p. 235 (1874).

1 specimen (ad. ♀).

Soft parts and native name not mentioned.

131. *Pitta cucullata.*

Pitta cucullata, Hartl. Ann. N. H. 1844, pl. 20; — Schl. Mus. P.-B. Pitta, p. 4 (1863); id. Pitta, Revue, p. 5 (1874).

Pitta bangkana, Schl. Vog. Ned. Ind. Pitta, p. 8, pl. 2, f. 5 (1863); id. Mus. P.-B., Pitta, p. 3 (1863).

2 specimens.

»Iris Van Dijk-brown, bill black, feet flesh-color. Native name: *Si Pindjur*."

As far as I know this is the first time that this species is recorded from Sumatra.

132. *Myiophoneus flavirostris.*

Turdus flavirostris, Horsf. t. c. p. 149.
Myiophoneus metallicus, Temm. P. C. II. 170 (1823).
Myiophoneus flavirostris, Gray, Gen. Birds, I. p. 214 (1846); — Sharpe, Cat. Birds Br. Mus. Vol. VII. p. 7 (1883).
Myiophoneus dicrorhynchus, Salvad. Ucc. di Sumatra, p. 227 (1879); — Ramsay, P. Z. S. 1880, p. 16; — Nicholson, Ibis 1883, p. 247; — Sharpe, Cat. Birds Br. Mus. Vol. VII. p. 10 (1883).

2 specimens (1 nearly adult, unsexed, 1 jun. ♀).

»Iris dark brown, bill in the unsexed specimen orange-yellow, ridge black, in the younger female entirely black, feet in both specimens black. Native name: *Tiong ajer*."

Count Salvadori (l. c.) considers the Sumatran specimens to be distinct from the Javan by the culminal part of the bill being black instead of yellow, and this opinion is shared by Mr. Sharpe, Mr. Ramsay and Mr. Nicholson in their above mentioned publications. If this character would really be sufficient to base a new species upon, the above mentioned unsexed specimen would belong to *M. dicrorhynchus* and not to *flavirostris*. I can however not agree with the learned author, as amongst the three Javan specimens in the Leyden Museum, one of which is figured in the Pl. Col. 170, have all the culmen more or less black, though not as largely as the Sumatran specimen. This latter has moreover the purplish white tips to the median wing-coverts as strongly developed as is the case with the specimens from Java. Only the metallic edgings to the feathers are less strongly pronounced, which peculiarity might be attributed to its not fully adult stage of plumage.

The second specimen, a female with entirely black bill (like in young black Thrushes only the edges and inner surface of the mandibles are yellow) is, on account of this character, certainly a young bird. The point of the bill is not as strongly bent downward as in adult specimens, the tail is decidedly shorter (probably not fully developed), measuring only 8,5 cm. instead of 11, while wings and tarsi are as long as in adult specimens. The purplish white tips to the median wing-coverts, as well as the metallic edgings to the feathers on upper and lower surface, are entirely wanting, but the lower wing-coverts show the same peculiar white patch as the adult, both from Java and Sumatra.

133. *Myiophoneus melanurus.*

Arrenga melanura, Salvad. Ucc. di Sumatra, p. 227 (1879); — Ramsay, P. Z. S. 1880, p. 16; — Nicholson, Ibis 1882, p. 60; id. Ibis 1883, p. 247.

Myiophoneus melanurus, Sharpe, Cat. Birds Br. Mus. Vol. VII. p. 12 (1883).

3 specimens (2 ♂, 1 ♀).

»Iris chocolate-brown, bill black, feet dark brown. Native name: *Tiong ajer.*"

134. *Myiophoneus castaneus.*

Myiophoneus castaneus, Ramsay, P. Z. S. 1880, p. 16, pl. 1; — Sharpe, Cat. Birds Br. Mus. Vol. VII. p. 14 (1883).

2 specimens (♂ and ♀).

»Iris chocolate-brown, bill and feet black. Native name: *Tiong ajer.*"

135. *Turdinus loricatus.*

Myiothera loricata, S. Müll. Tijdschr. Nat. Gesch. en Phys. 1835, p. 348.

Turdinus marmoratus, Ramsay, P. Z. S. 1880, p. 15.

Turdinus loricatus, Sharpe, Cat. Birds Br. Mus. Vol. VII. p. 550 (1883).

3 specimens.

»Iris brown, bill and feet black. Native name: *Si Pindjur.*"

136. *Platylophus coronatus.*

Lanius coronatus, Raffl. t. c. p. 306.
Garrulus histrionicus, Schl. Handl. Dierk. I. p. 327 (1857).
Garrulus rufulus, Schl. Handl. Dierk. I. p. 327 (1857); id. Mus. P.-B. Coraces, p. 66 (1867).
Platylophus coronatus, Cab. J. f. O. 1866, p. 309; — Salvad. Ucc. di Borneo, p. 280 (1874); id. Ucc. di Sumatra, p. 229; — Nicholson, Ibis 1882, p. 59.

7 specimens.

»Iris Van Dijk-brown, bill and feet lead-color. Native name: *Burong kudok.*"

137. *Garrulax bicolor.*

Garrulax bicolor, Hartl. Rev. Zool. 1844, p. 402; — Bonap. Consp. Av. I. p. 370 (1850); — Salvad. Ucc. di Sumatra, p. 229 (1879); — Nicholson, Ibis 1883, p. 249; — Sharpe, Cat. B. Br. Mus. Vol. VII. p. 438 (1883); — Snelleman, Sum. Exp. Vogels, p. 43 (1884).

6 specimens.

»Iris blood-red, bill and feet brownish black. Native name: *Baligoh.*"

138. *Garrulax palliatus.*

Janthocincla palliata, Bp. Consp. Av. I. p. 371 (1850).
Garrulax palliatus, Gray, Handl. Birds, I. p. 282 (1869); — Salvad. Ucc. di Sumatra, p. 230 (1879); — Nicholson, Ibis 1882, p. 61; — Sharpe, Cat. Birds Br. Mus. Vol. VII. p. 446 (1883).

2 specimens.

»Iris orange-yellow, bill and feet black. Native name: *Girgudei itam.*"

139. *Melanocichla lugubris.*

Janthocincla lugubris, S. Müll. Nat. Tijdschr. 1835, p. 344, pl. 5, f. 2.
Garrulax lugubris, Gray, Handl. Birds, I. p. 281 (1869); — Nicholson, Ibis 1883, p. 249; — Snelleman, Sum. Exp. Vogels, p. 43 (1884).
Melanocichla lugubris, Sharpe, Cat. Birds Br. Mus. Vol. VII. p. 451 (1883).

5 specimens.

»Iris dark brown, bill orange-red, feet yellowish green. Native name: *Gudei binnang.*"

140. *Rhinocichla mitrata.*

Timalia mitrata, S. Müll. Nat. Tijdschr. 1835, p. 345, pl. 5, f. 3.
Janthocincla mitrata, Bp. Consp. Av. I. p. 371 (1850); — Nicholson, Ibis 1882, p. 61; id. Ibis 1883, p. 248.
Leiotrix mitrata, Salvad. Ucc. di Sumatra, p. 230 (1879).
Rhinocichla mitrata, Sharpe, Cat. B. Br. Mus. Vol. VII. p. 452 (1883).

13 specimens.

»Iris red, bill and feet orange. Native name: *Girgudei.*"

141. *Mixornis gularis.*

Motacilla gularis, Raffl. t. c. p. 312.
Mixornis gularis, Blyth, Cat. Birds Mus. A. S. p. 149 (1849); — Salvad. Ucc. di Sumatra, p. 223 (1879); — Sharpe, Cat. Birds Br. Mus. Vol. VII. p. 576 (1883).

1 specimen (♂).

»Iris dark brown, bill black, feet dark brown."

142. *Eupetes macrocercus.*

Eupetes macrocercus, Temm. P. C. II. 516 (1831); — Salvad. Ucc. di Sumatra, p. 233 (1879); — Sharpe, Cat. Birds Br. Mus. Vol. VII. p. 338 (1883).

1 specimen (♂).

»Iris dark brown, bill and feet black. Native name: *Si Pindjur.*"

143. *Henicurus frontalis.*

Enicurus frontalis, Blyth, J. A. S. Beng. XVI. p. 156 (1847).
Henicurus frontalis, Salvad. Ucc. di Borneo, p. 258 (1874); — Tweedd. Ibis 1877, p. 310; — Sharpe, Cat. Birds Br. Mus. Vol. VII. p. 321 (1883).

2 specimens.

»Iris dark brown, bill black, feet yellowish white. Native name: *Murei batu.*"

144. *Henicurus velatus.*

Enicurus velatus, Temm. P. C. III. 160 (1823).
Henicurus velatus, Elwes, Ibis 1872, p. 253; — Salvad. Ucc. di Sumatra, p. 234 (1879); — Nicholson, Ibis 1883, p. 251; — Snelleman, Sum. Exp. Vogels, p. 40 (1884).
Hydrocichla velatus, Sharpe, Cat. Birds Br. Mus. Vol. VII. p. 320 (1883).

1 specimen (♂).

»Iris dark brown, bill black, feet white. Native name: *Murei ajer.*"

145. *Cittocincla tricolor.*

Turdus tricolor, Vieill. N. Dict. d'Hist. Nat. XX. pl. 114 (1802).
Cittocincla macroura (Gm.), Tweedd. Ibis 1877, p. 309; — Salvad. Ucc. di Sumatra, p. 236 (1879); — Nicholson, Ibis 1882, p. 60.
Cittocincla tricolor, Sharpe, Cat. Birds Br. Mus. Vol. VII. p. 85 (1883).

5 specimens.

»Iris dark brown, bill black, feet reddish white. Native name: *Murei rotan.*"

146. *Copsychus musicus.*

Lanius musicus, Raffl. t. c. p. 307.
Copsychus musicus, Tweedd. Ibis 1877, p. 302; — Salvad. Ucc. di Sumatra, p. 236 (1879); — Nicholson, Ibis 1882, p. 60.
Copsychus saularis (part.) Sharpe, Cat. B. Br. Mus. Vol. VII. p. 61 (1883).
Copsychus mindanensis, Snelleman, Sum. Exp. Vogels, p. 40 (1884).

6 specimens (5 ♂, 1 ♀).

»Iris dark brown, bill and feet black. Native name: *Murei.*"

147. *Turdus obscurus.*

Turdus obscurus, Gm. S. N. I. p. 816 (1788); — Ramsay, P. Z. S. 1880, p. 15.
Turdus pallens, Pall. Zoogr. Ross. As. I. p. 457 (1811—1831); — Temm. & Schl. Faun. Jap. Aves, p. 63, pl. 27 (1850); — Salvad. Ucc. di Borneo, p. 257 (1874).
Merula obscura, Sharpe, Cat. Birds Br. Mus. Vol. V. p. 273 (1881).

1 specimen (♀).

»Iris chocolate, bill dark brown, base of lower mandible yellowish, feet brownish yellow."

148. *Geocichla sibirica.*

Turdus sibiricus, Pall. Reis. Russ. Reich. III. p. 694 (1776); — Temm. & Schl. Faun. Jap. Aves, p. 66, pl. 31 (1847); — Ramsay, P. Z. S. 1880, p. 15.
Geocichla sibirica, Sharpe, Cat. Birds Br. Mus. Vol. V. p. 180 (1881).

4 specimens.
»Iris brown, bill dark brown, feet brownish yellow."

149. *Motacilla melanope.*

Motacilla melanope, Pall. Reis. Russ. Reich. III. p. 696 (1776); — Sharpe, Cat. Birds Br. Mus. Vol. X. p. 497 (1885).
Motacilla bistrigata, Raffl. t. c. p. 312.
Calobates bistrigata, Salvad. Ucc. di Borneo, p. 259 (1874).
Calobates melanope, Tweedd. Ibis 1877, p. 310; — Nicholson, Ibis 1882, p. 62; id. Ibis 1883, p. 253.

2 specimens.
»Iris Van Dijk-brown, bill black, feet brownish yellow. Native name: *Murei batu.*"

150. *Limonidromus indicus.*

Motacilla indica, Gm. S. N. I. p. 362 (1788).
Motacilla variegata, Vieill. N. Dict. d'Hist. Nat. XIV. p. 599 (1817).
Limonidromus indicus, Gould, Birds Asia, pl. 67 (1862); — Salvad. Ucc. di Borneo, p. 261 (1874); — Ramsay, P. Z. S. 1880, p. 15.

2 specimens.
»Iris brown, bill black, lower mandible dirty whitish, tarsi pale ochre, toes brown. Native name: *Pinti pinti.*"

151. *Anthus rufulus.*

Anthus rufulus, Vieill. N. Dict. d'Hist. Nat. XXVI. p. 494 (1818). For further references about the much entangled synonymy, see Sharpe, Cat. Birds Br. Mus. Vol. X. p. 574 (1885).

1 specimen.

152. *Munia punctularia*(?).

2 damaged specimens, probably young, in spirits. Padang.

153. *Calornis chalybaea.*

Turdus chalybaeus, Horsf. t. c. p. 148 (♂).
Turdus strigatus, Horsf. ibid. (♀).
Lamprotornis cantor, Temm. (nec Gm.) P. C. II. 149 f. 1 & 2 (1823); — Müll. Verh. Land- en Volkenk. p. 174 (1839—1844).
Calornis chalybaea, Salvad. Ucc. di Borneo, p. 271 (1874); — Tweedd. Ibis 1877, p. 318; — Salvad. Ucc. di Sumatra, p. 238 (1879); — Nicholson, Ibis 1882, p. 62.
Aplonis cantor (Temm.), Snelleman, Sum. Exp. Vogels, p. 43 (1884).

8 specimens.

»Iris blood-red, bill and feet black. Native name: *Burong kumbang.*"

154. *Gracula javanensis.*

Corvus javanensis, Osbeck, Iter. p. 102 (1757).
Gracula religiosa, Raffl. (nec L.) t. c. p. 303.
Gracula javanensis, Blyth, J. A. S. Beng. XV. p. 31 (1846); — Schl. Tijdschr. Dierk. I. p. 5, pl. 1, f. 3 (1863); — Salvad. Ucc. di Borneo, p. 274 (1874); — Tweedd. Ibis 1877, p. 319; — Salvad. Ucc. di Sumatra, p. 235 (1879); — Nicholson, Ibis 1882, p. 63; id. Ibis 1883, p. 255; — Snelleman, Sum. Exp. Vogels, p. 43 (1884).

13 specimens.

»Iris Van Dijk-brown, bill orange-red, bare skin lemon-yellow, feet lemon. Native name: *Beo.*"

155. *Oriolus indicus.*

Oriolus indicus, Briss. Orn. II. p. 328 (1760); — Schl. Mus. P.-B., Coraces, p. 102 (part.) (1867); — Salvad. Ucc. di Borneo, p. 275 (1874).
Oriolus chinensis, Raffl. (nec L.) t. c. p. 303.
Oriolus coronatus, Tweedd. Ibis 1877, p. 308; — Salvad. Ucc. di Sumatra, p. 238 (1879).
Oriolus diffusus, Sharpe, Cat. Birds Br. Mus. Vol. III. p. 197 (1877).
Oriolus tenuirostris, Sharpe, t. c. p. 198.
Oriolus maculatus, Sharpe, t. c. p. 199; — Snelleman, Sum. Exp. Vogels, p. 42 (1884).

18 specimens.

»Iris blood-red, bill flesh-color, feet brownish black. Native name: *Mentialo.*"

The black nuchal band in this species having really a somewhat bluish tinge under certain lights, perhaps relieved by the surrounding yellow color, I do not hesitate to adopt the name given by Brisson, but rejected by Mr. Sharpe and others.

156. *Oriolus xanthonotus.*

Oriolus xanthonotus, Horsf. t. c. p. 153; — Temm. P. C. II. 214 (1823); — Schl. Mus. P.-B., Coraces, p. 109 (1867); — Salvad. Ucc. di Borneo, p. 277 (1874); — Tweedd. Ibis 1877, p. 308; — Salvad. Ucc. di Sumatra, p. 239 (1879).

7 specimens.

»Iris blood-red, bill yellowish brown, feet cobalt.

157. *Oriolus cruentus.*

Leptopteryx cruenta, Wagl. Syst. Av. *addit. Leptopteryx* sp. 9.
Ocypterus sanguinolentus, Temm. P. C. III. 499 (1830).
Analcipus cruentus, Salvad. Ucc. di Borneo, p. 278 (1874); — Ramsay, P. Z. S. 1880, p. 15.
Oriolus cruentus, Sharpe, Cat. Birds Br. Mus. Vol. III. p. 221 (1877).

5 specimens.

»Iris brown, bill?, feet blackish gray."

This species stands in our Museum under the MS. name: *Artamia sanguinolenta.*

158. *Cissa chinensis.*

Coracias chinensis, Bodd. Tabl. Pl. enl. p. 38.
Cissa sinensis, Blyth, J. A. S. B. XIII. p. 934; — Schl. Mus. P.-B. Coraces, p. 68 (1867).
Cissa minor, Cab. Mus. Hein. I. p. 86, nota (1850—1851); — Sharpe, Cat. Birds Br. Mus. Vol. III. p. 86 (1877); — Salvad. Ucc. di Sumatra, p. 229 (1879); — Nicholson, Ibis 1883, p. 244.

7 specimens.

»Iris carmine, round the eye a narrow ring of blood-red, bill blood-red, feet raisin-red. Native name: *Lajongan.*"

With the exception of the size, there is absolutely no difference between Continental and Sumatran specimens, and the inferior size of the latter seems to me not striking enough to base a new species upon. The following are the measurements of the specimens at present at my disposal:

		wing	tail	tarsi
Himalayas	(2 sp.)	13,7—15 cm.	20,5—22,5	4,3
Sumatra	(9 sp.)	12,5—13,5 »	15,5—17,5	3,6—3,9

Mr. Nicholson (l. c.) says that »the female will probably turn out to be much smaller than the male." This however will hardly prove to be the truth, as a female specimen, collected by S. Müller is the largest of the series (wing 13,5 cm.) and another female, from Dr. Klaesi's collection, the next in size. Another female of Dr. Klaesi's on the other hand is really the smallest specimen of the series. All specimens received from this gentleman have still conserved their original lively green color of the plumage, and the quills are still red, tinged with golden brown.

Our Museum contains moreover a specimen which was kept alive in the Zoological Garden at Rotterdam and died in January 1885. The locality from where it was brought is unknown, but its superior size allows no doubt as to its coming from the Continent. It differs however from both the Continental and Sumatran specimens by having the feathers of the crown black, with sea-green tips, which latter are generally interrupted by a subterminal black bar. The feathers on the front and a superciliary streak are pure sea-green, like the whole crown is in the common *C. sinensis*. Of course I dare not say if this peculiarity is accidentally or constant. For the case however that afterwards the latter might be stated, I propose to call it *Cissa nigrocoronata*.

159. *Dendrocitta occipitalis.*

Glaucopis occipitalis, S. Müll. Tijdschr. Nat. Gesch. & Phys. II. p.

343, pl. 9, f. 1 (1837); — Schl. Mus. P.-B., Coraces, p. 75 (1867).

Dendrocitta occipitalis, Bp. Consp. Av. I. p. 369; — Sharpe, Cat. Birds Br. Mus. Vol. III. p. 81 (1877); — Salvad. Ucc. di Sumatra, p. 239 (1879); — Nicholson, Ibis 1882, p. 58; id. Ibis 1883, p. 244; — Snelleman, Sum. Exp. Vogels, p. 44 (1884).

9 specimens.

»Iris reddish brown, bill and feet blackish. Native name: *Tankerulie.*"

160. *Platysmurus leucopterus.*

Glaucopis leucopterus, Temm. P. C. II. 265 (1824); — Schl. Mus. P.-B., Coraces, p. 72 (1867); — Snelleman, Sum. Exp. Vogels, p. 44 (1884).

Platysmurus leucopterus, Salvad. Ucc. di Borneo, p. 279 (1874); — Tweedd. Ibis 1877, p. 318; — Sharpe, Cat. Birds Br. Mus. Vol. III. p. 90 (1877); — Salvad. Ucc. di Sumatra, p. 240 (1879); — Nicholson, Ibis 1882, p. 58; id. Ibis 1883, p. 244.

2 specimens.

»Iris chrome-red, bill and feet black. Native name: *Kambing*, *kambing.*"

161. *Corvus validus.*

Corvus validus, Bp. Consp. Av. I. p. 385 (1850); — Schl. Bijdr. Dierk. Corvus, p. 13, pl. 1, f. 22; id. Mus. P.-B., Coraces, p. 29; — Salvad. Ucc. di Borneo, p. 281 (1874); — Tweedd. Ibis 1877, p. 319; — Snelleman, Sum. Exp. Vogels, p. 44 (1884).

Corone enca (part.) Sharpe, Cat. Birds Br. Mus. Vol. III. p. 43 (1877).

(?) *Corvus tenuirostris*, Salvad. Ucc. di Sumatra, p. 240 (1879).

13 specimens.

»Iris roe-brown, bill and feet black. Native name: *Ga-ga.*"

After having compared these specimens with the 9 from Sumatra, Borneo and Timor already in our collection, and also with a great series of *C. enca*, I must consider *C. validus* a good species, though Mr. Sharpe (l. c.) unites it with *C. enca*. The principal difference lays, beside the difference in size, in the form and, at a certain degree,

the size of the bill. This latter is much straighter in *validus* than in *enca*, where the culmen is more curved and the whole bill more bent downward towards the point. Professor Schlegel, with his experienced eye, saw this difference very clearly, and demonstrated it sufficiently in the above cited excellent plate with the Crows heads. A comparison of the figures of *validus* and *enca* clearly shows this difference.

162. *Treron nasica.*

Treron nasica, Schl. Tijdschr. v. Dierk. I. p. 67 (1863); id. Mus. P.-B., p. 55 (1873); — Salvad. Ucc. di Borneo, p. 283 (1874); id. Ucc. di Sumatra, p. 241 (1879); — Snelleman, Sum. Exp. Vogels, p. 47 (1884).
Treron nepalensis, Tweedd. Ibis 1877, p. 321.

8 specimens (♂ ♂).

»Iris: inner ring ultramarine, outer pale rosy; bare skin round the eye pale green, bill blood-red at base, point pale ochre, feet lake-red. Native name: *Bunai tinggih.*"

163. *Treron oxyura.*

Columba oxyura, Temm. P. C. IV. 240 (1823).
Treron oxyura, Wall.; — Schl. Mus. P.-B., Columbae, p. 62 (1873); — Salvad. Ucc. di Borneo, p. 286 (1874).
Sphenocercus oxyurus, Salvad. Ucc. di Sumatra, p. 243 (1879); — Nicholson, Ibis 1883, p. 255.

20 specimens (10 ♂, 7 ♀, 3 unsexed).

»Iris madder-lake, bare space round the eyes green, bill cobalt-blue, point yellow, feet chrome-yellow. Native name: *Bunai salung.*"

164. *Treron vernans.*

Treron vernans (L.), Schl. Mus. P.-B., Columbae, p. 49 (1873); — Snelleman, Sum. Exp. Vogels, p. 47 (1884); — Salvad. Ucc. di Borneo, p. 286 (1874).
Treron griseicapilla, Schl. Tijdschr. v. Dierk. I. p. 70 (1863).
Osmotreron vernans, Tweedd. Ibis 1877, p. 321; — Salvad. Ucc. di Sumatra, p. 242 (1879).

12 specimens (4 ♂, 8 ♀).

»Iris red, inner ring ultramarine, bill bluish gray, feet madder-lake. Native name: *Bimai.*"

A specimen labelled ♀ has the full plumage of the adult male.

165. *Carpophaga aenea.*

Columba aenea, Linn. S. N. I, p. 283 (1766); — Raffl. t. c. p. 316 (1822).

Carpophaga aenea, Schl. Mus. P.-B., Columbae, p. 85 (1873); — Salvad. Ucc. di Borneo, p. 290 (1874); — Nicholson, Ibis 1882, p. 65; id. Ibis 1883, p. 254; — Snelleman, Sum. Exp. Vogels, p. 48 (1884).

3 specimens (1 ♂, 2 ♀).

»Iris bluish white, eyelid blood-red, bill purplish, point dirty white, feet purplish. Native name: *Pagam.*"

166. *Spilopelia tigrina.*

Columba tigrina, Temm. & Knip, Pig. t. 43 (1811).

Turtur tigrinus, Schl. Mus. P.-B., Columbae, p. 127 (1873); — Snelleman, Sum. Exp. Vogels, p. 48 (1884).

Spilopelia tigrina, Salvad. Ucc. di Borneo, p. 296 (1874); — Tweedd. Ibis 1877, p. 322; — Salvad. Ucc. di Sumatra, p. 247 (1879).

21 specimens.

»Iris pale orange, bill black, feet red. Native name: *Balam.*"

167. *Macropygia leptogrammica.*

Columba leptogrammica, Temm. P. C. IV. 560 (1835).

Macropygia leptogrammica, Schl. Mus. P.-B., Columbae, p. 107 (1873); — Salvad. Ucc. di Sumatra, p. 247 (1879).

2 specimens (♂ and ♀).

»Iris rosy, bill black, feet wine-red. Native name: *Limbuan.*"

168. *Macropygia ruficeps.*

Columba ruficeps, Temm. P. C. IV. 561 (1835).

Macropygia ruficeps, Schl. Mus. P.-B., Columbae, p. 110 (1873); — Salvad. Ucc. di Sumatra, p. 248 (1879).

26 specimens (15 ♂, 11 ♀).

»Iris dark brown, feet wine-red. Native name: *Upan.*"

169. *Geopelia striata.*

Columba striata, L. S. N. I, p. 282 (1766).
Columba bantamensis, Raffl. t. c. p. 317.
Geopelia striata, Schl. Mus. P.-B., Columbae, p. 131 (1873); — Tweedd. Ibis 1877, p. 322; — Salvad. Ucc. di Sumatra, p. 247 (1879); — Snelleman, Sum. Exp. Vogels, p. 49 (1884).

4 specimens (2 ♂, 2 ♀).

»Iris blue, skin round the eyes grayish green, bill and feet bluish gray."

170. *Polyplectron chalcurum.*

Polyplectron chalcurum, Temm. P. C. V. 519; — Nicholson, Ibis 1883, p. 255.
Chalcurus inocellatus, Salvad. Ucc. di Sumatra, p. 248 (1879).

4 specimens (♂♂).

»Iris orange-red, bill black, feet lead-color. Native name: *Karo-Karo.*"

171. *Argusianus argus.*

Phasianus argus, L. S. N. I. p. 272 (1766); — Raffl. t. c. p. 320.
Argus giganteus, Müll. Verh. Land- en Volkenk. p. 439 (partim, sub. nom. *Koewau*).
Argusianus argus, Tweedd. Ibis 1877, p. 322; — Salvad. Ucc. di Sumatra, p. 249 (1879).

4 specimens (adult ♂, young ♂, 2 ♀).

»Iris chocolate-brown, bare skin on head and neck cobalt-blue, bill dirty white, feet vermilion. Native name: *Kuau.*"

172. *Acomus inornatus.*

Acomus inornatus, Salvad. Ucc. di Sumatra, p. 250 (1879).

1 specimen (♂).

»Iris brown, bare skin on sides of head blood-red, except a spot behind the eye which is whitish yellow, bill lead-color, feet gray. Native name: *Ajam merah mata.*"

This specimen exactly agrees with the description given by Count Salvadori.

173. *Gallus ferrugineus.*

Phasianus gallus, L.; — Raffl. t. c. p. 319.
Tetrao ferrugineus, Gm. S. N. I. p. 761 (1788).
Gallus bankiva, Temm. Pig. et Gall. II. p. 87 (1813).
Gallus ferrugineus, Salvad. Ucc. di Sumatra, p. 251 (1879); — Nicholson, Ibis 1882, p. 65; id. Ibis 1883, p. 255; — Snelleman, Sum. Exp. Vogels, p. 47 (1884).

3 specimens (♂ ♀).

»Iris orange-red, crest madder-lake, behind the ear whitish blue, bill light green, culmen purplish, feet grayish yellow. Native name: *Ajam vimbo.*"

174. *Peloperdix rubrirostris.*

Peloperdix rubrirostris, Salvad. Ucc. di Sumatra, p. 251 (1879); — Snelleman, Sum. Exp. Vogels, p. 46, pl. III (1879).

1 specimen (adult ♀).

»Iris brown, bare space round the eye, bill and feet coral-red. Native name: *Buju rimbo.*"

This specimen is the second of this species in our Museum, the first (♀) having been collected by the Dutch Sumatra Expedition at Alahan Pandjang (1877).

175. *Caloperdix oculea.*

Perdix oculea, Temm. Gall. Ind. XIII. p. 732 (1815).
Tetrao ocellatus, Raffl. t. c. p. 322.
Caloperdix oculea, Salvad. Ucc. di Sumatra, p. 252 (1879); — Nicholson, Ibis 1883, p. 255.

1 specimen (adult ♂).

»Iris brown, bill black, feet lead-color. Native name: *Tarun-tarun.*"

176. *Rollulus roulroul.*

Phasianus roulroul, Scop. Del. Flor. et Faun. Insubr. II, p. 43 (1780).
Tetrao viridis, Gm.; — Raffl. t. c. p. 322.
Rollulus roulroul, Tweedd. Ibis 1877, p. 322; — Salvad. Ucc. di Sumatra, p. 252 (1879); — Nicholson, Ibis 1882, p. 65.
Cryptonyx roulroul, Snelleman, Sum. Exp. Vogels, p. 46 (1884).

2 specimens (♂, ♀).

»Iris brown, bare skin round the eye, and feet chrome-red, bill black, chrome-red at base. Native name: *Peniuh.*"

177. *Charadrius fulvus.*

Charadrius fulvus, Gm. S. N. I. p. 687 (1788, ex Lath.); — Tweedd. Ibis 1877, p. 322; — Snelleman, Sum. Exp. Vogels, p. 50 (1884).
Charadrius pluvialis var., Raffl. t. c. p. 328 (1822).
Pluvialis fulvus, Schl. Mus. P.-B., Cursores, p. 50 (1865).

3 specimens (1 ♀, 2 unsexed).

»Iris brown."

178. *Totanus hypoleucos.*

Tringa hypoleucos, L. S. N. I. p. 250 (1766).
Totanus hypoleucos, (Temm.) Müll. Verh. Land- en Volkenk. p. 22; — Dresser, Birds of Europe, VIII. p. 127.
Actitis hypoleucos, Schl. Mus. P.-B., Scolopaces, p. 80 (1864); — Snelleman, Sum. Exp. Vogels, p. 49 (1884).
Tringoides hypoleucos, Tweedd. Ibis 1877, p. 322; — Salvad. Ucc. di Sumatra, p. 252 (1879); — Nicholson, Ibis 1883, p. 256.

1 specimen (♀).

179. *Gallinago stenura.*

Scolopax gallinago, Raffl. t. c. p. 327.
Scolopax sthenura, Kuhl, in Bp. Ann. di Stor. Nat. III. fasc. X (1830).
Gallinago stenura, Schl. Mus. P.-B., Scolopaces, p. 12 (1864); — Salvad. Ucc. di Borneo, p. 334 (1879).

1 specimen (♀).

»Iris brown, bill black, basal part dirty white, feet grayish yellow. Native name: *Baki kete.*"

180. *Erythra phoenicura.*

Rallus phoenicurus, Penn. Ind. Zool. p. 19, pl. 9 (1781); — Gm. S. N. I. p. 715 (1788).
(?) *Rallus sumatranus*, Raffl. t. c. p. 328.
Gallinula phoenicura, Schl. Mus. P.-B., Ralli, p. 41 (1865).
Erythra phoenicura, (Rchb.); — Tweedd. Ibis 1877, p. 323; — Snelleman, Sum. Exp. Vogels, p. 50 (1884); — Salvad. Ucc. di Sumatra, p. 253 (1879); — Nicholson, Ibis 1882, p. 65.

4 specimens (2 ♂, 2 ♀).

»Iris rusty brown, bill greenish yellow, frontal plate dirty blood-red, feet dirty yellow. Native name: *Roa-roa.*"

181. *Ortygometra cinerea.*

Porzana cinerea, (Vieill.); — Schl. Mus. P.-B., Ralli, p. 32 (1865).
Ortygometra cinerea, Salvad. Ucc. di Borneo, p. 329 (1879) (with synonymy).

2 specimens (♂, ♀).

»Iris brick-red, bill brown, feet yellowish green. Native name: *Sinta.*"

182. *Ardea purpurea.*

Ardea purpurea, L. S. N. I. p. 236 (1766); — Schl. Mus. P.-B., Ardeae, p. 8 (1863); — Tweedd. Ibis 1877, p. 323; — Salvad. Ucc. di Sumatra, p. 253 (1879); — Snelleman, Sum. Exp. Vogels, p. 51 (1884).

16 specimens.

»Native name: *Bango lanta.*"

183. *Demiegretta sacra.*

Ardea sacra, Gm. S. N. I. p. 640 (1766) (ex Lath.).
Ardea jugularis, Forst. Icon. ined.; — Wagl. Syst. Av. Gen. Ardeae, sp. 18 (1827); — Schl. Mus. P.-B., Ardeae, p. 25 (1863).
Demiegretta sacra, Salvad. Ucc. di Borneo, p. 346 (1874); — Tweedd. Ibis 1877, p. 323.

1 specimen (dark ♀).

»Iris sulphur-yellow, bill and feet yellow. Native name: *Bangoh ajer.*"

184. *Herodias intermedia.*

Ardea intermedia, Wagl. Isis 1829, p. 659; — Schl. Mus. P.-B., Ardeae, p. 19 (1863); id. Tijdschr. Dierk. III. p. 348 (1866); — Salvad. Ucc. di Borneo, p. 348 (1874); — Nicholson, Ibis 1883, p. 256.

1 specimen (♂ jun.).

»Iris sulphureous, bill yellow, tip black, feet black. Native name: *Bangoh putih.*"

185. *Bubulcus coromandus.*

Cancroma coromanda, Bodd. Tabl. Pl. enl. p. 54 (1783).
Ardea coromanda, Schl. Mus. P.-B., Ardeae, p. 30 (1863).
Bubulcus coromandus, Salvad. Ucc. di Borneo, p. 350 (1874); — Nicholson, Ibis 1883, p. 257.

1 specimen (♂ juv.).

»Iris sulphureous, bill yellow, feet black. Native name: *Bangoh putih.*"

186. *Butorides javanica.*

Ardea javanica, Horsf. t. c. p. 190; — Raffl. t. c. p. 326; — Schl. Mus. P.-B., Ardeae, p. 43 (1863).
Butorides javanica, Salvad. Ucc. di Borneo, p. 351 (1874); — Tweedd. Ibis 1877, p. 323; — Nicholson, Ibis 1883, p. 256.

1 specimen.

187. *Ardetta cinnamomea.*

Ardea cinnamomea, Gm. S. N. I. p. 643 (1788); — Raffl. t. c. p. 326; — Schl. Mus. P.-B., Ardeae, p. 40 (1863).
Ardetta cinnamomea, Salvad. Ucc. di Borneo, p. 354 (1874).

3 specimens.

»Iris sulphur-yellow, bill yellow, feet greenish yellow. Native name: *Roah-roah bankeh.*"

188. *Gorsachius melanolophus.*

Ardea melanolopha, Raffl. t. c. p. 326 (adult, Sumatra); — Blyth, Ibis 1865, p. 38 (Malacca, Aracan, Ceylon, Philippines).
Nycticorax limnophilax, Temm. P. C. V. 581 (1836) (juv. Java).

Botaurus limnicola, Rchb. Syn. Av. II. Grallatores, t. 148, fig. 510 (juv. apud tab. 581 in Temm. Pl. Col.).

Tigrisoma melanolopha, Layard, Ann. & Mag. Nat. Hist. 1854, p. 114 (Ceylon).

Botaurus limnophilax, Bp. Consp. Av. II. p. 136 (1855) (apud Temm.); — Gray, Handl. Birds, III. p. 32 (1871); — Salvad. Ucc. di Borneo, p. 355 (1874) (Borneo); — Reichenow, J. f. O. 1877, p. 247.

Gorsachius goisaki, Bp. Consp. Av. p. 138 (descr. ad. nec non juv.!) (Japan?).

Gorsachius typus, Pucheran (teste Bp., l. c.).

Ardea goisagi, Swinh. Ibis, 1861, p. 344 (juv. North China).

Ardea limnophylax, Schl. Mus. P.-B., Ardeae, p. 55 (1863) (Philippines, Banka, Java).

Nycticorax melanolophus, Swinh. P. Z. S. 1863, p. 320 (Tientsin).

Gorsachius goisagi, Swinh. Ibis 1866, pp. 122, 123 (juv. Formosa); id. Ibis 1866, p. 403 (ad. Formosa).

Ardea philippensis, Martens (nec Gm.) J. f. O. 1866, p. 28 (Philippines).

Gorsachius melanolophus, Blyth, Ibis 1867, p. 173 (partim) and p. 309 (partim) (Ceylon); — Salvad. Ucc. di Borneo, p. 355 (1874) (Borneo?); — Walden, Trans. Z. S. IX (1875) p. 238 (Philippines); — David & Oustalet, Ois. de la Chine, p. 444 (partim); — Hume, Stray Feath. 1878 (Vol. VI), p. 484 (Tenasserim); — Sharpe, Ibis 1879, p. 271 (Borneo); — Legge, Birds of Ceylon, p. 1169 (1880) (Ceylon); — Gurney, Ibis 1883, p. 222 (East Coast of Ceylon).

(?) *Goisachius melanolophus*, Swinh. P. Z. S. 1871, p. 413 (Formosa); — Holdsworth, P. Z. S. 1872, p. 478 (Ceylon).

Goisakius melanolophus, Hume, Stray Feath. 1874, p. 312 (Nicobars); — Bourdillon, Stray Feath. 1878 (Vol. VII) p. 524 (Travancore); — Hume, Stray Feath. 1879, p. 71 (Malacca); — Hume, Stray Feath. 1880, p. 230 (Nicobars, Tenasserim, Malay Peninsula, Cachar, Assam, Travancore, Belgaum District (Indian Penins.)); — id. l. c. p. 259 (Cachar); — Butler, l. c. p. 435 (Belgaum); — Kelham, Ibis 1882, p. 196 (Singapore).

Botaurus melanolophus, Reichenow, J. f. O. 1877, p. 246.

Butio Kutteri, Cab. Orn. Centralbl. 1881, p. 159; id. J. f. O. 1881, p. 425 (Philippines); id. J. f. O. 1882, pp. 115, 178, pl. III.

1 specimen (full-grown jun. ♂).

»Iris sulphur-yellow, bill dark brown, edges of upper

and whole lower mandible whitish blue, feet dirty yellow. Native name unknown."

Collected 8 January near Moeara Laboe.

This specimen is, as far as I know, the first instance for the occurrence of this species in Sumatra, since Raffles recorded his typical adult bird from that Island. It differs in no way from the well-known immature plumage of this species, plainly described in several papers throughout ornithological literature, and upon which Temminck has based his *Nycticorax limnophilax*.

I do not believe that at present still some doubts exist as to the identity of *G. limnophilax* (Temm.) with *G. melanophus* (Raffl.), as the first name is, with the exception of Gray (Handl.) and Salvadori (Ucc. di Borneo 1874), no more applied to any form of this genus, since Schlegel's Catalogue of the *Ardeae* in the Leyden Museum was published.

At that time Schlegel disposed of three specimens of this species: an adult bird from the Philippines and three immature though full-grown ones, one of which from Banka, the two others from Java. Since that time the Museum received five other ones, i. e. an adult and two immature from Java, and two adult, one of which is from Banka, while the other is collected by Teysmann either in Banka or in Borneo, and this series is now increased by the above mentioned young male from Sumatra. In this series is a specimen — n°. 2 of Schlegel's Catalogue — in immature plumage, but having the sides of head and neck, interscapulary feathers and scapularies already very strongly tinged with the reddish brown, which is so characteristical in the plumage of the adult. The black occipital feathers in this specimen are still spotted with white. The specimen considered by Prof. Schlegel to be adult, has not yet assumed its fully adult plumage, though its crest is entirely black, the dark vermiculations on back, wing-coverts and tertiary quills being much more intensely expressed than is the case with the fully adult specimen from Java.

This species seems to range over whole continental India,

Ceylon, the Nicobar Islands, China, Formosa, the Philippines and the three great Sunda Islands, incl. Banka. In Ceylon and the Nicobars, the Malayan Peninsula and the Sunda Islands it is only found as a winter-visitant, while nestlings are recorded from different parts of the Continent and from Formosa (Swinhoe).

The synonymy of this species is much entangled with that of *G. goisagi* (Temm.) from Japan, and hitherto it was not out of question if the latter be really a good species or if it has to be added to the synonymy of *G. melanolophus*.

A comparative examination of our material of this genus and the literature in which it is treated of, convinced me however that both species are to be kept specifically distinct. The synonymy of the Japanese species would be as follows:

Gorsachius goisagi.

Nycticorax goisagi, Temm. P. C. V. 582 (1836) (adult, Japan); — Hartl. & Finsch, P. Z. S. 1868, p. 8 (Pelew Isl.); id. P. Z. S. 1872, p. 89.

Ardea goisagi, Temm. & Schl. Fauna Jap. p. 116, pl. 70 (1850); — Blackiston, Ibis 1862, p. 331 (Northern Japan); — Swinhoe, Ibis 1865, p. 358 (Formosa).

Gorsachius goisagi, Blyth, Ibis 1865, p. 38 (Japan).

Goisakius melanolophus, Gray, Handl. Birds, p. 33 (1871) (Japan, Pelew Isl.).

Nycticorax melanolophus, Finsch, Journ. Mus. Godeffroy, VIII, p. 35 (1875).

Botaurus melanolophus, Reichenow, J. f. O. 1877, p. 246.

Goisachius melanolophus, Blackiston & Pryer, Ibis 1878, p. 223 (Japan); — Seebohm, Ibis 1884, p. 176 (Japan).

Gorsachius melanolophus, Ramsay, Ibis 1884, p. 325 (Philippines).

Our series of this species has not encreased since Prof. Schlegel wrote his Catalogue of the *Ardeae*. It still consists of 4 specimens from Japan, and contains the specimens used for the plates published in the Pl. Col. and the Fauna Japonica (adult and young).

The following are the essential differences between both species:

G. melanolophus: Bill very strong and straight, length from front in adult specimens 47 mm., in young 41—44 mm. Crown and occipital crest in adult plumage pure black, the latter composed of much elongated narrow feathers. In the immature plumage (*limnophilax*) the occipital crest is, though strongly, not as much developed as in the adult, and each feather of it is spotted with white. Tips to all the primaries, in both adult and young, rusty red and conspicuously terminated with white.

G. goisagi: Bill slightly bent downward towards the tip, more slender and shorter than in *melanolophus*, length 36—40 mm. in the adult, 35 mm. in the somewhat younger specimen. (A comparison of the bills in specimens of about the same age makes the distinctness of both species quite evident, though it is not easy to formulate all the distinctive characters in words).

Crown and occipital feathers in adult specimens rusty red, the first with narrow black shaft-lines, the latter but slightly lengthened and not as stiff and narrow as in its black-crested congener. The younger bird in our collection (♀)[1]) has the entire crown blackish, and the slightly lengthened occipital feathers as well as the whole neck — with the exception of chin and throat — and whole upper surface dark brown, and all over irregularly and narrowly vermiculated with rusty brown. The characteristical white cross-patches on the crest in they oung *G. melanolophus* are in this species entirely wanting. It may possibly turn out afterwards that this specimen is in a very advanced stage of immature plumage, but hitherto it is the youngest of all authentical specimens from Japan.

The tips to the primaries are rusty red like in the other species, but only the first primary is conspicuously terminated with white, i. e. only on the outer web at a length

1) See the posterior figure on plate 582 of the Fauna Japonica.

of about an inch pure white, this color being but slightly perceptible on the second and still less on the third primary.

A chronological revue of the essential papers hitherto published on both species of the Tiger-Bittern shows the following results:

The first author mentioning a member of this genus is Raffles, who described the adult stage of the Indo-Malayan Tiger-Bittern from Sumatra under the name *Ardea melanolopha* (» ..... is of a chesnut colour mottled with black; tail and crest black; bill rather short .....''). In 1836 Temminck (Pl. Col.) described and figured the young stage of *A. melanolopha* Raffl. under the name of *Nycticorax limnophilax*, and says that this bird is a winter-visitant in Java and probably also in other Islands of the Archipelago. The figure of this bird (Pl. 581) is not very carefully done and gives but a general impression of the bird which it ought to represent. At the same time Temminck described and figured another species from Japan, *Nycticorax goisagi* (Pl. Col. V. pl. 582). Of the occipital crest he says in his tolerably ample description: »L'occiput et la nuque sont couverts de larges et longues plumes qui forment une ample touffe occipitale'', but in the figure the crest, really present in all our specimens, is entirely wanting.

Temminck and Schlegel (Fauna Jap. 1842) have given very accurate figures of the Japanese *A. goisagi*. The original specimens used (both adult and young) are contained in our collection.

Reichenbach (Grallatores pl. 148, N°. 509 and 510 (1846) has copied the figures of Temminck's Pl. Col., but calls Temminck's *Nycticorax limnophilax* » *Botaurus limnicola*'', and in 1851 he copied also the figures from the Fauna Japonica under the name *Botaurus Goisagi* (Novit. 149, fig. 2566—67).

Bonaparte (Conspectus Avium 1850) mentions *Ardea limnophilax* as a good species, while on the other hand he describes a black-crested specimen from Japan (?) as the adult, and the red-crested (the real *Goisagi* of Temm.) as the young stage of *Gorsachius goisagi*. The generic name *Gor-*

sachius is here mentioned for the first time, though Bonaparte calls Pucheran the Author of it (*Gorsachius typus*, Pucheran). Though Bonaparte says expressly of the black-crested specimen: »ex Japan, nec Ins. Philippensibus", I have some doubts as to its really coming from Japan and rather suspect that it has been brought from elsewhere, because no authentical black-crested specimen, neither adult nor young, have ever since been brought from that Island. *G. melanolophus* is twice mentioned as having been collected in Japan (vide antea, sub synonymy of *G. goisagi*), but none of the authors enters upon the question nor do they mention the black crest or any other distinctive character of this species. But supposed that really black-crested adult specimens would be found in Japan, I should rather believe in the occurrence of both species next each other, than in the identity of *G. goisagi* with *G. melanolophus*.

Layard (Ann. & Mag. of Nat. Hist. 1854, p. 114) restored the name of Raffles, by calling his Ceylonese black-crested birds *Tigrisoma melanolopha*. His two or three specimens were collected near Colombo during the month of November.

Prof. Schlegel, in his Catalogue (Ardeae 1863), was the first who thoroughly pointed out that the plain black-crested bird (*melanolophus* Raffl.) is the adult, and that with the white-spotted black crest (*limnophilax* Temm.) the young of one and the same species, but, being not aware of the description and name given by Raffles, bestowed upon the united species Temminck's more recent name *Ardea limnophilax*, while the red-crested (Japanese) species keeps in his Catalogue the name *A. goisagi*.

Swinhoe, also in 1863 (P. Z. S. p. 320), mentions *Nycticorax melanocephalus*, but erroneously considers *A. goisagi* from Japan identical with his bird which was collected in Tientsin (China).

Blyth (Ibis 1865, p. 38) considers *A. melanolopha* Raffl. to be the young bird of this species, and keeps the red-crested Japanese bird (*A. goisagi*) specifically distinct.

In the same year (Ibis 1865, p. 358) Swinhoe described

the nearly adult *Ardea goisagi* from Formosa: »Crown and occiput without crest, each feather marked along the middle with black. Only the first quill-feather tipped with white... Bill from forehead 1.62 inch... Large testes on dissection. The whole plumage about three parts advanced to maturity." This description suits so perfectly well the true *Goisagi* from Japan, that no further doubt can exist about the occurrence of this species in Formosa.

A few months afterwards (Ibis 1866, pp. 122, 123) Swinhoe again sent some notes concerning this matter, i. e. about two young nearly full-grown birds from Formosa, which he considered also to belong to *G. goisagi*. The description of these specimens however states clearly their belonging to *G. melanolophus*: » .... Coronal and occipital feathers fine black, with white spots and streaks... Quills black, broadly tipped with white, which is mottled more or less with brown..." The Island Formosa would thus contain both *G. melanolophus* and *G. goisagi*, and the first would be found breeding there, as Swinhoe states that both nearly full-grown nestlings »were taken, with their mother, from a tree at the foot of the inland mountains", adding that unfortunately the parent did not reach him.

In the Ibis of the same year (p. 403), and again in P. Z. S. 1871, p. 413, Swinhoe says that *G. melanolophus* and *goisagi* are identical, the black-crested birds representing the summer-dress, the entirely red-headed ones the winter-dress, or in other words, that the bird would wear the black crown and crest only in summer and drop it in the winter, so as to leave the head and occiput entirely red.

But, as Tweeddale did already observe (Trans. Z. S. IX. p. 239), this view cannot be adopted, as all specimens hitherto known from the Continent and the Archipelago — and most of them have been collected in winter — wore the black crest either plain (adult) or intermixed with white spots (immature).

Blyth (Ibis 1867, pp. 173, 309) adhere to the opinion of Swinhoe as to the seasonal change of plumage, though

he cannot bring forward any fact to base this opinion upon.

Von Martens (J. f. O. 1866, p. 28) mentions a Tiger-Bittern from the Philippines (Bibliotheca militar, Manila) under the name of *Ardea* (*Botaurus*) *philippensis* Gm., but does not mention if the specimen has the occipital crest red or black, and therefore it is undecided to which of both species the bird belongs.

Hartlaub and Finsch (P. Z. S. 1868, pp. 4, 8) enumerate *Nycticoraæ goisagi* from the Pelew Islands and add — on what reason they do not say — that the Philippines are the transitional station for this bird (p. 4). One can thus conclude that aforesaid authors consider this bird as a migrant which, on its trip from Japan to the Pelew Islands, would have a stop on the Philippines.

G. R. Gray (Handl. III. pp. 32, 33) enumerates *Botaurus limnophilax* as coming from the Philippines, and *Goisakius melanolophus*, which he considers identical with *G. goisagi*, from Japan and the Pelew Islands, while no other locality is mentioned as habitat of either of both species.

Holdsworth (P. Z. S. 1872, p. 478) records *Goisachius melanolophus* from Aripo, West Coast of Ceylon, as a winter-visitant, shot in November.

Hume, in different parts of »Stray Feathers" (1874, 1878 Vol. VI, 1879, 1880), considers *G. melanolophus* and *G. goisagi* to be identical, but all his continental, Ceylonese and Nicobar specimens, mentioned under the name *Goisakius melanolophus*, of course belong to the first species. The same is the case with those mentioned in other publications in the »Stray Feathers" by Bourdillon (1878 VII) and Butler (1880).

Salvadori (Ucc. di Borneo, 1874, p. 355) again separates the young *G. melanolophus* under the name *Botaurus limnophilax*, while on the other hand he unites the adult black-crested bird with the Japanese form, giving this united form the name *Gorsachius melanolophus*. The same way is followed by Reichenow (J. f. O. 1877, pp. 246, 247).

Finsch (Journ. Mus. Godeffroy, 1875, Heft VIII. p. 35)

also seems to believe in the identity of *G. goisagi* with *G. melanolophus*, as, speaking of the specimen from Pelew Isl. already mentioned by him and Hartlaub (P. Z. S. 1868, p. 8) as *Nycticorax goisagi*, he now calls it *N. melanolophus*, though repeating that it agrees completely with the posterior figure of *A. goisagi* in the Fauna Japonica. Finsch considers this specimen, being the only one that ever was found in the Pelew group of Islands, an accidental visitor and has dropped the idea that the Philippines are to be considered an intermediate station for this bird.

Lord Tweeddale (Viscount Walden) treated the question very critically in his Birds of the Philippines (Trans. Z. S. IX. p. 238). This author believes the Philippine bird to be *G. melanolophus*, but is undecided as to the Japanese bird being entitled to stand as a distinct species.

David and Oustalet (Ois. de la Chine, 1877, p. 444) unite the different forms under the head of *Gorsachius melanolophus*, fixing the differences between the adult *melanolophus* and *goisagi* in the following term: »Vertex, nuque et plumes occipitales d'un brun marron foncé ou d'un brun noirâtre foncé, suivant les saisons et les localités". And about the differences between adult and young, thus as well of the Indian as of the Japanese form, these authors say: »Chez les jeunes, les teintes des parties supérieures sont encore moins uniformes, et les plumes de la huppe offrent en général des taches blanches arrondies."

Blackiston and Pryer (Ibis 1878, p. 223) mention *Goisachius melanolophus* as coming from Japan, and though they give no description of the bird, I am pretty sure that they had *G. goisagi*, which they considered identical with *G. melanolophus.*

Sharpe (Ibis 1879, p. 271) is the first who mentions, under the name of *Gorsachius melanolophus*, an authentic specimen from Borneo.

Legge (Birds of Ceylon, p. 1169 and ff.), following the example of previous authors, unites the Japanese bird with

the Indian *G. melanolophus*, and beside careful descriptions of different stages of the bird, gives many details about the habits and a list of the places and dates on which the bird is hitherto met with.

Lieut. Kelham (Ibis 1882, p. 196) mentions the true *G. melanolophus* from Singapore.

Mr. Gurney (Ibis 1883, p. 222) tells us that a specimen of the same species (♂ juv.) was shot near Lemastotle (Ceylon), being the first known specimen from the eastern side of that Island.

Seebohm mentions *G. melanolophus* from Japan, but as he says nothing about the crest, it is tolerably certain that he unites both species, and that his specimen belongs to *G. goisagi.*

Ramsay (Ibis 1884, p. 335) has received from the vicinity of Manilla a specimen »in immature plumage, which agrees in the length and shape of the bill with an adult specimen from Japan", while »it differs from all the specimens from other localities in this respect." From all that and what Mr. Ramsay further says, I must conclude that his specimen was undoubtedly a true *G. goisagi*, which might have visited the Philippines as a straggler, just as well as has been the case with the specimen which has been brought from the Pelew Islands.

Cabanis (J. f. O. 1881, p. 425) accepts the generic name *Butio*, proposed by Dr. Reichenow in the place of *Gorsachius*, and not only considers *G. goisagi* a distinct species, but separates the Philippine bird from *G. melanolophus* as a new species, under the name of *Butio Kutteri*, on account of its somewhat inferior size. The result of a measurement of the birds in our collection shows really, that the specimen from the Philippines is somewhat inferior to the common size of *G. melanolophus* (with the exception of the bill), but as one of our specimens from Banka is of the same size, the Philippine specimens are hardly entitled to claim specific rank.

189. *Leptoptilos javanicus.*

Ciconia javanica, Horsf. t. c. p. 188.
Ardea dubia, Raffl. t. c. p. 325.
Ciconia capillata, Temm. P. C. V. 312.
Mycteria javanica, Schl. Mus. P.-B., Ciconiae, p. 13 (1864) — Snelleman, Sum. Exp. Vogels, p. 51 (1884).
Leptoptilos javanicus, Salvad. Ucc. di Borneo, p. 358 (1874); — Nicholson, Ibis 1883, p. 257.

4 specimens (1 ♂, 3 ♀).

»Iris whitish, head dirty white, lower surface of bill dirty purplish, spotted with black, neck lemon-yellow, feet dark brown. Native name: *Bangoh kambing.*"

Leyden Museum, September 1886.

CORRECTIONS:

p. 6, line 19 (from top), for »*Chrysoccyx maculatus* (Gm.)" read »*Chrysococcyx maculatus* (Gm.)".

p. 59, species 109, for »*Choropsis zosterops*" read »*Chloropsis zosterops*".

p. 62, species 120, between »*Turdus sp.* 6, Raffl." and »*Ixidia cyaniventris*, Salvad." add:
Pycnonotus cyaniventris, Blyth, J. A. S. Beng. XI, p. 792 (1841).

RECAPITULATION. [1])

Falconidae.

		Page
1.	Microhierax fringillarius (Drap.).	7.
2.	Haliaetus leucogaster (Gm.).	"
3.	Polioaetus humulis(Müll & Schl.).	"
4.	Spilornis bacha (Daud.).	8.
5.	Pernis ptilorhyncha (Temm.).	9.
6.	Haliastur indus (Bodd.).	10.
7.	Spizaetus limnaetus (Horsf.).	"
8.	Astur trivirgatus (Temm.).	"
9.	Accipiter virgatus (Temm.).	11.

Strigidae.

10.	Ninox scutulata (Raffl.).	"
11.	Scops lempiji (Horsf.).	"
12.	Ketupa javanensis (Less.).	12.
13.	Phodilus badius (Horsf.).	"

Psittacidae.

14.	Psittinus incertus (Shaw).	"
15.	Loriculus galgulus (L.).	"

Trogonidae.

16.	Trogon erythrocephalus, Gould.	13.
17.	" Mackloti, Müll.	14.
18.	" oreskios, Temm.	"

Capitonidae.

19.	Psilopogon pyrolophus, Müll.	"
20.	Megalaema chrysopogon(Temm.)	15.
21.	" mystacophanos (Temm.).	"
22.	" Henricii (Boie).	"
23.	" Oorti (Müll.).	16.
24.	Xantholaema haemacephalus (Müll.).	16.
25.	" Duvaucelii (Less.).	"
26.	Calorhamphus fuliginosus(Temm.).	"

Picidae.

27.	Iyngipicus auritus (Eyt.).	18.
28.	Xylolepes validus (Temm.).	"
29.	Hemicercus sordidus (Eyt.).	"
30.	Lepocestes porphyromelas(Boie).	23.
31.	Callolophus puniceus (Horsf.).	"
32.	" mentalis (Temm.).	"
33.	" malaccensis (Lath.).	24.
34.	Chrysophlegma mystacalis, Salvad.	25.
35.	Tiga javanensis (Ljungh).	"
36.	" Rafflesii (Vig.).	"
37.	Miglyptes grammithorax(Malh.).	"
38.	Micropternus brachyurus(Vieill.)	26.

Cuculidae.

*39.	Chrysococcyx maculatus (Gm.).	"
40.	" xanthorhynchus (Horsf.).	27.
41.	Surniculus lugubris (Horsf.).	"
42.	Cacomantis pravata (Horsf.).	"
43.	" merulina (Scop.).	28.
44.	Hierococcyx fugax (Horsf.).	"
45.	Cuculus concretus, Müll.	"
46.	Coccystes coromandus (L.).	29.
47.	Eudynamis orientalis (L.).	"
48.	Rhinorta chlorophaea (Raffl.).	"
49.	Rhopodytes elongatus (Müll.).	30.
50.	" Diardi (Less.).	"
51.	Rhamphococcyx erythrognathus (Hartl.).	31.
52.	Centrococcyx rectunguis(Strickl.)	32.
53.	Centropus curycercus, Hay.	"

1) The species prefixed by an * are new for Sumatra.

Bucerotidae.

Page

54. Buceros rhinoceros, L. 32.
55. Anthracoceros convexus (Temm.) 33.
56. " malayanus (Raffl.) "
57. Rhytidoceros undulatus (Shaw). 34.
58. Anorrhinus comatus (Raffl.). "
59. " galeritus (Temm.). 35.
60. Cranorrhinus corrugatus (Temm.) "
61. Rhinoplax vigil (Forst.). 36.

Meropidae.

62. Merops sumatranus, Raffl. "
63. Nyctiornis amicta (Temm.). "

Alcedinidae.

64. Pelargopsis javana (Bodd.). 37.
65. Ceyx rufidorsa, Strickl. "
66. Halcyon coromanda (Lath.). 38.
67. " pileata (Bodd.). "
68. Sauropatis chloris (Bodd.). "

Cypselidae.

69. Collocalia fuciphaga (Thunb.). "
70. Macropteryx longipennis (Rafin.) 39.
71. " comata (Temm.). "
72. Chaetura coracina (Bp.). "
73. Hirundinapus giganteus (Temm.) 40.
74. " Klaesii, Bütt. *n. sp.* "

Coraciadae.

75. Eurystomus orientalis (L.). 41.

Eurylaemidae.

76. Psarisomus psittacinus (Müll.). 42.
77. Eurylaemus ochromelas, Raffl. 43.
78. Cymborhynchus macrorhynchus (Gm.). "
79. Corydon sumatranus (Raffl.). 44.
*80. Serilophus lunatus, Gould. "

Muscicapidae.

81. Niltava grandis (Blyth). 45.
82. Alseonax latirostris (Raffl.). "

Page

83. Stoparola thalassinoides (Cab.). 45.
84. Terpsiphone affinis (Blyth). "
85. Philentoma velatum (Temm.). 46.

Artamidae.

86. Artamus leucogaster (Valenc.). "

Campephagidae.

87. Pericrocotus xanthogaster (Raffl.) "
88. Lalage terat (Bodd.). 47.
89. " culminata (Hay). "
90. Artamides sumatrensis (Müll.). "
91. Irena crinigera, Sharpe. "

Dicruridae.

92. Chibia sumatrana (Ramsay). 48.
93. Chaptia malayensis, Hay. 49.
*94. Buchanga stigmatops, Sharpe. "
95. Bhringa remifer (Temm.). "
96. Dissemurus platurus (Vieill.). 50.

Laniidae.

97. Hemipus intermedius, Salvad. 51.
98. Tephrodornis gularis (Raffl.). 52.
99. Lanius bentet, Horsf. 53.
100. " tigrinus, Drap. "

Nectariniidae.

101. Aethopyga siparaja (Raffl.). 56.
102. Chalcostetha insignis (Jard.). "
103. Cinnyris Hasselti (Temm.). "
104. Arachnothera robusta, Müll. & Schl. "
105. Arachnothera modesta (Eyt.). 57.
106. " chrysogenys, Temm. 58.
107. " flavigaster (Eyt.). "

Melliphagidae.

108. Aegithina viridis (Bp.). 59.
109. Chloropsis zosterops, Vig. "
110. " media (Bp.). "
111. " icterocephala (Less.). 60.
112. " cyanopogon (Temm.). "
113. " venusta (Bp.). "

Brachypodidae.

Page

114. Trachycomus ochrocephalus (Gm.). 60.
115. Pycnonotus bimaculatus (Horsf.). 61.
116. " analis (Horsf.). "
117. " plumosus, Blyth. "
118. " simplex, Less. "
119. Rubigula dispar (Horsf.). 62.
120. " cyaniventris (Blyth). "
121. " Webberi (Hume). "
122. Micropus melanocephalus (Gm.) "
*123. " melanoleucus (Eyt.). 63.
124. Hemixus cinereus (Blyth). "
125. " malaccensis (Blyth). "
126. Tricholestes criniger (Blyth). "
127. Criniger gutturalis (Bp.). 64.
128. Iole olivacea, Blyth. "

Pittidae.

129. Pitta coerulea (Raffl.). "
130. " cyanoptera, Temm. "
*131. " cucullata, Hartl. "

Timeliidae.

*132. Myiophoneus flavirostris (Horsf.) 65.
133. " melanurus (Salvad.). 66.
134. " castaneus, Ramsay. "
135. Turdinus loricatus (Müll.). "
136. Platylophus coronatus (Raffl.). 67.
137. Garrulax bicolor, Hartl. "
138. " palliatus (Bp.). "
139. Melanocichla lugubris (Müll.). "
140. Rhinocichla mitrata (Müll.). 68.
141. Mixornis gularis (Raffl.). "
142. Eupetes macrocercus, Temm. "

Saxicoliidae.

143. Henicurus frontalis, Blyth. 68.
144. " velatus, Temm. 69.
145. Cittocincla tricolor (Vieill.). "
146. Copsychus musicus (Raffl.). "

Turdidae.

147. Turdus obscurus, Gm. "
148. Geocichla sibirica (Pall.). 70.

Motacillidae.

Page

149. Motacilla melanope, Pall. 70.
150. Limonidromus indicus (Gm.). "
151. Anthus rufulus, Vieill. "

Fringillidae.

152. Munia punctularia (L.)? 71.

Sturnidae.

153. Calornis chalybaea (Horsf.). "
154. Gracula javanensis (Osb.). "

Oriolidae.

155. Oriolus indicus, Briss. "
156. " xanthonotus, Horsf. 72.
157. " cruentus (Wagl.). "

Corvidae.

158. Cissa chinensis (Bodd.). 72.
159. Dendrocitta occipitalis (Müll.). 73.
160. Platysmurus leucopterus (Temm.). 74.
161. Corvus validus, Bp. "

Treronidae.

162. Treron nasica, Schl. 75.
163. " oxyura (Temm.). "
164. " vernans (L.). "
165. Carpophaga aenea (L.). 76.

Columbidae.

166. Spilopelia tigrina (Temm.). "
167. Macropygia leptogrammica (Temm.). "
168. " ruficeps (Temm.). "
169. Geopelia striata (L.). 77.

Phasianidae.

170. Polyplectron chalcurum, Temm. "
171. Argusianus argus (L.). "
172. Acomus inornatus, Salvad. "
173. Gallus ferrugineus (Gm.). 78.

Rollulidae.

Page

174. Peloperdix rubrirostris, Salvad. 78.
175. Caloperdix oculea (Temm.). „
176. Rollulus roulroul (Scop.). 79.

Charadriidae.

177. Charadrius fulvus, Gm. „

Scolopacidae.

178. Totanus hypoleucos (L.). „
179. Gallinago stenura, Schl. „

Rallidae.

Page

180. Erythra phoenicura (Penn.). 80.
*181. Ortygometra cinerea (Vieill.). „

Ardeidae.

182. Ardea purpurea, L. „
183. Demiegretta sacra (Gm.). „
184. Herodias intermedia (Wagl.). 81.
185. Bubulcus coromandus (Bodd.). „
186. Butorides javanica (Horsf.). „
187. Ardetta cinnamomea (Gm.). „
188. Gorsachius melanolophus (Raffl.). „

Ciconiidae.

189. Leptoptilos javanicus (Horsf.). 92.

NOTE II.

DESCRIPTIONS OF EARTHWORMS.

BY

Dr. R. HORST.

I.

Moniligaster Houtenii n. sp.,
a gigantic earthworm from Sumatra.
(Plate 1, fig. 1—3).

Some time ago our Museum received from Mr. van Houten a large earthworm, found on his coffee-plantation in Tapanoeli (Sumatra). Though we know gigantic earthworms (of more than 1 M. in length) to exist in several tropical countries: Ceylon (*Megascolex coeruleus* Templ.) [1]), Cayenne (*Anteus gigas* Perr.) [2]), Brasil (*Titanus brasiliensis* Perr.) [3]), Cape Colony (*Microchaeta Rappi* Bedd.) [4]) and Australia [5]), I hitherto never heard of their presence in the Malayan Archipelago.

Our animal measures 1.50 M. in length; unfortunately it is not very well preserved, but rather soft and extended, so I think it will not be its exact length during its lifetime. The number of segments amounts to 443 and the body attains its greatest thickness in the anterior region, its circumference measuring here about 55 m.m. The wall of the buccal cavity is somewhat extruded, therefore I could not recognize the shape of the cephalic lobe. No clitellum is visible and the pori dorsales seem also to be

1) Ann. and Mag. Nat. Hist. Vol. XV, 1845, p. 59.
2) Nouv. Arch. Muséum d'Hist. Nat. Vol. VIII, 1872, p. 50.
3) Id. id. p. 57.
4) Trans. Zool. Soc. Vol. XII, 1886, p. 63.
5) Fletcher, in Linn. Soc. N. S. Wales, Meeting 30 June 1886.

absent. The setae are arranged in pairs in 4 series; the distance between the dorsal and the ventral pair is half as large as that between the two ventral pairs. The setae (fig. 3) are small, about 1 m.m. long; they are faintly curved, almost straight, with the usual thickening in the middle of their length. Their distal extremity is provided with small undulating lines, perhaps due to the presence of narrow ribs, like in the setae of *Criodrilus*. At the ventral side of the body there are two couples of fissures, the first of them between the 8th and 9th ring, the second between the 11th and 12th segment, situated in a line with the dorsal pairs of setae; moreover I observed a pair of smaller pores on the 14th segment, in front of the ventral setae.

The internal anatomy (fig 1) presents several points of interest; therefore I regret that the condition of the worm is insufficient for histological study, so that many gaps will appear in the description of the structure of different organs. The pharynx is attached to the body-wall by numerous septum-shaped muscular bands; the 6th—9th septum are extraordinary thick and muscular, fitting like funnels one into another. The following septa have the usual structure, but beginning with the 23rd septum, behind the gizzard, they are again strongly developed. A curious fact that I wish to call attention to, is the situation of the septa; these not always correspond exactly to the limit between two subsequent segments. I found the 10th septum not situated between the 10th and 11th ring, but fixed to the body-wall in the middle of the 11th segment; the 11th septum lies nearly on the boundary of the 12th and 13th segment and the 12th septum between the 13th and 14th ring, immediately in front of the 13th septum (see the following page). In the 9th segment on each side of the dorsal surface of the oesophagus is a kidney-shaped pouch, attached by a mesenterial fold to the posterior side of the 8th septum; each vesicle is furnished with a long, slender, coiled tube, communicating with the exterior by

one of the above-mentioned pores between the 8th and 9th ring. I believe bundles of spermatozoa could be recognized within them and therefore these two pouches may be regarded as the spermathecae. In the 11th ring lie two long, narrow, tubular glands, opening on to the exterior by the fissures between the 11th and 12th segment; not only by their shape but also by their colour these bodies are quite agreeing with the prostate-glands of *Acanthodrilus* a. o., so that they undoubtedly correspond with them. I have not been able however to find out the vasa deferentia.

At the posterior side of the 10th septum there are attached two large, flat, pale brown organs, which I suppose may represent the seminal reservoirs (testes), although a microscopical examination did not reveal any trace of spermatozoa in them, but only the presence of innumerable gregarine-capsules. In the 14th segment the anterior septum bears a broad, brown vesicle 13 m.m. long and extending into the two following segments; this pouch has a glandular wall and is coated at the internal side with a dense net-work of blood-vessels. As stated before the 12th and 13th septum are placed close against each other; these two septa seem to form together on each side a sort of funnel, the inferior part of which communicates with one of the pores on the 14th ring. Although the ovaries could not be found, I suppose that this funnel may functionate as an oviduct and that the vesicle represents a receptaculum ovorum, as we find fixed to the oviduct of *Lumbricus*, *Criodrilus* a. o.

The nephridia (fig. 2) are very obvious, attached to the anterior septum of each segment; their external apertures lie in a line with the dorsal pairs of setae, but they are not plainly visible. The glandular portion of each nephridium consists of a loop, the two limbs of which are spirally wound round each other; this part of the organ opens into the distal portion of a long, wide coecum, which with its proximal end extends on to the middle of the dor-

sal wall of the intestine. The nephridium communicates with the exterior by a long and slender tube; but I have not been able to detect its internal opening.

About the vascular system I could observe, that the dorsal vessel has divided in the 11th segment in two tubes, lying quite close together, as in *Acanthodrilus*, *Megascolex* [1]) a. o. according to Beddard's observations. In the 6th—11th segment there are transverse hearts, passing from the dorsal trunk to the ventral vessel; especially the two posterior pairs of them are very large. The intestine appears to be furnished in the 15th—22nd segment with four different gizzards, because its muscular wall is interrupted there by four fibrous annular intervals. In this remarkable disposition of the gizzard, our specimen agrees with the species of the genus *Moniligaster*. This genus was established by Perrier on a single specimen from Ceylon (*M. Deshayesi* Perr.) [2]); a second species (*M. Barwelli*) was afterwards described by Beddard [3]), who examined a number of examples collected in Manilla. According to the descriptions of Perrier and Beddard however there seems to exist rather a great difference in the disposition of the genital organs of the two species. *M. Deshayesi* Perr. should be characterized by the presence of two pairs of testes, situated at some distance from each other, in the 8th and 10th segment respectively. The vasa deferentia of the anterior pair of them open on to the exterior by a pore between the 7th and 8th segment and are furnished with two large glands, situated in the 7th ring. It might be suggested that these glands, considered by Perrier as accessory organs of the vasa deferentia, correspond to the copulatory pouches of our specimen; for in *M. Barwelli* Bedd. there is also in the 8th segment a pair of spermathecae, communicating with the exterior by a long and

1) Proc. Royal Phys. Soc. Edinburgh, Vol. VIII, p. 424.
2) loc. cit. p. 130.
3) Ann. and Mag. Nat. Hist. Vol. XVII, 1886, p. 94.

coiled duct. The prostate-glands of *M. Houtenii* may perhaps be identical with the elongate, yellow reservoir (vesicule seminale), communicating with the second pair of testes in *M. Deshayesi* Perr. and opening exteriorly by a pore between the 10th and 11th ring. In *M. Barwelli* Bedd., like in our specimen, only a single pair of testes is to be found, furnished with a thin, coiled vas deferens, that opens on to the exterior between the 9th and 10th segment, in the vicinity of a small, oval gland (prostate).

Finally it may be pointed out, that besides the disposition of the gizzard, there are some other points in the structure of *M. Houtenii* in which it agrees with *M. Deshayesi*: 1° the structure of the skin in the anterior part of the body differs from that of the other segments by being much thicker (the hypodermis as well as the muscular layer), resembling somewhat, as stated by Perrier, the clitellum of other Lumbricinae; 2° the numerous transverse bands, having the appearance of septa, by which the pharynx is attached to the body-wall; 3° the absence of a clitellum. However on the last character (although also present in *M. Barwelli*) not much reliance can be placed, because it is a negative one and our specimen might be in an immature state. If our specimen belongs to the genus *Moniligaster*, as I believe, it undoubtedly represents a gigantic form, *M. Deshayesi* Perr. measuring 150 m.m. and *M. Barwelli* Bedd. only 37 m.m.

Rhinodrilus Tenkatei, n. sp.
(Plate 1, fig. 4—8).

We owe to the kindness of Dr. H. ten Kate, the well-known traveller, a number of earthworms from Surinam, which appear to be referable to the genus *Rhinodrilus*. This genus, belonging to Perrier's Lombriciens intraclitelliens[1]), is

1) loc. cit. p. 65.

characterized by having the cephalic lobe prolonged in a small muzzle and by its setae, which, instead of being smooth, are provided with chitinous arches over their distal portion.

Our examples are about as large as our common earthworm; the longest specimen measures 115 m.m. and the number of its segments is 160. The anterior third part of the body is cylindrical, but its posterior two-third is rather flattened. The cephalic lobe (fig. 4) has the shape of a little muzzle, 2 m.m. in length; however this character is not visible in all the spirit-specimens, in some of them the prostomium is entirely retracted, in others it looks like the cephalic lobe of a *Lumbricus*-specimen. The second segment is very short, but the ten following rings are very long, and marked by a transverse groove; those of the remaining part of the body have only half their length. The colour of the animal is usually reddish brown on the dorsum, yellowish at the ventral side, moreover several examples show an olive-green ring around the body from the 12th (11th)– 15th (16th) segment. The external apertures of the nephridia are very obvious, situated close behind the anterior margin of each ring, near the dorsal pair of setae; in the anterior segments, where the segmental orifices are the largest, they lie somewhat upwards from the dorsal bristles, but in the 13th and following segments they lie in one line with them. The first nephridiopore is visible on the 3rd ring; in front of this orifice there is a narrow, longitudinal groove, running over the second segment. The setae are arranged in 4 series; the distance between the two ventral pairs is somewhat larger than that between a ventral and a dorsal pair. In each dorsal pair the setae are placed close to each other, in the ventral pairs there is a distance of about $^1/_2$ m.m. between them.

The clitellum is fully developed only in two specimens and extends from the 20th (21st)—26th (27th) segment; at the dorsal side there is not much visible of the glan-

dular development, but along the edge of the ventral side between the dorsal and ventral series of setae a glandular ridge occurs, consisting of 7 tubercula pubertatis. In Perrier's *Rhinodrilus paradoxus* the clitellum entends from the 19th—21st segment and is also characterized by a ridge-shaped thickening on each side of the ventral surface. In the 26th segment each ventral pair of setae is surrounded by a glandular wall and the setae themselves are modified in penial setae; therefore I suppose this segment contains the male genital orifices, though I was unable to recognize them with certainty and though in *R. paradoxus* these pores are situated much more forward, between the 19th and 20th ring. The penial setae fig. 7*a*) are not only longer, but also straighter than the other ones; the usual thickening does not lie in the middle of the bristles, but in their inferior third and they have a length of 0.9 m.m., whereas the ventral setae are 0.6 m m., and the dorsal ones only 0.42 m.m. in length. The distal end of each penial seta is peculiarly provided with semi-lunate excavations; in the ordinary setae (fig. 7*b*) these are not so apparent and only faint lines are visible. In one specimen the ventral setae of the 17th, 18th and 19th segment were also replaced by a fascicle of four bristles, quite similar to the penial setae. As was demonstrated by Hering [1]) and Beddard [2]) in *Lumbricus* and *Acanthodrilus* the modification of the setae is neither always confined to the setae in the neighbourhood of the genital orifices.

In dissecting our worm [3]) I was surprized by the enormous development of the nephridia in the anterior segments of the body (fig. 5); the first pair of them, belonging to the third segment, is the largest and consists of two vast glands, situated at the inferior side of the oesophagus and entending into the 9th ring. The six following pairs of

1) Zeitschr. wissensch. Zoologie. Bd. VIII, p. 418.
2) Proc. Zool. Soc. 1886, p. 173.
3) A more detailed account of the anatomy of this species will be published elsewhere.

nephridia reach with the proximal extremity of their loop to the middle of the dorsal surface of the intestine. Each nephridium (fig. 8) has a long, tubular duct, forming a loop (*a*), which consists of a limb that ascends and one that descends along the wall of the intestine; the inferior portion of the descending limb is widened before passing into a narrower tube, which somewhat farther bends again, runs back till about half its length and forms here a new loop (*b*). The ascending limb of this loop leads into a thicker tube, which forms another large loop (*c*), of which the limbs are spirally wound around each other. The descending limb of this loop runs a short way parallel with the widened portion of the duct, forms again a U-shaped bend (*d*) and terminates in a narrow tubule, bearing at its end the funnel-shaped internal opening.

There are 3 pairs of spermathecae, opening on to the exterior between the 6th and 7th, the 7th and 8th, the 8th and 9th segment, close before the orifices of the nephridia; they consist of long, flat pouches, about equally broad over their whole length, only narrowing a little in the vicinity of their external opening. The anterior pair of them is the shortest, the posterior pair is the longest and extends over five segments. Perrier could find no trace of copulatory vesicles in *R. paradoxus*, as I suppose, because his specimens were in immature condition; in some of my specimens they are also absent. In the 12th and 13th segment lie two pairs of seminal reservoirs (testes); they consist of an oblong, kidney-shaped organ, furnished at the notch with a smaller lobe (fig. 6). Each pair of reservoirs is covered by a common membrane, in which are also enclosed the two ciliated rosettes of the sperm-ducts; the two sperm-ducts of each side unite on a short distance from the reservoirs in a single vas-deferens of which I was however unable to detect the terminal portion. Perrier observed in *R. paradoxus* only a single pair of seminal reservoirs, close behind the gizzard, enclosing also the ciliated rosettes of the vasa-deferentia. There is a single pair of ovaries; in

examining a dissected animal I could not find them out, but by microscopical examination of transverse sections they are plainly visible. I believe they are situated in the 14th segment; however because the septa are strongly displaced by the development of the seminal reservoirs, it is difficult to determine their real situation. Each ovary is a lobed organ, fixed to the posterior surface of the anterior septum, on each side of the ventral vessel; they contain every gradation in development of the ova. Opposite each ovary, on the anterior side of the posterior septum, lies the funnel-shaped mouth of an oviduct, which, passing through the septum, opens on to the exterior in the line of the ventral setae. I could not identify any structure as a receptaculum ovorum.

The alimentary canal commences by a wide buccal cavity, passing into a large pharynx, which extends into the 5th segment and is attached to the body-wall by numerous radiating muscular bands. The wall of the pharynx is not only muscular, but contains in its posterior two-thirds a large glandular mass, very obvious in transverse sections, as described also in *Pontodrilus* [1]) by Perrier. The oesophagus then follows, reaching into the 10th ring; its posterior boundary is marked by a large, muscular gizzard with the same nacreous appearance as in *Lumbricus* and extending over three segments. Behind the gizzard the tubular intestine commences and is furnished here on each side with six coecal diverticula, the first of which is divided in a superior and an inferior portion; in transverse sections these glands appear to be dilatations of the intestine, having their lumen divided by radiating folds of their wall in a great number of lamelliform cavities, resembling the structure of the oesophagean glands in *Lumbricus*. A rudimentary typhlosole seems to be present.

The vascular system consists of four main vessels: the dorsal trunk, two ventral vessels and a subneural vessel;

1) Arch. Zool. Expérim. T. IX, 1881, p. 197, pl. XVIII, fig. 40.

moreover there lies a typhlosolar trunk above the intestine behind the gizzard. The dorsal trunk is a simple tube, which in the region of the intestine appears to be ampullate and tubular anteriorly. In the 12th and 13th segment it gives off three pairs of large vessels, passing around the intestine. However the commissural vessels around the oesophagus, the »lateral hearts" seem to want here. The subneural vessel, which exists also in *Lumbricus*, but is absent in *Perichaeta* a. o., is a very thin tube, only visible in transverse sections. A vascular sinus could be detected around the intestine, between the muscular layer and the epithelium; from this sinus the blood is collected in a superior longitudinal vessel, the typhlosolar trunk. This trunk gives off between the 1st and 2nd, the 2nd and 3rd intestinal coecum, two pairs of large »intestinal hearts" passing around the intestine to the inferior ventral vessel. The superior of the two ventral vessels lies close beneath the intestine and seems to receive vessels, passing directly from the wall of the intestine.

EXPLANATION OF THE PLATE.

Fig. 1. General view of the contents of the body-cavity of *M. Houtenii* Horst (natural size); *ne.* nephridium; *sp.* spermatheca; *sr.* seminal reservoir; *pr.* prostate gland; *ro.* receptaculum ovorum?; *g.* gizzard.

Fig. 2. A nephridium of the same species. × 3 diam.

Fig. 3. A pair of setae of the same species. × 36 diam.

Fig. 4. Side view of the anterior portion of the body of *Rh. Tenkatei* Horst. × 2 diam.

Fig. 5. General view of the internal organs of the same species; the nephridia in the posterior segments have been omitted (× 4 diam.); *ne.* nephridium; *sp.* spermatheca; *sr.* seminal reservoir; *ov.* ovarium; *od.* oviduct.

Fig. 6. The two pairs of seminal reservoirs of the same; on the left side a great part of them has been removed to show the ciliate rosettes and the sperm-ducts.

Fig. 7. *a.* A penial seta; *b.* an ordinary seta of the same. × 50 diam.

Fig. 8. A nephridium of the same. × 23 diam.

NOTE III.

CINQ ESPÈCES NOUVELLES DE COLÉOPTÈRES EXOTIQUES APPARTENANT AU MUSÉE DE LEYDE.

DÉCRITES PAR

J. W. van LANSBERGE.

Scarabaeidae.

1. *Catharsius Bradshawi*, spec. nov.

Maximus, *niger*, *nitidus*, *elytris basi opacis*, *capite thoraceque granulatis*, *elytris subtiliter striatis*, *subtus rufopilosus*. Mas: *capite cornu valido obliquo*, *thorace medio elevato transversimque carinato*, *carina sinuata*, *utrinque bidentata*, *dente externo valido*, *horizontaliter retro ducto*. Fem.: *capite inter oculos carinato*, *thorace inermi*, *disco medio utrinque plaga laevissima*. — Long. 30—37 mm.

Mâle. Noir, brillant, la base des élytres mate, le dessous et les pattes munis de poils roux. Tête ridée, les rides se changeant sur l'occiput en granulations, près des yeux et du bord postérieur un petit espace lisse; chaperon arrondi, ayant seulement au milieu un vestige d'échancrure, surmonté d'une corne rugueuse, comprimée de chaque côté, dirigée en avant. Prothorax granulé, ses bords latéraux parallèles, un peu sinués près de l'angle antérieur qui est largement arrondi, le devant obliquement tronqué, la troncature terminée par une carène sinuée, formant au milieu un petit espace aplati et silloné, se terminant de chaque côté par deux dents aiguës dont l'externe est horizontale,

dirigée en arrière et dépassant de beaucoup les élytres près de l'angle postérieur; derrière la carène il y a de chaque côté un petit espace presque lisse. Elytres finement striées, les stries très faiblement ponctuées, la carène qui accompagne la huitième strie se terminant vers le tiers, les intervalles couverts de petits points à peine perceptibles, plus distincts postérieurement. Cuisses fortement ponctuées à l'extrémité.

Femelle. Tête plus fortement ridée, à chaperon inerme séparé du front par une carène droite; prothorax bombé, plus court, non carèné, impressionné au milieu en arrière; de chaque côté de l'impression un espace lisse.

Hab. Afrique orient.: Zambèze (Bradshaw). — Se trouve également dans la collection de Natura Artis Magistra à Amsterdam et dans celle de l'auteur.

Reconnaissable à sa grande taille, à son prothorax dépassant de beaucoup les élytres à la base dans le mâle et aux élytres mates à la base dans les deux sexes.

2. *Onthophagus Heynei*, spec. nov.

Aeneo-niger, *viridi-micans*, *elytris basi apiceque interdum rufo-maculatis*, *prothorace convexo*, *dense granulato-punctato*, *elytris leviter striatis*, *interstitiis planis*, *obsolete punctatis*. Mas: *Capite fere laevi*, *clypeo paulo porrecto*, *margine medio elevata truncatoque*, *carina frontali vix perspicua*, *vertice lamina apice spinosa armato*, *thorace antice gibboso*, *medio foveolato*. Fem.: *capite breviore*, *rugoso*, *clypeo subrotundato*, *carina frontali arcuata*, *occipite tuberculo compresso*, *triangulari*, *thorace bituberculato*. — Long. 6—8 mm.

Mâle. De forme raccourcie, d'un noir bronzé à teintes verdâtres, les élytres tachetées de fauve à la base, ayant parfois une tache de la même couleur à l'extrémité, la massue des antennes grise. Tête subogivale, à ponctuation peu marquée, un peu granuleuse sur le chaperon; celui-ci rebordé seulement au milieu, subtronqué, séparé du front par une carène anguleuse, à peine indiquée; front se ter-

minant en arrière par une lame inclinée, parallèle à la base, puis bombée et s'élargissant un peu pour finir de chaque côté en une petite dent tandis que le centre est surmonté d'une épine recourbée, comprimée, comme dans l'*O. Austriacus*. Prothorax très convexe, couvert de granulations plus rares antérieurement, se changeant en points vers la base, le devant subtronqué, muni d'une fossette pour la réception de la lame céphalique, le disque ayant un sillon obsolète qui devient plus marqué dans la fossette antérieure, la base rebordée. Elytres ponctuées en râpe, à stries obsolètes, brillantes, crénelées et intervalles plus mats, plans. Pygidium ponctué. Dessous du corps et pattes couverts de points squamiformes. Tibias médiocres, métatarse dentelé extérieurement.

Femelle. Tête plus fortement ponctuée, à chaperon plus court, entièrement rebordé et carène frontale distincte; sur l'occiput une courte lame triangulaire; prothorax moins convexe, non sillonné longitudinalement, sans fossette antérieure, mais armé de deux tubercules assez prononcés.

Hab. Afrique orient.: Somalis (Heyne). — Se trouve également dans la collection de l'auteur.

Très voisin de l'*O. Schaufussi* Harold, ayant la même forme, la même armature et une ponctuation identique, mais en différant, outre par la couleur, par la lame céphalique du mâle qui est parallèle et la carène occipitale de la femelle qui est droite dans l'*O. Schaufussi*. Les élytres de celui-ci sont en outre moins brillantes.

3. *Diastellopalpus*[1]) *infernalis*, spec. nov.

Niger, nitidus; clypeo subogivali, rugoso, fronte carina medio elevata, arcuata, subtridentata, occipite carina elevata, leviter emarginata; thorace antice medio retuso, parte

1) Voir les »Notes from the Leyden Museum", 1886, pp. 90 et 91, où j'ai exposé les caractères du genre *Diastellopalpus*. Ces caractères se retrouvent exactement dans l'espèce dont il s'agit. Je crois donc qu'on a affaire ici à plus qu'un sous-genre.

elevata carina recta instructa, sub carina excavata, utrinque fovea magna; elytris sat latis, crebre punctatis, leviter striatis, striis haud profundis; corpore subtus griseo-setoso. — Long. 22 mm.

Entièrement noir, brillant, orné de soies brun-grisâtres sur le prothorax et la poitrine. Tête subogivale, le chaperon rebordé, couvert d'une ponctuation squamiforme, séparé du front par une carène arquée, élevée au milieu, subtridentée; sur l'occiput, entre les yeux, une carène élevée, tranchante, un peu échancrée; l'espace entre les deux carènes très brillant, moins densément ponctué que le chaperon. Prothorax médiocrement large, s'avançant en pointe entre les élytres, entièrement rebordé, les bords latéraux sinués en arrière, l'angle postérieur très obtus, le devant présentant trois fossettes assez larges et profondes, dont celle du milieu surplombée d'une gibbosité limitée en avant par une carène presque droite; ponctuation fortement granuleuse près de la carène dorsale, les granulations se changeant insensiblement en points à mesure qu'elles s'éloignent de la dite carène, ces points devenant très fins au milieu de la base; celle-ci ayant de chaque côté un espace lisse, plus mat, limité par une légère gibbosité oblique, plus fortement poilue que le reste. Elytres assez courtes, presqu'aussi larges que le prothorax, fortement et densément ponctuées, les stries peu marquées mais les intervalles convexes. Pygidium convexe. Metasternum convexe, ayant quelques gros points. Cuisses larges et courtes, tibias postérieurs fortement évasés, métatarse grêle, inerme. Massue des antennes testacée.

Hab. Afrique occident.: Humpata (v. d. Kellen). — Un seul exemplaire.

4. *Clinteria serdangensis*, spec. nov.

Nigra, velutina, subtus nitida, thorace punctis duobus albidis, elytris macula magna laterali alteraque apicali aurantiacis, abdomine maculis nonnullis albidis. — Long. 14 mm.

D'un noir profond, velouté, ne laissant voir que très

superficiellement la ponctuation qui n'a rien de saillant; sur le prothorax deux petits points blanchâtres; sur les élytres une grande tache latérale, un peu en carré oblong, orange, et vers l'extrémité une autre tache plus petite, transversale et échancrée en dessus, de même couleur. Dessous du corps brillant, noir avec quelques petites taches blanchâtres sur l'abdomen et parfois sur les épisternes. Quant à la forme, elle est à peu près celle du *C. hilaris* Burm., c'est à dire plus raccourcie que les *C. flavomarginata*, *dives*, *flavonotata* etc. La saillie sternale est bien moins allongée que dans le *C. flavomarginata*, en cone oblique, mais plus prononcée que dans le *C. hilaris*. Sous ce rapport le *C. serdangensis* se rapproche beaucoup du *C. flavonotata* G. & P. et c'est probablement des exemplaires de l'espèce dont il s'agit que Mr. Mohnike a pris à tort pour des représentants du *C. flavonotata* (Uebersicht der Cetoniden der Sunda Inseln, p. 19). Le *C. flavonotata* se trouve dans l'Hindoustan, la coloration des taches en est jaune et non orange, et la taille en est un peu plus petite, mais ce qui distingue principalement les deux espèces, c'est la forme des élytres dont la base est au niveau du prothorax chez le *C. flavonotata*, tandis qu'elle fait une saillie très prononcée chez le *C. serdangensis*. Chez le *C. flavonotata* leur forme est en outre plus cunéiforme quoique pas plus allongée. Quant au *C. dives* Voll., que Mr. Mohnike réunit également au *C. flavonotata*, il en diffère, outre par la couleur orange des taches et par l'absence des petits points sur le prothorax, par la plus grande longueur des élytres, dont les épaules sont très saillantes, et par la saillie sternale, qui est plus allongée, presqu'aussi grande que celle du *C. flavomarginata*.

Un seul exemplaire, offert par le Dr. B. Hagen, qui l'a trouvé à Serdang (Sumatra orient.). J'en possède aussi un exemplaire venant de Cochinchine.

Cerambycidae.

5. *Phantasis occidentalis*, spec. nov.

Fusca, crassa, abdomine pedibusque flavo-maculatis; thorace

spinoso, *spinis aliquantum retro versis*, *disco quadrituberculato*; *elytris tricostatis*, *costis undulatis*, *inter costas granulis nitidis*, *apice singulatim emarginatis*, *palpis ovalibus*, *apice truncatis*. — Long. 30—35 mm.

Massif, de la couleur ordinaire des *Phantasis*, deux taches sur le front, les deux premiers articles des antennes en dessous, la base et l'extrémité des cuisses et cinq rangées de taches sur l'abdomen jaunâtres. Tête ayant en avant et sur l'occiput quelques gros points épars, celui-ci peu creusé; yeux très rapprochés en dessus; tubercules antennifères médiocrement saillants, leur carène terminée en avant par un petit tubercule moins saillant que chez d'autres espèces (*gigantea*, *zanzibarica*); antennes tomenteuses non rugueuses, à article 1er épaissi au bout. Prothorax fortement épineux, les épines un peu dirigées en arrière, couvert de grosses rides, ayant sur le disque de chaque côté un gros tubercule fendu au milieu et en avant du sillon antérieur deux autres tubercules obliques en forme de virgule. Elytres trois fois aussi larges que le prothorax, très convexes, tricarènées, les carènes formées par des tubercules obliques allant alternativement dans une direction opposée, les intervalles entre les carènes à surface très inégale parsemée de petits tubercules brillants, le long de la suture une série de tubercules; extrémité arrondie séparément, sinuée au milieu. Palpes ovalaires, arqués et tronqués au bout. Métatarse allongé.

Hab. Afrique occident.: Humpata (v. d. Kellen). — Trois exemplaires.

C'est avec le *Phrissoma (Phantasis) retrospinosa* Harold la seconde espèce du genre qui se trouve dans l'Afrique occidentale. Toutes les autres habitent l'Afrique orientale. Elle est reconnaissable à sa grande taille, les carènes des élytres et les épines du corselet un peu recourbées en arrière. En ceci elle est voisine du *Ph. retrospinosa* d'Angola, mais elle en diffère positivement par ses palpes ovalaires, caractère qui le distingue en outre de toutes les autres espèces voisines.

NOTE IV.

DESCRIPTION OF A NEW GENUS AND FOUR NEW SPECIES OF LONGICORNS.

BY

J. R. H. NEERVOORT van de POLL.

Cerambycini.

1. *Distichocera superba*, v. d. Poll.

♀. *Caput nigrum, inter antennarum tuberculos linea longitudinaliter impressum, in fronte et in vertice pube aureo-fusca tectum; antennarum articulus primus niger, ceteri atro-caerulei. Prothorax, scutellum, elytra, pro-, meso-, et metasternum laete ferruginea, omnino tomento aureo-fusco obsita. Prothorax subtrapezoïdalis, antice valde angustatus, postice angulis late rotundatis, in disco leviter gibbosus. Scutellum magnum, semicirculare. Elytra ad humeros oblique truncata, apicem versus gradatim angustata, ad apicem truncata, suturam versus incurvata, partem apicalem abdominis haud obtegentia; singula elytra lineis ternis indistincte elevatis. Abdomen atro-caeruleum, pilis minutissimis obtectum; femora anteriora et intermedia, genubus nigris exceptis, ferruginea, femora postica, tibiae et tarsi omnia atro-caerulea.*

Length 30 mm. (the uncovered portion of the abdomen included), breadth at the shoulders 8 mm., length of the antennae 19 mm.

Head longitudinally impressed between the antennary tubers, black, covered in front and on the vertex with a velvety reddish-brown pubescence, eyes red-brown; the antennae in comparison with those of the other species,

very slightly serrate, dull bluish-black, the scape black.

The prothorax, the scutellum, the elytra and the pro-, meso- and metasternum of a pale reddish-brown color, closely covered with a velvety shining pile of the same color, though much clearer and with bright golden tinges.

The prothorax is subtrapeziform, rather strongly narrowed towards the top, the hinder angles broadly rounded, the sides somewhat gibbous, the disk shows some indistinct gibbosities and wrinkles.

The scutellum is large and semi-circular.

The elytra are obliquely truncated at the shoulders, gradually narrowed behind, and truncated at the apex in a curved line which is directed inwardly; each elytron is provided with three indistinct raised longitudinal lines.

The abdomen is dark blackish-blue, covered with very minute hairs of that color; above it remains partly uncovered by the truncated elytra. The femora of the forder and middle legs are ferrugineous with the knees black, the posterior legs and the tibiae and tarsi of the anterior and intermediate legs bluish-black.

This species, decidedly the most beautiful of the genus, is not nearly allied to any of the already known species; moreover it is so very distinctly colored that a comparison is superfluous.

The single female specimen I possess, is labelled »Clarence River (New South Wales)."

Observation. In the foregoing volume of the »Notes from the Leyden Museum" (p. 222) I made already the observation that *Distichocera mutator* Pasc. is identical with *Distichocera Kirbyi* Newm. Having now carefully compared that species with all the other known species of the genus, I observed such striking differences, chiefly in the structure of the antennae, that it is impossible to place it together with those species into one and the same genus, and I therefore propose a new genus for its reception, under the name of *Paradistichocera*.

In order to make a comparison of the differences of the corresponding parts as easy as possible, I thought it would be useful to point them opposite.

Distichocera.	*Paradistichocera.*
♂. *Antennae.* Third joint large, longer than the next following, thickened at the top, with rudimental lamellae only; the 4th—10th joints gradually, though slightly, decreasing, the lamellae becoming longer the more and more, those of the outerside somewhat longer than those of the innerside; the terminal joint lamelliform, slightly overreaching the lamellae of the foregoing joint.	♂. *Antennae.* Third joint very small, half the length of the next following, broad, somewhat cuplike, provided with lamellae as long as the 4th and 5th joint together; the 4th—10th joints gradually, though slightly, increasing, the lamellae remaining all of the same length as those of the 3rd joint, and equally long at the outer and at the innerside; the terminal joint lamelliform, overreaching the lamellae of the foregoing joint with about the half of its length.
Prothorax more or less trapeziform, with the hinder angles strongly rounded, the sides unequal and gibbous.	*Prothorax* in front almost of the same width as at the base, slightly constricted before and below the middle, which is provided with a large but rather obtuse spine.
Scutellum large, semicircular.	*Scutellum* triangular, truncated at the top.
Elytra indistinctly costate, covered all over with a close velvety pubescence.	*Elytra* very distinctly costate, between the ridges dull which is due to a very close punctuation, filled with a very minute and scarce pile.

2. *Typhocesis floccosa*, v. d. Poll.

♂. *Brunnea, omnino tomento holosericeo obtecta. Caput in medio longitudinaliter valde sulcatum, vertice sparse punctatum, argenteo-pilosum; antennae nigrae, articulis* 3—6 *ad basin*, 7 *et* 8 *parte majore albis; articuli* 3—6 *articulis* 7—11 *multo validiores et intus dense nigro-ciliati. Prothorax supra deplanatus, lateribus in medio fere parallelis apicem versus valde rotundato-angustatis, post medium fortiter arcu emarginatis, base paene recta, in disco dense subtiliterque rugosus; argenteo-pilosus, densius in lateribus. Elytra ad basin recta, humeris rotundatis, sat parallela, ad apicem separatim rotundata; pubescentia densa griseo-brunnea tecta, floccis numerosis minutis argenteis intermixta. Pars infera pedesque pubescentia argentea obsita, epidermidis tamen colore brunneo internitente.*

Length 16 mm., breadth at the shoulders $5^1/_2$ mm., length of the antennae 27 mm.

Derm brown, all over covered with a velvety shining tomentum. The head is clothed with a thin silvery pubescence, in the middle deeply grooved in a longitudinal direction and deeply punctured on the vertex; the antennae are black with the base of the 3rd—6th joint and the greater basal half of the 7th and 8th joint covered with short white hairs, the 3rd—6th joints are very strong and provided at the innerside with a dense fringe of long black hairs, whilst the three terminal joints are also, though very thinly, fringed.

The prothorax is covered above with a rather thin silvery pile, which becomes however very close along the sides; the base is nearly straight, the sides are almost parallel in the middle, strongly narrowed and rounded towards the top and deeply emarginated below the middle, the disk is flattened, finely and densely rugose.

The scutellum is concealed by a silvery tuft.

The elytra are straight at the base, rounded at the shoulders, parallelsided, and separately rounded at the apex,

entirely covered with a close greyish-brown pubescence, which is intermixed with numerous very small silvery tufts.

The undersurface and the legs are also clothed with silvery hairs, however not so thickly to conceal the brown color of the derm.

Although having exactly the same outline as *T. Mac Leayi* Pasc., in consequence of its vesture this beautiful species is totally unlike its congener.

I received a single male specimen from Northern Queensland, and I have seen a specimen of the same sex in the collection of the British Museum.

Lamiini.

3. *Pharsalia albomaculata* (de Haan Mss), v. d. Poll.

Picea, omnino pubescentia tecta. Caput griseum, genae fascia, vertex in medio lineis duabus flavescentibus ornatus; antennarum articuli 1 *et* 2 *grisei*, 3—5 *grisei partibus maximis apicalibus nigris, ceteri nigri. Prothorax antice et postice valde constrictus, in medio rugis duabus transversalibus irregulariter instructus, lateraliter spina valida, nonnihil retro curvata, armatus; griseus, supra lineis quatuor dilute flavis longitudinalibus ornatus. Scutellum, apice rotundato, flavescens. Elytra apicem versus gradatim angustata, apice rotundato, humeris prominentibus granulis aliquot obsitis, ad basin prope scutellum utrinque fortiter gibbosa, sparse et grosse punctata; brunneo-nigra, pars basalis maculis parvis numerosis flavescentibus ornata, ante medium macula magna marginem attingente, post medium macula magna angulari et ante apicem macula longitudinali alba notata. Pars infera grisea et ochracea variegata, pedes ochracei.*

Length ♂ 22 mm., ♀ 18—22 mm., breadth at the shoulders ♂ 8 mm., ♀ $6^1/_2$—8 mm., length of the antennae in the male 70 mm. (the antennae of both the ♀ specimens are broken).

Piceous, entirely covered with a close pubescence. The upper surface of the four specimens I have at my disposal

is partly glabrous, but as it are all old specimens I have little doubt as for the exactness of my statement, that they ought to be entirely covered with pubescence.

The head is grey with a yellowish band at the cheeks and two flavous stripes at the vertex along the median impressed line, the front shows a longitudinal raised line; the antennae are black, the two first joints and the basal portion of the three next following joints clothed with a short grey tomentum.

The prothorax is strongly constricted anteriorly and posteriorly, the lateral spines are strong and slightly curved backward, the disk is provided with two irregular transverse ridges, the undermost forming a pointed tubercle in the middle; covered with a greyish pile and ornated above with four longitudinal yellowish bands, of which the two lateral ones are more or less interrupted by the spines.

The scutellum is broadly rounded at the apex, flavous.

The elytra are gradually and strongly narrowed towards the top, the shoulders are prominent, sharp, and provided with a few large granules, at the base there is on each side a large and pointed gibbosity, the basal portion is covered with large but sparse punctures, and at the apical part four raised lines may be observed, only the innermost being distinct; all over clothed with a velvety brownish black pubescence, mixed at the basal part with numerous small yellowish spots, the remainder is ornated with three (on each elytron) large white spots, the first a very large one before the middle, touching the outermargin, the second below the middle of a somewhat angular or zigzag shape, and the third a longitudinal spot between the foregoing and the apex, moreover there is a row of small spots along the suture.

The undersurface is covered with a mixture of a grey and ochraceous pile. the legs are ochraceous.

The female only differs by the shorter antennae and less narrowed elytra.

A comparison with any one of the hitherto described

species should be of no value, this species being very distinct and aberrant, according to the large clear spots on a dark ground, its pattern somewhat resembles that of *Combe Brianus* White. The couple in the Leyden Museum is labelled »Reinwardt: Java", and bears the manuscript name of Mr. de Haan, which I have retained; the locality of the pair in my own cabinet is not stated.

4. *Periaptodes frater*, v. d. Poll.

Brunneo-niger, prorsus pubescentia densa grisea tectus; elytra ad basin circum scutellum macula communi magna trapezoïdali notata, ab humeris usque ad medium suturae fascia oblique incurvata brunnescente, retro gradatim diffluente ornata; pubescentia capitis, prothoracis, antennarum, partis inferioris pedumque setis pallidis sparse intermixta. Antennarum scapus rugosus. Discus prothoracis granulis parvis obsitus, spinae laterales validae, haud vero forte supra ductae. Elytra ad humeros dente parvo, obtuso instructa; parte basali granulis parvis perpaucis, lateraliter subtus humeros sat numerosis, obtecta; ad apicem truncata, nonnihil emarginata, dente pervalido marginali armata.

Length 41 mm., breadth at the shoulders 13 mm., length of the antennae 60 mm.

Derm dark brown, entirely covered with a greyish scale-like pubescence; the elytra ornated at the base with a large brown trapezoïdal blotch, common to both and enclosing the scutellum, and an oblique curved brownish band, shading off insensibly behind, beginning below the shoulder and terminating at the suture somewhat below the middle. The pubescence of the head and the prothorax is intermixed with a few very short pale setulose hairs, which become longer and much more numerous on the antennae, the under surface and the legs.

The scape of the antennae is rather strongly rugose in a transverse direction, the third joint is as long as the 6th and 7th together, the 4th—10th gradually decreasing, the terminal joint not quite twice as long as the foregoing.

The disk of the prothorax is covered with minute granules, which are however rather indistinct by the covering pile, and there is a small naked spot in the middle; the lateral spines are long and acute, but not strongly directed upwards.

The scutellum is triangular, broadly rounded at the top.

The elytra are sensibly narrowed below the shoulders, swelling out behind the middle and then slightly converging towards the marginal spines, which are very strong, the apical truncation is feebly emarginated; the shoulders are armed with a small, obtuse tooth, the shoulder region is thickly covered with small granules, and there may be observed also a few scattered ones at the base and below the brown blotch.

This species is not unlike any of the formerly described species, it is however nearest allied to *P. luctator* Pascoe, with which it corresponds in size and in having a rugose scape and elytra destitute of setulose hairs, but it may be easily distinguished from that species by the presence of granules on the elytra.

The specimen in the collection of the Leyden Museum (ex mus. Godeffroy) is labelled »New-Britain", whilst the specimen in my own collection was captured at Cape York (Queensland).

NOTE V.

A NEW GENUS AND NEW SPECIES OF LANGURIIDAE FROM THE COLLECTION OF THE LEYDEN MUSEUM.

DESCRIBED BY

the Rev. W. W. FOWLER.

Among a number of Languriidae sent to me for examination by Herr Ritsema, I have found several very interesting species. The most interesting to myself was a specimen of the handsome *Compsolanguria concinna* which I have lately described (with figure) in the Transactions of the Entomological Society of London, 1886, Prt. III, p. 315; the only other specimen hitherto known is in the collection of the British Museum; the Leyden Museum specimen is labelled »America meridionalis, S^{te} Paulo d'Olivença, M. de Mathan, Mai 1883." Other species worth mentioning are *Callilanguria Wallacei* Crotch, hitherto almost unique (a^{s} specimen from Borneo: Dr. Schwaner), *Languriosoma Brooki* Crotch (three specimens from East Sumatra: Dr. B. Hagen), *Oxylanguria acutipennis* Crotch (a specimen from East Sumatra: Dr. B. Hagen), *Languria cuneiformis* Crotch (a specimen from East Sumatra: Dr. B. Hagen), and *Languria Calabarensis*, a species lately described by myself from Western Africa (a specimen from Liberia: Büttikofer). The majority of the specimens consisted of the very puzzling forms with red thorax and cyaneous elytra which are so characteristic of the fauna of the Philippine Islands, Borneo, and the islands between these and Northern-Australia; among them however there appear to be two or three new species and one distinct new genus which

seems to bear a relation to *Pachylanguria* on the one side and to *Trapezidera* on the other. I am also strongly of opinion that two other of the species will ultimately have to be referred to a new genus.

Languria Ravassae, n. sp.

Oblonga, parallela, capite prothoraceque piceo vel rufo-piceo, elytris nigro-cyaneis; antennis et pedibus nigris, illis clava 5-articulata; prothorace subquadrato, ad basim striola longa fortiter impresso, lateribus vix rotundatis, disco diffusius fortiter punctato, latera versus fere laevi; elytris fortiter punctato-striatis, humeris callosis, apicibus truncatis; lineae coxales obsoletae. — Long. 7 mm.

Oblong, parallel; head triangular, finely punctured; antennae with 5-jointed club, joints 9—11 rather strongly dilated; thorax subquadrate, with sides slightly rounded, and but slightly contracted before base, posterior angles prominent, base depressed and punctured, basal striae strong, divergent, disc strongly and diffusely punctured, sides nearly smooth; elytra strongly punctured in rows, with apices truncate; abdomen almost smooth in centre, with large and rather scattered punctures at sides; coxal lines obsolete.

Sumatra: District of Rawas (Scient. Sum. Exp.). A single specimen. — *Languria spec.* 3, in »Midden-Sumatra, Coleoptera, p. 184."

This species rather closely resembles *L. plebeia* Har., but is easily distinguished by the more parallel-sided and more strongly punctured thorax, and by the coxal lines on abdomen being very indistinct; in *L. plebeia* they are very distinct and reach nearly to the apex of the first segment.

Languria longicollis, n. sp.

Elongata, sublinearis, tota testacea; capite triangulari, diffuse punctato, oculis prominentibus; antennis longis, testaceis, clava fusca solutiori, triarticulata; prothorace latitudine fere duplo longiore, diffuse fortiter punctato, lateribus leviter

rotundatis, ante basim sinuatis, angulis posticis acutis, prominulis; elytris elongatis, sat fortiter striato-punctatis, apicibus fere rotundatis, sutura angustissime fusca; corpore subtus diffusius punctato; pedibus testaceis. — Long. 5½—6 mm.

Elongate, sublinear; head broadly triangular, diffusely punctured, with prominent and coarsely granulated eyes; antennae testaceous with the club fuscous, 3rd joint nearly twice as long as 2nd, 8th slightly dilated, 9—10 forming a distinct and not very compact club; thorax nearly twice as long as broad, almost narrower than head with eyes, with sides moderately rounded, and sinuate before posterior angles which are sharp and prominent, base bisinuate, much depressed, without the usual striae, upper surface strongly and diffusely punctured; elytra subparallel, sides slightly sinuate in middle, rather strongly striate-punctate, apices rounded or almost rounded; legs testaceous with knees sometimes narrowly fuscous; underside diffusely punctured, metasternum more thickly than abdomen; coxal lines wanting.

East Sumatra: Tandjong Morawa, Serdang (Dr. B. Hagen). Two specimens.

Languria approximata, n. sp.

Praecedenti simillima, sed pedibus nigris, clava antennarum minus soluta et dilatore, thoraceque multo minus fortiter punctato facile distinguenda. — Long. 6—7 mm.

Very like the preceding, but larger, and easily distinguished by the broader and more compressed club of the antennae, the less strongly punctured thorax, and black legs. It may possibly be a sex or variety of the preceding, but I am inclined to think that it is distinct.

The peculiar facies of this and the preceding species makes it probable that they may eventually form the types of a new genus.

Sumatra: Boenga mas, Palembang (J. C. van Hasselt). A single specimen.

Trapezidistes, n. g.

Elongata, postice acuminata, elytris apicibus truncatis, denticulatis, antennis modicis, clava compressa, dilatata, rotundata, 4-articulata; prothorace latitudine longiore, lateribus rotundatis, ante basim sinuatis, angulis posticis prominulis, acutis; lineae coxales obsoletae vel nullae.

This genus superficially resembles *Trapezidera* Crotch, but is easily distinguished by the differently shaped thorax, and the very different formation of the club of the antennae, which resembles that of *Pachylanguria* Crotch; no species of *Trapezidera* has as yet been found except in Tropical America.

Trapezidistes Ritsemae, n. sp.

Viridi-aenea, capite thoraceque nigro, illo triangulari, fortiter punctato, prope oculos obsoletius impresso, oculis vix prominulis; antennis clava 4-articulata, dilatata, compressa; prothorace latitudine longiore, lateribus leviter rotundatis, ad basim sinuatis, diffusius leviter punctato, basi bisinuata, angulis posticis acutis, prominulis; elytris sat fortiter punctato-striatis; abdomine fere glabro, segmento ultimo (an maris solum?) fortissime punctato; pedibus nigris; lineae coxales obsoletae. — Long. 11 mm.

Metallic green, with head and thorax black; antennae with a large compressed club of which the first and last joints are smaller than the two middle ones; eyes finely granulate; thorax longer than broad, plainly margined, rather finely and diffusely punctured, with sides slightly rounded and almost obtusely angled in middle, and sinuate before posterior angles which are sharp and projecting, base bisinuate, depressed, and strongly punctured, with a small depression on each side; elytra gradually narrowed to apex, rather strongly punctate-striate, apices denticulate; abdomen, except last segment, almost impunctate; coxal lines obsolete; legs moderately long, black, femora somewhat metallic.

Sumatra: Highlands of Palembang (Scient. Sum. Exp.). A single specimen. — *Languria spec.* 5, in »Midden-Sumatra, Coleoptera, p. 184."

Among the beetles in the collection there are a number of specimens of the variable *Tetralanguria splendens* Wied. (= *elongata* Fabr.. *pyramidata* Mac L. etc.).

One of the varieties from Tandjong Morawa (Serdang: East Sumatra) seems fairly constant and, were it not connected with the type forms by various gradations, might be accounted a separate species; it is robust, with the elytra broad at shoulders which are strongly marked, and gradually narrowed to apex; the thorax is of a golden brassy colour, and the elytra brassy with a slight greenish reflection; the legs are in part at least reddish. For this variety I propose the name of var. *aenea.* I should be inclined to consider it a new species, were it not for the fact that one or two specimens show a distinct tendency in the colouring of the thorax to revert to the *pyramidata* form.

There is hardly any species, among the Coleoptera that varies so much as this in size, shape and colour. In the collection before me there is a small quite parallel specimen about $7^1/_2$ mm. long, and several others about 18 mm. long with the breadth varying from $1^3/_4$ or 2 mm. at apex of elytra to 4 mm. at their base.

NOTE VI.

NOVA SPECIES BUPRESTIDARUM.

DESCRIPSIT

J. R. H. NEERVOORT van de POLL.

Trachys Frenchi, v. d. Poll.

Parva, *cuneiformis*, *nitida*, *supra laete aureo-aenea*, *regulariter sparsimque punctis setiferis tecta (setae longae aurescentes)*, *subtus nigro-aenea; elytra lateraliter costata.* — Long. $2-2^2/_3$ mm., larg. $1^1/_3-1^1/_2$ mm.

Caput inter oculos paullo excavatum, in vertice sparsim punctatum. *Prothorax* brevis, latus, antice valde oblique angustatus; lateribus fere rectis, angulis posticis nonnihil intus directis, retrorsum prominentibus, acutis; ad basin fortiter bi-sinuatus, in medio late lobatus (lobus ante scutellum arcu emarginatus); regulariter punctatus, singula puncta setifera capitis thoracisque orbiculo inscripto circumdata. *Scutellum* sat magnum, triangulare. *Elytra* subdepressa, prothoracis base paullisper latiora, ad humeros modice rotundata, apicem versus gradatim attenuata, ad apicem late et conjunctim rotundata; lateraliter costa valida acuta instructa; punctis grossis setiferis sat dense obtecta, infra scutellum plaga magna glabra notata. *Pars infera* punctis aliquot, orbiculis vel arculis circumdatis, instructa; *prosternum* breve, latissimum; *metasternum* in medio annulum subovale elevatum ferens.

Haec species mihi videtur *T. setosulae* H. Deyr. affinis.

Habitat Queensland bor. — Haec est prima species generis *Tracheos* Australiensis, nuperrime transmissa ab entomologo diligentissimo French, in cujus honorem ei dedicavi.

NOTE VII.

A NEW SPECIES OF THE LONGICORN GENUS CHLORIDOLUM, THOMS.

DESCRIBED BY

C. RITSEMA Cz.

Chloridolum Klaesii, n. sp. ♂.

A large species, strongly resembling the South-American *Callichroma suturalis* Fabr. It differs however from that species, besides by the generic characteristics, by the glabrous (not velvety) thorax and scutellum, by the shortened glabrous sutural stripe, etc.

Length 40—50 mm., breadth at the shoulders 10—12 mm.; length of the antennae 120—150 mm. — Above metallic green, strongly shaded with coppery and purplish tinges. Beneath purple. Antennae and legs dark steelblue, the former with green tinges; mandibles, upperlip and apical margin of the abdominal segments black, the mandibles shaded with green at the base.

Head shining, with fine scattered punctures on the face, vertex and cheeks, and with strong wrinkles behind the eyes and beneath; a deeply impressed line runs from behind the inter-antennary ridge down to the base of the clypeus where it ends in a double curved transverse line, thus forming an anchor-shaped figure ⌊⌣⌋. The antennae are three times as long as the insect; the scape is rather strongly punctured, toothed at the top on the outside, and shallowly, although distinctly, grooved in front; it is half as long as the 3rd joint, which is more or less curved, strongly punctured at the basal half, and provided with black hairs beneath; joint 3 is as long as 4, 5 so-

mewhat longer than 4 and as long as 6, 7 a little shorter than 6 and as long as 8, 9 as long as 10 and of the same length as 6, 11 somewhat more than twice as long as 10; the 3rd and following joints are longitudinally furrowed beneath.

Thorax glabrous, shining, strongly spined at the sides; the anterior and posterior portion transversely wrinkled; the disc with patches of transverse striae [1]) and a few punctures, and with some faint elevations laterally. The scutellum glabrous, rather broadly triangular with curved sides, and with transverse wrinkles at the tip.

Elytra green, covered with a black tomentum which leaves however a narrow sutural and a broader discal stripe free; the sutural stripe disappears a little beyond the middle, the discal one, which runs over the shoulder, extends from the base up to the apex of the elytra; the sculpture of these bare stripes (which are bright coppery) is transverse and very coarse, that of the tomentose portion exceedingly fine and dense.

Body beneath glabrous, shining; the prosternum densely covered with small punctures and very fine transverse wrinkles, and provided with a smooth line along the middle; the metasternum remotely punctured, the abdomen almost impunctate. The anterior and intermediate femora strongly punctured, the posterior ones (which are very elongate) much finer; the tibiae of the posterior legs are strongly compressed, flat, and slightly sinuate, the metatarsus of the same pair nearly as long as the three following joints taken together.

Two male specimens from West Sumatra (Dr. C. Klaesi).

I have named this species in honour of its discoverer, who has done so much to increase our knowledge of the Avifauna of Sumatra.

1) These patches of transverse striae are very obsolete in the smaller specimen.

NOTE VIII.

ON A COLLECTION OF REPTILES AND FISHES FROM THE WEST-INDIES.

BY

Dr. Th. W. van LIDTH de JEUDE.

(Plate 2).

During the Dutch Expedition to the West-Indies the following reptiles and fishes were collected by Mr. J. R. H. Neervoort van de Poll, the Zoologist of the Expedition, who afterwards presented them to the Leyden Museum.

Lacertilia.

1. *Gymnodactylus antillensis*, nov. spec. (Pl. 2, fig. 1).

Head a fourth of the length of the body without tail, earopening oval, snout as long as the diameter of the orbit, pupil vertical. Back covered with uniform, juxtaposed round tubercles all of the same size, except those on the median line, which are smaller. Rostral large, broader than high, with a median cleft, followed by two rather large scales separated one from another by a small azygos shield, situated just behind the cleft of the rostral. Nostril pierced between the rostral, the large shield behind the rostral, two smaller nasalia and the first labial. Six upper and four or five lower labials. The first lower labial being very large, the last labials always small. Mental large, subcampanuliform, followed by one rather large shield, which is surrounded by scales gradually decreasing in size, passing in the very small granules of the throat. Abdominal scales in 16 rows, round, imbricate, larger than the

dorsal tubercles. No femoral or praeanal pores. Tail very fragile, cylindrical, covered with small round imbricate scales, those of the median series of the underside being much larger than the rest.

Brown above, with darker spots forming bands across the back, two dark brown U-shaped lines from eye to eye, the first and upper over the crown of the head, the second, lower, over the nape. Lower surface whitish.

Total length	70 m.m.
Head	9 m.m.
Fore limb	11 m.m.
Hind limb	14 m.m.
Tail	33 m.m.

Many specimens were captured in Curaçao and Aruba.

2. *Phyllodactylus Martini*, nov. spec. (Pl. 2, fig. 2 and 3).

Head large, oviform, very distinct from neck; the skin confluent with the cranial ossifications, crown of the head and interorbital space convex, a longitudinal shallow groove on the snout. Distance between the earopening and the orbit nearly as large as the diameter of the orbit, length of the snout one and two thirds the diameter of the orbit. Limbs moderate, digits inferiorly with one row of scales, distal expansion subcordiform, moderately large.

Head covered with very small, polygonal scales, flat on the snout, somewhat convex on the interorbital space and on the crown of the head. Rostral large, twice as broad as high; nostril pierced between the rostral, three nasalia (the anterior, upper, being by far the largest) and the first labial. Mental pentagonal, followed by one rather large scale, the others decreasing in size. Upper surface of the body covered with rather large keeled shields, serially arranged and leaving but very little space for fine granulations between them. The arrangement of those shields is very regular on the middle of the back, where a broader median streak, covered with fine granulations, separates two or three

longitudinal rows of shields on both sides of the back (fig. 3); but on the flanks the shields are not so regularly arranged, so that it is difficult to fix the real number of longitudinal rows, about 14 à 16. Abdominal scales smooth, round, imbricate. Tail with rather large scales (not so large as in fig. 2) with a series of large undivided infracaudals over the whole length of the tail. Hind limbs covered on the upper surface with keeled shields, on the lower surface with flat scales; forelimbs wholly covered with flat scales.

Light gray above, with a longitudinal dark streak beginning between the shoulders and running along the median line up to the commencement of the tail, and two longitudinal dark streaks running on each side on the flanks and beginning on the crown of the head.

A single specimen was captured in Curaçao.

I dedicate this species to Dr. K. Martin, Professor in Geology and Paleontology at the University of Leyden, one of the leaders of the Expedition to the West-Indies, who most readily gave me very interesting informations as to the native names and the habitat of some of the captured animals.

3. *Thecadactylus rapicaudus*, Houtt.

Specimens from Curaçao and Aruba. (Native name: pega-pega).

4. *Anolis alligator*, D. & B.

Six specimens from Martinique.

5. *Anolis lineatus*, Daud.

Eight specimens were collected in Curaçao, five in Aruba.

6. *Iguana tuberculata*, Laur.

Two specimens from Aruba.

7. *Cnemidophorus murinus*, Laur.

Eleven specimens from Curaçao.

8. *Cnemidophorus lemniscatus*, Daud.

Three specimens from Caracas (Venezuela).

9. *Cnemidophorus nigricolor*, Ptrs.

Four specimens from Los Roques (small islands north of Venezuela).

10. *Cnemidophorus arubensis*, nov. spec.

This species shows a great resemblance on one side with *C. murinus*, on the other side with *C. lemniscatus*. It agrees with *C. lemniscatus* in the number of the rows of ventrals, viz. 8; as to the coloration it resembles *C. murinus*.

Head moderate. Nostril between the two nasals. Parietals five, supraoculars four, five or six supralabials, no freno-orbital, anterior gular scales subequal, without enlarged medians; mesoptychium with three or four rows of enlarged scales, separated from the free edge of the collar by four or five rows of small granules. Dorsal scales small, granular, smooth. Ventral plates in eight longitudinal and thirty-five till thirty-seven transverse series. Generally three large praeanals forming a triangle, but sometimes the foremost of the three divided in two parts. The anterior row of the brachials larger than the following, though not so large as those in *C. lemniscatus*; the ante-brachials in two rows, the inner largest, the outer extending only half down the inner; forearm entirely granular inferiorly. Femorals in six or seven rows, one of which is large; tibials in two or three rows, the outer very large. Femoral pores generally thirty, in one specimen twenty-six and twenty-seven. Male with a spine on each side of the vent.

Olive above, sides with a great many rather large blue spots; these spots extend to the outer series of ventrals and cover the hinder limbs as far as the toes, no whitish longitudinal band on the hind side of the thighs.

Two of the eight specimens have four bluish longitudinal bands on the upper part of the body, extending from the head

to the tail, but moreover they show the blue ocelli on the sides and the hind limbs. Both these specimens are females.

Eight specimens were captured in Aruba. (Native name: blausana).

11. *Gymnophthalmus quadrilineatus*, L.

Many specimens from Curaçao.

Serpentes.

1. *Dromicus antillensis*, Schl.

One specimen from Curaçao.

2. *Leptophis liocercus*, Neuw.

One specimen from Surinam.

3. *Dipsas annulata*, L.

Two specimens from Aruba.

4. *Crotalus horridus*, var. *unicolor*, v. L. d. J.

One specimen of a rattle-snake from Aruba has three pairs of large scales behind the rostral, 166 ventrals, one undivided anal and 22 caudals, the first of which is divided in two. It shows no sign of streaks behind the eye, nor any marking whatever. It is on the back of a uniform gray color, somewhat lighter on the ventrals; the very short tail is darker than the body, and its lower part of a bluish black color. This specimen measures about 62 c.m.

On examining the rattle-snakes in the collection of the Leyden Museum, I found a specimen without indication of locality, presented to our Museum by the Royal Zoological Society »Natura Artis Magistra" at Amsterdam, which specimen agrees very well with the specimen from Aruba. It is of nearly the same length, of the same color without any marking, and shows also the bluish black lower surface of the end of the tail. The tail of this

specimen is longer than that of the snake from Aruba. As to the arrangement of the scales on the head it wholly agrees with the first mentioned specimen, and has 160 ventrals, one undivided anal and 28 caudals, the first of which is divided in two.

Moreover, two specimens from Aruba are still living in the Zoological Gardens of the R. Z. Society »N. A. M." at Amsterdam. They were also collected during the Expedition and have been presented to the forenamed Society. One of them resembles the first mentioned specimen in color and in the total absence of any marking, the other is also of the same color, but shows on the back a trace of lozenge-shaped spots. Both have the bluish black color on the lower surface of the end of the tail.

Batrachia.

1. ? *Rana Copii*, Blgr.

One specimen with tadpoles from Aruba. According to the inhabitants of the island, this specimen is not the »dori" (the native name of the frog common in Aruba), which frog creeps into the ground during the dry period, and consequently was not to be seen when the Expedition visited Aruba.

2. *Dendrobates trivittatus*, Spix.

One specimen with tadpoles from Surinam.

3. *Phryniscus cruciger*, Mart.

Many specimens from the coast of Coro (Venezuela).

4. *Bufo marinus*, L.

Two specimens from Surinam.

5. *Hyla maxima*, Laur.

One specimen from Surinam.

Pisces.

The collection of fishes, though a small one, is very interesting. The marine fishes n° 1—5 and n° 8 were presented to Mr. Neervoort van de Poll by Mr. van Lier at Curaçao. The numbers 6, 7 and 9 were captured by Mr. Neervoort van de Poll himself.

The rarest of all is certainly *Serranus tigrinus* Bl. (n° 2), a fish the origin of which was up to this time supposed to be the East-Indian sea, and which in this collection is found together with *Myripristis jacobus* Cuv. & Val., *Pomacanthus paru* Bl., *Gobius soporator* Cuv. & Val., and *Muraena catenata* Bl., all well-known West-Indian forms.

Blennius crinitus Cuv. & Val. (n° 5), originating, according to Cuvier, from the sea in the neighbourhood of la Rochelle, was captured near Curaçao, which sustains Günther's statement, who mentions a specimen from Pernambuco.

The freshwaterfishes (n° 6 and 7), belonging to the curious family of Cyprinodontidae, were captured in the very small rivulets of Curaçao and Aruba. As to the habitat of these small viviparous fishes, Prof. K. Martin informs me, that when the Expedition visited Aruba (in the dry period) the water of the pool filled a groove of a width of about $^1/_3$ meter and a depth of only some centimeters. The rivulet of Curaçao was not so destitute of water as that of Aruba, whereas in the pool of Bonaire almost no water was to be seen.

1. *Myripristis jacobus*, Cuv. & Val.

D. $11/\frac{1}{9+?}$. A. 4/12. V. 1/7.

One badly preserved specimen from Curaçao.

2. *Serranus tigrinus*, Bl.

D. 10/12. A. 3/8.

Our specimen has a length of 93 m.m. and differs from the figures of Bloch (t. 237) and Seba (III. 27. 15 instead III. 27. 5 as is quoted by Cuvier and Günther), in having the back of a dark color and only 4 cross-bands, viz.:

the 1st midway between ventral- and anal fin;
the 2nd at the beginning of the anal fin;
the 3rd nearly at the middle of the anal fin;
the 4th between anal- and caudal fin.

The end of the tail and the beginning of the caudal is of a dark color. Dark, oblong spots, serially arranged in a direction from the root of the pectoral to the lower part of the tail, are placed between the cross-bands. The dark spot between the 3rd and 5th ray of the dorsal fin is very characteristical.

Our specimen has the middle spine on the operculum very well developed, and the caudal fin notched as figured by Bloch, and not truncate as in Cuvier's and Seba's specimen.

One specimen, very well preserved but somewhat discolored by the action of the alcohol. — Curaçao.

3. *Pomacanthus paru*, Bl.

One young specimen with 5 distinct cross-bands without white crescents or brown spots (Gthr. Cat. of Fishes. II. p. 56. C: *Pomacanthus quinquecinctus* Cuv.). — Curaçao.

4. *Gobius soporator*, Cuv. & Val.

Nine specimens from Curaçao.

5. *Blennius crinitus*, Cuv. & Val.

Two specimens (from Curaçao) with 12 + 15 dorsal and 2 + 16 anal rays, with some little filaments above the eye, and a filamentous crest on the nape of the neck. The snout is obtuse, with the anterior profile abruptly descending. They both have a somewhat larger tooth between the teeth of the underjaw.

One of the specimens very clearly shows the spot between the 1st and the 2nd dorsal spine, the other specimen is too darkly colored (probably under the action of the alcohol) to show the dark spot.

This second specimen has another particularity mentioned by Cuvier and not quoted in Günther's Cat. of Fishes,

viz.: »les excroissances en champignon" of the first and second anal ray.

6. *Poecilia Vandepolli*, nov. spec. (Pl. 2, fig. 4 and 5).

D. 8. A. 9. V. 5. P. 14 à 15. L. lat. 25—27. L. transv. 9.

The height of the body is contained nearly four times in the length with caudal fin (thrice without caudal). The narrow part of the tail is half the height of the body. Diameter of the eye one third the length of the head. Distance between the root of the pectoral and the tip of the snout as large as the height of the body. In the females the anal fin is nearly opposite to the dorsal, a very little behind; in the males the anal fin is placed in advance of the dorsal fin and transformed in an intromittent organ, having the 3rd, 4th and 5th ray much elongate, and an adipose spoonlike appendix on a small distance from the tip of the fin (fig. 5). The second ray of the ventrals is also much elongated and put against the anal fin.

An outer series of large curved teeth with a band of small conical teeth behind. Both the curved and the conical teeth, especially the former, have a brown colored top, and are somewhat moveable, the underpart of the tooth being inserted on an excrescence of the jawbone with a kind of joint.

The color of the back and of the tail is a yellowish brown, the belly and the lower surface of the head being silvery. Behind the interorbital region is a dark spot continued in a dark line, running along the median line of the back up to the beginning of the caudal fin. Dark colored lines, running along the margin of the scales, form a dark brown reticulation on the back and the tail. A blackish lateral line. Several specimens have 6 shadowy crossbands on the tail.

Two of the males with a round black spot (as large as the eye) a little above and behind the root of the pectoral.

Length of the largest female, measured with caudal fin 35 m.m.

Length of the largest male, measured with caudal fin 31 m.m.

Many specimens were collected in Curaçao.

I dedicate this species to Mr. J. R H. Neervoort van de Poll, the Zoologist of the Expedition, to whom the Leyden Museum is indebted for this interesting collection.

7. *Poecilia Vandepolli*, var. *arubensis*, v. L. d. J. (Pl. 2, fig. 6—10).

Agrees with the former in the number of finrays, the arrangement and insertion of the teeth (see fig. 7—10), the number of scales, and the form of the intromittent organ in the males, but differs in the proportions of the different parts of the body and in the color. The proportion between height and length is in this variety as one to three and a half without caudal fin, or as one to four and a half with the caudal fin. The height of the narrowest part of the tail is two thirds of the total height of the body. Anal fin in the females somewhat more advanced than in the former species and opposite to the dorsal fin.

Color brown, yellowish brown on the belly. A dark spot on the head behind the interorbital space, continued in a line which runs up to the beginning of the dorsal fin. Dark reticulation as in the former, but lateral line nearly invisible. Most of the specimens have 6 or 7 shadowy crossbands on the tail. Dorsal and caudal fin with black lines and spots.

Total length of the largest female 57 m.m. A female with embryos measured 50 m.m.

Total length of the largest male 36 m.m.

Many specimens were captured in Aruba.

8. *Muraena catenata*, Bl.

One specimen from Curaçao.

9. *Cheilichthys psittacus*, Bl. Schn.

Five specimens were captured at Paramaribo. Length

about 25 m.m. They differ from Steindachner's description and figure (Verh. Zool. Bot. Ges. Wien. 1861. p. 141; taf. 4) in having 7 crossbands. Between the band in the neighbourhood of the pectorals and that at the root of the dorsal two distinctly separated bands are present (as in the figure in Bloch-Schneider, pl. 95) and not one broad crossband as in Steindachner's specimen.

Five specimens from Surinam already in the collection of the Leyden Museum and much larger (from 58 to 95 m.m.) have also seven crossbands, just as the newly obtained specimens.

Explanation of the plate.

Fig. 1. Dorsal tubercles of *Gymnodactylus antillensis* v. L. d. J., × 25.
Fig. 2. *Phyllodactylus Martini* v. L. d. J., natural size.
Fig. 3. Dorsal shields of the same, enlarged.
Fig. 4. *Poecilia Vandepolli* v. L. d. J., natural size.
Fig. 5. Anal fin of a male of the same species modified into an intromittent organ, × 26.
Fig. 6. *Poecilia Vandepolli*, var. *arubensis* v. L. d. J., natural size.
Fig. 7. Teeth of this variety, × 50.
Fig. 8. A large curved tooth of the outer series of the same, × 130.
Fig. 9. A small conical tooth of the inner band of the same, × 130.
Fig. 10. Excrescences of the jawbone, whereupon the teeth are fixed, × 130.

NOTE IX.

NOVA SPECIES CUCUJIDARUM.

AUCTORE

J. R. H. NEERVOORT van de POLL.

Inopeplus Olliffi, v. d. Poll.

Nitidissimus, *aterrimus*, *mandibulis palpisque rufotestaceis*, *labro*, *antennarum articulis duobus basalibus*, *tarsisque dilute testaceis; elytra abdominis segmenta quatuor ultima haud obtegentia.* — Long. 4 mm.

Caput latum, juxta oculos impressione profunda instructum, commati transverse posito simili (⌣) grosse et sat dense punctatum. *Thorax* latus brevisque, capite haud latior; lateribus anguste marginatis, antice rotundatis, basim versus valde angustatis et paulisper emarginatis; angulis anticis prominulis, posticis dentiformibus prominentibus; basi late bilobata; evidenter sed sparse punctatus. *Elytra* longitudine aequa capiti prothoracique conjunctis, thorace latiora, apicem versus ampliata, punctis aliquot, fere haud conspicuis, irregulariter instructa. *Abdomen* elytrorum longitudine, paulo angustius, postice rotundato-angustatum; segmento ultimo confertim, ceteris tribus segmentis obsolete punctatis.

Haec species mihi videtur *I. terminato* C. Waterh. affinis.

Habitat Queensland bor.

Entomologo doctissimo Sidney Olliff, auctori Revisionis Cucujidarum Australiensium hanc speciem dedicavi.

NOTE X.

DESCRIPTION D'UNE ESPÈCE NOUVELLE DE BUPRESTIDE DE L'AFRIQUE.

PAR

J. W. van LANSBERGE.

Psiloptera monoglypta, spec. nov.

Modice elongata, obscure aenea, subtus indumento griseo tecta, elytris thoracisque plagis cupreo marginatis; thorace callis sex ornato, quorum duobus mediis maximis, sulco longitudinali sat profundo; elytris interstitiis alternis foveolatis; abdomine utrinque callorum serie instructo. — Long. 20—32, lat. 8—12 mm.

De forme elliptique allongée, assez large entre les épaules, les élytres terminées en ogive, d'un bronzé obscur passant au cuivreux dans toutes les impressions, avec un bord corrodé rouge cuivreux autour des élytres, les tarses bleuâtres, le dessous couvert de poils gris mêlés à un enduit gris-rougeâtre, qu'on trouvera probablement aussi sur les impressions de dessus dans les exemplaires frais. Tête couverte de rugosités allongées, les yeux très grands. Prothorax couvert d'une ponctuation irrégulière, assez fortement sillonné, un peu impressionné transversalement avant la base qui a un petit rebord formant triangle en face de l'écusson; près des angles antérieurs de chaque côté une callosité arrondie au dessous de laquelle se trouve une seconde callosité allongée, se dirigeant obliquement vers le centre; sur le disque deux très grandes callosités ovalaires, ces différentes callosités reliées parfois par d'autres plus petites. Elytres à stries régulières, les intervalles plans, plus ou

moins régulièrement ponctués, parfois ridés, les impairs ornés d'une rangée de fovéoles arrondies, le troisième le plus lisse, n'ayant guère de ponctuation en dehors des fovéoles, les épaules saillantes, le bord bisinué en dessous de l'épaule. Sternum orné de plaques lisses, le prosternum légèrement bituberculé en avant. Abdomen orné au milieu de rugosités lisses, les 2me, 3me et 4me segments ayant de chaque côté une callosité lisse, ovalaire, assez grande.

Cette espèce, originaire de la Caffrérie orientale (coll. de l'auteur) et d'Ovumbo (Musée de Leyde), est voisine du *P. 4-oculata* Boh., qui a à peu près les mêmes callosités prothoraciques, mais dont le prothorax est moins élargi en avant, à peine sillonné, et qui a les stries des élytres plus larges, dorées dans le fond, et les intervalles sans fovéoles. Elle appartient à la division indiquée par Mr. Thomson sous le nom de *Damarsila*.

NOTE XI.

DESCRIPTION D'UNE ESPÈCE NOUVELLE DE CÉRAMBYCIDE DE SUMATRA.

PAR

J. W. van LANSBERGE.

Aegosoma granuliferum, spec. nov.

Rufo-brunneum, pube flava tectum, elytris pedibusque dilutioribus, antennis scabris, capite rugoso, thorace medio opaco, lateribus scabro, elytris basi granulatis, bicostatis, circa scutellum costa abbreviata, apice medio breviter spinosis. — Long. 19 mm.

Brun, les élytres, les pattes et le bout des antennes fauves, recouvert en dessus et sur la poitrine de soies jaunes très caduques, ponctiformes sur les élytres, plus allongées sur la poitrine. Tête rugueuse, creusée entre les antennes et les yeux, ceux-ci largement séparés; épistome enfoncé, triangulaire; antennes courtes, à art. 1—5 fortement scabreux, les suivants mats, allant en s'élargissant, le dernier acuminé au bout. Prothorax trapézoïdal, aplati et mat sur le disque, granulé en avant et de côté, à angles postérieurs aigus, saillants, et base rebordée, faiblement bisinuée. Ecusson en fer de lance, scabreux et fortement villeux. Elytres couvertes de granulations très fortes à la base, allant en diminuant vers l'extrémité, mates, la suture brillante, les granulations sur les épaules et sur les côtes à la base plus fortes et brillantes; extrémité légèrement épineuse, la côte centrale seulement distincte, s'évanouissant avant l'extrémité, la côte intérieure réduite à un rudiment ne dépassant que peu l'écusson, la côte humérale

très faible mais cependant distincte, disparaissant un peu passé le milieu. Tarses courts, mais la longueur relative des articles la même que dans les autres espèces.

L'*Aegosoma granuliferum* a été trouvé à Tandjong Morawa (Sumatra orient.) par Mr. le Dr. B. Hagen. L'exemplaire qu'il en a envoyé au Musée de Leyde est une femelle. Le mâle aura, comme de raison, les antennes plus allongées, mais elles seront probablement comme celles de la femelle plus courtes et plus épaisses que celles des autres espèces. Le reste des caractères et le faciès étant cependant complètement ceux des *Aegosoma*, il n'y a pas lieu de l'en séparer.

NOTE XII.

COLÉOPTÈRES NOUVEAUX OU PEU CONNUS DU MUSÉE DE LEYDE.

DÉCRITS PAR

L. FAIRMAIRE.

Cebrionidae.

Cebriorhipis uniformis, n. sp.

Long. 13 millim. — Elongatus, modice convexus, rufus, modice nitidus, capite infuscato, fulvo-pubescens, subtus cum pedibus dilute rufescens, tarsis obscuris; capite summo fortiter punctato, antice transversim late impresso et subtilius sed densius punctato, labro rufescente, late sinuato; antennis paulo pallidioribus, basin prothoracis sat valde superantibus, flabellatis, flabello gracili, articulo longiore; prothorace elytris haud angustiore, antice parum attenuato, margine antico cum angulis late rotundato, margine postico utrinque fortiter sinuato, angulis posticis longe retroversis, gracilibus, sat acutis, basin elytrorum amplectantibus, dorso sat fortiter dense punctato, basi medio elevato, utrinque arcuatim leviter impresso; scutello ogivali, leviter concavo, subtiliter punctulato; elytris post medium attenuatis, dense sat fortiter punctatis, rugulosis, sed basi multo minus, sutura anguste et leviter elevata, utrinque lineolis vage elevatis, humeros versus oblonge sat fortiter impressis, margine

fulvo-ciliato; subtus pubescens, pectore dense, abdomine vix perspicue punctato, calcaribus posterioribus inaequalibus, externo breviore, leviter arcuato.

Hab. Chine: Amoy (Buddingh). — Un seul exemplaire.

Cet insecte ressemble extrêmement au *basipennis* Fairm., deSumatra; il s'en distingue par sa coloration uniforme, plus claire, la tête moins foncée, à impression antérieure bien moins triangulaire au sommet, l'écusson un peu plus large, plus ogival, les élytres un peu plus courtes, plus obtuses à l'extrémité, plus rugueuses, ayant, vers l'épaule, une impression allongée bien marquée, à peine indiquée chez le *basipennis*, et sur le disque quelques lignes un peu élevées, à peine distinctes. Quant aux antennes, la différence de longueur entre les deux espèces provient probablement de sexes différents.

Rhipidoceridae.

Callirhipis maculosa, n. sp.

Long. 16 à 19 millim. — Oblongo-elongata, fere elliptica, sat convexa, squalide picea, subopaca, capite prothoraceque dense fulvo-sericeis, elytris plagulis numerosis fulvo-sericeis marmoratis; capite rugoso-punctato, antice impresso et utrinque ante oculos acute angulato, inter antennas sulcatulo; antennis concoloribus, opacis, nudis, articulo 1° obscuro, sericeo, flabellis medium corporis paulo superantibus; prothorace transverso, antice angustato et convexo, postice ad scutellum foveis 2 oblongis, approximatis, utrinque sat fortiter impresso, disco paulo ante medium foveolis 2 sat minutis signato, margine postico ad scutellum sat acute emarginato, utrinque sinuato; scutello orbiculari, medio strigato; elytris fere a medio angustatis, sutura et utrinque costis 3 sat elevatis, 3ª post medium tantum distincta, ante apicem cum 2ª coeunte, basi prope scutellum costula brevissima, intervallis paulo inaequalibus, sat fortiter parum dense punctatis; subtus subtiliter densissime punctata; ♂.

Hab. Chine: Amoy (Buddingh). — Deux exemplaires.

Ce Callirhipis ressemble extrêmement au *C. Dejeanii* Latr., d'Amboine; il n'en diffère que par les antennes moins longues, ne dépassant pas les $^2/_3$ de la longueur du corps, tandis qu'elles atteignent au moins les $^4/_5$ chez le *C. Dejeanii*; en outre le corselet est rugueux, moins sinué sur les côtés, sans sillon médian, paraissant au contraire avoir au milieu de la base une petite ligne faiblement élevée entre les deux fossettes, la base est plus déprimée de chaque côté, le bord postérieur est plus largement et plus faiblement sinué de chaque côté; les élytres sont moins nettement marginées, plus fortement ponctuées, les côtés sont un peu plus saillantes surtout vers la base, et la petite côte juxta-scutellaire est distincte.

Callirhipis orientalis, Cast.
(Ann. Soc. Ent. France. 1834, p. 247).

Long. 14 millim. — Oblonga, postice leviter attenuata, modice convexa, piceo-brunnea, sat nitida, pube cinereo-fulva sat dense, elytris rarius vestita; capite dense punctato, fere rugoso, inter oculos vix impresso; antennis medium corporis parum superantibus, haud dilutioribus, articulo 1° dense punctato, palpis rufescentibus; prothorace transverso, a basi antice angustato, lateribus leviter arcuatis, dorso sat subtiliter dense rugosulo-punctato, antice convexo, postice planiusculo, basi medio leviter bifoveato, spatio intermedio paulo elevato, disco utrinque medio foveola sat profunda signato, margine postico ad scutellum integro et obsolete impresso, utrinque breviter sinuato; scutello subrotundo, ruguloso, dense transversim pubescente; elytris sat grosse punctatis, punctis sat irregulariter seriatis sutura et utrinque costulis 4 parum elevatis, externis basi obsolescentibus; subtus paulo magis picea, densius pubescens, subtiliter densissime punctulata; ♂.

Hab. Sumatra occ.: Benkoelen (Candèze). — Un seul exemplaire.

Cet individu est conforme au type de Castelnau; il m'a paru utile d'en redonner la description.

Le *C. angustior* Fairm. lui ressemble beaucoup: il est un peu plus petit, plus étroit, les 2 petites fossettes au milieu de la base du corselet sont plus faibles, l'espace intermédiaire ne parait pas relevé, l'écusson est moins arrondi, presque tronqué, couvert également d'une pubescence transversale partant du milieu, ce qui fait paraître une ligne longitudinale médiane; le 1er article des antennes est moins gros, moins fortement ponctué et proportionellement un peu plus long, les antennes sont un peu plus courtes.

Callirhipis impressicollis, n. sp.

Long. 14 millim. — Præcedenti simillima, postice magis attenuata, densius fulvo cinereo-pubescens, prothorace utrinque late impresso, foveolis præscutellariis fere nullis, margine postico ad scutello integro, utrinque profundius sinuato, angulis posticis minutis sed evidenter retroversis, scutello subquadrato, elytris fere a basi postice attenuatis.

Hab. Sumatra sept.: Atjeh (W. Albarda). — Un seul exemplaire.

Malgré sa ressemblance avec le *C. orientalis*, cette espèce en est bien distincte par ses élytres plus atténuées en arrière, et par l'impression large et bien marquée qui creuse le corselet de chaque côté en arrière; les fossettes préscutellaires sont à peine distinctes, transversales, derrière elles le milieu du bord postérieur est un peu relevé, entier; les fossettes dorsales sont perdues dans les larges impressions, mais on en aperçoit la place.

Callirhipis scutellata, n. sp.

Long. 12 millim. — Oblongo-elongata, postice leviter attenuata, castanea, nitida, glabra, elytrorum sutura margineque brunneis, scutello subrotundo, pube pallida densissime obtecto; capite sat dense punctato, antice fortiter impresso, oculis sat distantibus; antennis medium corporis

fere attingentibus, vix dilutioribus; prothorace a basi antice angustato, lateribus medio impresso, sinuato, convexo, antice rotundato, dorso subtiliter dense punctulato, basi ad scutellum foveolis 2, ante medium utrinque foveola profunde impresso, utrinque ante angulos posticos sat late depresso; elytris post medium angustatis, apice obtusis, sat dense mediocriter punctatis, sutura elevata, utrinque lineis 3 anguste et vix sensim elevatis; subtus dense fulvo-pubescens, metasterno profunde sulcato; ♂.

Hab. Sumatra or.: Tandjong Morawa, Serdang (Dr. B. Hagen). — Un seul exemplaire.

Cette espèce est facile à reconnaître par son écusson couvert d'une pubescence pale extrêmement serrée, le dessus du corps glabre, le corselet convexe, non déprimé à la base qui embrasse la base des élytres avec les angles postérieurs un peu prolongés en arrière. Elle se rapproche du *C. lineata*, dont elle diffère par le corps glabre, les fossettes du corselet plus marquées, les élytres moins fortement ponctuées avec des lignes à peine saillantes et non pubescentes.

Callirhipis lineata, Waterh.
(Trans. Ent. Soc. Lond. 1877, p. 387).

Long. 10 à 11 millim. — Elongata, postice attenuata, modice convexa, castaneo-rufescens, nitida, antennis dilutioribus, prothorace parum dense griseo-cinereo sericante, basi densius, elytris sutura et utrinque lineis 4 (1ª brevissima) dense griseo-cinereo sericeis; capite sat dense punctato, antice profunde foveato, epistomate valde impresso, antice sinuato et utrinque acute angulato; antennis medium corporis haud superantibus; prothorace antice a basi attenuato, antice rotundato, angulis posticis brevibus, acutiusculis et retroversis, dorso dense parum fortiter punctato, foveolis dorsalibus sat impressis, scutellariis fere obsoletis; scutello subrotundato, depresso; elytris ante medium postice attenuatis, fortiter lineato-punctatis, punctis apicem versus sat irregularibus, intervallis subtilissime punctulatis,

sutura et utrinque lineis 4 vix elevatis; subtus subtiliter dense punctata et pubescens; ♂.

Hab. Sumatra or.: Tandjong Morawa, Serdang (Dr. B. Hagen). — Cinq exemplaires.

C'est avec un peu de doute que je rapporte cet insecte au *C. lineata* Waterh., de Bornéo; la taille, la coloration, les lignes de pubescence sont à peu près les mêmes; mais dans notre espèce la tête présente, au dessous des antennes, une impression assez profonde, avec les angles du chaperon dentiformes, et non une petite plaque lisse. Les fossettes discoïdales sont bien distinctes, tandis que les scutellaires sont peu marquées; les élytres présentent 4 lignes pubescentes chez les individus très frais, la 1ère vers l'écusson fort courte; cette pubescence soyeuse est plus épaisse à la base de ces lignes, dont la suturale, la 1e et la 2e sont, le plus souvent, seules distinctes. Les yeux sont un peu recouverts par un lobe que forment les angles du corselet.

Callirhipis laticeps, n. sp.

Long. 10 millim. — Præcedenti affinis, et similiter colorata, sed magis angustior et elytris haud vittatim pubescentibus, capite latiore, oculis partem prothoraces anticam paulo superantibus facile dignoscenda; capite dense subtiliter punctato, summo breviter sulcato, antice transversim impresso, antennis articulo 1° valde arcuato; prothorace parum transverso, antice parum attenuato, lateribus fere rectis, dorso subtiliter densissime punctato, utrinque medio ad latera transversim impresso, disco utrinque foveola minuta signato, antice medio sulcatulo, basi medio late foveato, utrinque obsolete impresso, margine postico medio et utrinque leviter sinuato; scutello subrotundato, fere lævi; elytris ante apicem attenuatis, sat dense seriatim crenato-punctatis, intervallis longitudinaliter anguste convexiusculis, sutura vix elevata; subtus densissime subtilissime punctata, pubescens, metasterno medio glabro, laxe grosse punctato; tibiis posterioribus apice inermibus; ♂.

Hab. Sumatra mer.: Soekadana, Lampongs (J. C. van Hasselt). — Un seul exemplaire.

Ressemble au *C. lineata*, mais la tête est plus large, les yeux paraissent plus gros, n'étant pas couverts en partie par les angles du corselet, ce dernier a une forte impression transversale sur le milieu des côtés et est à peine sinué de chaque côté de la base.

Callirhipis pinguis, n. sp.

Long. 23 millim. — Oblongo-elliptica, crassa, valde convexa, castanea, nitida, glabra, capite prothoraceque paulo obscurioribus, palpis antennisque dilutioribus; capite punctato-rugosulo, inter oculos late sat fortiter impresso; antennis brevibus, basin prothoracis vix superantibus, flabellis modice elongatis; prothorace transverso, a basi antice angustato, lateribus medio leviter sinuatis, margine antico valde arcuata, dorso antice gibbosulo, sat dense punctato, postice rarius ac tenuius, basi medio fortiter oblonge bifoveato, utrinque ante angulos late impresso, disco medio utrinque fovea profunda subovata signato, margine postico ad scutellum fortiter emarginato, bilobato, utrinque sat fortiter sinuato; scutello fere rotundo, depresso, subtiliter punctato; elytris amplis, apice obtusis, sutura et utrinque costulis 4 sat elevatis, costula 1ª paulo post medium suturam attingente, 2ª longiore, ante apicem cum 4ª coeunte, 3ª 4ª que basi paulo obsoletis et connexis, apice coeuntibus, intervallis fortiter dense punctatis, paulo inaequalibus et rugosulis; subtus subtiliter densissime punctata; ♀.

Hab. Chine: Amoy (Buddingh). — Un seul exemplaire.

La taille de cet insecte et la forme des côtes sur les élytres le rendent facile à distinguer, bien que ce soit une ♀. Le *C. gausapata* Waterh., de Burmah, qui semble s'en rapprocher, est encore plus grand (26 millim.), le corselet est noir, la tête n'a pas d'impression au sommet, le corselet est régulièrement arqué sur les côtés, la base n'offre au milieu que 2 faibles impressions et n'en a pas vers les angles, les élytres ont des points étoilés et leurs côtes sont à peine distinctes.

Homœorhipis, n. g.

Ce nouveau genre a la plus grande ressemblance avec les *Callirhipis*, mais il se distingue facilement par les yeux moins gros, plus écartés, les articles des antennes allongés et non courts et serrés, le corselet plus convexe dans sa partie postérieure, les élytres sans côtes, les 4 tibias antérieurs très finement crénelés au bord interne et les tarses un peu comprimés, le 4e article plus long que les précédents réunis. Le corps est un peu plus épais, plus convexe, et les élytres sont moins longues, moins atténuées presque dès la base. Leurs yeux sont bien moins gros, plus écartés, et les flabelles des antennes sont moins longues, surtout les premières qui sont toujours plus courtes. Le faciès de ces insectes et leur système de coloration rappellent certains Eucnémides et diffèrent assez notablement de ceux des *Callirhipis*.

Homœorhipis croceosellata, n. sp.

Long. 14 millim. — Oblonga, convexa, fusca, nitida, glabra, abdomine et elytrorum vitta media lata, transversali aurantiacis, prothorace ad angulos posteriores macula similiter colorata sed vage limitata signato; capite dense fortiter punctato, medio sulco basi profundo, inter oculos transversim impresso, antice concavo, apice truncato; antennis medium corporis haud attingentibus, fuscis, opacis, articulo 1° excepto, parum longe flabellatis; prothorace subconico, a basi attenuato, antice rotundato, angulis anticis breviter acutis, dorso dense punctato, basi medio late foveolato, et utrinque leviter impresso, ante medium utrinque sat profunde foveato, antice medio leviter sulcato, margine postico ad scutellum breviter emarginato, utrinque sinuato; scutello leviter concavo, subtiliter punctulato; elytris ante apicem attenuatis, apice conjunctim obtuse rotundatis, dorso grosse subseriato-punctatis, punctis ocellatis, fere ovatis, sutura et utrinque lineis 3 leviter elevatis; subtus subtili-

ter densissime punctata; pedibus sat brevibus, validiusculis; ♀.

Hab. Sumatra (S. Müller). — Un seul exemplaire.

Homœorhipis mesomelæna, n. sp.

Long. 12 millim. — Oblonga, convexa, ochreo-aurantiaca, parum nitida, pube fulvescente subtili vestita, elytris fuscis, tibiis apice tarsisque infuscatis, unguibus ochraceis; capite fusco, antice ochraceo, sat fortiter dense punctato, summo medio sulcato, inter oculos leviter impresso, epistomate fere truncato, leviter elevato; antennis, articulo 1° excepto, opacis et paulo dilutioribus, medium corporis superantibus, articulis oblongis, haud appressis, longe flabellatis; prothorace ante medium antice attenuato, parum fortiter dense punctato, medio sulcatulo, sulco basi foveolato, dorso utrinque foveato et ad latera foveato-impresso, antice convexo, margine postico ad scutellum breviter emarginato, utrinque late sinuato, angulis posticis breviter acutiusculis; scutello aurantiaca, fere circulari, depresso; elytris grosse lineato-punctatis, intervallis convexiusculis, sed costis vix sensim distinctis, sutura paulo elevata; subtus subtilissime dense punctulata; ♂.

Hab. Sumatra (S. Müller). — Un seul exemplaire.

Cette espèce est remarquable par sa coloration qui rappelle celle de la variété *mesomelas* du *Campylus linearis*, et surtout par la forme allongée des articles des antennes qui sont deux fois aussi longs que larges et non serrés et courts comme chez les vrais *Callirhipis*. Le corselet est un peu différent à cause des fossettes latérales qui rendent les côtés un peu sinués; les yeux sont aussi bien moins gros et plus écartés.

Homœorhipis usta, n. sp.

Long. 10 millim. — Oblonga, convexa, ochraceo-flavida, modice nitida, subtiliter fulvo-pubescens, capite nigro, elytris apice macula nigra signatis, tibiis apice late tarsisque

fuscis, unguibus rufis; capite dense punctato, summo longitudinaliter valde sulcato, antice transversim impresso; antennis medium corporis paulo superantibus, longo flabellatis; prothorace brevi, antice angustato, lateribus basi fere parallelis, medio leviter sinuatis, margine antico rotundato, angulis valde deflexis, breviter acutis, dorso subtiliter sat dense punctato, medio utrinque transversim profunde sulcato, medio parum profunde striato, basi medio profunde foveato, utrinque ante angulos leviter transversim impresso, margine postico fusco anguste marginato, ad scutellum emarginato, utrinque late sinuato; scutello breviter ovato, depresso, fere laevi; elytris punctis grossis seriatis, utrinque lineis tribus vage longitudinaliter elevatis, sutura sat fortiter convexo; subtus densissime punctulata; ♂.

Hab. Sumatra (S. Müller). — Un seul exemplaire.

Distinct des précédents, en outre de la taille et de la coloration, par la sculpture du corselet qui est bien plus fine.

Genre *Simianus*, Blanch.
(Voy. Pôle Sud, p. 82).

Ce genre, que l'on a réuni aux *Callirhipis* dans le Catalogue de Munich, me paraît pourtant en différer notablement par la tête moins verticale, saillante, les yeux bien plus petits quoique très saillants, bien plus écartés entre eux et ne touchant pas le bord du corselet, les antennes à articles allongés, les élytres parallèles, arrondies à l'extrémité, à côtes plus nombreuses, saillantes; le 5e article des tarses est au moins aussi long que les précédents réunis. Ce caractère distingue ce genre du G. *Ennometes* Pasc., qui lui ressemble pour le faciès et pour les articles allongés des antennes, mais ces dernières n'ont pas les flabelles aussi développés que chez les *Simianus*. Les mêmes caractères qui séparent le G. *Simianus* des *Callirhipis* le distinguent aussi des *Homœorhipis*, sauf l'allongement des articles des antennes qui est à peu près le même; les élytres sont aussi moins solides, moins atténuées et plus arrondies en arrière, avec des côtes plus nombreuses et plus saillantes.

Simianus terminatus, n. sp.

Long. 9 millim. — Elongatus, subparallelus, sat convexus, rufus, opacus, elytris apice plus minusve infuscatis, sericeo pubescens, subtus cum pedibus fuscus, nitidior, abdomine obscure rufescens; capite obliquo, basi utrinque macula sat magna, antice macula subtriangulari rufis, dense punctato, æquali, summo medio breviter sulcatulo, antice haud concavo, oculis globosis, valde distantibus; antennis medium corporis valde superantibus, articulo 1° arcuato, intus ciliato, flabellis modice elongatis, articulis 2 aut $2^1/_2$ haud longioribus; prothorace elytris angustiore, antice attenuato, angulis anticis valde deflexis, margine infero utrinque spinula acuta verticali armato, dense subtiliter rugosulo, utrinque medio sat fortiter impresso, pleuris impressis, margine postico medio acute emarginato, utrinque sinuato, angulis posticis haud retroversis, basi media impressiuscula; scutello orbiculari; elytris parallelis, postice vix ampliatis, apice conjunctim rotundatis, sutura et utrinque costulis 4 sat elevatis, externis parum distinctis, his costis cum intervallis basi dense pubescentibus, intervallis sat fortiter seriatopunctatis; subtus subtiliter pubescens, femoribus intus dense pubescentibus.

Hab. Sumatra orient.: Tandjong Morawa, Serdang (Dr. B. Hagen). — Un seul exemplaire.

Lymexylonidae.

Hylecœtus javanicus, Chevr.
(Icon. Règ. Anim. p. 57, pl. 16, fig. 9).

Long. 15 à 16 millim. — Filiformis, cylindricus, piceus, sat nitidus, elytris fulvo-piceis, interdum basi obscuris, capite, prothorace scutelloque dense sericeis; oculis magnis, antice contiguis; antennis medium prothoracis superantibus, acute serratis, articulis penultimis angustioribus, ultimo graciliore, acuminato; prothorace latitudine longiore, antice

paulo latiore, margine antico arcuato, basi fere truncato, angulis rectis, dorso laevi; scutello oblongo-quadrato, truncato; elytris valde elongatis, prothorace vix latioribus, ad humeros valde rotundatis, apice obtuse rotundatis, subtiliter alutaceis et basi subtilissime punctulatis, sutura et utrinque lineolis 2 vix elevatis, postice obliteratis; subtus cum pedibus fulvo-picescens, tarsis filiformibus, longissimis.

Hab. Nouv. Guinée sept.: Andai (v. Rosenberg) et Sumatra orient.: Tandjong Morawa, Serdang (Dr. B. Hagen). — Quatre exemplaires.

Ces individus correspondent à la description de Chevrolat, qu'il m'a paru utile de refaire à cause de sa brièveté.

Cet *Hylecœtus* est bien plus filiforme que notre *dermestoides*; il est remarquable par la pubescence soyeuse qui recouvre la tête et les côtés du corselet, moins apparente sur le dos; les palpes et les antennes sont semblables dans les deux sexes; seulement chez les ♀ l'abdomen dépasse les élytres, dont les petites côtes sont un peu plus marquées chez les ♂.

Hylecœtus lateritius, n. sp.

Long. 10 millim. — Filiformis, rufotestaceus, subtiliter fulvo-sericans, capite prothoraceque opacis, hoc lateribus fusco sat late marginato, elytris dilutioribus, nitidulis, basi extus infuscatis, corpore subtus cum pedibus dilutiore, nitidiore, segmento abdominali ultimo supra lateribus et apice infuscato; antennis brevibus, medium prothoracis haud attingentibus, sat angustis, serratis, articulo ultimo longiore, acuminato; prothorace oblongo, lateribus fere parallelis, ad angulos anticos tantum obliquatis, vix rotundatis, margine postico fere recto, ante angulos posticos vix sinuato, angulis subacutis, dorso subtilissime dense asperulo, margine laterali carinata; scutello truncato; elytris apice angustatis et obtusis, subtilissime dense asperulo punctulatis, abdomine haud brevioribus, utrinque lineolis 2 obsoletissime elevatis; abdomine apice paulo latiore, tarsis filiformibus, valde elongatis.

Hab. Suriname (Dr. H. ten Kate). — Un seul exemplaire.

Le *H. brasiliensis* Lap. est bien plus grand (18 mill.), d'un brun clair avec les élytres jaunâtres, le corselet très long, relevé en avant, et les antennes fortement pectinées. Dans notre espèce ces dernières sont assez étroites, seulement dentées en scie, les articles paraissant plus aigus à l'angle apical parce qu'il est prolongé par quelques poils.

Melandryidae.

Dapsiloderus, n. g.

Caput basi haud angustatum, breve. Oculi sat minuti, transversim reniformes. Anteunæ ante oculos sub frontis margine insertæ, medium corporis attingentes, articulis 3--10 latis, valde compressis, apice angulatis, 11° præcedenti paulo angustiore, appendiculato. Labrum transversum. Palpi maxillares elongati, compressi, sat lati, articulo ultimo ovato, penultimo breviore. Prothorax transversus, elytris fere latior, lateribus rotundatus et marginatus. Scutellum subquadratum. Elytra elongata, costata. Coxæ anticæ valde prominentes et intermediæ contiguæ, posticæ vix separatæ. Pedes validi, femoribus latis, paulo compressis, tibiis anticis apice bimucronatis, posterioribus longioribus, tarsis sat elongatis, subtus dense pubescentibus, anticis latioribus, 4 posticis tibiis longioribus, articulo 1° ceteris conjunctis longiore, penultimo apice leviter emarginato, ultimo angusto, integro, unguibus simplicibus. Abdomen 5 segmentis compositum.

Au premier abord le faciès de cet insecte rappelle les *Pseudolycus*; mais la conformation de la tête, des palpes, du corselet, ne permet pas de le classer parmi les Oedémerides et sa place me parait être avec les Mélandryides près des *Hypulus*, les éperons des tibias étant assez courts et robustes.

Dapsiloderus costipennis, n. sp.

Long. 15 millim. — Elongatis, subparallelus, apice tantum angustatus, niger, sat nitidus, prothorace elytrisque

miniaceo-rufis, opacis, his apice nigris, capite summo maculis 2 miniaceo-rufis; capite antice truncato, inter oculos impresso; antennis opacis, articulo 1° mediocri, leviter arcuato, 2° minutissimo, ceteris æqualibus; prothorace antice et basi æqualiter angustato, lateribus cum angulis anticis rotundatis, basi recta, angulis breviter retroversis, antice medio depresso et linea nigra impressiuscula, basi obsolete triimpresso, lateribus extus rotundatis, infra marginatis; scutello sat lato, truncato; elytris parallelis, elongatis, ante apicem tantum angustatis, apice separatim rotundatis, sutura et utrinque costis 4 sat elevatis, 1ª longiore, 3ª externa parum distincta, medio obliterata, 4ª submarginali sat elevata, intervallis concavis, subtiliter alutaceis; subtus subtilissime pubescens, metasterno medio glabro, nitido, medio impressione oblonga acute marginata signato.

Hab. Sumatra orient.: Tandjong Morawa, Serdang (Dr. B. Hagen). — Un seul exemplaire.

La coloration de cet insecte est analogue à celle du *Simianus terminatus*, mais c'est le seul rapport qui existe entre les deux espèces.

Lagriidae.

Casnonidea variipennis, n. sp.

Long. 18 millim. — Elongata, convexa, piceo-brunnea, modice nitida, elytris ante medium plaga communi transversa fulva, valde dentata, marginem haud attingente signatis, post medium fulvis, intervallis alternatim maculis parvis brunneis variegatis, ore magis piceo; capite antice tantum punctatulo, inter oculos sat fortiter sulcato, oculis valde approximatis, sulco clypeali arcuato profundo; antennis dimidium elytrorum attingentibus, articulo ultimo 4 præcedentibus conjunctis fere æquali; prothorace elytris dimidio angustiore, lateribus antice arcuatis, basi sinuatis, margine postico valde elevato, angulis posticis extus fortiter productis, dorso sat fortiter sat dense punctato, obso-

letissime biimpresso; scutello lævi, apice puncto impresso; elytris elongatis, post medium leviter ampliatis, fortiter ac dense crenato-striatis, intervallis convexis, punctis piligeris alternatim laxe seriatis, apice obliqne truncato, angulo suturale dente acuto terminato, externo obtuso; subtus nitidior, pectore lateribus sat fortiter punctato.

Hab. Sumatra orient.: Tandjong Morawa, Serdang (Dr. B. Hagen). — Un seul exemplaire.

Cette espèce ressemble extrêmement au *C.* (*Nemostira*) *uncipennis* Fairm., du même pays; elle en diffère, outre la coloration, par le corps plus convexe dans le sens de la longueur, la tête fortement sillonnée entre les yeux, les élytres un peu plus courtes, simplement tronquées et non échancrées à l'extrémité; leur sculpture est identique, mais l'angle externe de la troncature apicale est obtus.

Malgré la ressemblance de ces insectes avec les *Nemostira* de Madagascar, ils doivent rentrer dans le genre *Casnonidea* avec les *N. truncata* et *crenatostriata* Fairm., de Sumatra et de Saleyer.

Ces grandes espèces ont un faciès un peu différent des *C. holomelæna* et *atriceps* Fairm., mais leurs caractères s'accordent avec ceux de ces dernières. Chez les vrais *Nemostira* les yeux se rejoignent en dessous, et la saillie intercoxale de l'abdomen est largement tronquée, tandis que dans le genre *Casnonidea* les yeux, quoique gros, sont notablement écartés en dessous et que la saillie intercoxale est étroite, parfois aiguë, se prolongeant au delà des hanches postérieures dans une échancrure du métasternum. En outre l'épistome est un peu rétréci en avant et le labre assez fortement rétréci à la base, ce qui laisse à découvert une assez notable portion des mandibules qu'on voit à peine chez les *Nemostira*.

Casnonidea apicicornis, n. sp.

Long. 9 millim. — Elongata, convexa, valde nitida, fusco-cœrulescens, elytris cyaneis, pedibus, palpis antennisque

piceo-brunneis, his articulo ultimo lacteo, penultimo apice pallidiore; capite lævi, inter oculos impresso, his minus approximatis, sulco clypeali valde impresso; antennis medium corporis attingentibus; prothorace elytris dimidio angustiore, longitudine latiore, lateribus ante basin sinuatis, margine postico elevato, angulis extus productis, dorso lævi, ante medium utrinque puncto impresso; scutello ovato, impresso; elytris apice valde obtusis, fortiter ac dense striato-crenatis, striis postice minus impressis, intervallis sat angustis, convexis, lævibus, suturali tantum punctis piligeris valde distantibus impresso; pectoris lateribus grosse punctatis, abdomine ad latera minus punctato.

Hab. Sumatra orient.: Tandjong Morawa, Serdang (Dr. B. Hagen). — Un seul exemplaire.

Cette jolie espèce est remarquable par la coloration du dernier article des antennes.

Casnonidea nucea, n. sp.

Long. 7 millim. — Oblonga, postice paulo ampliata, sat convexa, brunneo-castanea, nitida, pilis griseis longe parum dense hirta, capite inter oculos puncto parum impresso et ad oculos puncto piligero signato, labro rufo-testaceo, basi punctato et vix angustato; antennis sat gracilibus, medium corporis haud attingentibus, articulo ultimo duobus penultimis conjunctis vix aequali; prothorace capite vix, sed elytris dimidio angustiore, ante basin sat fortiter constricto, lateribus ad angulos anticos valde rotundatis, dorso fere lævi, medio sparsim punctulato, lateribus magis punctato, basi transversim impresso, margine postico reflexo; scutello triangulari-ovato, apice truncato, lævi; elytris postice leviter ampliatis, apice conjunctim obtusis, dorso sat fortiter crenato-striatis, striis postice profundioribus, punctis minoribus, intervallis convexiusculis, punctis piligeris distantibus impressis; subtus lateribus punctata.

Hab. Sumatra orient.: Tandjong Morawa, Serdang (Dr. B. Hagen). — Un seul exemplaire.

Cette espèce se rapproche du *C. crenatostriata* Fairm. par ses élytres hérissées de poils et obtuses à l'extrémité, et par le dernier article des palpes maxillaires moins cultriforme; les yeux sont plus visiblement échancrés que chez les autres espèces et le labre est plus court.

Cantharidae.

Zonitis holoxantha, n. sp.

Long. 11 millim. — Oblonga, postice ampliata, convexa, tota flava, nitida, mandibulis apice fuscis; capite ovato, antice angustato, punctato, basi densius, labro angusto, obscuro, epistomate transversim impresso; antennis sat gracilibus, articulis 2° 3°que æqualibus, sequentibus paulo brevioribus; prothorace elytris valde angustiore, latitudine vix longiore, antice a medio sat fortiter angustato, dorso punctato, antice paulo minus, medio obsolete impresso, margine postico leviter elevato, angulis posticis paulo exsertis; scutello dense punctato, medio impresso, apice valde obtuso; elytris densissime punctatis, unde minus nitidis, sutura et utrinque lineolis 3 anguste vix elevatis, externa vix distinguenda; subtus cum pedibus subtilissime ac densissime punctulata.

Hab. Sumatra orient.: Tandjong Morawa, Serdang (Dr. B. Hagen). — Un seul exemplaire.

Oedemeridae.

Ananca sculpticollis, n. sp.

Long. 19 millim. — Elongata, convexiuscula, obscure castanea, subtiliter sat dense griseo-sericans, parum nitida; capite inter oculos impressione sat profunda, antice prolongata et dilatata signato, postice transversim impresso; mandibulis apice fuscis; antennis corporis medium superantibus, articulo primo leviter arcuato, secundo tertioque con-

junctis æquali, hoc quarto valde longiore, articulis 4—11 æqualibus; prothorace latitudine antica haud longiore, a basi antice latiore, lateribus fere rectis, basi abrupte constrictis, emarginatis, angulis posticis extus productis, dorso medio late longitudinaliter impresso, hac impressione basi profundiore ac dilatata, margine antico sulco transverso intus limitato, utrinque antice impressione lata, extus dentata et postice spatio leviter elevato, ruguloso, sat abrupte limitato; scutello minuto, obtuso; elytris medio paulo ampliatis, apice angustatis, angulo suturali acute spinoso, dorso subtiliter densissime granulatis, sutura et utrinque costis 2 sat acute elevatis, his postice obsoletis; subtus densius pubescens.

Hab. Sumatra orient.: Tandjong Morawa, Serdang (Dr. B. Hagen). — Un seul exemplaire.

Cet insecte, qui se retrouve en Cochinchine, est remarquable par la sculpture du corselet et surtout par l'épine aiguë qui termine la suture de chaque côté; les côtes bien marquées des élytres ne se retrouvent guère chez les autres espèces du genre.

NOTE XIII.

DESCRIPTION D'UN GENRE NOUVEAU ET DE SIX ESPÈCES NOUVELLES DE SCARABAEIDES DES INDES ORIENTALES.

PAR

J. W. van LANSBERGE.

Coprini.

Onthophagus Castetsi, spec. nov.

Ovatus, sat convexus, niger, antennarum clava grisea, subtus rufopilosus; capite semicirculare, clypeo medio subrecto, rugoso, occipite bituberculato, tuberculis juxta oculos sitis; thorace rugoso-punctato, antice tuberculis duobus approximatis armato; elytris fortiter striatis, striis transverse punctatis, interstitiis valde convexis. Fem. — Long. 8 mm.

De forme ovalaire, brillant, entièrement noir, la massue des antennes grise, le sternum et les pattes ciliés de brun fauve. Tête rugueuse, les rugosités transversales sur le chaperon; celui-ci semicirculaire, mais presque droit dans son milieu, sans vestige de séparation frontale; entre les yeux deux tubercules coniques largement séparés entre eux. Prothorax convexe, assez large, couvert de gros points confluents en avant, non rebordé à la base, ses bords latéraux dilatés et abaissés, sinués près de la base; près du bord antérieur deux tubercules situés en face de ceux de la tête. Elytres dilatées en dessous de l'épaule, puis allant en se rétrécissant assez fortement, fortement striées, les stries ornées de points transversaux entamant les intervalles; ceux-ci très convexes, ayant quelques points espacés, irréguliers.

Pygidium fortement ponctué. Pattes et tarses courts mais solides, métatarse unidenté. Femelle.

Hab. Indes orientales: Monts Kodeicanel. — Trouvé par M. J. Castets auquel il est dédié.

Facilement reconnaissable aux quatre tubercules de la tête et du corselet, et à ses élytres fortement striées. Cette espèce ne se rapproche d'aucun autre Onthophagus décrit [1]).

Cetonini.

Clinteria valida, spec. nov.

Vicina C. guttiferae Burm. sed major, aliter colorata. Obscure viridi-cyanea, nigricans, opaca, subtus nitida, epimeris, elytris abdomineque aurantiaco-maculatis. — Long. 18—20 mm.

De forme massive, d'un vert bleuâtre très foncé, presque noir dans quelques exemplaires, mat en dessus, brillant en dessous. Tête finement ponctuée, à chaperon profondément échancré, ayant une élévation longitudinale qui part du bord postérieur et continue, en s'élargissant toujours, jusqu'à l'extrémité du chaperon qu'elle occupe entièrement. Prothorax à ponctuation nulle au milieu, espacée de côté, notablement plus large que long. Elytres légèrement cunéiformes, largement arrondies à l'extrémité, à suture et côtes peu saillantes, les stries et le bord ornés de points larges mais peu profonds; sur le disque vers le milieu deux assez grandes taches lunulées, un peu plus bas vers le bord extérieur deux petites taches, et vers l'extrémité, en

1) Au moment de mettre sous presse, je reçois de Mr. R. Oberthür le mâle de cette espèce dont je n'avais décrit que la femelle. Il s'en distingue par les caractères suivants: Chaperon presque lisse, non séparé du front lequel n'a également aucun vestige de ponctuation; entre les yeux et tout près de ceux-ci deux cornes obliques et droites dans leur partie basale, puis courbées en avant et arquées dans leur moitié terminale, joues fortement ponctuées. Prothorax ayant en avant, en face des cornes céphaliques, deux carènes qui partent du bord antérieur, se dirigent en haut où elles se terminent par un tubercule, et forment entr'elles et autour d'elles trois impressions lisses et brillantes.

face du callus apical, une quatrième tache arrondie, toutes ces taches de couleur orange velouté, de même que celles qui se trouvent sur les épimères mésothoraciques. En dessous sur les épisternes et sur chacun des segments de l'abdomen une tache analogue. Sur le pygidium deux petits traits transversaux près de la base de même couleur et qui manquent chez la femelle. Saillie mésothoracique très massive, en cone dirigée en bas.

Très voisin du *C. guttifera* Burm., mais plus massif, la couleur différente, le prothorax plus court et sans les taches qui parfois ornent le *guttifera*, les taches des élytres, des épimères et de l'abdomen oranges et non jaunes, les taches latérales des élytres les plus petites, tandis qu'elles sont les plus grandes dans le *guttifera*. Dans cette dernière espèce le pygidium a en outre de chaque côté une grande tache, tandis que dans le *C. valida* il y a deux petits traits à la base. Enfin la saillie mésothoracique est plus grande et plus épaisse dans le *C. valida*.

Hab. Indes orientales: Monts Kodeicanel (Castets).

Taeniodera crucicollis, spec. nov.

Nigra, opaca, elytris rufis aut nigris, quadri nigro-vittatis; capite vittis duobus cervinis, thorace lateribus cruceque media cervinis, elytris cervino variegatis, subtus nitida, flavo-variegata. — Long. 14 mm.

Noir, opaque en dessus, brillant en dessous, les élytres parfois fauves avec deux bandes noires, l'une discoïdale se réunissant vers le milieu avec celle de l'autre élytre et n'atteignant pas l'extrémité, l'autre allant de l'épaule parallèlement au bord extérieur et n'atteignant pas non plus l'extrémité; tout le corps orné ça et là de taches testacées en dessus, jaunâtres en dessous. Tête à chaperon élargi, faiblement sinué, ornée de deux bandes longitudinales enfoncées jaunes. Prothorax un peu moins long que large, à bords parallèles, médiocrement rétréci en avant, lobe basal large, assez fortement impressionné, orné de chaque

côté d'une bande testacée qui n'atteint pas la base, et au milieu de deux bandes obliques qui se rejoignent vers les deux tiers, de manière à former un V dont les deux jambes sont continuées en arc jusque vers la base de manière à former une espèce de croix $\overset{V}{\cap}$. Ecusson allongé, testacé. Elytres du double plus larges à la base que le prothorax, à bords droits, médiocrement rétrécies vers l'extrémité, les côtes peu prononcées, les mouchetures testacées plus nombreuses sur les parties noires et le long de la suture, formant vers les bords latéraux deux ou trois petites bandes transversales et près de l'extrémité autour de la suture une espèce de croix; ponctuation invisible. Pygidium striolé transversalement, à fond jaune soyeux, orné de deux taches noires. Sternum densément ponctué; abdomen presque lisse au milieu; taches rebordant les différentes parties de la poitrine et de l'abdomen formant sur celui-ci de chaque côté deux rangées.

Hab. Indes orientales: Monts Kodeicanel (Castets).

Taeniodera Oberthüri, spec. nov.

Nigra, *sericea*, *capite utrinque albovittato*; *thorace vittis griseis quatuor*, *quarum duobus mediis obliquis*, *scutello basi apiceque griseo*, *elytris juxta suturam griseo maculatis*, *maculis fascia arcuata simulantibus*, *lateribus et postice nonnullis maculis griseis*, *pygidio vix maculato*, *pectore abdomineque nitidis*, *albo-maculatis*. — Long. 16 mm.

Noir, à reflets métalliques bronzés, soyeux en dessus, brillant en dessous, ayant ça et là des taches grises. Tête fortement ponctuée, carénée longitudinalement, le chaperon distinctement bilobé, dilaté; de chaque côté une ligne plus ou moins interrompue de poils blanchâtres. Prothorax heptagonal, presqu'aussi long que large, légèrement dilaté à la base, les angles postérieurs abaissés, au milieu une impression longitudinale large, peu distincte au sommet, mais s'élargissant notablement vers la base dont le lobe est assez prononcé, presque droit au milieu; de chaque

côté un bourrelet oblique se dirigeant vers le milieu du disque et limitant l'enfoncement basal; le centre presque lisse, les bords couverts de gros points squamiformes, sur le disque deux bandes longitudinales blanchâtres partant du sommet, se rapprochant vers le milieu, puis s'éloignant un peu dans l'enfoncement basal; de chaque côté une bande latérale moins distincte, située dans un enfoncement parallèle au bord. Ecusson entouré de taches grises. Elytres beaucoup plus larges que le prothorax à la base, allant en se rétrécissant assez fortement vers l'extrémité, à épaules arrondies et côtes distinctes, lisses, la ponctuation se composant de stries longitudinales aciculées en dedans des côtes et de rides transversales saillantes en dehors de celles-ci; autour de l'écusson un bord gris, vers le milieu deux bandes obliques un peu arquées, se rejoignant vers la suture et un peu plus bas deux taches de même couleur; à l'extérieur des côtes quelques taches transversales. Pygidium avec une raie longitudinale grisâtre. Dessous du corps brillant, orné de taches d'un blanc jaunâtre, la poitrine ornée en outre de poils gris, à ponctuation espacée au milieu, squamiforme latéralement.

Cette jolie espèce est également originaire des Monts Kodeicanel, où elle a été trouvée par Mr. J. Castets. L'exemplaire décrit provient de Mr. R. Oberthür auquel je me fais un plaisir de dédier l'espèce.

Taeniodera humilis, spec. nov.

Lata, nigra, nitida, undique squamoso-rugulata, capite viridi micante, punctato, glabro, thorace toto indumento brunneo-testaceo plus minusve obtecto, elytris latis, parallelis, eodem indumento tectis, costis glabris, pygidio utrinque griseo-maculato, abdominis segmentis albo-marginatis. — Long. 17—18 mm.

Noir, brillant, à reflets bronzés, la poitrine et les pattes ciliées de testacé. Tête densément ponctuée, presque glabre, ayant une élévation longitudinale, le chaperon dilaté

au bout, sinué de manière à former deux lobes arrondis et marginés. Prothorax un peu plus large que long, parallèle dans sa moitié postérieure, s'arrondissant en avant à partir du milieu, les angles postérieurs droits, le lobe basal large, plus rond que triangulaire, la dépression discoïdale large et peu prononcée, la surface couverte de rides squamiformes et d'un enduit gris-brunâtre. Ecusson en triangle allongé, à surface égale à celle du prothorax. Elytres beaucoup plus larges que le prothorax, planes, à peine rétrécies à l'extrémité, faiblement échancrées près de la suture, à épaules arrondies et sinus latéral peu profond, la côte extérieure lisse, très prononcée, l'intérieure se terminant un peu au dessous de l'écusson, le reste couvert de rides squamiformes et d'un enduit gris-brunâtre, plus dense autour de la suture et vers l'extrémité, et formant deux taches latérales vers le tiers et les deux tiers. Pygidium à rides transversales, lisse, avec une petite tache de chaque côté. Dessous du corps brillant, faiblement ponctué et ridé; de chaque côté de l'abdomen une double rangée de taches transversales jaunâtres.

Hab. Indes orientales: Monts Kodeicanel (Castets).

Gnorimidia, gen. nov.

Voisin des *Macronota* mais ayant le faciès d'un *Osmoderma* ou d'un *Gnorimus*. Bouche et antennes des *Macronota*. Chaperon court, fortement dilaté et arrondi en avant. Prothorax aussi long que large, non dilaté à la base, celle-ci formant un lobe très large mais peu prononcé. Ecusson très grand, en triangle allongé. Elytres beaucoup plus larges que le prothorax, planes, à bords à peu près parallèles et sinus latéral à peine visible, épaules non saillantes, épimères mésothoraciques formant un gros bourrelet en avant de l'épaule. Poitrine et pattes des *Macronota*, celles-ci plus fortes et plus larges.

La brièveté et la forme du chaperon, de même que le manque presque total de sinus latéral aux élytres, séparent

principalement ce genre des *Macronota*. En outre le lobe prothoracique est autrement fait et les épimères métathoraciques sont plus petits. Cet ensemble de caractères lui donne tout à fait le faciès d'un Trichide, groupe dont il est cependant exclu par ses épimères mésothoraciques fortement saillants. Au total c'est bien un Macronotide aberrant, relié aux *Taeniodera* par les *M. flavomaculata* et *patricia*.

Gnorimidia Toyae, spec. nov.

Nigra, nitida, plana, elytris interdum rufovittatis, thorace elytrisque cervino-maculatis, clypeo excavato, rugoso, thorace reticulato-rugoso, vittis duobus mediis obliquis cervinis, alterisque lateralibus, elytris parallelis, reticulato-rugosis, absque costis, maculis cervinis tribus lateralibus, quarum ultima apicali, disco maculis nonnullis minoribus; abdominis segmentis macularum serie unica ornatis. — Long. 18—24 mm.

Plan, brillant, glabre en dessus, orné sur la poitrine et les pattes de quelques poils gris, entièrement noir, les élytres ayant parfois une bande longitudinale fauve. Tête fortement ponctuée, le chaperon concave, avec une ligne élevée peu prononcée qui se prolonge entre les yeux, entre les antennes un simulaire de ligne transversale, sur le vertex deux petites taches jaunâtres. Prothorax arrondi latéralement en avant, se rétrécissant un peu vers la base, qui forme un lobe large mais peu saillant, un peu creusé sur le disque, recouvert de gros points vermiculés et squamiformes, ayant deux bandes jaunâtres allant obliquement des angles antérieurs vers le milieu; à la base et près des bords latéraux quelques taches de la même couleur. Ecusson ponctué et tacheté de même. Elytres presque deux fois plus larges que le prothorax, parallèles, planes, à épaules arrondies, les côtes usuelles à peine visibles, striées comme les *Macronota*, couvertes de rides squamiformes vers les bords latéraux qui sont ornés de trois taches testacées, la

première vers le tiers antérieur, la seconde vers le tiers postérieur, la troisième plus grande occupant l'extrémité mais n'atteignant pas la suture; sur le disque quelques taches plus petites de même couleur. Pygidium ridé transversalement. Dessous du corps très brillant, faiblement ponctué, l'abdomen ayant de chaque côté une série de petites taches transversales jaunâtres.

Hab. Indes orientales: Monts Kodeicanel (Castets).

NOTE XIV.

ON MAMMALS FROM MOSSAMEDES.

BY

Dr. F. A. JENTINK.

February 1887.

Mr. P. J. van der Kellen, a young Dutchman, was one of the Members of an expedition to the Cunene-River under the head of Mr. D. D. Veth, son of Dr. P. J. Veth, formerly Professor in Leyden. This expedition scarcely was in Mossamedes so Mr. Veth fell sick and soon afterwards died and by his death the expedition finished. Mr. v. d. Kellen having arranged the affairs of his late friend Veth resolved not to return home, but, being the naturalist of the named expedition, to explore Mossamedes and the interior of South-Africa and to make zoological collections for the Leyden Museum.

He is collecting in every branch of zoology and what he collected up to this date is in the Leyden Museum, with the exception of a couple of specimens and some duplicates, which are now in the hands of Mr. W. Schlüter at Halle a/S.

A short account of his collections will bear a very great scientific interest as the country where v. d. Kellen is hunting may be called, zoologically spoken, a *terra incognita;* and although among the 26 species of Mammals hereafter enumerated is not a single one new to science, for the greatest part they belong to rather rare species and have a very high scientific value as to the locality.

Two species are from the Congo, where he landed and where he lived during about two months before his going to Mossamedes.

All the *Muridae*, *Euryotis*, *Georychus*, the *Insectivora*, with exception of *Erinaceus* and all the *Chiroptera* are preserved in spirits.

1. *Felis leo* Linné.

Lions are very common. Nearly every night v. d. Kellen heared their roaring. Once, being with a Boer in the field he had a »rencontre" with three specimens: male, female and young.

2. *Proteles lalandei* Geoffroy.

One specimen, an adult female, from Otjipahe, neighborhood of Huilla, 22 February 1886.

Iris light-brown.

3. *Aonyx inunguis* Cuvier.

One specimen, an adult female, from Otjipahe, 19 February 1886.

Iris dark-brown.

4. *Kobus ellipsiprymnus* Ogilby.

One skull, with horns, of an adult male, from the Cunene-river, 15 October 1885.

n. i. *Litzieja*. Called by the Boers »Meerbok."

5. *Eleotragus eleotragus* Lichtenstein.

One skull, with skin and horns, of an adult male, from Otjipompenima, 4 November 1885.

Called by the Boers »Rietbok."

6. *Cephalophus hemprichanus* Ehrenberg.

One skull, with horns, of an adult male, from Otjipompenima, 12 January 1886.

Iris light-brown.

7. *Pediotragus tragulus* Forster.

One skull of an adult female, from Otjipompenima, 9 January 1886.

Iris light-brown.

8. *Aegoceros leucophaeus* Pallas.

One skull with horns and *two* pairs of horns, without locality or date.

I am not sure that they belong to the same species as there are differences in the number and form of the rings. I hope that v. d. Kellen shall be able to procure me skins and more skulls and horns.

Called by the Boers »Bastaard Gemsbok."

9. *Aepyceros melampus* Lichtenstein.

One skull with horns, no lower jaws, of an adult male, from the Cunene-River, 15 October 1885.

Called by the Boers »Rooibok."

10. *Strepsiceros strepsiceros* Pallas.

One skull with horns, no lower jaws, of an adult male, from Otjipompenima, 2 November 1885.

Called by the Boers »Koedoe."

11. *Rhinoceros* sp.

One horn, without date or locality.

12. *Sciurus congicus* Kuhl.

One specimen, an adult female, from Humpata, 13 February 1885.

Iris dark-brown.

13. *Mus pumilio* Sparrmann.

Thirteen specimens, from Humpata, June and July 1885. Iris dark-brown.

14. *Mus nigricauda* O. Thomas.

One specimen, an adult male, from Otjipahe, 11 March 1886.

The type-specimen, a male, described in 1882, has been collected in Great Namaqualand, Hountop-river, by Mr. Andersson in 1862. A stuffed specimen, an adult female, is since the year 1876 in the collections of the Leyden Museum: it has been collected on the same date (1 June 1862) as the type-specimen and is from the same locality (Hountop-river): it therefore apparently has belonged to Mr. Andersson's collection. Another stuffed specimen, an adult female, from West-Africa and presented by Sundevall is also in our Museum. In Mr. Oldfield Thomas' opinion — and I agree with him — it belongs to *Mus nigricauda*. This specimen was labeled *Mus paedulus* nov. sp., but never has been described.

The specimen collected by v. d. Kellen is larger in all dimensions than the type; head and body 6″.7 (type 6″.2), tail 6″.8 (type 5.″8), earconch 0″.9 (type 0″.65).

15. *Mus coucha* Smith.

One specimen, a young male, from Humpata, June or July 1885.

Mr. Oldfield Thomas has seen this specimen and believes that it belongs to this species. He has procured me a transcript of Smith's description, which I reproduce here: »above irregularly clouded, black and tawny, the later the prevailing tint, particularly on head, back of neck and sides; beneath grey white; tail moderate, brown above, white beneath, and thinly covered with rigid hair. Length of body

$5^1/_4$ inches. Inhabits the country between the Orange River and the Tropic."

Andersson (P. Z. S. L. 1882, p. 266) procured one specimen, from Elephant's Vley, 1859. In our collections are two stuffed specimens of this species, viz.: a female from the Cape by von Horstock and a male from Damaraland. The latter probably has been collected by Andersson for it bears the date and locality »24 August 1866, Otjimbingue" and at that time Mr. Andersson was there (P. Z. S. L. 1882, p. 266: *Mus silaceus*, Otjimbingue, August 19 and 27, 1866).

Here are some measurements of v. d. Kellen's specimen:

	m. m.
Length of head and body	86
» » tail.	80
» » hind foot	20
» » earconch.	15.5

Muzzle and feet are pure white, forming a striking contrast with the colour of the other parts, especially if in spirits.

16. *Euryotis irrorata* Brants.

Three specimens, adult females, from Humpata, 29 June and 2 July 1885.

Iris black. There are six well developed mammae.

Brants says nothing concerning sex or locality of the type-specimen, but gives very exactly drawn figures of the animal, its skull and dentition. Lichtenstein's figure of the animal is very bad and incorrect (tail is always shorter in reality): he reports that »das Vaterland dieses Thiers ist die Ostküste des südlichen Africa, wo Herr L. Krebs es in den Waldungen ziemlich häufig antraf und mehrere Exemplare davon für das Berliner Museum präparirte." Smith's figures are very good; he observes »this is the species which the collector, who commences his labours near Cape Town, will first acquire."

Gray (P. Z. S. L. 1862, p. 181) has given the name

Euryotis irrorata as a *new* specific title to a Rat from the Cameroon Mountains (Burton's collection) and added »I am not certain about this species until I can compare the skull with those of the other species of the genus from Africa, as they are all very similar externally." Perhaps Gray's specimen has nothing in common with the true *Euryotis irrorata* Brants.

17. *Georychus hottentotus* Lesson.

It may be called a hopeless labor to make out how many species are to be grouped in the genus *Georychus*, as without exception they have been described insufficiently and mostly figured incorrectly. Only a study of *all* the types and in the first instance a comparative examination of the skulls, especially of the teeth, may here throw some light. Gray (P. Z. S. L. 1864) divided the species into two groups according to their fur and into four groups by the form (and number) of the grinders. According to Gray *Georychus capensis* has $\frac{3-3}{3-3}$ grinders, and he thinks that *Heliophobius* has $\frac{4-4}{4-4}$ grinders, that *Heliophobius argenteocinereus* Peters is his *Georychus pallidus*, and that the $\frac{6-6}{6-6}$ grinders in Peters' species must have been an anomaly in the type-specimen. (NB. Peters had three skeletons!). As far as I can judge *Georychus capensis* in a fullgrown state and with a complete dentition has $\frac{4-4}{4-4}$ grinders as well as the other species of the genus, and, as to the number and shape of the molars, Peters' genus *Heliophobius* is quite distinct from *Georychus*. In our Museum is one of the types — a rather young stuffed specimen — of Peters' species. The skull was in the skin; I removed it the other day and find 4 grinders in each upper jaw, but 5 in each lower jaw. My specimen measures 120 m.m. and Peters' type 185 m.m., and it therefore is clear why in my specimen all the grinders are not yet developed. Peters was quite right, for my young specimen again demonstrates that, although externally there are no generic differences,

there is however constantly a larger number of molars in *Heliophobius* than in *Georychus*.

After this deviation, revenons à nos moutons. There are in v. d. Kellen's collections *four* specimens belonging to the genus *Georychus*. They agree the best with Lesson's description (not with the very bad figure) of *G. hottentotus;* later investigations based upon the study of the types may make out if this species is synonymous with another species. Although the four specimens before me differ very much in size, they have ungrooved incisors and $\frac{4}{4}$ molars without folds; the smallest one has a small white spot on the back of the head, a somewhat larger specimen has a very large white spot on the back of the head, a still larger specimen has the white spot of a size intermediate between the two smaller specimens, meanwhile the largest specimen has no trace of such a white spot on the head. So that I hardly can believe that this white spot is a specific character.

		head and body.	*hind foot.*
N° 1.	Otjipahe, 15 March 1886.	127 m.m.	22 m.m.
N° 2.	Humpata, 27 July 1885.	141 » »	23 » »
N° 3.	Catumbella, 26 June 1885.	165 m.m.	24 m.m.
N° 4.	Otjipompenima, 12 Nov. 1885.	193 » »	25 » »

There is no difference in color, the hairs are mouse-colored, tipped with a rich goldbrown, only in the younger ones the latter tinge is less developed.

18. *Lepus ochropus* Wagner.

One specimen, a nearly fullgrown male, from Humpata, 11 February 1885.

Iris light-brown.

I remember here that I described in the Notes from the Leyden Museum, 1880, p. 57, a quite different species, *Lepus salae*, collected by the late Sala in Mossamedes.

19. *Macroscelides intufi* Smith.

This beautiful species seems to be very rare in collec-

tions although its geographical distribution is a rather wide one. The type, a female, described by Smith was obtained upon the banks of a river near to the Tropic of Capricorn. Peters collected several specimens in Mozambique; he reports that »man sie nicht häufig antrifft." Kirk (Mammals of Zambesia, P. Z. S. L. 1864) believes this to be the species seen on the river Rovuma, in lat. 11° South.

In v. d. Kellen's collections is a single specimen, an adult male, from Suppe, 8 June 1885.

Iris black.

20. *Erinaceus frontalis* Smith. [1])

One specimen, a female, from Humpata, 8 February 1885.

Iris dark brown. Called by the Boers »Krimpystervark."

21. *Crocidura mariquensis* Smith.

Two female-specimens, an adult and a nearly adult one, from Humpata, 27 June 1885 and 2 July 1885.

Iris brown.

The two type-specimens seen and described by Smith were obtained in a wooded ravine near the Tropic of the Capricorn.

The specimens before me agree very well with Smith's description and figure, but without having had the types in hands I cannot be *sure* of my identification. Every one will be convinced that the study of the *Soricidae* is a very difficult one, and in my case the difficulty increases as Smith gives no measurements of the hind feet and says nothing else about the teeth as that the *incisors are white.*

I find a large difference in the length of the hind feet of my specimens compared with Smith's figure. It seems to me that as to the hind feet his figure is misdrawn and indeed in looking at that figure one gets the impression

1) Cf. Dobson, a Monograph of the Insectivora, 1882, Part I, p. 18.

as if that part really has been represented abnormally large, it measures 0″.85, meanwhile the same in v. d. Kellen's adult female-specimen measures 0″.55.

The incisors are white; the total number of teeth is 28.

22. *Rhinolophus aethiops* Peters.

The types, ♂ and ♀, of this species are in the Berlin Museum; in the British Museum were five specimens as Dobson wrote his Catalogue (in 1878). The types are from Damara-land, Otjimbingue; one specimen in the British Museum from Angola (Monteiro's collections) and four others from the same locality.

The *three* specimens in v. d. Kellen's collections agree exactly with Dobson's description (Catalogue p. 122); *one* specimen, an adult male, is from Humpata, 27.6.1885, the *two* others, an adult male and a ditto female, are from Otjipompenima, 6.11.1885.

23. *Rhinolophus capensis* Lichtenstein.

One specimen, an adult male, from Otjipahe, 12 March 1886.

24. *Phyllorhina fuliginosa* Temminck.

One specimen, an adult male, from Otjipompenima, 15 January 1886.

This is the first representative of the species in South Africa.

25. *Nycteris hispida* Schreber.

Two adult males, from Banana, Congo, 16 September and 25 November 1884.

26. *Vesperugo nanus* Peters.

One adult male, from Vista or Vesta, Congo, 19 November 1884.

27. *Scotophilus borbonicus* Geoffroy.

One specimen, an adult female, larger (forearm 2″.3) than the specimen measured by Dobson (forearm 2″), from Otjipompenima, 14 January 1886; *one* female-specimen also larger (forearm 2″.15), from the same locality, 15 January 1886; *one* female of the same size (forearm 2″) as Dobson's specimen, from the same locality, 14 January 1886. The belly of the latter specimen is not pale yellowish white, but more olive-brown like the back; this specimen is in a very bad condition.

NOTE XV.

DESCRIPTION D'UNE TRACHYS NOUVELLE ET QUELQUES REMARQUES BUPRESTEROLOGIQUES

PAR

J. R. H. NEERVOORT van de POLL.

Trachys apicalis, v. d. Poll.

Supra laete aenea, regulariter sparsimque setis fulvescentibus tecta; elytrorum pars apicalis plaga magna rotunda, obscure cupreo-aenea, setis brunnescentibus obsita, notata; subtus nigro-aenea. Caput inter oculos valde excavatum, sat dense punctatum; epistoma fortiter emarginatum. Prothorax brevis, antice modice angustatus, lateribus fere rectis, angulis posticis nonnihil prominulis, acutis, lobo medio late rotundato; sparsim punctatus, punctae setiferae arculis circumdatis. Scutellum parvum, acutum. Elytra lateraliter haud costata, pone humeros paulo emarginata, post mediam partem gradatim attenuata, ad apicem late et conjunctim rotundata; sat dense punctata. Pars infera punctis et lineolis, orbiculis vel arculis circumdatis, obtecta. Prosternum angustum. — Long. $2^3/_5$ mm., lat. $1^1/_2$ mm.

D'un bronzé clair en dessus; les élytres ornées d'une seule tache ronde, assez grande, d'un bronzé cuivreux obscur, occupant toute la partie apicale; en dessous d'un bronzé noirâtre avec quelques reflets violâtres. Le dessus est couvert d'une pubescence jaunâtre éparse, qui devient un peu plus serrée autour de la tache élytrale et change en brun rougeâtre sur ladite tache.

Tête fortement creusée au milieu, ponctuation assez grosse; épistome assez étroit, finement rugueux, séparé du front par une ligne un peu anguleuse au milieu, échancré en arc de cercle en avant, ses angles antérieurs assez prolongés et mousses. Prothorax médiocrement rétréci d'arrière en avant, ses côtés en ligne presque droite, arrondies près des angles antérieurs, les angles postérieurs assez prominents et aigus; son lobe médian médiocre, largement arrondi. La ponctuation est peu serrée, chaque point sétifère étant entouré d'un petit cercle.

Ecusson petit, en triangle aigu.

Elytres à peine plus larges que le prothorax, ayant les épaules assez prononcées, sans être saillantes, sinuées légèrement en arrière de celles-ci, puis rétrécies en ligne courbe régulière jusqu'au bout, où elles sont assez largement arrondies; absence de carènes latérales; ponctuation assez forte et serrée, quelque peu rugueuse lelong de la moitié basilaire de la suture.

Prosternum étroit, pubescent; mésosternum légèrement échancré en avant, couvert de quelques rides et de gros points ombiliqués; l'abdomen entièrement couvert d'une sculpture écailleuse, extrèmement fine et offrant en outre quelques petits cercles interrompus en arrière avec une petite linéole au milieu, tandisque le premier segment présente au milieu quelques fossettes longitudinales profondes.

Il me semble que cette espèce doit prendre place auprès de la *T. cupripyga* H. Deyr. — L'exemplaire unique que j'ai à ma disposition fut capturé à Tomboegoe (Célèbes orient.), par Mr. H. Kühn.

En publiant tout récemment dans les »Notes" (vide ante p. 126) la description de la *Trachys Frenchi*, j'ai dit à tort qu'elle fut la première espèce de ce genre découverte en Australie, Mr. Gestro ayant déjà décrit une espèce (*T. australasiae*) de Somerset, Cape York. J'ai été induit en erreur par l'indication inexacte (Amur) de la localité dans l'Enumération des Buprestides de Mr. Kerremans.

Il peut être utile à ceux qui s'occupent de l'étude des Buprestides de leur signaler l'existence d'une Appendix prima de l'ouvrage intitulé »Typi Buprestidarum Musaei Thomsoniani" de Mr. J. Thomson. Cet opuscule, publié en 1879, semble être peu connu, les 5 coupes génériques et les 187 espèces nouvelles y décrites font défaut aux »Zoological Records", de même on ne les trouve pas dans l'Enumération des Buprestides de Mr. Kerremans. Un de ces genres nouveaux, *Notographus* (H. Deyr. Mss.) Thoms., a été décrit antérieurement par Mr. Mac Leay (Trans. of the Ent. Soc. of N. S. W. Vol. II (1873) p. 243), sous le nom de *Notograptus*, tandisque l'espèce sur laquelle Thomson fonde son genre nouveau *N. sulcipennis* (Mac Leay Mss.?) Thoms., n'était pas du tout une espèce in litt. de Mac Leay, vu qu'elle a été décrite par ce savant en même temps qu'il a publié son genre *Notograptus*. Ce qui est étrange c'est que Mr. Kerremans, quoique l'opuscule de Thomson lui fut inconnu, cite dans son Enumération un genre *Notographus* qu'il n'attribue pas au véritable auteur Thomson, mais à Mac Leay. Le nom *Notographus*, donné par Thomson, devra pourtant être adopté, vu que le nom *Notograptus* avait été déjà employé (en 1867) par Günther pour un genre dans la classe des Poissons.

NOTE XVI.

ONTHE MALE OF ROSENBERGIA MEGALOCEPHALA, v. d. POLL.

BY

J. R. H. NEERVOORT van de POLL.

In the foregoing volume of the »Notes", I have described (p. 32) a ♀ specimen of a Batocerid belonging to the genus *Rosenbergia* Rits., on which I bestowed the specific name *megalocephala* on account of the enormous development of the head. Having been fortunate enough to procure lately a ♂ specimen, I think it will be of interest to point out the sexual differences, which do not only consist of the usual characteristic of the antennae. Firstly the head and mandibles are not extraordinarily developed but are well proportioned to the size of the insect; the antennae are of course more robust and longer, measuring 75 mm., thus overreaching the body with 30 mm. The thoracic spines are slightly directed upwards, the humeral tooth is somewhat larger, and the flattened granules are less numerous on the apical portion of the elytra. Very misleading is the orange pile on the cheeks along the eyes, as well as the presence of an orange stripe on each elytron, beginning just below the shoulder and nearly touching the apex. Now it is a well known fact that the spots of the Batocerids are reddish or orange when the insect is alive, but almost all the specimens we receive have lost this coloration and show white spots. The ♀ I described formerly has also entirely lost this peculiarity, and the orange stripe is only indicated by a streak of more closely set white hairs. As both the typical species (*mandibularis* and *vetusta*) have been described from ♂ specimens, it remains an interesting question whether the large head of the ♀ will prove to be a sexual difference for the whole genus, or not.

NOTE XVII.

SYNONYMICAL REMARKS ABOUT DICHROSOMA LANSBERGEI, KRTZ.

BY

J. R. H. NEERVOORT van de POLL.

In a paper on the Cetoniidae captured by Mr. C. Ribbe in the Aru-Islands (Deutsche Entomologische Zeitschrift. XXIX (1885). p. 81—93), Dr. Kraatz has established the genus »*Dichrosoma*" for the reception of an insect upon which he bestowed the specific name »*Lansbergei.*" According to the author this new genus is a very distinct one, although rather difficult to characterize, being not closely allied to any of the already known genera, and perhaps it should be best placed after *Sternoplus.*

Having acquired of late the unique specimen (*type*) of this species, I was at first sight surprised by the great resemblance it shows in outline with *Diaphonia Bassi* White, an insect upon which Kraatz has established his genus *Platedelosis* (Deutsche Ent. Zeitschrift XXIV (1880). p. 198), and after a careful examination of both the species, I feel quite sure that there is not a single characteristic to justify a generic separation. Happily I remembered the existence of a *Platedelosis*-species from New-Guinea, viz.: *Pl. pinguis* O. Jans. (Cist. Ent. II. p. 605 (1882). pl. XI, f. 2), and a careful comparison of *Pl. Lansbergei* with the description and figure of *Pl. pinguis* convinced me that it is quite the same species, the coloration only being somewhat different,

viz.: the black of the thorax is much reduced, the sides being broadly edged with yellow, the black oblique median spots on the elytra are larger and touch the outermargin, and there is an additional black spot at the shoulders and a narrow black stripe along the greater apical portion of the suture, the abdomen is entirely black, and also the greater part of the legs.

Pl. pinguis seems to be widely distributed, as Mr. Janson told me some time ago, that he had seen a specimen from Northern Australia.

NOTE XVIII.

DESCRIPTION D'UN ÉLATÉRIDE NOUVEAU DE L'AMÉRIQUE MÉRIDIONALE.

PAR

E. CANDEZE.

Semiotopsis, nov. gen.

Frons marginata, inermis.

Antennæ breves, haud serratæ, ciliatæ.

Mesosternum triangulare prominulum, horizontali, a metasterno suturâ distinctum.

Laminæ coxales sat latæ, haud angulatæ.

Tarsi articulis 2 *et* 3 *breviter sed distincte laminatis; unguli crassis, ante apicem dentatis.*

Ce genre est établi sur l'espèce suivante. Il diffère essentiellement des *Semiotus*, dans la dernière section desquels on serait tenté de le ranger, par la structure des antennes, du mésosternum et surtout des ongles, qui sont construits sur le modèle d'un autre Elatéride des environs de Bogota, l'*Ypsilostethus semiotulus*, si ses tarses franchement lamellés ne le rangeaient pas dans la tribu des Sémiotides.

Je ferai remarquer à cette occasion, que l'*Y. semiotulus*, à faciès de *Semiotus* ainsi que son nom l'indique, possède des tarses absolument dépourvus de lamelles.

Semiotopsis ungulata, nov. spec.

Nigra, nitida fere glabra; fronte mutica, quadrata; antennis brevibus, articulis gradatim breviusculis et pilosulis; pro-

thorace conico, antice fortius punctato, sparsim pilosulo; elytris glaberrimis, a basi attenuatis, apice emarginatis et spinosis, seriatim punctatis, dimidia parte antica flavis; tibiis tarsisque brunneis. — Long. 15 mill., lat. $3^1/_4$ mill.

Nouvelle Grenade: Vallée de Cauca. Je n'ai vu qu'un exemplaire de ce très intéressant Elatéride, dont je n'ai sû déterminer le sexe, dans la collection de M. Neervoort van de Poll.

NOTE XIX.

QUATRE ESPÈCES NOUVELLES D'ÉLATÉRIDES DE L'ILE DE SUMATRA.

DÉCRITES PAR

E. CANDÈZE.

---

1. *Agrypnus Hageni*, nov. spec.

Piceus, pube fulva subsericea dense obductus; antennis articulo tertio quarto breviore; prothorace latitudine longiore, creberrime punctato, medio longitrorsum et late elevato, angulis posticis tenuibus, valde divaricatis, apice acutis; elytris tenuiter punctato-seriatis, apice breviter emarginatis. — Long. 30 mill., lat. 8 mill.

Sumatra orient.: Serdang, Tandjong Morawa (Dr. B. Hagen). — Deux exemplaires.

Les rapportes de cette espèce sont avec les *A. mucronatus*, *resectus* et *politus*, mais elle ne peut être confondue avec aucune de ces dernières qui toutes ont quelque particularité caractéristique qui manque à celle-ci. Ainsi elle est bien moins massive que l'*A. politus*; les angles postérieurs du prothorax ne sont pas tronqués, comme chez le *resectus*, mais au contraire longs, grêles et très aigus. Sa pubescence est jaune fauve comme chez le *mucronatus*, mais plus soyeuse. Elle ne forme pas deux taches pileuses aussi nettes sur le prothorax comme on le remarque chez ce dernier; elle paraît seulement plus dense à l'endroit où le *mucronatus* est nettement tacheté.

Ce qui la distingue le plus c'est sa forme générale allongée surtout du côté du prothorax. Les élytres sont plus lisses que ce dernier.

2. *Agrypnus sobrinus*, nov. spec.

Piceus, subnitidus, tenuissime sat dense pube fulvo-brunnea obductus; antennis articulo tertio quarto fere æquali; prothorace latitudine vix longiore, tenuiter et inegaliter punctato, medio nitidiore linea media gracili lævique elevata, angulis posticis divaricatis, acutis; elytris tenuissime seriatim punctatis, lateraliter fortius punctato-striatis, apice distincte emarginatis et mucronatis. — Long. 32— 35 mill., lat. 10—11 mill.

Sumatra orient.: Serdang, Tandjong Morawa (Dr. B. Hagen), 2 exemplaires; Palembang, Boenga mas (J. C. van Hasselt), un exemplaire.

Très voisin de *mucronatus*. Sa pubescence est plus fine, plus dense, plus courte, en un mot sensiblement moins rude, et ne forme pas ces deux taches pileuses, nettement limitées, qui se remarquent dans l'espèce de Bornéo. Le mucro de l'extrémité des élytres est moins prononcé et les stries des élytres sont encore plus effacées, au moins au milieu. En outre l'écusson est dépourvu de saillie au milieu. Sa tournure générale est moins svelte que celle du *Hageni*.

3. *Lacon pallidus*, nov. spec.

Fusco-ferrugineus, dense et fere æqualiter pallide squamulis vestitus; prothorace latitudine longiore, parum convexo, medio parum dilatato, angulis anticis et posticis prominulis, his divaricatis et apice truncatis; elytris medio parum ampliatis, punctato-striatis, setulis nigris erectis dense adspersis; sulcis tarsorum quatuor bene definitis. — Long. 15 mill., lat. 4 mill.

Sumatra orient.: Serdang, Tandjong Morawa (Dr. B. Hagen). — Un seul exemplaire.

Comme les *L. lutosus*, *setiger*, *judax* et *setulosus*, celui-ci présente sur les élytres, outre la vestiture squamiforme

habituelle, des poils noirs, raides et dressés, en même temps que le caractère des quatre sillons du dessous du corps, destinés à loger les tarses antérieurs et moyens quand l'animal contracte ses pattes.

Il diffère de tous les quatre; les trois premiers sont du Népal et de Chine; le dernier seul, de Sumbawa, pouvait être confondu avec lui, mais il est plus petit, plus bombé, plus dilaté, plus obscur, que l'espèce que je viens de décrire.

4. *Melanoxanthus granum*, nov. spec.

Totus nigerrimus, opacus, nigro parum distincte pubescens; antennis a basi sensim dilatatis; prothorace latitudini longitudine fere æquali, antice tumido et paulo latiore, crebre granulatim punctato, angulis posticis brevibus, acutis, retrorsum productis; elytris brevibus, tenuiter striato-punctatis, interstitiis granulatis; subtus cum pedibus concoloribus. — Long. $4^1/_2$ mill., lat. $1^1/_4$ mill.

Sumatra orient.: Serdang, Tandjong Morawa (Dr. B. Hagen). — Deux exemplaires.

A rapprocher du *M. morio*, de Célèbes, avec lequel il a en commun une couleur entièrement noire. Mais il est plus petit et plus étroit, en proportion de sa longueur.

NOTE XX.

DESCRIPTION D'UNE ESPÈCE NOUVELLE DU GENRE CASNONIDEA, FAIRM.

PAR

L. FAIRMAIRE.

Casnonidea dimidiata, nov. spec.

Long. 11 mill. — Oblonga, testaceo-rufa, valde nitida, capite elytrisque (tertia basali parte excepta) nigris, antennis fuscis, pedibus nigris, femoribus basi excepta; capite lævi, antice cum ore piceo, inter oculos puncto impresso, inter antennas biimpresso; antennis medium corporis fere attingentibus, articulo ultimo duobus præcedentibus conjunctis æquali; prothorace elytris fere dimidio angustiore, vix transverso, subquadrato, lateribus basi valde sinuatis, antice cum angulis valde rotundatis, margine postico elevato, intus transversim impresso, ad pleuras profundius, angulis extus productis, dorso convexo, polito; scutello minuto, triangulari, lævi; elytris post medium leviter ampliatis, apice obtuse conjunctim rotundatis, dorso laxe sat longe pilosis, sat fortiter punctato-striatis, striis basi magis ac latius impressis, postice obsolescentibus, intervallis fere planis, basi convexiusculis, lævibus, alternatim punctis sat grossis, subocellatis parum dense impressis; subtus lævis, pectoris lateribus punctulatis.

Hab. Iles Arou (v. Rosenberg).

Très voisine de la *C. crenatostriata* Fairm., mais plus grande, d'une coloration bien différente, avec la tête sans impression transversale, le corselet lisse et les intervalles des stries alternativement marqués de points assez gros et espacés.

NOTE XXI.

DESCRIPTION DE CINQ ESPÈCES NOUVELLES DE LA FAMILLE DES CANTHARIDES.

PAR

L. FAIRMAIRE.

Horia macrognatha, nov. spec.

Long. 25 à 27 mill. — Oblonga, subparallela, rufa, nitida, antennis, pedibus, mandibulisque fusco-brunneis, his femoribusque basi rufo-piceis; ♂ capite inflato, prothorace latiore, basi utrinque angulato-rotundato, lateribus punctulato, antice transversim impresso, margine antice late leviter sinuato, truncato, utrinque subtus ad mandibularum basin dente acuto armato; mandibulis deflexis, magnis, capite paulo longioribus, basi intus angulatis, apice acutis; antennis apicem versus attenuatis, articulo 1° crasso, secundo longiore, 3° ceteris parum breviore; prothorace transverso, longitudine duplo latiore, elytris angustiore, antice a basi levissime attenuato, margine postico fere recto, angulis obtuse rectis, margine antico medio sat fortiter emarginato, dorso lævi, lateribus pilosulo, ad angulos posticos fortiter, medio basi parum impresso; scutello apice rotundato; elytris subparallelis, ad humeros rotundatis, sutura et utrinque lineis 3 parum elevatis, intervallis dense punctulatis, margine externo basi sat fortiter marginato; subtus subtiliter coriaceus, sericans; ♀ capite multo minore, prothorace fere angustiore, brevi, sat dense punctato, planiusculo, mandibulis brevibus, medio capitis haud longio-

ribus; prothorace lateribus antice cum angulis valde rotundato, subtiliter punctulato, basi medio et ad angulos fortiter impresso; scutello breviore, punctulato; elytris evidentius costulatis.

Hab. Afrique occid.: Liberia et Côte d'or.

Cette nouvelle espèce se distingue facilement de l'*H. cephalotes* par sa tête renflée, presque carrée, déprimée seulement au bord antérieur, ses mandibules plus longues, plus arquées en dessous, les joues armées d'une forte dent au dessous de la naissance des mandibules, son corselet moins court, un peu plus étroit que la tête et les élytres, droit au bord postérieur, échancré au milieu du bord antérieur et son écusson arrondi à l'extrémité.

On ne peut confondre cette *Horia* avec la *senegalensis* Cast., qui est d'une taille plus faible, avec la tête non renflée derrière les yeux, avec les mandibules très petites.

Zonitis macroxantha, nov. spec.

Long. 22 mill. — Oblonga, convexa, fulvoflavida, capite prothoraceque nitidis, elytris subopacis, antennis (articulis 2 primis exceptis) fuscis, palpis maxillaribus articulis 2 ultimis, labialibus ultimo fuscis, tibiis (basi excepta) tarsisque fuscis; capite triangulari, subtiliter punctato, mandibulis apice fuscis; antennis elongatis, fere $^3/_4$ elytrorum attingentibus, articulo 2° primo vix breviore, 3° secundo longiore et quarto paulo breviore, ceteris subæqualibus; prothorace elytris valde angustiore, longitudine vix latiore, antice a medio sat fortiter angustato, lateribus postice levissime sinuatis, basi marginata, angulis paulo exsertis, dorso subtiliter punctulato et breviter hirtulo, medio transversim et basi medio leviter impresso; scutello dense punctulato, apice obtuse rotundato; elytris magnis, parallelis, apice extus rotundatis, subtiliter densissime punctulato-rugosulis, sutura et utrinque lineolis 3 angustis paulo elevatis; subtus dense sat subtiliter coriacea.

Hab. Sumatra or.: Serdang, Tandjong Morawa (Dr. B. Hagen).

Ce *Zonitis* est remarquable par sa grande taille; il rappelle un peu le *Z. fuscimembris* Fairm., du Yunnan, mais en outre de la différence de taille le corselet est moins rétréci en avant, les élytres sont plus amples, moins arrondies à l'angle sutural et les tibias ne sont pas entièrement bruns.

Zonitis marginiventris, nov. spec.

Long. 21 mill. — Præcedenti simillima, sed minor, antennis fuscis, articulo 1° basi flavo, palpis piceis, pedibus fuscis, femoribus basi flavis, abdomine rufescente, segmentis apice anguste fusco-marginatis, prothorace paulo densius punctato, medio haud transversim impresso, postice medio breviter sulcatulo, basi medio paulo impresso, antice transversim obsolete depresso.

Hab. Batjan (Dr. Bernstein).

Zonitis geniculata, nov. spec.

Long. 14 mill. — Sat gracilis, flavida fulvescens, nitida, antennis, tibiis tarsisque paulo obscurioribus, genubus infuscatis; capite sat dense punctato, antice angustato, epistomate apice lævi, labro medio impresso; antennis gracilibus, corpore parum brevioribus, articulo 2° tertio paulo longiore, ultimo longiore; prothorace elytris dimidio angustiore, antice a medio angustato, basi transversim depresso et marginato, dorso dense punctato, postice medio sulcatulo, sulco medio obliterate et utrinque impressione rotunda signato; scutello densissime punctulato, apice rotundato; elytris subtiliter densissime punctatis, sutura et utrinque lineolis 3 leviter elevatis, externa sub humerum incipiente; subtus subtiliter dense punctulata, fulvo-pubescens, segmento ventrali ultimo utrinque fortiter foveolato.

Hab. Gorontalo (Célèbes) et îles Sanghir.

Chez la ♀ le 2e article des antennes est égal au 3e, la

coloration des pattes est plus foncée, les élytres sont moins atténuées en arrière, les nervures sont indistinctes et le dernier segment ventral ne présente pas les deux fossettes.

Ce *Zonitis* est voisin de l'*holoxantha* Fairm., mais plus grand, non élargi en arrière, avec le corselet moins rétréci en avant, les élytres aussi brillantes que le reste du corps et les pattes brunes, sauf les fémurs.

Le *Zonitis pallida* Fabr., indiqué des îles de l'Amérique méridionale par cet auteur, et des Indes-orientales par le Catalogue de Munich, ce qui est plus probable, doit être bien voisin de cette espèce; malheureusement la description pourrait convenir à plusieurs *Zonitis*. [1])

Zonitis tenuemarginata, nov. spec.

Long. 15 à 17 mill. — Oblonga, convexa, parum nitida, testaceo-rufa, elytris fuscis, griseo-pubescentibus, angustissime testaceo-marginatis, genubus, tibiis tarsisque fuscis, antennis infuscatis, articulo 1° rufo; capite sat dense punctato, inter oculos impresso, epistomate apice lævi, palpis infuscatis; antennis elytris brevioribus, sat gracilibus, articulis 2° 3°que æqualibus; prothorace elytris angustiore, antice a medio angustato, dense sat fortiter punctato, basi subtiliter marginato, dorso antice transversim et postice oblonge leviter impresso; scutello subtilissime dense punctulato, apice fere truncato; elytris postice leviter ampliatis, densissime subtiliter punctulatis, vage lineolato-impressis; subtus dense subtiliter punctulata, fulvo-pubescens; segmento ventrali 4° profunde emarginato, 5° toto fisso.

Hab. Ambon, Ternate.

La coloration des élytres, d'un brun ardoisé, rend cette espèce facile à reconnaître.

---

1) Sequentibus major. Caput et thorax testacea, oculis magnis, nigris. Antennæ nigræ, articulorum apicibus parum ferrugineis. Elytra parum pallidiora, immaculata. Pedes nigri, femoribus tibiarumque basi pallidis.

NOTE XXII.

DESCRIPTION D'UN GENRE NOUVEAU DE LA FAMILLE DES CLÉRIDES.

PAR

L. FAIRMAIRE.

Mutilloides, nov. gen.

Tarsi quadriarticulati. Prothorax haud marginatus, lateribus cum pleuris confusis. Oculi antice emarginati, subtiliter granulati. Antennæ breves, ab articulo 5° late serratae, articulo 4° brevissimo, ultimo emarginato, apice sat acuto. Palpi omnes articulo ultimo elongato, acuto. Elytra apice rotundata. Pygidium haud occultum. Pedes validi, femoribus posticis incrassatis, elytris brevioribus, tarsis omnibus quadriarticulatis, articulo 1° indistincto, subtus dense pilosis, haud lamellatis, unguibus validis, simplicibus.

Ce genre est assez difficile à classer, car si le corselet n'est pas marginé latéralement, les tarses n'ont que 4 articles, le premier étant tellement rudimentaire qu'on ne le voit pas; la tête est courte, le labre est entier; les élytres élargies et très anguleuses aux épaules, un peu déhiscentes à l'extrémité, la tête un peu inclinée en dessous et les fémurs postérieurs renflés donnent à cet insecte un faciès particulier rappelant celui des Mordellides.

Mutilloides albidofasciatus, nov. spec.

Long. 10 mill. — Oblongus, postice attenuatus, fuscus, vix nitidulus, prothorace scutelloque basi rubris, elytris

olivaceis, lateribus et apice præsertim infuscatis, albido-hirtulis, macula minuta fere suturali ante medium et vitta transversa paulo post medium albido-pilosis, subtus nitidus, metasterno apice et lateribus femoribusque 2 posticis supra dense griseo-pilosis; capite prothorace vix angustiore, dense punctulato, inter oculos impresso; his intus acute emarginatis; prothorace convexo, lateribus leviter rotundato, angulis posticis obtuse rotundatis, dense sat fortiter punctato, basi transversim anguste depresso; scutello truncato, fortiter punctato; elytris prothorace latioribus, ad humeros latioribus et valde angulatis, lateribus late sinuatis, apice separatim rotundatis, dehiscentibus, basi planiusculis, sat dense punctatis, extus paulo fortius; subtus punctatis, pedibus griseo-pilosis, tibiis omnibus leviter arcuatis, unguibus rufis.

Hab. Natal (Finsch).

NOTE XXIII.

TROGIDES NOUVEAUX.

DÉCRITS PAR

J. W. van LANSBERGE.

Trox Semmelinki, spec. nov.

Ovatus, niger, indumento griseo tectus, ore antennisque rufo-ciliatis; capite tuberculis duabus transversis, crebre punctato, medio laevi; thorace antice dilatato, lateribus bisinuato, haud crenulato; scutello aspidiformi; elytris humeris acutis, seriebus tuberculis oblongis ornatis, quarum secunda cariniformi, margine integro; tibiis anticis inermibus. — Long. 14 mm.

Ovalaire, noir, couvert d'un enduit grisâtre, la bouche et les antennes ornées de poils roux, l'écusson en fer de lance, le prothorax et les élytres à bords simples, tous les tibias inermes. Tête munie de deux tubercules subtransversaux, séparés, le chaperon triangulaire mais non aigu, la ponctuation dense, laissant au milieu de l'occiput un petit espace lisse. Prothorax assez petit, assez densément ponctué hormis sur le bord antérieur, sa plus forte largeur en avant, se rétrécissant ensuite, sinué près des angles postérieurs, les antérieurs largement arrondis, un second sinus moins profond en arrière de ceux-ci, le sillon dorsal large, n'atteignant pas l'extrémité, disparaissant longtemps avant le milieu de la base qui est en lobe triangulaire, creusé mais non caréné, les 4 tubercules basilaires à peu près égaux. Elytres à angles huméraux aigus, ayant des séries de tubercules allongés à base lisse, le reste spongieux, la deuxième

série élevée, caréniforme, la quatrième composée de tubercules plus éloignés, la sixième en comptant encore moins et moins saillants, les séries intermédiaires formées par des tubercules beaucoup plus petits et plus éloignés, en outre des stries de points assez gros, sur la partie postérieure du bord marginal une série de petits tubercules disparaissant avant l'extrémité, la série suturale composée de petites lignes élevées. Dans les exemplaires frais il y aura probablement des callosités lisses. Saillie prosternale à peine marquée.

Un seul exemplaire trouvé à Tjilatjap (Java mérid.) par le Dr. Semmelink, qui en a fait don au Musée de Leyde.

Cette espèce est voisine des *Trox indicus*, *chinensis* et *inclusus*, mais différente de tous par ses tibias antérieurs inermes et son prothorax élargi en avant.

Trox Castelnaui, spec. nov.

Maximus in genere, niger, ovatus; capite crebre punctato, tuberculis vix conspicuis; thorace lato, disco tuberculis magnis ornato, lateribus deplanatis, crenulatis, rotundatis; scutello parvulo, quadrato; elytris convexis, subtiliter granulatis, seriebus tribis tuberculorum magnorum ornatis, margine laterali fortiter dentato; tibiis anticis tridentatis. — Long. 28 mm.

En ovale allongé, presque parallèle, noir, couvert d'une substance grisâtre; les tubercules lisses, brillants; antennes noires. Tête densément ponctuée; le chaperon déprimé au milieu, faiblement anguleux; les tubercules peu apparents, n'émettant pas de lignes obliques comme dans le *T. gigas*. Prothorax gibbeux en avant, très convexe sur le disque, avec ses bords latéraux aplanis, arrondis, crénelés, un peu courbés en dessous vers la base, de manière à faire disparaître les angles postérieurs; au milieu une ligne élevée de chaque côté de laquelle s'élèvent les tubercules ordinaires; ceux-ci très gros, allongés au milieu, ovales latéralement, presque juxta-posés; l'espace en dehors des tubercules densément ponctué. Ecusson très petit, carré, presque caché

par le bord élevé, tranchant des élytres. Celles-ci densément granulées, à bords latéraux arrondis, sans trace d'angle à l'épaule, la suture élevée couverte de petits tubercules obliques; sur le disque trois rangées de gros tubercules, la première composée de 8 de ces tubercules dont le premier partant de la base ovale, les trois suivants arrondis, les 4 derniers coniques, la deuxième composée de 5 tubercules dont le premier très grand, au niveau du 2me de la première rangée, les autres coniques, la troisième composée de 4 tubercules dont le premier basal, rudimentaire, et les autres situés au milieu, coniques; le bord muni en entier de grosses dents coniques. Pattes antérieures tridentées; les dents fortement séparées entre elles.

Australie. — Un seul exemplaire dans la collection de l'auteur, provenant de Mr. de Castelnau.

Voisin du *Trox gigas* Harold, mais plus allongé, le chaperon non caréné, les tubercules des élytres plus gros et moins nombreux, etc.

Phaeochridius, gen. nov.

Dans les »Notes" de l'année 1880, p. 195, et dans »Midden-Sumatra, Coleoptera," p. 28, Mr. de Harold a décrit un petit Trogide de Sumatra, qu'il a nommé *Liparochrus derasus*, tout en avouant qu'il avait un faciès particulier, plus voisin de celui des *Phaeochrous* et des *Hybosorus*. Il le classe cependant parmi les *Liparochrus* parce qu'il n'a que cinq segments à l'abdomen, ce qui n'est évidemment pas un motif suffisant vu que ce caractère est commun à tous les Trogides. Or, en examinant attentivement l'insecte dont il s'agit, on s'aperçoit qu'il s'éloigne sous plusieurs aspects des *Liparochrus*, genre appartenant à la faune Australienne. Il n'a ni la faculté contractile de ces insectes, ni le prothorax ample qui en est la conséquence. En outre ses pattes sont tout autrement construites. Par contre il appartient à un groupe voisin, représenté en Amérique par les *Anaides* et dans la Malaisie par le genre *Phaeochroops* Candèze (Ann. Soc. Ent. Belge. 1876. C. R.

p. LXIV), et par un autre genre qu'on trouvera plus loin. Comme il ne peut cependant rentrer dans le genre *Phaeochroops*, dont il s'éloigne par la construction de ses pattes, il devra former un genre nouveau auquel j'ai donné le nom de *Phaeochridius* et dont les caractères sont ceux des *Liparochrus* sauf les différences suivantes: *Labre saillant, en carré transversal; chaperon beaucoup plus court; tête fortement rétrécie en avant des yeux; prothorax non evasé latéralement, se rétrécissant d'arrière en avant, beaucoup plus étroit que les élytres et ne pouvant par conséquent pas les emboiter; pattes grêles, allongées, les 4 tibias postérieurs unicarénés sur leur tranche externe.*

Pantolasius, gen. nov.

Tête oblongue, acuminée. Yeux grands, saillants. Labre en carré equilatéral, convexe. Mandibules visibles d'en haut, arquées, concaves en dessus. Menton allongé. Palpes maxillaires à article dernier beaucoup plus long que les autres, un peu renflé au milieu, les labiaux plus petits, à article dernier cylindrique. Antennes de dix articles, tous plus ou moins ciliés, la massue grande, à 1er article emboitant fortement les autres, le dernier en forme d'opercule. Prothorax plan, beaucoup plus étroit que les élytres. Ecusson petit, en triangle transversal. Elytres recouvrant le pygidium, convexes, élargies en arrière. Pattes grêles, les jambes antérieures denticulées extérieurement, armées à l'extrémité de deux dents assez longues et s'en détachant à angle droit. Corps entièrement recouvert de poils plus ou moins longs.

L'espèce sur laquelle ce genre est établi est un curieux petit insecte à faciès d'*Hybosorus*, mais appartenant aux Trogides par son abdomen composé de cinq segments. Le genre se rapproche des *Phaeochridius* qui précèdent ainsi que des *Phaeochroops*. Il se distingue des premiers par ses tibias postérieurs non carénés, du second par son écusson non allongé et ses palpes autrement faits, de tous deux

par ses yeux saillants qui donnent à sa tête le faciès de celle d'un *Cistélide*.

Pantolasius Vethi, spec. nov.

Brunneus, nitidus, humeris pedibusque dilutioribus, totus longe pilosus, crebre fortiterque punctatus; thorace basi bisinuato, angulis rectis, lateribus marginatus; elytris vix striatim punctatis, sutura elevata, lateribus marginatis. — Long. 3 mm.

Brun, avec le devant de la tête, les bords du prothorax, les épaules et les pattes testacés, brillant, couvert de gros points de chacun desquels s'élève un long poil. Tête petite, fortement rétrécie en avant des yeux. Prothorax deux fois plus large que long, à base bisinuée et angles postérieurs droits; le disque convexe; les bords latéraux aplatis de manière à former une marge, crénelés et ciliés, se rapprochant vers l'extrémité, à angles antérieurs droits, le sillon antérieur largement interrompu. Ecusson impressionné à l'extrémité. Elytres assez largement rebordées, ayant leurs points disposés plus ou moins en raies, la suture saillante. Dessous du corps plus finement ponctué que le dessus; les cils des pattes postérieures très longs.

Un seul exemplaire appartenant au Musée de Leyde et rapporté de Sumatra (Alahan pandjang) par l'expédition scientifique (voir: Midden-Sumatra. Coleoptera. p. 28).

Je dédie cette espèce à la mémoire du regretté membre de cette expédition.

Cloeotus viridis, spec. nov. [1])

Aeneo-viridis, nitidissimus, glaber; capite sparsim, irregulariter punctato; thorace laevi, lateribus impresso, punctis perpaucis ornato; scutello subtiliter punctulato; elytris punctorum seriebus ornatis, apice impressis bicarinatisque; subtus cuprascens. — Long. $2\frac{1}{2}$ mm.

1) Pour les noms de genre j'ai suivi la révision des *Acanthocérides* de Mr. de Harold, Col. Hefte. XII. p. 26 seqq. Quant aux dimensions je les calcule d'après la longueur de l'insecte pendant la contraction.

D'un vert foncé, métallique, très brillant en dessus, brun cuivreux en dessous, glabre. Tête peu convexe, un peu en toit au milieu, s'abaissant brusquement près des yeux, le chaperon déprimé, évasé, à bords cuivreux; ça et là des groupes de points très distincts, le bord occipital ponctué, cuivreux. Prothorax rebordé, convexe sur le disque, déprimé latéralement, la base presque droite, les bords latéraux à peu près parallèles, légèrement sinués, arrondis en avant avec les angles postérieurs et antérieurs légèrement arrondis; complètement lisse excepté près des angles postérieurs et dans l'impression latérale, où il y a quelques points. Ecusson ponctué à la base, transversalement impressionné vers le sommet. Elytres ornées de rangées de points distants les uns des autres, peu apparents, n'atteignant ni la base ni l'extrémité; strie suturale sillonnée passé le milieu; l'extrémité ayant une impression assez large, dans laquelle se trouvent quatre sillons assez courts, correspondant aux stries, et qui est limitée par deux carènes dont l'extérieure dépasse le milieu et l'intérieure est beaucoup plus courte; bord latéral entier. Tibias postérieurs ayant quelques stries longitudinales à la base, lisses et très évasées, vert-dorées à l'extrémité.

Mexique. — Collection de l'auteur.

Que je sache cette espèce n'a d'analogie avec aucun autre *Cloeotus* décrit.

Cloeotus pustulosus, spec. nov.

Niger, nitidissimus, pedibus rufis, capite thoraceque confertim punctulatis; illo trituberculato, hoc lateraliter deplanato; scutello fortiter transverse plicato; elytris punctis nullis sed striis profundis munitis, interstitiis apice multituberculatis, margine subcrenulato. — Long. 3 mm.

D'un noir profond, très brillant, les côtés du prothorax à transparence rougeâtre, le dessous du corps brun. Tête couverte de rides transversales sur le chaperon, circulaires sur le vertex, munie de trois tubercules arrondis, peu éle-

vés, dont deux sur le front et un près du chaperon; celui-ci légèrement acuminé au bout. Prothorax très court mais beaucoup plus large que les élytres, entièrement rebordé, convexe sur le disque, impressionné latéralement, couvert d'une ponctuation fine sur le dos, grossière et moins dense sur la partie déprimée; base droite; bords latéraux parallèles, assez fortement sinués au milieu, arrondis en avant. Ecusson ayant une forte impression transversale. Elytres sans trace de ponctuation mais profondément et régulièrement striées, les intervalles couverts, à partir du tiers antérieur, de tubercules qui deviennent plus distincts et plus allongés, même ça et là caréniformes, à mesure qu'on s'approche de l'extrémité, surtout les trois extérieurs qui forment des carènes prolongées presque jusqu'à la base; bord extérieur tranchant, subcrénelé; extrémité embrassant le corps en dessous. Tibias postérieurs carénés longitudinalement et finement striés.

Un exemplaire, provenant de la Nouvelle Grenade, dans la collection de l'auteur.

Comme on le voit par la description qui précède, cette espèce appartient à la section des vrais *Cloeotus* de Germar, mais elle est bien distincte de ses congénères par ses téguments brillants, les tubercules dont sont ornées ses élytres et la forme des tubercules céphaliques.

Acanthocerus suturalis, spec. nov.

Aeneus, *nitidus*, *capite crebre punctulato*, *thorace lateribus sat fortiter punctato*, *elytris punctato-striatis*, *striarum punctis oblongis*, *stria suturali integra*, *apice undulata*, *striis* 4—8 *apice valde profundis*, *tibiis strigosis*. — Long. 5 mm.

Bronzé, très brillant, les bords de la tête, du prothorax et de l'écusson ayant une teinte rosée. Tête formant un angle obtus en avant, densément ponctuée surtout dans l'enfoncement antérieur et près des yeux. Prothorax très convexe au milieu, un peu déprimé de chaque côté en avant, lisse sur le disque, mais ayant de chaque côté un

espace assez fortement ponctué, parallèle au bord latéral, la strie marginale antérieure interrompue au milieu. Elytres faiblement striées, les stries disparaissant en avant, composées de points allongés fort éloignés les uns des autres, la strie suturale presqu'entière à la base, ondulée vers l'extrémité, la strie latérale profonde, atteignant l'épaule, en outre cinq sillons profonds, correspondant aux stries extérieures, n'atteignant pas le milieu de l'élytre, et allant en se raccourcissant à mesure qu'ils se rapprochent de la suture. Tibias postérieurs couverts de stries obliques très fines, atteignant le bord qui est finement dentelé.

Un seul exemplaire. — Musée de Leyde.

J'ai conservé à cette espèce, originaire de Cayenne, le nom sous lequel Mr. A. Deyrolle l'a envoyée dans le temps au Musée de Leyde.

Comme on le voit par la description qui précède, elle réunit les caractères des *A. pyritosus* et *undulatus*, ce qui la rend facile à reconnaître. Un autre caractère saillant est la forme allongée des points des stries des élytres.

Acanthocerus brasiliensis, spec. nov.

Aeneus, nitidus, glaber, capite, thorace, scutello elytrorumque disco omnino laevibus, sutura clypeali subtiliter punctulata; elytris stria suturali marginalique tantum conspicuis, praeterea postice sulcis profundis sex; tibiis posticis latis, squamoso-striolatis. — Long. 5 mm.

D'un bronzé verdâtre, très brillant, le dessous rougeâtre. Tête lisse, la suture clypéale seulement finement ponctuée. Prothorax régulièrement convexe, complètement lisse, plus large que les élytres, ses bords latéraux arrondis, la strie marginale antérieure largement interrompue. Ecusson lisse. Elytres complètement lisses sur le disque, la strie suturale seule visible. Celle-ci commence bien au dessous de l'écusson et est formée de points qui se changent vers les deux tiers en un sillon assez profond. Ce sillon se réunit à l'extrémité au sillon latéral lequel est profond et se prolonge jusqu'au

dessus de l'épaule. En outre il y a six autres sillons dont l'extérieur s'étend jusqu'au milieu et les autres vont en diminuant à mesure qu'ils s'approchent de la suture. Dans ces sillons on voit des traces de points qui indiquent les stries et les intervalles sont alternativement costiformes. Tibias postérieurs très larges, couverts de rides squamiformes peu profondes. Antennes testacées.

Brésil. — Un seul exemplaire dans la collection de l'auteur.

Cette espèce se distingue de tous les autres *Acanthocerus* à élytres lisses sur le disque par les sillons profonds qui ornent ces organes à l'extrémité. En ceci elle se rapproche de l'*Acanthocerus undulatus* et espèces voisines, mais celles-ci ont toutes le disque des élytres strié. Une autre particularité est la largeur insolite des tibias postérieurs.

Acanthocerus punctulatus, spec. nov.

Aeneus, *nitidus*, *glaber*, *capite laevi*, *vertice tantum punctulato*, *thorace laevi*, *basi biimpresso*, *scutello subtiliter punctulato*, *elytris striato-punctatis*, *interstitiis subtilissime punctulatis*, *postice sulcis sex minus profundis*, *quorum externo brevissimo*, *tibiis posticis oblique striolatis*, *margine laevi*. — Long. 6 mm.

Bronzé, brillant, le dessous cuivreux très foncé. Tête très convexe sur le front, le chaperon aplani, couvert d'une ponctuation à peine visible, le bord postérieur de l'occiput distinctement ponctué. Prothorax lisse, régulièrement convexe, ayant à la base, en face des angles scutellaires, deux petits enfoncements correspondant à une petite dépression du mésothorax qui ne s'étend cependant pas jusqu'à l'élytre; ses bords latéraux sinués et un peu relevés près des angles antérieurs; strie marginale antérieure très fine, rapprochée du bord, à peine interrompue. Ecusson couvert d'une ponctuation excessivement fine. Elytres ornées de stries de points peu profonds, assez éloignés les uns des autres, n'atteignant pas la base, la strie suturale sillonnée à l'extrémité; toute la surface couverte d'une ponctuation

très dense mais visible seulement à la loupe; sillon latéral entier, profond, contournant l'épaule; en outre six sillons terminaux médiocrement profonds, abrégés près de l'extrémité, dont l'extérieur très court, les deux suivants plus allongés, les autres diminuant graduellement de longueur; intervalles non carénés. Tibias postérieurs couverts de fines stries obliques qui n'atteignent pas le bord.

Pérou. — Collection de l'auteur.

Cette espèce, la plus grande que je connaisse, est voisine de l'*A. basilicus*, dont elle diffère entre autres par la ponctuation de l'écusson et des élytres.

Acanthocerus clypealis, spec. nov.

Aeneus, nitidus, glaber, capite modice convexo, clypeo dense punctulato; thorace laevi, antice biimpresso; scutello medio laevi, lateribus subtilissime punctulato; elytris striatopunctatis, striis antice evanescentibus, postice sulcis sex, interstitiis alternis carinatis; tibiis posticis vix striolatis. — Long. $4\frac{1}{2}$ mm.

Plus petit que les espèces précédentes, bronzé, très brillant, cuivreux en dessous. Tête médiocrement bombée, lisse, densément ponctuée sur le chaperon et en avant des yeux. Prothorax régulièrement convexe, entièrement lisse, en avant, de chaque côté, une petite impression arrondie; à la base, en face des angles de l'écusson, une petite échancrure indiquant une légère impression; les bords latéraux un peu relevés et sinués en avant; la strie marginale antérieure excessivement rapprochée du bord, presque entière. Ecusson lisse au milieu, finement pointillé à l'entour. Elytres ornées de stries de points peu profonds et assez éloignés les uns des autres; ces stries disparaissant antérieurement; la strie suturale abrégée en avant, creusée en sillon en arrière; le sillon marginal s'arrêtant à l'épaule; en outre à l'extrémité six autres sillons, dont les 3 extérieurs atteignant le milieu et les intérieurs diminuant de longueur à mesure qu'ils se rapprochent de la suture; les intervalles

entre ces sillons alternativement carénés. A la loupe la surface de l'élytre semble pointillée comme dans l'espèce précédente. Tibias postérieurs munis de rides parallèles au bord mais peu apparentes.

Pérou. — Un exemplaire dans la collection de l'auteur.

Cette espèce n'a d'analogie qu'avec la précédente, dont elle diffère par son chaperon fortement ponctué et par d'autres particularités, parmi lesquelles la ponctuation des tibias postérieurs est la principale.

Synarmostes aurora, spec. nov.

Viridi aeneus, roseo micans, nitidissimus; capite subtiliter crebre punctulato, vertice laevi; thorace scutelloque laevissimis; elytris laevibus, circa suturam subtiliter punctulatis; tibiis strigosis. — Long. $2\frac{1}{2}$ mm.

D'un bronzé verdâtre très brillant, à reflets roses, surtout sur la tête, autour du prothorax, à la base des élytres et le long de la suture, le dessous du corps d'un bronzé obscur. Tête lisse sur le vertex, très finement et densément ponctuée en avant, le chaperon angulaire mais non en forme de bec au milieu. Prothorax très convexe, entièrement lisse, peu dilaté latéralement; le sillon marginal antérieur largement interrompu. Ecusson lisse, les parties des élytres et du mésosternum qui l'entourent noirâtres. Elytres lisses sauf la partie centrale (de chaque côté de la suture) qui est finement et densément ponctuée, le sillon latéral profond, n'atteignant pas l'épaule, une seconde strie, parfois peu distincte, intérieurement, la partie postérieure des élytres non repliée en dessous comme dans les *S. Gestroi*, *ignitus*, et autres. Tibias couverts de stries longitudinales qui deviennent obliques près du bord extérieur.

Sumatra: Deli (J. Semmelink). — Musée de Leyde.

Synarmostes punctatissimus, spec. nov.

Aeneus, subnitidus, totus creberrime punctulatus, prae-

sertim capite thoraceque, capite vix convexo, clypeo acuto; thorace lateribus dilatato; elytris praeter sulcum lateralem absque striis, sutura elevata; subtus testaceus, tibiis aeneis, subtiliter strigosis. — Long. 3 mm.

Bronzé, avec des reflets cuivreux, testacé en dessous avec les tibias et les tarses bronzés, peu brillant par suite de la densité de la ponctuation. Tête peu convexe, à reflets verdâtres, couverte de points granuleux moins denses sur le front; le chaperon formant un angle obtus qui se termine par une espèce de dent. Prothorax assez fortement dilaté en avant, très convexe, ses angles postérieurs arrondis mais distincts, entièrement couvert d'une ponctuation très dense, confluente, presque granuleuse et orné sur le disque de quelques petites impressions longitudinales. Ecusson densément ponctué. Elytres couvertes d'une ponctuation analogue à celle du prothorax, un peu moins serrée en avant mais devenant rugueuse à l'extrémité; la suture saillante; du reste pas le moindre vestige de côtes ni de stries; sillon latéral peu prononcé, n'atteignant pas l'épaule; partie terminale des élytres bombée, repliée en dessous. Tibias finement et irrégulièrement striolés.

Presqu'île de Malacca (Castelnau). — Collection de l'auteur.

Synarmostes striatulus, spec. nov.

Aeneo-brunneus, pellucens, nitidissimus, glaber; capite thoraceque subtiliter punctulatis; scutello punctulato, basi laevi; elytris subtiliter punctato-striatis, striis antice evanescentibus. — Long. 2½ mm.

D'un bronzé brunâtre transparent; très brillant, glabre, le dessous plus rougeâtre. Tête médiocrement convexe, finement ponctuée, le chaperon aplani, angulaire mais non acuminé en bec, couvert de points plus gros et plus espacés. Prothorax très finement ponctué, régulièrement convexe, se rétrécissant notablement en avant, pas plus large que les élytres, les bords latéraux arrondis, le sillon marginal antérieur entier. Ecusson lisse à la base, finement

ponctué à l'extrémité. Elytres ornées de stries formées par des points allongés, irréguliers, disparaissant vers la base; le sillon latéral atteignant la base; partie terminale des élytres très convexe mais pas repliée en dessous. Tibias postérieurs couverts de stries très fines, longitudinales intérieurement, obliques extérieurement.

Bornéo. — Un exemplaire dans la collection de l'auteur.

Synarmostes reticulatus, spec. nov.

Piceus, subnitidus, glaber, totus densissime reticulato-punctatus, rugosus, thorace cupreo micante; clypeo subrotundato; elytris striatis, striis postice costis simulantibus. — Long. 3 mm.

D'un noir de poix, avec des reflets cuivreux sur le prothorax, brillant mais paraissant presque mat par suite de la densité de la ponctuation; celle-ci formant un réseau grossier sur la tête et le prothorax, plus fin sur les élytres et le dessous du corps. Tête faiblement convexe; le chaperon très court, arrondi, avec une petite dent au milieu. Prothorax plus large que le corps, très convexe, bisinué à la base, entièrement rebordé, largement et régulièrement arrondi latéralement, sans trace d'angles postérieurs, brusquement rétréci en avant, les angles antérieurs très obtus. Ecusson presque recouvert dans la contraction, la partie recouverte plus grossièrement réticulée que la partie apparente qui est en outre déprimée, très pointue. Elytres ornées de stries élevées, irrégulières, se changeant postérieurement en carènes interrompues, et qui n'atteignent pas l'extrémité; sillon latéral entier, fin; extrémité des élytres très arrondie, embrassant le corps en dessous. Tibias postérieurs couverts de fines stries transversales.

Célèbes: Menado. — Un exemplaire dans la collection de l'auteur

Très voisin du *S. Wallacei* Pascoe, mais plus petit, les bords latéraux du prothorax non sinués, les côtes des élytres moins prononcées, etc.

NOTE XXIV.

SUR LE GENRE APOLEON, GORH.

PAR

L. FAIRMAIRE.

Dans les »Notes from the Leyden Museum", vol. VII (1885) p. 51, Mr. Gorham a décrit sous le nom d'*Apoleon* un nouveau genre de Bostrychide, créé pour un insecte de Malacca, rencontré aussi au Laos, à Bornéo et à Sumatra, *A. edax*. Ce genre est identique avec le genre *Dysides* Perty, dont le type, *D. obscurus* Perty, est fort rare dans les collections et provient de la Colombie et de l'Equateur; il appartient aux Ptinides à raison de la conformation des antennes, mais il a tout à fait le faciès d'un Apatide. Il a été représenté par Mr. Westwood dans le Magasin de Zoologie, 1835, pl. 123.

NOTE XXV.

ON A FEW COLEOPTERA FROM THE ISLAND OF RIOUW.

BY

C. RITSEMA Cz.

In two bottles with Reptiles and Fishes from the island of Riouw (lying south of Malacca) sent over by Mr. A. H. G. Blokzeyl, formerly Resident of the Riouw Archipelago, and kindly presented by him to the Leyden Museum, were also a few Arthropods. Of these, eleven species belong to the Coleoptera, and as there is, as far as I know, nothing known of the Coleopterous fauna of this group of islands, I thought it not without interest to give a list of these species, all belonging to the families Scarabaeidae (4 spec.) and Cerambycidae (7 spec.).

Scarabaeidae.

1. *Ancylonycha* (*Haplidia*) *bidentata* Burm.

One example. — The specimen described by Burmeister (Handbuch, IV, 2; p. 316, n°. 14) is indicated as originating from Java. in the Leyden Museum were already specimens from Banka and West Sumatra.

2. *Anomala* (*Euchlora*) *viridis* Fabr.

One example. — A common Chinese species (Burm., Handb. IV, 1; p. 275, n°. 57) which, according to Hope (Ann. of Nat. Hist. IV. p. 345, n°. 1), is also found at Singapore, Assam, in Bengal and in the island of Ceylon.

In the Leyden Museum this species was represented only by specimens from China.

3. *Dipelicus lobatus* Lansb. (Ann. Soc. Ent. Belge. XXII. C. R. p. CLIII, n°. 23).

One example, ♂. — The typical specimen has been described (*l. c.*) from Amboyna, and as these different habitats could leave some doubts as to the correctness of my identification, Mr. van Lansberge most courteously sent me two of his specimens for comparison. The result of my examination is that the Riouw specimen undoubtedly belongs to the same species as those from Amboyna.

Perhaps future investigations will show that *Dipelicus lobatus* Lansb. (the female sex of which is not yet known) is really the ♂ of *Dipelicus Cantori* Hope, the type of the genus and described from the collections made by Dr. Cantor in Chusan. At least, in 1867 Mr. Chas. O. Waterhouse described (Trans. Ent. Soc. London. 3rd ser. vol. V. p. 532; pl. 27, fig. 2 and 3) a male *Dipelicus* from Java as the male of *Cantori*, and this description corresponds exactly with the Ambon and Riouw insect. But as, still yet, we do not know *male* specimens of *Dipelicus Cantori* from Chusan (China), I am not convinced that the specimens from Java, examined by Mr. Waterhouse, really belong to this species.

In the mentioned paper Mr. Waterhouse describes also a male specimen of *Dipelicus Geryon* Fabr. said to be from Java. — Neither *Geryon* nor *Cantori* are represented in the Leyden Museum, but a few other species from the Malay Archipelago and New Holland, reckoned, chiefly on account of the shape of the apical joint of the labial palpi, to the genus *Dipelicus* are present. As however these species (as well as an already described one, viz.: *Dipelicus nasutus* Bates [1]), from Duke-of-York island) differ from the typical ones by the reflexed, more or less bidentate front-

1) Proc. Zool. Soc. London. 1877. p. 153; pl. 24, fig. 4.

margin of the clypeus [1]), and by the different shape of the stridulating organs [2]), I think it to be advisable to separate these species generically from Hope's genus *Dipelicus*. I propose the name *Neodipelicus* for the new genus.

4. *Xylotrupes Gideon* Linn. var.

A male and a female. — The ♂ is of intermediate development; its elytra are very distinctly punctured (each puncture with a short erect hair), not strongly shining, the apical half of their lateral margin and their apex opaque. The ♀ is of a remarkable elongate and parallel shape. — I believe this form to be *Xylotrupes Beckeri* Schaufuss (Horae Societ. Entom. Rossicae XIX (1885), p. 193) from Singapore.

Cerambycidae.

5. *Eurycephalus Lundi* Fabr.

One example, ♀. — Represented in the Leyden Museum by specimens from Java, Sumatra, Banka and Borneo.

6. *Epepeotes luscus* Fabr.

One example, ♀. — Represented in the Leyden Museum by specimens from Java, Sumatra, Banka, Billiton and Timor.

7. *Monohammus fistulator* Germ.

One example, ♀. — Represented in the Leyden Museum by specimens from Java, Sumatra and Saleyer.

8. *Batocera Thomsoni* Javet.

One example, ♂. — Represented in the Leyden Museum by specimens from Borneo, Sumatra and Banka.

9. *Coptops lichenea* Pasc. var.?

One example, ♀. — Perhaps it may prove to belong to

---

1) In the true *Dipelicus*-species the head is triangular in front, and the frontmargin not reflexed.

2) In the true *Dipelicus*-species the stridulating organs (on the middle of the propygidium) have the shape of a broad V, indistinctly divided by a somewhat smoother mesial line, in the aberrant ones however, they occupy a parallel-sided, rather narrow streak on the middle of the propygidium

a distinct, although closely allied species. In the Leyden Museum were already a male and a female from Palembang (East Sumatra). — The typical *lichenea* Pasc. is described from Malacca, but it occurs also in East Sumatra (Tandjong Morawa, Serdang: Dr. B. Hagen).

10. *Olenecamptus optatus* Pasc.

One example, ♀. — Represented in the Leyden Museum by a specimen from Billiton and from East Sumatra (Tandjong Morawa, Serdang).

11. *Praonetha melanura* Pasc.

One example, ♀. — Other specimens, determined by Mr. Pascoe himself, have been brought home from Sumatra by the Scientific Sumatra Expedition.

NOTE XXVI.

NOUVELLE ESPÈCE DE LÉPIDOPTÈRE DE LA FAMILLE DES LYCAENIDES.

DÉCRITE PAR

P. C. T. SNELLEN.

Pseudodipsas Helena, nov. spec.

Deux mâles et deux femelles. Envergure 28—33 mm.

Mâle: Surface des ailes d'un brun noirâtre, chatoyant en bleu-violet foncé assez terne, sans dessins. Le bord postérieur des ailes est presque noir mais se fondant insensiblement dans la couleur générale. La frange des ailes supérieures est brunâtre à bout blanchâtre, celle des ailes inférieures, dont le bord arrondi est un peu dentelé, est blanche, marquée de points noirs au bout des nervures. Dessous d'un gris foncé, absolument sans dessins; frange comme en dessus mais devenant blanche aux ailes supérieures en approchant du bord intérieur. Sur les ailes inférieures les points noirs de la frange sont un peu plus forts et dans les cellules 1^c à 3, elle est précédée d'une ligne ante-marginale noirâtre.

La femelle est un peu plus grande que le mâle, le bord postérieur des ailes supérieures plus arrondi, les dentelures des ailes inférieures semblent un peu plus fortes parce que les taches noires au bout des nervures sont plus étendues. La couleur de la surface supérieure des ailes est un brun terreux mat uniforme, marquée seulement d'un petit nuage bleu, sur le milieu de la moitié intérieure des ailes supé-

rieures. Ce nuage, formé d'écailles bleues clair-semées, est oblong et une mince trainée d'écailles bleues s'étend de lui vers la base de l'aile. La frange des ailes supérieures a la moitié extérieure plus distinctement blanche que chez le mâle et marquée de faibles points noirâtres au bout des nervures. Le dessous est d'un gris-blanc un peu brunâtre et ainsi beaucoup plus clair que chez le mâle.

Les antennes sont noires, faiblement annelées de blanc pur; leur massue allongée est noire, à extrémité brunâtre. Yeux lisses, en segment de cercle comme chez les Lycaenides d'Europe. Palpes médiocres, relevés, leur dernier article assez pointu. Ils sont presque noirs chez le mâle, d'un blanc bleuâtre à extrémité noire chez la femelle. Pattes courtes, de forme normale, presque lisses; les postérieures avec une paire d'ergots faibles; leur couleur est noirâtre, marquée de blanc. Corps d'un noir brunâtre en dessus; le ventre de la couleur des ailes en dessous.

Cette espèce vient se placer à côté du *Pseud. innotatus* Miskin, Ent. Mo. Mag. XI (1874—75) p. 165, dont la surface inférieure des ailes est aussi sans dessins, marquée seulement de deux petits points noirs vers la moitié de la cellule 1*b* des ailes inférieures. Ces points manquent chez ma nouvelle espèce; de plus, l'*Innotatus* est en dessous d'un blanc pur et en dessus la moitié apicale des ailes supérieures et le bord postérieur des ailes inférieures sont noirs, distinctement séparés du reste qui est d'un bleu d'outremer clair, un peu luisant, totalement différent du bleu d'*Helena*.

Hab. Ile de Roon dans la baie de Geelvinck (Nouvelle-Guinée): un mâle dans ma collection, pris par Mr. H. P. Netscher, lieutenant de marine. — Waigeoe, Morotaï et Ternate: un mâle et deux femelles, pris par feu le Dr. Bernstein (Musée de Leyde).

Ce Musée possède aussi un mâle du *Pseud. innotatus* Misk., provenant des chasses du Dr. Bernstein et pris par lui dans l'île de Ternate.

NOTE XXVII.

ALPHABETICAL LIST OF THE DESCRIBED SPECIES OF THE LONGICORN GENUS BATOCERA, CAST. WITH INDICATION OF THE SYNONYMS [1]).

BY

C. RITSEMA Cz.

Adelpha Thoms. — E. India.

Aeneonigra Thoms. — Ternate, Halmaheira, Morty, Waigiou.

Ajax (Dej.) Thoms. — Java, Banka, Celebes.

(*Albertiana* Thoms. — Gaboon) = *Wyliei* Chevr. — Old Calabar.

Albofasciata de Geer. — E. India, E. I. Archipelago.

Ammon Pasc. — Amboyna..... probably = *Armata* Oliv.

Andamana Thoms. — Andaman islands. — Revue et Mag. de Zool. 1878. p. 54.

Aphetor Newm. — Philippine islands..... will probably prove to belong to the genus *Apriona* Chevr.

Armata Oliv. — Amboyna, Ceram, Aru islands, Celebes.

(*Attila* Pasc. — Sumatra) = *Helena* Thoms. — Siam (teste van Lansberge).

Boisduvali Hope. — Australia.

Browni Bates. — Duke-of-York island, N. Australia. — Proc. Zool. Soc. Lond. 1877. p. 157; tab. 25, fig. 1.

1) The synonyms are *in parenthesis*.

Batocera Deyrollei Kaup (from Sylhet) and *pulchellator* Westw. (from the Philippine islands) of the Munich Catalogue do not belong to this genus. The former is an *Apriona*-, the latter a *Psaromaia*-species.

Bruyni Lansb. — Sanghir islands. — Ann. Soc. Ent. Belge. 1880. Bull. p. 138.

Calanus Parry. — Assam . . . . . not = *Roylei* Hope, but a distinct species (*vide* Notes Leyden Museum. 1886. p. 29).

(*Catenata* (de Haan) Voll. — Japan) = *Lineolata* Chevr. — Japan.

Celebiana Thoms. — North Celebes.

Chevrolati Thoms. — E. India.

(*Chinensis* Thoms. — China) = *Lineolata* Chevr. — Japan.

(*Chlorinda* Thoms. — E. India) = *Rubus* Linn. var. (teste van Lansberge).

Cinnamomea Pasc. — Sula . . . . . probably = *Armata* Oliv.

Claudia Pasc. [1]) — locality unknown.

(*Cruentata* Gmel. — E. India) = *Rubus* Linn., in the Munich Catalogue.

Davidis H. Deyr. — China. — Ann. Soc. Ent. France. 1878. p. 131.

(*Downesi* Hope. — Sylhet) = *Albofasciata* de Geer, in the Munich Catalogue.

Eurydice Thoms. — Java. — Revue et Mag. de Zool. 1878. p. 53.

(*Fabricii* Thoms. — Java. — Revue et Mag. de Zool. 1878. p. 54) = (*Megacriodes*) *Guttata* Voll. — Sumatra.

(*Ferruginea* Thoms. — Ceylon) = *Titana* Thoms. — E. India (teste van Lansberge).

Frenchi v. d. Poll. — Australia. — Notes Leyden Museum. 1886. p. 30; pl. 1, fig. 4.

Gerstaeckeri Thoms. — Sula.

Gigas Drap. — Java, Borneo.

Guttata Voll. — Sumatra, Java. — (Described as a species of the genus *Megacriodes* Pasc.).

Hector Thoms. — Java.

Helena Thoms. — Siam, Sumatra.

Hercules Boisd. — Celebes.

1) Only occasionally mentioned by the author.

Horsfieldi Hope. — Assam.

Humeridens Thoms. — Timor (not Java, teste van Lansberge).

Irregularis Voll. — Celebes, Sanghir islands. — (Belongs to the genus *Abatocera* Thoms.).

(*Javanica* Thoms. — Java) = *Titana* Thoms., var. with inconspicuous red spots on the thorax (teste van Lansberge, who possesses the type specimen).

(*Lacordairei* Thoms. — E. I. Archipelago) = *Armata* Oliv. ♀ (teste van Lansberge).

Lactiflua Fairm. — New Britain. — Ann. Soc. Ent. Belge. XXVII (2). p. 50.

Laena Thoms. — Aru islands, New Guinea.

Leonina Thoms. — Celebes, Sanghir islands. — (Type of the genus *Abatocera* Thoms.).

Lineolata Chevr. — Japan, China.

(*Magica* Thoms. — Java) = *Albofasciata* de Geer, var. without the red spots on the thorax (teste van Lansberge, who possesses the type specimen).

Meleager Pasc. — Bouru.

Metallescens Pasc. — South Celebes . . . . . probably variety of *Celebiana* Thoms.

Mniszechi Thoms. — Philippine islands.

Nebulosa Bates. — Duke-of-York island. — Proc. Zool. Soc. Lond. 1877. p. 158. tab. 24, fig. 1.

Numitor Newm. — Philippine islands.

Obliqua Voll. — Bouru, Boano.

(*Octomaculata* Fabr. — E. India) = *Albofasciata* de Geer.

(*Orcus* Pasc. — Ceram) = *Armata* Oliv. var. ♂ (teste van Lansberge).

(*Orpheus* Pasc. — Morty) = *Plutonica* Thoms. — Morty.

(*Parryi* Hope. — Sylhet) = *Roylei* Hope, in the Munich Catalogue

Plutonica Thoms. — Morty.

(*Porus* Parry. — Assam) = *Roylei* Hope (*vide* Notes Leyden Museum. 1886. p. 30).

(*Princeps* Redtenb. — Himalaya) = *Roylei* Hope, in the Munich Catalogue.

(*Proserpina* Thoms. — New Guinea) = *Wallacei* Thoms. var.
(*Pulverosa* Pasc. — Timor) = *Humeridens* Thoms. (teste van Lansberge, who possesses the type specimen of the latter).
Rixator Newm. — Philippine islands ..... will probably prove to belong to the genus *Apriona* Chevr.
Rosenbergi Kaup. — Flores.
Roylei Hope. — E. India. (= *Megacriodes ebenina* Voll.).
(*Rubiginosa* Voet. — E. India) = *Rubus* Linn., in the Munich Catalogue.
Rubus Linn. — Mauritius, Bourbon, Reunion, E. India.
(*Rubus* Fabr. — Timor) = *Wieneckei* Kaup —Timor, in the Munich Catalogue (*forte*).
(*Rufomaculata* de Geer. — E. India) = *Rubus* Linn., in the Munich Catalogue.
Sabina Thoms. — Borneo, Sumatra. — Revue et Mag. de Zool. 1878. p. 52.
(*Sappho* Thoms. — Cape York. — Revue et Mag. de Zool. 1878. p. 51) = *Laena* Thoms. var.
(*Sarawakensis* Thoms. — Borneo) = *Albofasciata* de Geer, var.
(*Stigma* Voet. — Tranquebar) = *Albofasciata* de Geer, in the Munich Catalogue.
(*Thomae* Voet. — Asia orient.) = *Armata* Oliv.
Thomsoni Javet. — Borneo, Banka, Sumatra, Riouw.
(*Thysbe* Thoms. — Cochinchina. — Revue et Mag. de Zool. 1878. p. 52) = *Rubus* Linn. var. (teste van Lansberge).
Titana Thoms. — E. India, Ceylon, Sumatra, Java.
Una White. — New Hebrides.
Victoriana Thoms. — Borneo.
Wallacei Thoms. — Aru islands.
(*Whitei* Kaup. — Celebes) = *Armata* Oliv., but neither = *Leonina* Thoms. (Munich Catalogue), nor = *Ajax* (Dej.) Thoms. (Tijdschr. v. Entom. XXVIII. p. 103).
Wieneckei Kaup. — Timor.
(*Woodlarkiana* Montrouz. — Woodlark) = *Boisduvali* Hope — Australia, in the Munich Catalogue.
Wyliei Chevr. — Old Calabar, Gaboon, Congo.

NOTE XXVIII.

ON THREE RARE SOUTH-AMERICAN MAMMALS.

BY

Dr. F. A. JENTINK.

May 1887.

(Plate 3).

Some weeks ago I procured a small collection of Mammals and Birds collected by Mr. J. H. (I have not been happy enough to investigate the name) in the years 1880 and 1881. The specimens labeled 1880 are from Nauta; those with the label 1881 are from Samiria. Nauta is a locality in North-Eastern-Peru on the Marañon-River, vis-à-vis the mouth of the Ucayali-River. Samiria is a name quite new to me and not on the maps, but I think that this locality is to be found in the neighborhood of Nauta and is perhaps the same as Chambira on the maps: and if this supposition is right then it is a locality in Ecuador, on the River of the same name, a branch of the Marañon. That it is not without interest to know the exact situation of the latter locality will be clear if I say that just from Samiria (Chambira?) are two Mammals in the above quoted collection, which belong to two of the most beautiful and at the same time of the rarest among the South-American species of Mammals.

Dactylomys typus Is. Geoffroy.

The type of this rare and splendid species is in the Paris-Museum: its exact locality is unknown. The second recorded specimen, a male, from Natterer's voyage, is in the Vienna-Museum and has been shot on the banks of the Rio-Negro. Deville records that »les différents sujets rapportés par l'expédition (de Castelnau et Deville) viennent de la Mission de Sarayacu, rivière de l'Ucayale, Pampa del Sacramento." Two specimens are in the British-Museum, from the Rio-Napo (P. Z. S. L. 1876, p. 743). Our specimen — an adult male — has been collected in North-Peru or Ecuador by Mr. J. H., 7 August 1881. The certain patria of this species thus is North-West-Brazil, Ecuador and Northern-Peru.

Our specimen presents the following measurements:

	m.m.
Length of body from tip of nose to root of tail	328
» » tail	406
» » hairy basal portion of tail	90
» » hind foot	59
» » fore foot	32
» » skull	78
» » nasal bones	26
Width of skull	37
Length of upper molar series	20
» » lower » »	21
Distance between incisor and first molar (upper jaw)	17
» » » » » » (lower jaw)	9

As there is in the two British-Museum specimens no skull and as Wagner is silent on this point in the description of Natterer's specimen, I think that up to this time the only known skulls of this species are those in the Paris-Museum and the skull in the Leyden Museum.

There is a very badly drawn figure of the type-specimen in the »Magasin de Zoologie, 1840, pl. 20." The skull has been tolerably well figured in the »Nouvelles Annales du

Muséum d'Histoire naturelle, 1832, pl. 19, figs 5 et 6"; the molar-series several times has been figured; the only good figures however of these parts are to be found in the »Revue et Magasin de Zoologie, 1852, pl. 16, figs. 1 and 1a (Deville)."

As to the bony parts M. Deville correctly observed that the fore feet have five digits as well as the hind feet and that the fifth digit of the fore feet is very small so that M. Is. Geoffroy has overlooked it in describing the feet after the very badly preserved type-specimen.

Echimys brevicauda Günther.

A male-specimen, labeled Samiria, 19 December 1881 and collected by Mr. J. H., agrees exactly with Waterhouse's description of an *Echimys*-specimen (Mammalia, T. II, p. 498, foot-note). Dr. Günther (P. Z. S. L. 1876, p. 750) assures that Waterhouse's specimen is a tailless individuum of *E. brevicauda* Günther, and I thus give to my specimen the latter name. The only difference in Günther's figures of the skull and the skull of my specimen is that in the latter the nasal bones are much more produced and longer. The Samiria-specimen moreover is larger in all its dimensions.

Another specimen, a young (only three molars present) female from the same collection is from Nauta, 12 September 1880. I think it to be a young of this species, with which it agrees in form and distribution of colors (f. i. hairs of underparts are pure white to the root and separated by a well-marked line from the dark color of the sides of the body): there are however no harsh hairs.

This species thus is to be found in Southern-Ecuador?, Peru and Bolivia.

Didelphys lanigera Desmarest.

This species is nearly as rare in collections as *Dactylomys typus* Is. Geoffroy.

The type of Azara's *Micouré laineux* is from Paraguay, Caazapa; another specimen — a male — from the neighborhood of Sainte Marie de la Foi has been presented to d'Azara. This species also was represented in Rengger's collections from Paraguay, Villa Rica. Mr. Oldfield Thomas informs me that there are several specimens in the British-Museum, from Panama (Chefo), Columbia (Medellin), Ecuador and Peruvian Amazons (Chamicuros). Natterer's specimen in the Vienna-Museum is from Caiçara, Southern-Brazil; it was the first specimen of this species in any European-Museum. Another specimen — a male — from Natterer's voyage — if at least *Didelphys ochropus* Natterer is a mere variety of *D. lanigera*, as I suppose — is from Barra do Rio-Negro. Mr. Huet writes me that there is a single specimen — a female — in the Paris-Museum, from J. Verreaux in 1854 and *indiqué comme venant d'Australie!* In the Leyden Museum is a stuffed specimen — a male — from Demerara, British Guiana (Frank, 1877). Our other specimen — a female — is from Ecuador or Northern Peru, 4 August 1881, collected by Mr. J. H.

The above given localities show that this species has a very wide area of geographical distribution, viz.: from Panama to Paraguay and from Peru to British Guiana.

The species has been figured under the name of *Didelphys ornata* Tschudi — I believe with Mr. Oldfield Thomas that the specimen described by Tschudi in his Fauna Peruana under this new name belongs to our species — but this figure cannot be called very correct, especially the colors do not agree with the description. *Didelphys derbiana* Waterhouse belongs perhaps too to our species, but I never saw the figure in the Naturalist's Library (Marsupialia) Vol. XI, Pl. 2 (Waterhouse). Alston's figure of *Didelphys derbiana* (Biologia centrali-americana, pl. XXII) is taken from an original sketch from the life by Mr. Smit, and lets no doubt that the female and young specimens, living in May 1877 in the Zoological Society's Gardens, belonged to the true *Didelphys lanigera*. Both our specimens show

the dark spots on the naked part of the tail, as figured in Alston's above mentioned book; in Tschudi's figure of his *D. ornata* these spots are wanting. The descriptions given by Tschudi and Wagner are sufficiently correct. The skull nowhere has been figured or described. The figures of the skull of our Samiria-specimen will discharge me of a description. I now wish to compare it with skulls of other *Didelphys*-species in our collection. All the teeth are present and it shows all characteristics of a fullgrown skull. There is no sagittal crest like in skulls of adult specimens of the other *Didelphys*-species of the same or of larger size. The postorbital process of frontal bone is much more developed than in any other *Didelphys*-species at my disposal, and in no species the skull is so short in proportion to its broadness: the skulls of *Didelphys philander* figured by Temminck in his »Mammalogie, T. I, pl. 6" are also very short, they have been removed from young specimens as the dentition indicates. The first premolar in upper and lower jaw is very small. The second upper premolar is very stout and much stronger than the third upper premolar, the latter reaching about three quarter of the length of the second upper premolar, meanwhile in the other *Didelphys*-skulls the second and third upper premolars are about of the same size or sometimes the third is higher than the second. The second lower premolar attains about three quarter of the size of the third lower molar and thus approaches more what I find in *D. opossum*, *D. cancrivora* and *D. azarae*, although in these species in a lower degree, meanwhile in the other species the second and third lower premolar are nearly of the same size; in *D. tristriata* the third lower premolar is somewhat higher than the second.

I think that a closer examination of larger series of *Didelphys*-skulls than I have at my disposal, will bring us to divide the *Opossum*-family in some genera and to separate *D. lanigera* in a peculiar genus, perhaps together with *D. philander:* for the skull and dentition of *D. la-*

nigera has in several parts a striking resemblance with the skull and dentition of *D. philander*, figured under the name of *Philander cayopollin* in Burmeister's »Erläuterungen zur Fauna Brasiliens, 1856, Pl. XI, figs. 5, 5[a] and 5[b]"; if *Philander dichura* Burmeister is a good species (I cannot judge about this because I never saw a specimen like it) then it may enter too in the same division.

NOTE XXIX.

DESCRIPTIONS OF SOME NEW GENERA AND SPECIES OF PHYTOPHAGOUS COLEOPTERA CONTAINED IN THE LEYDEN MUSEUM.

BY

MARTIN JACOBY.

Halticinæ.

Lactica suturalis, n. sp.

Black; head and thorax impunctate; elytra very finely punctured, flavous, a sutural triangular patch from the middle to the apices, as well as a small spot at the apex of each elytron, black. — Length $2^1/_2$ lines.

Head entirely impunctate, the frontal tubercles strongly raised, the carina short but distinct; the lower edge of the clypeus obscure testaceous; labrum and palpi black; antennae half the length of the body, black, the apices of the three lower joints more or less stained with fulvous, the second joint very short, the third and following ones of nearly equal length. Thorax more than twice as broad as long, the sides rounded, narrowly margined, the anterior angles obliquely rounded, the posterior ones acute, the surface entirely impunctate, broadly transversely sulcate near the base, bounded at the sides by a distinct perpendicular groove. Scutellum black. Elytra broadly ovate, rather convex, very finely punctured, bright flavous, with

an elongate black triangular mark, common to both elytra, commencing a little before the middle and extending nearly to the apices where it is very pointed, and connected by the suture with a small black spot placed at the extremities of the elytra. Below and the legs black; the posterior tibiae with a small spine; the first joint of the posterior tarsi as long as the two following ones together; claws appendiculate; anterior coxal cavities open.

Hab. Sumatra or.: Tandjong Morawa, Serdang (Dr. Hagen). — Two specimens.

The only difference in regard to structural details, when the species, described here is compared with some of the more typical forms from the New World, is the strong development of the frontal tubercles which in *Lactica* are generally obscure. *L. suturalis* is the second species now known from Sumatra.

Aphthona (?) *cyanea*, n. sp.

Below black; antennae long, the three first joints and the tibiae and tarsi, flavous; above metallic blue; thorax very finely, elytra distinctly and closely punctured. — Length $1^1/_2$ line.

Head impunctate, metallic blue, lower part of face obscure piceous; the frontal tubercles in shape of narrow transverse ridges, the clypeus with a strongly raised central ridge; antennae nearly as long as the body, black, the three lower joints fulvous or flavous, the second and third joints very short, moniliform, the fourth as long as the three preceding ones together, the others still more elongate. Thorax transversely subquadrate, about one half broader than long, the sides nearly straight, slightly narrowed towards the base, the anterior angles obtuse, furnished with a single hair, the surface with a few fine punctures, very obsoletely depressed across the disc. Scutellum broadly trigonate. Elytra parallel, narrow, the shoulders scarcely produced, rather strongly and closely

punctured, the punctures arranged in semiregular rows; femora obscure piceous, the posterior ones black; the knees, tibiae and tarsi flavous.

Hab. Sumatra or.: Tandjong Morawa, Serdang (Dr. Hagen). — Two specimens.

The present insect agrees in all particulars with *Aphthona* with the exception of the long antennae and their short second and third joints which are equal. In the absence of other species similarly constructed I have placed the present species in *Aphthona*.

Sphaeroderma parvula, n. sp.

Fulvous; thorax extremely minutely punctured; elytra closely semipunctate-striate, metallic blue, the apices fulvous. — Length $1^1/_2$ line.

Head impunctate, the frontal elevations slightly raised but distinct, of broadly trigonate shape; labrum dark fulvous; antennae entirely flavous or fulvous, the second joint but slightly smaller than the third or fourth joint, the terminal ones more elongate and slender; thorax about twice and a half broader than long, distinctly widened at the middle, the sides straight, the anterior angles obliquely truncate, the surface scarcely visibly and closely punctured, with a very short perpendicular groove at each side at the posterior margin; scutellum fulvous; elytra broader at the base than the thorax, very rounded and convex, very closely but not very regularly punctate-striate, the interstices also very minutely punctured, the extreme lateral margin impressed by a row of deep punctures, the punctuation disappearing at the apices, the latter, in shape of a triangular spot, fulvous, rest of the surface metallic blue; elytral epipleurae broad, extending to the apices, fulvous; the underside and legs of the same colour; prosternum longer than broad; mesosternum obsolete; anterior coxal cavities open; posterior femora moderately but very distinctly incrassate, their tibiae slightly curved, armed

with a small spine; the first joint of the posterior tarsi longer than the two following joints together; claws appendiculate.

Hab. Sumatra or.: Tandjong Morawa, Serdang (Dr. Hagen). — Three specimens.

Although the short perpendicular grooves, placed at the posterior margin of the thorax, are strange to the genus *Sphaeroderma*, I have, in the absence of other characters of distinction, placed *S. parvula* in that genus for the present. Several closely allied species have been described (*S. cyanipennis* Jac., *apicipennis* Baly, *apicalis* Baly). *S. parvula* differs from either in the unicolorous flavous antennae, from *S. apicalis* and *S. apicipennis* in the metallic blue colour of the elytra and their more closely placed and stronger punctures arranged in rows, the interstices being finely punctured; from *S. cyanipennis*, *S. parvula* differs in its larger size and the fulvous apices of the elytra, as well as the colour of the antennae.

Erystus clypeatus, n. sp.

Broadly ovate, subdepressed, pale testaceous; terminal joints of the antennae and the breast piceous; thorax transverse, minutely punctured; elytra finely punctate-striate, the lateral margin flattened. — Length $1^1/_2$ line.

Head broader than long, extremely finely punctured, with an oblique short groove near the inner margin of the eyes; the frontal tubercles elongate, trigonate, divided by a longitudinal groove and bounded behind by a transverse groove; clypeus transversely thickened, narrow; antennae half the length of the body, the four lower joints fulvous, the others black, the third joint rather longer than any of the following joints; thorax three times broader than long, the sides strongly rounded, narrowly margined, the surface scarcely visibly punctured; elytra widened at the middle, the lateral margin broadly flattened, the surface finely punctate-striate, pale testaceous; legs short, the tibiae widened towards the apices; all the femora di-

lated, the posterior ones more distinctly than the others; prosternum broad; elytral epipleurae very broad, continued below the middle.

Hab. Timor (Wienecke). — Two specimens.

This is the second species belonging to the genus *Erystus*, described by myself in Genoa Annals (1885, p. 39). From *E. celebensis*, the present insect differs in being only half the size of that species and in having a distinctly thickened transverse clypeus.

Cleonica, nov. gen.

Oblong-ovate; eyes small, entire; palpi with the penultimate joint thickened; antennae filiform, all the joints with the exception of the second one, elongate; thorax short, very transverse, the surface transversely sulcate; elytra irregularly punctured, their epipleurae continued nearly to the apices; posterior femora moderately incrassate; tibiae simple, unarmed; the first joint of the posterior tarsi as long as the three following joints together; claws appendiculate; anterior coxal cavities open.

This genus approaches in its structural characters *Licyllus* Jac. from Australia but differs in the small eyes, the different shape of the thorax which has the posterior angles not obliquely cut as in *Licyllus*, also in the want of an elytral basilar depression and their prolonged epipleurae.

Cleonica quadriplagiata, n. sp.

Piceous; abdomen testaceous; antennae black, the first joint fulvous, the eighth flavous; head and thorax fulvous, impunctate; elytra finely punctured, black, the middle of the disc and the apices pale yellow, the sides with a longitudinal costa. — Length $2^1/_2$ lines.

Head longer than broad, impunctate, the vertex swollen; the frontal tubercles narrowly transverse, bounded by a deep groove behind, and divided by the apex of the

clypeus; palpi testaceous; antennae, more than half the length of the body, the first joint fulvous and shining, the second one piceous, the five following and the three apical joints black, pubescent, the eighth nearly white. Thorax three times broader than long, the sides nearly straight at the base, slightly rounded before the middle, the angles not produced, the surface transversely sulcate through its entire length, impunctate, fulvous, shining; scutellum black, its apex broadly rounded; elytra scarcely visibly punctured, black, the middle of the disc occupied by a large yellowish white patch, extending from before to below the middle but not quite to the sutural or lateral margin, another triangular spot of half the size is placed at the apex of each elytron; from the shoulder to below the middle a more or less distinct costa extends, preceded by one or two obsolete longitudinal sulcations; anterior legs dark fulvous, the posterior ones as well as the underside piceous.

Hab. Sumatra: Padang (Müller), Serdang (Dr. Hagen). — Two specimens.

Galerucinae.

Luperodes javanensis, n. sp.

Ovate, convex, piceous; antennae and legs pale fulvous; above dark brown, opaque, extremely minutely punctured. — Length 2—$2^1/_2$ lines.

Head impunctate, opaque, the vertex dark brown, the lower portion paler; antennae two thirds the length of the body, the second and third joints short, nearly equal; thorax one half broader than long, the sides nearly straight and parallel, the posterior margin rounded, the surface extremely finely granulate, and visibly punctured only, when seen under a very strong lens; elytra gradually widened posteriorly, punctured like the thorax, dark brown, the sides below the middle nearly black; underside piceous;

legs flavous; the first joint of the posterior tarsi half the length of the tibiae, the latter with a long spine; elytral epipleurae continued below the middle; anterior coxal cavities open.

Hab. Java: Batavia (Sijthoff). — Two specimens.

The opaque, almost silky appearance and the uniform brown colour of the thorax and elytra will help in the recognition of the present species.

Galerucella Hageni, n. sp.

Oblong-ovate, pale testaceous, closely pubescent; intermediate joints of the antennae black; head and thorax finely punctured; elytra closely pubescent, the basal margin and a lateral narrow stripe extending to the middle, fuscous. — Length $2^3/_4$—3 lines.

var. Elytra entirely pale testaceous.

Head closely punctured, with a central longitudinal groove; the frontal tubercles obsolete; clypeus triangular; palpi slender; antennae about half the length of the body, the two basal joints fulvous, the five following ones black, the four last joints testaceous, the third joint one half longer than the second but shorter than the fourth. Thorax nearly three times as broad as long, the sides straight at the base, subangulate before the middle, the angles not produced; surface with an obsolete lateral and longitudinal central depression, closely rugose-punctate and finely pubescent; elytra rather convex, broadly ovate, very finely and closely rugose and covered with rather long greyish-white pubescence, the basal margin narrowly piceous and connected with a similarly coloured stripe which commences at the shoulder and extends to the middle; tibiae unarmed; the first joint of the posterior tarsi as long as the two following joints together; claws bifid; anterior coxal cavities open.

Hab. Sumatra: Tandjong Morawa, Serdang (Dr. Hagen), Moeara Laboe, Rawas and Lebong (Sumatra Expedition). — A few specimens.

Galerucella (?) funesta, n. sp.

Elongate, narrow, subparallel, black; thorax deeply impressed at the sides and middle; elytra finely pubescent, irregularly and finely punctured, the sutural and lateral margin, as well as a longitudinal discoidal narrow stripe, whitish-grey. — Length 2 lines.

Head not longer than broad, finely rugose at the sides, the middle with a short longitudinal groove; the frontal tubercles trigonate, distinctly raised. Antennae less than half the length of the body, the second joint half the length of the first, the third one longer than the fourth, the terminal joints shorter and slightly thickened. Thorax twice as broad as long, the sides angulate at the middle, the angles produced in shape of a small tubercle, the posterior ones placed at some distance from the posterior margin, the surface at each side with a deep oblique depression which is finely pubescent within, the middle of the disc shining, longitudinally depressed but interrupted by another transverse depression near the base. Scutellum finely pubescent, its apex broadly truncate. Elytra broader at the base than the thorax, closely and distinctly but finely punctured, the punctuation divided here and there by some obsolete longitudinal raised narrow ridges, finely covered with greyish pubescence which assumes the shape of a narrow whitish stripe from the shoulder to the apex of each elytron, the sutural and lateral margin being also marked with whitish hairs when viewed sideways, elytral epipleurae continued to the apices; underside and legs black, finely clothed with greyish pubescence; tibiae unarmed; the first joint of the posterior tarsi scarcely longer than the following one; claws bifid, the inner division short; anterior coxal cavities open.

Hab. Africa occ.: Congo river (Veth and v. d. Kellen). — A few specimens.

This curious little species, which may be recognized by

its entirely black colour and the narrow whitish pubescent stripes of the elytra, has most of the structural characters of *Galerucella*, but differs principally in the shape of the thorax and its discoidal depressions; the posterior angles are indicated by a small but very distinct tubercle placed below the middle; from there to the posterior margin the sides are obliquely cut.

Cynorta sumatrana, n. sp.

Obscure greenish æneous below; lower part of the face and the legs, testaceous; above metallic green; head and thorax impunctate, the latter biimpressed; elytra finely punctured, the interstices obsoletely rugose. — Length 2 lines.

Head very convex at the vertex, metallic green; eyes large, entire; frontal tubercles well defined, almost contiguous, lower part of the face and the labrum, obscure fulvous; palpi piceous; antennae slender, filiform, piceous, the two or three basal joints more or less testaceous below, the second joint very small, the third one more than three times as long, the fourth as long as the two preceding joints together. Thorax about one half broader than long, the sides slightly rounded before the middle, straight at the base, the anterior angles blunt, slightly oblique, the disc with two large transverse depressions, which are scarcely interrupted at the middle, metallic green, impunctate. Elytra wider than the thorax at the base, narrowly parallel, closely punctured, the interstices very finely granulate and transversely rugose, especially at the sides. The first joint of the posterior tarsi as long as the three following joints together. Anterior coxal cavities closed.

Hab. Sumatra: Solok and Soepajang (Sumatra Expedition). — Two specimens.

C. sumatrana differs from *C. porrecta* Baly in the metallic green thorax and dark antennae.

Antipha capitata, Jac.

(Notes Leyden Museum. 1884. p. 51).

var. Elytra fulvous, a spot at the base and a transverse band at the middle, flavous.

Hab. Sumatra or.: Deli (Schagen van Leeuwen), Tandjong Morawa, Serdang (Dr. Hagen). — Two specimens.

The only difference I can find in the above variety is the different colour of the elytra, the type having been described from specimens having unicolorous fulvous elytra. The species may be recognized by the black vertex of the head.

Antipha bimaculata, Jac.

(Annali Museo civico Genoa. 1886).

var. a. Elytra with an additional flavous spot at the base.

var. b. Elytra entirely black.

Hab. Java (Müller and Hekmeyer); Sumatra or.: Deli (Schagen van Leeuwen). — Three specimens.

It is quite possible that this species with the above varieties represents but another form of *A. capitata* which seems a most variable species; the only difference is that of colour in regard to the elytra. Here as in *A. capitata* the vertex of the head is black.

Antipha multicolor, n. sp.

Pale testaceous; head black at the vertex; thorax transverse: elytra finely punctured, the base and the apices fulvous, the intermediate space piceous, including a pale flavous transverse spot. — Length $2^1/_2$ lines.

Head rather broader than long, the vertex piceous, impunctate, lower part of the face, flavous; labrum piceous; palpi slender, obscure piceous; antennae two thirds the length of the body, testaceous, the terminal joints fuscous, third joint double the length of the second but only half the length of the following one; thorax three times broader

than long, the sides rounded at the middle, the posterior margin obliquely rounded at the angles, the surface impunctate, without depressions, pale flavous; scutellum fulvous; elytra slightly dilated posteriorly, the base somewhat swollen, the surface finely punctured, the punctuation arranged in semi-regular lines, a transverse broad band at the base occupying the first third of the length, fulvous, the following portion black or piceous with the exception of a triangular sutural space near the apices, which is fulvous, a transverse irregular shaped flavous spot occupies the middle of each elytron; breast obscure fulvous; abdomen and legs flavous; tibiae unarmed; the first joint of the posterior tarsi nearly as long as the three following joints; claws appendiculate; anterior coxal cavities closed; prosternum very narrow but distinct; elytral epipleurae broad at the base, indistinct below the middle.

Hab. Java: Buitenzorg (Müller and Semmelink). — Two specimens.

Antipha apicipennis, n. sp.

Fulvous; antennae flavous; thorax obsoletely depressed, scarcely punctured; elytra black, closely and distinctly punctured, the extreme apices fulvous; tibiae black. — Length 3 lines.

Head impunctate, reddish fulvous, the frontal tubercles in shape of strongly raised transverse ridges; clypeus broadly triangular, extending upwards between the frontal elevations; labrum testaceous; antennae slender, entirely flavous, the third joint three times the length of the second, the following very slightly thickened, the extreme apex of the terminal joint fuscous. Thorax more than twice as broad as long, the sides perfectly straight, the anterior angles obliquely truncate, the surface not visibly punctured, obsoletely transversely depressed, reddish fulvous. Scutellum fulvous. Elytra closely and very distinctly punctured, black, the extreme apices fulvous, their epipleurae

obsolete below the middle. Legs black, the femora sometimes fulvous; tibiae unarmed; anterior coxal cavities closed.

Hab. Sumatra or.: Tandjong Morawa, Serdang (Dr. Hagen), Deli (Schagen van Leeuwen). — Three specimens.

Ozomena (Theopea) variabilis, n. sp.

Violaceous blue; antennae (the two apical joints excepted) black; thorax transverse, deeply impressed, impunctate; elytra closely and distinctly punctured, the interstices obsoletely rugose. — Length $2^1/_2$—3 lines.

♂. Antennae filiform, long and slender, strongly pubescent.

♀. Antennae with shorter and broader joints.

var. Elytra cupreous.

Head impunctate, deeply grooved between the eyes; the frontal tubercles in shape of a narrow transverse ridge; eyes large; labrum and jaws black; antennae as long as the body, black, the apex of the 9th joint, and the two apical ones, flavous, extreme apex of the terminal joint black. Thorax about one half broader than long, the sides nearly straight and slightly narrowed in front, the disc with a deep sinuate transverse groove, not extending to the sides, impunctate, metallic violaceous blue. Scutellum black. Elytra closely punctured, the punctures for the most part arranged in irregular double rows near the suture, but irregularly at the sides, where the interstices are transversely rugose. Anterior coxal cavities closed. Tibiae unarmed. Claws appendiculate.

Hab. Sumatra or.: Tandjong Morawa, Serdang (Dr. Hagen). — Five specimens.

There is a considerable difference in the shape and structure of the thorax between this species and several of its congeners, notably *O. impressa* Fabr. In the latter the thorax is square-shaped with two deep foveae, in *O. variabilis* the thorax is transverse and the two impressions are replaced by a sinuate groove. Nevertheless I cannot find sufficient other marks of distinction to separate this species

from the others, the pubescent antennae, closed cavities etc. being all characters peculiar to *Ozomena*. The second joint of the antennae in the male insect is very short, the following joints however are very slender, elongate and of nearly equal length. In the specimens upon which I look as the females and which differ in no other way except in the shape of the antennae, the latter are much shorter and the joints more flattened, and instead of three flavous apical joints there are only two. The elytra show no traces of the geminate rows of punctures but are irregularly punctate. The absence of any longitudinal costae of the elytra will help to distinguish *O. variabilis* from its allies.

Doridea(?) metallica, n. sp.

Obscure bluish black below; head, antennae, thorax and legs fulvous; thorax obsoletely biimpressed; elytra metallic blue, very closely and finely punctured and obsoletely rugose. — Length 3 lines.

Head not longer than broad, impunctate, transversely grooved between the eyes; antennae about half the length of the body, the second joint very short, the third one three times as long, and as long as the fourth joint; thorax nearly twice as broad as long, the sides very slightly rounded, the surface impunctate, with a shallow transverse depression at each side; scutellum fulvous; elytra somewhat flattened, nearly parallel, the shoulders slightly prominent and smooth, the rest of the surface very closely punctured, the interspaces finely transversely wrinkled; tibiae unarmed, the first joint of the posterior tarsi as long as the three following joints together; claws appendiculate; anterior coxal cavities closed; elytral epipleurae broad at the base, obsolete below the middle.

Hab. Sumatra: Rawas and Loeboe gedang (Sumatra Expedition). — Two specimens.

I am not certain whether I refer rightly the specimens before me to *Doridea* of which they possess all the cha-

racters; they are however evidently females and the male insect probably differs in the structure of the antennae.

Medythia, nov. gen.

Ovate, convex; palpi and antennae filiform, the third joint of the latter one half longer than the second; thorax not broader than long, narrowed at the base, the surface without depressions; elytra ovate, pointed at the apices, irregularly punctured; legs long and slender, the posterior tibiae with a distinct spine; the first joint of the posterior tarsi as long as the three following joints together; claws simple; anterior coxal cavities open.

The ovate, convex general shape, the long, posteriorly narrowed thorax, slender legs and the simple claws distinguish *Medythia* from any of the other numerous genera of Galerucinæ.

Medythia quadrimaculata, n. sp.

Fulvous; the head and the lower joints of the antennae, piceous; thorax minutely punctured; elytra a little more strongly punctate, a square-shaped spot at the shoulder and a triangular one near the apices, piceous. — Length 1 line.

Head rather longer than broad, piceous, the vertex impunctate, the frontal tubercles strongly developed, trigonate; the clypeus with a distinct central longitudinal ridge, strongly punctured at the sides; palpi piceous, the terminal joint slender, elongate and pointed; antennae scarcely shorter than the body, the three basal joints obscure fulvous, the four following ones black, the 8th, 9th and 10th whitish, the terminal joint black; thorax strongly narrowed at the base, the posterior angles obliquely rounded, the anterior ones thickened in shape of a more or less distinct tubercle, the surface extremely finely punctured, only visible under a strong lens, shining, fulvous; elytra

widened towards the middle, convex, finely but more distinctly punctured than the thorax, their epipleurae continued below the middle, a square-shaped spot at the shoulder, extending to the sides but only half the distance from the suture and a triangular-shaped spot placed near the apex, half way between the lateral and sutural margin, piceous or black; underside and legs fulvous, the base of the tibiae slightly stained with piceous.

Hab. Sumatra or.: Medan, Deli (W. Dates). — Two specimens.

Correction: In the Ent. Mo. Mag. XXIII. p. 268 (May 1887) Mr. J. S. Baly publishes »Notes on Galerucinæ" etc. In one of these the genus *Malaxia* Fairmaire (Ann. Soc. Ent. France. 1878. p. 139) is said to be synonymous with the genus *Glytolus* Jacoby (Notes Leyd. Mus. 1884. p. 62). This is however not quite correct, as the latter name does not be written *Glytolus* but *Glyptolus*.

C. R. Cz.

NOTE XXX.

DESCRIPTION D'UN DYTISCIDE NOUVEAU.

PAR

M. RÉGIMBART.

Hydaticus consimilis, spec. nov.

H. capicolae Aubé *valde similis, sed statura multo major et subtilius punctulatus; supra rufotestacea, capite signaturis nigris, prothorace vitta transversa fusca ornatis; elytris creberrime nigro irroratis, margine externo sat late rufo, vittaque juxta suturali angustissima rubroferruginea; scutello nigro. Subtus nigro-piceus, prosterni lateribus, antennis pedibusque anticis rufis, abdomine pedibusque posticis ferrugineis.* — Long. 15 mill.

Cette grande espèce est extrêmement semblable à l'*H. capicola* Aubé d'Afrique méridionale, mais s'en distingue immédiatement par sa grande taille. Les autres caractères tirés de la forme et de la coloration sont identiques, mais la ponctuation du *consimilis* est plus fine et nettement formée de très petits points serrés et accompagnés d'autres moitié plus gros et beaucoup moins denses; la réticulation du fond des élytres est également plus subtile et moins apparente; enfin les points sériaux des élytres sont plus espacés et moins gros.

Hab. Australie: Queensland (French). — Deux femelles de la collection de Mr. Neervoort van de Poll.

NOTE XXXI.

REMARQUES SUR TROIS ESPÈCES DE GYRINIDES.

PAR

M. RÉGIMBART.

1. *Dineutes Fairmairei* Rég., Ann. Soc. Ent. France. 1882. p. 394. — La série d'exemplaires des îles Viti que vient de me communiquer Mr. Ritsema, et qui appartient à Mr. Neervoort van de Poll, se compose d'individus dont la taille, la forme et la coloration varient d'une façon tout à fait extraordinaire et indépendante du sexe, au point qu'en voyant les formes les plus éloignées il est impossible de croire qu'elles aient la moindre parenté entre elles. La taille varie dans les limites extrêmes de $10^1/_2$ et de $15^1/_2$ mill. La coloration dominante est le bleu d'acier qui est plus ou moins rehaussé par de magnifiques teintes métalliques bronzées, cuivrées ou pourprées. Chez les uns la bande chatoyante mate des élytres n'occupe guère que le tiers de leur largeur et alors les lignes opaques longitudinales sont bien apparentes et souvent même sulciformes; chez d'autres cette bande occupe plus de la moitié et les lignes opaques sont alors moins marquées et même quelquefois presque entièrement effacées. La forme est ovalaire, mais le plus souvent franchement rhomboïdale et atténuée en arrière. Le sommet des élytres est formé depuis l'échancrure externe jusqu'à l'angle sutural par une double troncature, assez sensible chez les uns, moins marquée chez le plus grand nombre. Tous ces caractères sont indépendants de sexe; mais ce qu'il y a de plus curieux, c'est une

petite dépression située sur chaque élytre en arrière et tout près de l'écusson et qui est particulière à tous les mâles sans exception. Aucune femelle ne montre ce caractère.

2. *Gyretes bidens* Oliv., var. *Spitzlyi* Rég.

Cette variété, capturée en plusieurs exemplaires (mâles et femelles) par Mr. F. E. Spitzly à Surinam, Tempatie creek, et adressée au Musée de Leyde par son frère Mr. H. Spitzly, diffère du type par sa coloration d'un beau bronzé doré sur le dessus du corps, tandisque le type est noir à peine métallique.

3. *Orectochilus punctipennis* Sharp, Trans. Ent. Soc. London. 1884. p. 449. — Mr. Neervoort van de Poll possède un exemplaire ♀ bien développé et bien coloré de cette espèce encore presque inconnue qui pourrait bien n'être qu'une variété locale de notre *O. villosus* Fabr. La ponctuation parait un peu plus forte et l'angle sutural des élytres un peu plus accusé, au moins chez cette femelle, qui vient, comme les types, du Japon.

NOTE XXXII.

DESCRIPTIONS OF EARTHWORMS.

BY

Dr. R. HORST.

II [1]).

On *Eudrilus*-specimens from Surinam.

Among the worms of our collections I met with two specimens of the genus *Eudrilus*, kindly presented to our Museum by Mr. C. J. Heering from Surinam. The genus *Eudrilus* was named by Perrier [2]), who described three species: *E. Lacazii* (from Martinique), *E. decipiens* (from the Antilles) and *E. peregrinus* (from Rio Janeiro). Last year Mr. Beddard received from New Caledonia a dozen of earthworms, belonging to the same genus, which he named *E. Boyeri* [3]). The genus *Eudrilus*, though agreeing in many characters, viz.: the arrangement of the bristles, the presence of a muscular gizzard, the form of the vascular system, with *Lumbricus*, is distinguished from it by the remarkable structure of its genital organs. Beddard published a careful account of the anatomy of these organs [4]), which however differs in several respects from Perrier's earlier description;

1) For Part I see p. 97—106 and pl. 1 of this volume.

2) Nouv. Archiv. Muséum d'Hist. Nat. Vol. VIII, 1872, p. 71.

3) Proceed. Zoolog. Society London. 1886, p. 302.

4) Note on the ovaries and oviducts of *Eudrilus*: Zoolog. Anzeiger, IX Jahrg. 1886, p. 342.

therefore I thought it very interesting to examine if the structure of the genital organs in our specimens did correspond with his description. Moreover through the kindness of Mr. Layard I was able to dissect also some individuals of *E. Boyeri* Bedd. from New Caledonia.

The largest of our two Surinam-specimens measures 170 m.m. in length, the number of its segments being about 200. The cephalic lobe is club-shaped, impinging till the middle of the buccal segment. There is an annular girdle, occupying six segments, from the 13th to the 18th, quite like in *E. Lacazii* Perr. The female genital pores are situated on segment 14, in the series of the dorsal bristles, the male genital pores lie on segment 17, in the series of the ventral bristles; the last pores are rather large and surrounded by a ridge, which is radiately folded.

Our individuals are plainly intraclitelline, like *E. peregrinus*, *E. Lacazii* and *E. Boyeri*, and the assertion of Perrier, that *E. decipiens* should be postclitelline, its clitellum extending but from the 13th to the 15th segment, is undoubtedly a mistake as already suggested by himself.

The alimentary tract is furnished in the segments 10, 11 and 12, behind the gizzard, with three pairs of pouch-shaped glands, like in *E. Boyeri*; I have also been able to detect the series of glands on the dorsal wall of the intestine, in the posterior part of the body, mentioned by Beddard. There are three pairs of large lateral hearts in segment 8, 9 and 10, like in *E. Lacazii*; moreover an intestinal heart appears to be present in segment 11. Two pairs of seminal vesicles could be detected, occupying the segments 10, 11 and 12; with these are connected two pairs of vasa deferentia, whose ciliated rosettes are situated in segment 10 and 11. The two sperm-ducts of each side remained perfectly separated, running quite near each other, parallel with the intestine, till into the 17th segment; here they bend around the external side of the bursa copulatrix and open into the middle of a long, tubular, muscular

pouch, named by Beddard »prostatic gland." This organ, occupying about 7 segments, has nearly the same breadth over its whole length, only in its middle it is somewhat constricted and opens by a short, narrow duct on the cushion-shaped bursa copulatrix. Its wall has a nacreous appearance and consists of a thick external layer of longitudinal muscular fibres and a thinner internal layer of circular ones; this body, as stated by Perrier, though agreeing in its situation with the prostatic gland of other Lumbricidae, wants the glandular structure of that organ and therefore I believe it may by no means be identified with it. Since Beddard found the duct of this tube being continuous with the curved penis, it rather may be called ductus ejaculatorius. I also found the curious Y-shaped body, described by Perrier and Beddard, on the dorsal side of the bursa copulatrix.

The form of the male genital organs of our specimens quite agrees with the description and figure of these bodies in *E. Boyeri*, given by Beddard; on the contrary Perrier states, that the species he examined possessed only a single vas deferens on each side, and that this duct opened directly into the bursa copulatrix and not into the ductus ejaculatorius. I cannot suppose that there should exist such great differences, in respect of the structure of the male genital organs, between Perrier's and our West-Indian specimens, which quite agree with those from New Caledonia; and therefore I believe that Perrier has been mistaken in his observations.

The structure of the female genital organs is no less remarkable. They consist of a long, tubular pouch, the spermatheca, which is folded together in a longitudinal direction, parallel with the intestine, and opens unto the exterior by a muscular duct, situated perpendicularly on the remaining part of this body; with this efferent duct communicates another narrow, twisting tube, furnished at its aboral extremity with a small oval protuberance. In front of the last tube a small globular sac opens likewise

into the efferent duct of the spermatheca; according to Perrier this small sac represents the ovary.

In his paper in the Zoolog. Anzeiger Beddard not only fixed the attention on this remarkable continuity of the ovary and the spermatheca, but he also demonstrated by means of transverse sections of his New-Caledonian specimens, that not the globular sac does represent the ovary, as suggested by Perrier, but the oval protuberance at the extremity of the twisting tube, and that therefore in the genus *Eudrilus* the ovary is continuous with the oviduct. Though our specimens were not sufficiently preserved to allow the method of section-cutting, I have been able to confirm Beddard's statements, and I am quite agreeing with him, that Perrier has mistaken the relation of the ovary and the spermatheca. This suggestion is confirmed by some statements in the paper of Perrier himself, for as he says on page 75 »mais cet examen ne peut laisser aucun doute; ce sont là des ovaires etc.", on page 81 he says »c'est là très probablement l'ovaire; mais nous n'avons pas d'observations précises sur ce point". and the eggs of *E. peregrinus*, figured on pl. IV, fig. 76, have been found in a body, situated extérieurement and au dessous du tube entortillé and not in the globular sac, which lies intérieurement and en face du tube entortillé. From the foregoing considerations we may conclude, that, like our West-Indian specimens, with regard to the female genital bodies, agree with those from New Caledonia, it will also be the case with Perrier's specimens, and I am convinced that our worms belong to one of Perrier's species; perhaps his three species, differing from each other in very insignificant characters, represent only a single one. Considering that Beddard states of his *E. Boyeri* »which I cannot differentiate from those, described by Perrier" and »I am inclined myself to suspect, that the New-Caledonian specimens may have been accidently imported", and that, as I demonstrated before, there are no differences in respect of the genital organs, between his

and our West-Indian specimens, I cannot but think that they all belong to the same species, which I propose to call *E. decipiens*, the first described worm on which Perrier based the genus *Eudrilus*.

P.S. This note being already in press, I received from Mr. Beddard a paper, published in the Proceed. of the Royal Soc. of Edinburgh, Vol. XIII, which contains a more detailed description of the female generative apparatus, illustrated by several figures. In dealing with the morphology of these organs, he points out their strong resemblance with the female generative organs of *Hirudo*, a fact not agreeing with the results of recent investigators (Lang, Bourne a. o.), who regard the Hirudinea to be more closely allied to the Platyhelminthes than to the Annelida. The arguments of Mr. Bourne in favour of this view (Quart. Journ. Micr. Sc. 1884) however appear to me by no means conclusive, and I believe the Leeches to present several other points of affinity with the Oligochaeta. Their hermaphrodite condition, in connection with the presence of median generative pores, is not only a Platyhelminth character, as stated by Bourne; for all Oligochaeta are hermaphrodite, and *Perichaeta* has a single median female opening; their highly developed vascular system (especially of the Rhynchobdellidae) shows in its arrangement many points of resemblance with that of the Oligochaeta; they possess well-developed nephridia; they present a clitellum and have the practice of forming cocoons like the greater part of Oligochaeta. The presence of suckers, being an adaptive character produced by parasitism, seems of no great importance to me, and is also found in *Branchiobdella* among the Oligochaeta and in *Malacobdella* among the Nemertines.

On *Acanthodrilus Schlegelii* Horst and *ungulatus* Perrier. (Plate 4).

In vol. VI of this Journal, p. 103, I published a short description of *Ac. Schlegelii* from Liberia; having only a single badly preserved specimen at my disposal, my examination could be but very incomplete. Ever since our knowledge of the genus *Acanthodrilus* much increased owing to Beddard's careful account of the anatomy of three New-Zealand species. I was therefore very glad to receive through the care of my colleague Mr. Büttikofer another better preserved individual of the same species, now being able to fill up the gaps in my first description and to figure some of the principal details of the anatomy of this worm. I could also examine several specimens of *Ac. ungulatus* Perr., which Mr. Layard was kind enough to forward to me from New Caledonia [1]).

The specimen of *Ac. Schlegelii* measures about 350 m.m. in length, the number of its segments being 327. There

---

1) Beddard received also through the care of Mr. Layard several *Acanthodrilus*-specimens from New Caledonia, and though he states that these worms „may be identical with one or other of the two species (*Ac. ungulatus* and *Ac. obtusus*), first described from that region by Perrier," and that they agree in several characters viz. the position of the clitellum, the form of the penial setae, with *Ac. ungulatus*, nevertheless he figured them under the name of *Ac. Layardi* (Proc. Zool. Society, 1886, p. 168, pl. XIX). The most important differences between *Ac. ungulatus* and his specimens he points out, are the situation of the male genital pores and of the spermathecae; for Perrier stated that *Ac. ungulatus* has the male genital openings situated on the 18th and 20th ring, whereas in Beddard's and our specimens, like in the other known species of *Acanthodrilus*, they lie on the 17th and 19th segment. The spermathecae should be placed in segment 8 and 10, in stead of in segment 8 and 9, as found by Beddard and myself. I suppose that Perrier has only been mistaken in the number of the segments, 1° because he had but a single small specimen at his disposal, 2° because, through the state of contraction of the worm, it is often very difficult to determine the real number of a segment, as proved by Beddard himself, who corrects in this paper several statements he made before. Therefore I am convinced that the worms, sent to us by Mr. Layard, really belong to *Ac. ungulatus* Perr.

is no trace of a clitellum visible, as in the specimen described before. Each ring is marked in its middle by a transverse groove. My statement, that the cephalic lobe should extend over two segments, could not be confirmed. The first dorsal pore was observed between the 14th and 15th segment, one ring more backward as I found it in the first individual.

As for the appearance of the penial setae, situated next to the male genital pores in the angles of the depressed area on segment 17 and 19 (fig. 2), I may refer to my foregoing paper and to the figures 3 and 4. The female genital openings could not be detected.

In dissecting the worm I found the whole internal side of the body-wall to present a feltered appearance, like in *Perichaeta*, due to the presence of innumerable faint tubes, which, as already stated in my first paper, highly magnified have a strong resemblance with real segmental organs, though I have not been able to detect neither their external, nor their internal opening. On the contrary in *Ac. ungulatus* the nephridia are very obvious, as already stated by Beddard, and consist of a closely packed rosette of glandular tubes, communicating with the exterior by a large, thin-walled duct; they resemble much the nephridia of *Microchaeta Rappi* Bedd.[1]), but I tried in vain to find the internal funnel.

The vascular system of *Ac. Schlegelii* agrees much in its arrangement with that of *Ac. ungulatus*[2]). The dorsal vessel is a single tube, communicating with the ventral trunk by five large transverse hearts, situated in segment 10—13. The number of the pairs of these commissural vessels and that of the septa, separating them from each other, does not exactly correspond to that of the segments;

1) Beddard, On the anatomy and system. position of a gigantic earthworm from the Cape Colony; Transact. Zool. Society, Vol. XII, 1886, p. 64. — Benham, Studies on earthworms, Part II, Quart. Journal of Microsc. Science, Vol. XXVI, 1886, pl. XVI, fig. 21.

2) Proc. Zool. Society, 1886, pl. XIX, fig. 7.

I suppose that some of the muscular bands, radiating from the intestine to the body-wall, increased in size and thus grew similar to real septa. The first three pairs of transverse hearts arise simply from the dorsal trunk, but the two posterior pairs of them communicate also with the supra-intestinal vessel (v. typhlosolien); from the last vessel, in the region between the 2nd and 3rd pair of hearts, arises also a pair of lateral vessels (fig. 1, *lv*) which pass beneath the second transverse heart and, running forward along the side of the gizzard till the cephalic part of the body, supply the body-wall with several branches. In the 9th segment the lateral vessels of both sides communicate with each other by a transverse vessel, that passes beneath the middle of the gizzard.

In *Ac. ungulatus* the vascular system shows a curious difference in its arrangement from that of *Ac. Schlegelii*; for in that species the lateral vessels do not only arise from the underside of the intestine, where they unite in a single sub-intestinal vessel [1]), but in the 5th segment, on the limit of the pharynx and of the oesophagus, they communicate with each other by a transverse vessel, which passes above the intestine.

In *Ac. Schlegelii* I found two pairs of spermathecae in the 8th and 9th segment; they are oval pouches, without any diverticulum, opening unto the exterior by a short efferent duct, in the series of the internal bristle of the dorsal pair. Spermathozoa have not been observed therein.

In *Ac. ungulatus* the efferent duct of the spermatheca is furnished at its upper extremity with a slight protuberance, though, as rightly stated by Beddard, it is hardly so marked a diverticulum as figured by Perrier. This protuberance appears to be the seat of a strong secretion;

1) A curious mistake has crept in Beddard's figure of the vascular system of *Ac. Layardi* (loc. cit.); for according to this drawing the lateral vessels seem to arise from the dorsal side of the intestine, while in the text of his paper he says exactly: „these vessels pass beneath the intestine and unite to form a single subintestinal vessel."

for in transverse sections I found the epithelium in this portion of the duct differing very much from that in the remaining part. In stead of the epithelium, composed of high, columnar cells and covered by a cuticular membrane that lines the greatest part of the duct, I found in the protuberance an internal layer of cells, which not only want the cuticular membrane, but are also lower and broader, and which contain numerous large, clear bubbles of different shape, probably the products of secretion.

The curious sausage-shaped glandular bodies, observed by Beddard in some of his specimens of *Ac. Layardi*, next to the modified setae in the 8th segment, I have been unable to find, and the inconstancy of these structures makes it evident for me, that they have no great morphological importance. However I observed in the 7th and 8th ring several small, white vesicles, irregularly distributed and attached to the internal side of the body-wall. As to the function of these bodies, which I could not yet examine in transverse sections, I dare only say that I do not believe they represent a normal part of the organism of the earthworm, but I rather suppose they are strange organisms, perhaps belonging to some or other species of the Gregarinidae.

In the 11th and 12th ring — not in the 12th and 13th, as erroneously stated before — a pair of flat, faintly lobated bodies are to be found, attached to the posterior side of the anterior segment (fig. 1, *vs*). I was first inclined to take them for the real testes in an immature state, till I succeeded to detect in the 10th and 11th segment, exactly in front of the funnels of the vasa deferentia, a glandular body, attached to the posterior side of the anterior segment, on either side of the nerve-cord. These glands, not only in their situation but also in their form, correspond to the ovaries (see afterwards); they consist of a great number of digitately arranged lobes (fig. 5). Each lobe consists of polygonal cells, containing a granular protoplasma with a nucleus and a well-marked nucleolus

(fig. 6); these cells, which I suggest to be the male germinal cells (spermatospores) differed from the female germinal cells (oospores) by a less distinct nucleus.

In the bodies, attached to the anterior septum in the 11th and 12th ring, I found the spermatospores in a more advanced stage of development, showing the well-known mulberry-shaped masses; mature spermatozoa have not been observed. The organ itself has the same areolate structure as we know to exist in the seminal vesicles of other Lumbricina. I have no doubt therefore that the lobed bodies in the 11th and 12th segment represent the vesiculae seminales, originated by evagination and proliferation of the dissepiment, as is the case in *Lumbricus* and *Criodrilus*, according to the investigations of Bergh [1]) and Rosa [2]).

In *Ac. ungulatus* in the 11th and 12th segment also lobated glandular bodies are situated, much resembling those of *Ac. Schlegelii*, and probably representing the testes; they lie exactly in front of the ciliated rosettes of the sperm-ducts, at the internal side of the nephridia. It was only by means of transverse sections that I could find them out, for the septa in the genital region, especially those of the 11th segment, are strongly thickened and coalesced together. In all the specimens there are two pairs of vesiculae seminales, quite separated from each other. The anterior pair is attached to the anterior side of the 10th septum, and situated in the 10th segment; the posterior pair is fixed to the posterior side of the 11th septum, lying thus in the 12th segment.

From the foregoing considerations it may be concluded, that there exist in the species of *Acanthodrilus* real male genital glands (testes), morphological aequivalents of the ovaria, discharging their contents into the vesiculae seminales,

1) Untersuch. über Bau und Entw. der Geschlechtsorg. d. Regenwürmer; Zeitschr. f. Wissensch. Zoologie. Bd. XLIV, 1886, p. 304, pl. XXI.

2) Sul *Criodrilus Lacuum*, Memorie d. R. Accad. delle Scienze di Torino, Ser. II, Vol. XXXVIII, 1887.

quite as it is stated to be the case in *Lumbricus*, *Perichaeta*, *Microchaeta* and *Criodrilus*, according to the investigations of Hering, Bloomfield, Bergh, Benham, Rosa and myself. I am much inclined to believe that Beddard, in examining the New-Zealand species of *Acanthodrilus*, has confounded the vesiculae seminales with the testes; for his assertion, that the large racemose glands in the 11th and 12th segment cannot be homologous with vesiculae seminales, is based principally on their absolute independance of the vasa deferentia, whereas according to Ray Lankester's suggestion the seminal vesicles should originate as outgrowths of the vas-deferens funnels; afterwards Bergh however demonstrated that Lankester's supposition was erroneous and that the vesiculae seminales take their origine entirely independent of the funnels of the sperm-ducts, by evagination of the septum. It seems to me very probable that Beddard, in reexamining his specimens, will find the real testes; perhaps the peculiar glands, homologous (?) with ovaries, t,t' in the woodcut fig. 3 in his paper, will appear to represent them.

Ac. Schlegelii has the ovaries in segment 13, i. e. next to that which contains the posterior pair of seminal vesicles; they are attached to the anterior septum, next to the ventral middle line. The ovaries have the appearance of a flattened body, consisting of numerous radiately distributed lobes. Each lobe is not unlike to the single ovary of *Lumbricus*. Its basal portion, that is attached to the septum, consists of a mass of granular protoplasma containing nuclei; to the distal extremity of the lobe the eggs are more and more recognisable, and its free end contains usually one or two large ripe eggs, enclosed in a follicle, which are on the point of becoming free. In *Ac. ungulatus* the ovaries have also been found in the 13th segment, and that they could escape the sharp scrutinizing eye of Beddard may be occasioned by their being situated close to the median side of a nephridium, whose radiating tuft of loops to the naked eye shows much resem-

blance with the digitate lobes of the ovary. Examining them with a high power, I found the ovaries of this species consisting of numerous loops of blood-vessels and a germinal epithelium, containing eggs in all stages of development, attached to their wall.

EXPLANATION

OF

Plate 4.

Fig. 1. *Ac. Schlegelii* Horst; general view of the contents of the body-cavity: *gl.* intestinal coeca; *lv.* lateral vessel; *o.* ovary; *pr.* prostate gland; *r.* ciliated rosette of the vas deferens; *sp.* spermatheca; *t.* testes; *vs.* vesicula seminalis.

Fig. 2. Genital region, from the ventral side, to show the depressed area, with the male genital pores on segments 17 and 19.

Fig. 3. *a.* Penial setae; *b.* ordinary setae. × 16 diam.

Fig. 4. The free extremity of a penial seta, highly magnified, to show the small pitts on its surface.

Fig. 5. Testis. × 36 diam.

Fig. 6. A single testis-lobe, more highly magnified.

Fig. 7. Ovary. × 36 diam.

Fig. 8. Lobe of the ovary. × 90 diam.

NOTE XXXIII.

CLYTRIDE ET EUMOLPIDES NOUVEAUX DE L'AFRIQUE TROPICALE OCCIDENTALE, ET DES ILES DE SUMATRA ET DE BANKA.

DÉCRITS PAR

Ed. LEFÈVRE,

Ancien Président de la Société entomologique de France.

Clytra (Diapromorpha) cribricollis, spec. nov.

Subconico-cylindrica, nigra, subtus dense argenteo-sericea, palpis, antennis pedibusque omnino rufo-testaceis, mandibulis nigris, superne rufo-maculatis; capite subtiliter ruguloso, inter oculos late evidenter depresso, pube subargentea obsito; prothorace nigro, margine laterali et antico maculaque media parva, flavis, parte nigra antice late et profunde sinuata, punctato-corrugata, punctis majoribus et minoribus intermixtis; scutello punctulato, triangulari, apice acuto, linea media elevata longitudinaliter instructo; elytris grosse inordinatim punctatis, fasciis tribus transversis et undulatis (1ª. basali obliqua, 2ª. submedia, 3ª. fere apicali) nigris. — Long. 11 mill.; lat. 5 mill.

Afrique trop. occ.: Humpata (v. d. Kellen). — Un seul exemplaire.

Cette belle espèce est voisine du *D. argentata* Fabr. Elle s'en distingue surtout par la couleur rouge des palpes, des antennes et des pattes, et par la partie noire du prothorax qui est couverte de gros points enfoncés mélangés de points plus petits. A la base et sur les côtés latéraux, ces points se réunissent les uns aux autres, ce qui fait paraître ces parties comme corrodées.

Pagria sumatrensis, spec. nov.

Breviter ovalis, subtus brunneo-testacea, supra fulva, elytris pedibusque dilutioribus; capite inter oculos foveolato, post oculos late et profunde canaliculato, vertice lævi, epistomate punctato, mandibulis oculisque nigris, palpis et antennarum articulis duobus primis albido-flavis, his apice fuscis; prothorace in medio disci leviter et remote, ad latera fortius et crebrius, punctato, margine laterali utrinque medio subacute angulato; scutello parvo, lævi, apice rotundato; elytris infra humeros subarcuatim impressis, leviter lineatim punctatis (punctis grossis, nigris, intra impressionem basalem profundioribus), sutura nigro-infuscata, callo humerali tumido, lævi, in costulam brevem longitudinaliter producto; femoribus subtus dente minutissimo instructis. — Long. 2 mill.; lat. 1 mill.

Sumatra or.: Tandjong Morawa, district de Serdang (Dr. B. Hagen). — Un seul exemplaire.

Note. Le *Nodostoma flavo-pustulatum*, du Japon, décrit par M. Baly (Trans. Ent. Soc. of London, 1874, p. 169), doit être rapporté au genre *Pagria*, dont il possède tous les caractères. Il en est de même du *Nodostoma consimile* du même auteur (loc. cit. p. 168). Cette dernière espèce n'est pas spéciale au Japon, car j'en possède deux exemplaires de Shanghai et un des environs de Saïgon. M. Jacoby (Proceed. Zool. Soc. of London, 1885, p. 752) la considère comme une simple variété du *Nodostoma flavo-pustulatum*.

Aulexis pallida, spec. nov.

Suboblonga, omnino cum palpis, antennis pedibusque pallide fulva, pilis albidis sat dense undique obtecta, capite, prothorace elytrisque creberrime subtiliter punctulatis; prothorace subcylindrico, superne depresso, utrinque pone medium oblique vix perspicue impresso, margine laterali ipso deleto, medio evidenter tridentato. — Long. 4 mill.; lat. $2^1/_4$ mill.

Sumatra or.: Boenga mas, Palembang (J. C. van Hasselt). — Un seul exemplaire.

Colasposoma mutabile, Baly.
(Trans. Ent. Soc. Lond. 3rd ser. Vol. IV (1867), p. 273).

Contrairement à l'opinion émise par M. Jacoby (Notes from the Leyden Museum, VI, 1884, p. 22), je pense que les nombreux exemplaires de *Colasposoma* provenant de Sumatra (de l'expédition-scientifique et du Dr. B. Hagen), doivent être rapportés au *C. mutabile* Baly et non au *C. nigriventre* Baly. Dans cette dernière espèce, en effet, la couleur de l'abdomen est constamment d'un noir foncé et mat, sans aucune trace du reflet bronzé, vert ou bleuâtre, que présente toujours l'abdomen du *C. mutabile*. De plus, dans les femelles du *C. nigriventre* les rugosités latérales des élytres sont beaucoup plus fortes et plus étendues que celles qu'on observe chez les femelles du *C. mutabile*.

Euryope cruciata, spec. nov.

Ovata, parum convexa, subtus cum antennis pedibusque nigra, illarum articulo primo apice rufescente, supra rubra, capite lato, subremote punctulato, inter oculos vage impresso, in media fronte macula nigra notato, mandibulis rubris, apice summo nigris; prothorace transverso; sat dense undique punctato, ad latera utrinque vage foveolato, maculis quatuor nigris insignito, margine laterali ipso recto; scutello nigro; elytris minute inordinatim undique punctatis, basi limbo communi latissimo (utrinque juxta scutellum interdum interrupto), et in singulo macula subtriangulari lata, ultra medium posita, nec latera, nec suturam, nec apicem attingente, nigris, callo humerali ipso rubro, postice in cretam brevem producto. — Long. $7^1/_2$—8 mill.; lat. 4—$4^1/_2$ mill.

Afrique trop. occ.: Ovumbo (Frank). — Quatre exemplaires.

Abirus Hageni, spec. nov.

Oblongus, convexus, subtus viridi-cyaneus, pube albida modice obtectus, supra viridi-metallicus, subaurato-reflexo-micans, nitidus, labro viridi, mandibulis oculisque nigris, palporum articulis basalibus fulvis, articulo ultimo cyaneo,

antennis dimidio corpore paulo longioribus, articulo primo viridi-metallico, quinque sequentibus cyaneis, subtus testaceis, reliquis cyaneis, dilatatis compressisque; capite punctulato, inter oculos vage transversim impresso, vertice convexo, utrinque post oculos leviter strigato; prothorace sat crebre aciculatim punctato; scutello subquadrato, lævi, apice rotundato; elytris infra humeros vix perspicue transversim impressis, utrinque juxta marginem lateralem longitudinaliter canaliculatis, disco interiori subtilissime subaciculatim, disco exteriori multo fortius, punctatis, interstitiis disci exterioris transversim strigatis; pedibus cyaneis, femoribus interdum viridi-reflexo-tinctis. — Long. $5^1/_3$—6 mill.; lat. 3 mill.

Sumatra or.: Tandjong Morawa, district de Serdang (Dr. B. Hagen). — Un seul exemplaire.

Apolepis atra, spec. nov.

Ovata, convexa, nigra, supra pilis squamæformibus erectis, apice arcuatis, instructa, labro antennisque basi obscure fusco-testaceis; prothorace grosse confertim punctato; elytris crebre sat fortiter punctatis, juxta suturam et versus apicem punctato-substriatis; pedibus nigris. — Long. $2^3/_4$—3 mill.; lat. $1^1/_2$—$1^3/_4$ mill.

Sumatra (René Oberthür). — Deux exemplaires.

Phytorus nigrolimbatus, spec. nov.

Ovalis, modice convexus, rufo-fulvus, nitidulus, antennis (articulis tribus primis exceptis) piceis, capite prothoraceque lævibus, illo inter oculos vage transversim impresso, hoc transverso, lateribus utrinque rotundato; scutello lævi; elytris longitudinaliter et regulariter striatis, striis dimidia parte antica tantum vix perspicue tenuiter punctulatis, limbo longitudinali latissimo nigro instructis, callo humerali ipso tumido, lævi; femoribus rufo-fulvis, anticis sicut et posticis subtus dente acuto parvo armatis; tibiis tarsisque nigris. — Long. $3^1/_2$—$3^3/_4$ mill.; lat. 2 mill.

Sumatra or.: Deli (J. A. N. Schagen van Leeuwen). — Un seul exemplaire.

Menius tarsalis, spec. nov.

Ovatus, convexiusculus, subtus niger, pectore viridi-æneo, supra viridi-æneus, nitidus, vage aurato-reflexo-micans, labro piceo, palpis antennisque fulvis, harum articulis quinque ultimis nigro-infuscatis; capite vix perspicue hic illic punctulato, inter oculos transversim evidenter impresso; prothorace lævi, in medio disci tantum remote punctato; scutello lævissimo; elytris infra humeros vage transversim impressis, regulariter punctato-striatis, callo humerali ipso lævi, calloso; pedibus viridi-æneis, femoribus omnibus subtus dente acuto armatis, tibiis apice tarsisque fuscis.

♂ Elytris punctato-striatis, interstitiis disci exterioris convexis subelevatisque; primo tarsorum anticorum articulo incrassato. — Long. $2^3/_4$—3 mill.; lat. $1^3/_4$ mill.

♀ Elytris punctato-striatis, interstitiis disci exterioris elevatis, costæformibus; primo tarsorum anticorum articulo simplici. — Long. 3—$3^1/_4$ mill.; lat. 2 mill.

Afrique trop. occ.: Liberia, Junk-river (Stampfli). — Deux exemplaires.

Cleorina fulvitarsis, spec. nov.

Ovata, convexa, subtus nigro-picea, supra obscure viridi-ænea, nitida, labro, palpis, antennis, tibiis apice tarsisque fulvis; prothorace antice sicut et postice lævi, in medio disci sat dense, ad latera utrinque crebrius et subconfluenter, profunde punctato, juxta marginem anticum transversim regulariter sulcato; scutello lævi, apice rotundato; elytris infra humeros utrinque sat fortiter arcuatim impressis, punctato-striatis, interstitiis lateralibus elevatis, costæformibus, parte basali inter suturam et callum humeralem evidenter tumida, callo humerali ipso prominente, lævi. — Long. 2—$2^1/_3$ mill.; lat. $1^1/_3$—$1^1/_2$ mill.

Sumatra or.: Tandjong Morawa, district de Serdang (Dr. B. Hagen). — Un seul exemplaire.

Note. *Cleorina æneo-micans* Baly, Trans. Ent. Soc. Lond. 1867, p. 237 (sub *Nodostoma*) = *Cl. aulica* Ed. Lef., Mém. Soc. Sc. de Liège. 2e Sér., tom. XI (1885), p. 144.

Corynodes egenus, spec. nov.

Breviter oblongus, convexus, viridi-metallicus, sub-auratomicans, aut viridi-cyaneus, nitidissimus, capite inter oculos profunde transversim sulcato, epistomate crebre fortiter, fronte remote et subtiliter, punctatis, hujus media parte longitudinaliter impressa, labro piceo, viridi-tincto, palpis magis minusve saturate fulvis, antennis elongatis, articulo 1°. metallico-viridi, 2—6 cyaneis, apice magis minusve fulvo-tinctis, 5 ultimis valde dilatatis, saturate violaceis; prothorace subconico, superne convexo, disperse modice punctato; scutello lævissimo, apice rotundato; elytris infra basin fortiter transversim impressis, subtiliter sublineatim punctulatis (punctis intra impressionem basalem paulo majoribus), infra callum humeralem utrinque tuberculo lævi instructis, callo humerali ipso tumido, lævi; pedibus viridi-cyaneis aut viridi-aurato-micantibus; unguiculis appendiculatis. — Long. 7 mill.; lat. 4 mill.

Sumatra or.: Tandjong Morawa, district de Serdang (Dr. B. Hagen). — Un seul exemplaire.

Colaspoides nigripes, Jacoby.

(Notes from the Leyden Museum, VI, 1884, p. 18).

Cette espèce, très-voisine du *C. Laportei* Baly, en diffère par la taille toujours d'un tiers au moins plus petite et par les rugosités des élytres plus fortes et moins serrées. Dans les individus typiques, le dessous du corps et les pattes sont noires, avec l'extrémité des tibias et les tarses d'un brun de poix plus ou moins clair. Mais cette coloration varie dans les proportions suivantes:

Var. β. Pectore nigro, abdomine nigro-cyaneo, femoribus viridi-metallico-tinctis.

Var. γ. Pectore, abdomine femoribusque viridi-metallicis, epipleuris nigris, tibiis apice tarsisque piceis, interdum piceo-brunneis.

Var. δ. Paulo minor, prothorace minus fortiter punctato, corpore subtus pedibusque viridi-metallicis, tarsis piceo-

brunneis. — Sumatra: Loeboe Gedang (Expédition de Sumatra). — Un seul exemplaire.

Colaspoides speciosa, spec. nov.

Suboblongo-ovata, modice convexa, subtus cyanea, supra metallico-aurata, roseo-cupreo-micans, fulgida, capite minute remote punctulato, inter oculos transversim fortiter impresso, labro, palpis antennisque brunneo-fulvis, his gracilibus, dimidio corpore paulo longioribus; prothorace transverso, fere triplo latiore quam longiore, minute parum dense punctulato, margine laterali utrinque subarcuato, concinne cyaneo; elytris infra humeros late transversim subimpressis, lineatim regulariter punctulatis, punctis intra impressionem basalem paulo majoribus, interstitiis versus apicem subelevatis, juxta marginem lateralem utrinque longitudinaliter concinne canaliculatis, limbo marginali ipso cyaneo; femoribus cyaneis, anticis et posticis subtus ultra medium dente valido triangulari armatis, tibiis tarsisque nigro-piceis. — Long. $8^1/_2$ mill.; lat. 4 mill.

Banka (Buddingh). — Un seul exemplaire.

Colaspoides Hageni, spec. nov.

Suboblongo-ovata, convexiuscula, subtus nigro-picea, supra ænea, magis minusve cupreo-aurato-reflexo-micans, interdum cyanea, prothorace elytrorumque margine laterali utrinque concinne viridi-metallico, labro rufo-brunneo, palpis antennarumque articulis 5 basalibus læte fulvis, harum articulis ultimis nigris; capite remote subfortiter punctato, inter oculos subarcuatim evidenter impresso, in media fronte profunde foveolato, juxta antennarum impressionem spatio lævi subcalloso utrinque notato; prothorace transverso, in medio disci subremote, ad latera utrinque crebrius et fortius punctato, punctis aciculatis; scutello lævi; elytris alutaceis, juxta suturam sublineatim, ad latera et versus apicem profunde punctato-striatis, punctis grossis, infra humeros subconfluentibus et rugas irregulares formantibus; pedibus

rufo-brunneis, magis minusve piceo-infuscatis, femoribus inermibus. — Long. 5—5$^1/_3$ mill.; lat. 2$^3/_4$—3 mill.

Sumatra or.: Tandjong Morawa, district de Serdang (Dr. B. Hagen). — Cinq exemplaires.

Colaspoides lævicollis, spec. nov.

Oblonga, convexa, subtus viridi-ænea, abdomine apice rufo-brunneo, supra viridi-metallica, aurato-reflexo-micans, nitida, capite vix perspicue minutissime punctulato, in media fronte longitudinaliter, inter oculos transversim, evidenter impresso, antennis gracilibus, dimidio corpore longioribus, articulis 5 basalibus fulvis, reliquis piceis, labro sicut et palpis fulvo-brunneis; prothorace transversim convexo, lævissimo, punctis tantum nonnullis grossis hic illic remotissime instructo; scutello lævi; elytris infra humeros late evidenter impressis, subfortiter (præsertim disco exteriori) puntatis, versus apicem punctato-substriatis; pedibus rufo-brunneis, femoribus omnibus viridi-metallico-tinctis, duobus anticis subtus medio subacute angulatis, duobus posticis subtus ultra medium dente validissimo subacuto armatis. — Long. 4$^1/_2$—4$^3/_4$ mill.; lat. 3—3$^1/_3$ mill.

Sumatra: Bedar Alam (Expédition de Sumatra). — Un seul exemplaire.

Var. β. Roseo-cupreo-metallica, nitidissima, corpore subtus, prothorace lateribus femoribusque viridi-aurato-reflexo-micantibus, tibiis tarsisque piceo-nigris.

Sumatra: Ajer Boesoek (Expédition de Sumatra). — Un seul exemplaire.

NOTE XXXIV.

DESCRIPTION DE DEUX DYTISCIDES NOUVEAUX.

PAR

M. RÉGIMBART.

Laccophilus chloroticus, spec. nov.

Regulariter ovalis, parum convexus, omnino testaceus, supra subtiliter reticulatus, elytris lineolis creberrimis, tenuibus, valde irregularibus et fere inconspicuis ornatis. — Long. vix $4^1/_2$ mill.

Cette espèce, très reconnaissable à sa couleur pâle et uniforme, ne peut être comparée qu'aux *L. religatus* Shp. et *chinensis* Bohem.; mais elle se distingue très nettement de ces deux espèces par la sculpture, les aréoles de la réticulation étant infiniment plus lâches et moins régulières, et par les lignes flexueuses des élytres qui sont beaucoup plus fines, plus nombreuses, plus irrégulières et beaucoup moins apparentes.

Hab. Iles Andaman. — Un seul exemplaire dans la collection du Musée de Leyde (Dr. de Léseleuc) et un autre dans celle de Mr. Neervoort van de Poll.

Lancetes angustissimus, spec. nov.

Ovalis, maxime elongatus, fere parallelus, antice valde angustatus, infra niger, pedibus antennisque pallide rufis. Capite nigro, antice rufo; pronoto fulvo, valde angusto, basi leviter sinuato, in medio transversim impresso et obscurato, ad latera arcuatim depresso, lateribus antice arcuatis, postice rectis, angulis posticis fere rectis; scutello nigro-ferrugineo; elytris valde elongatis persubtiliter reticulatis, ad apicem oblique truncatis, fulvis, lineis nigris longitudinalibus

plus minus confluentibus et transversim creberrime conjunctis irroratis, basi anguste et lateribus latius fulvis. — ♂ tarsis anterioribus et intermediis articulis 1, 2, 3 *valde dilatatis et ciliatis, unguiculis simplicibus.* — Long. $9^1/_2$—10 mill.

Ce Lancetes est des plus remarquables par sa forme extrêmement allongée et étroite et par la longueur de ses pattes. Tout le dessus du corps est couvert d'une réticulation excessivement fine à mailles arrondies. La tête est noire avec l'épistôme et une partie plus ou moins grande du front d'un roux fauve. Le pronotum fauve, très petit, en forme de rectangle environ deux fois et demie plus large que long, la base sensiblement sinuée de chaque côté et les côtés arrondis en avant et presque rectilignes en arrière; sur le milieu se trouve une bande transversale brune qui couvre une dépression transversale assez irrégulière, en arrière de laquelle existent deux fossettes plus ou moins marquées; de chaque côté est aussi une dépression sublatérale curviligne. L'écusson bien développé est d'un ferrugineux noirâtre. Les élytres très allongées, subparallèles, comprimées latéralement et tronquées obliquement au sommet, sont également fauves et couvertes de nombreuses lignes noires longitudinales irrégulières, souvent confluentes et réunies entre elles par une multitude de petits traits noirs transversaux qui enferment ainsi de petites taches fauves; ces linéaments noirs laissent une assez large bordure immaculée et s'interrompent un peu avant la base et le sommet. Le dessous du corps, y compris le prosternum, est entièrement noir, les antennes et les pattes d'un fauve roussâtre pâle. Chez le mâle, seul sexe que je connaisse, les pattes antérieures et intermédiaires sont très longues, les trois premiers articles des tarses largement dilatés, comprimés, bilobés, et garnis en dessous de petites cupules pétiolées et de brosses longues et bien fournies, les ongles simples, égaux et arqués.

Hab. King George Islands (Mer Pacifique). — Trois mâles de la collection de Mr. Neervoort van de Poll.

NOTE XXXV.

DESCRIPTION D'UN GYRINIDE NOUVEAU.

PAR

M. RÉGIMBART.

Orectogyrus Büttikoferi, spec. nov.

Ovalis, sat elongatus, valde convexus, corpore subtus pedibusque pallide testaceis, supra subtilissime reticulatus, niger, anguste flavolimbatus, in capite et pronoto viridi-aenescens, elytris nigris vix metallicis, in regionibus punctatis brunneo-tomentosis, costa discoïdali sat lata, ante apicem desinente, spatio suturali laevi longiore et omnino parallelo, fere usque ad apicem prolongato. Labro punctato, semi-elliptico, cilis in medio nigris, ad latera et supra flavis instructo. — ♂ ignotus; ♀ tibiis anticis extus ad apicem sinuatis, angulo externo extus leviter prominulo. — Long. 7—7½ mill.

Cet insecte, de même que l'*O. elongatus* Rég. (Notes Leyd. Mus. VIII, 1886, p. 143), n'est très probablement qu'une race ou variété de l'*O. cuprifer* Rég. dont quelques caractères permettent cependant de le distinguer. La forme est un peu plus allongée et un peu plus convexe, sans être cependant plus comprimée sur les côtés; la coloration est en dessus beaucoup plus noire, surtout sur les élytres où les parties lisses ont à peine une teinte métallique bleuâtre; les reflets bronzés de la tête et du pronotum sont également beaucoup plus faibles; la côte lisse du disque

des élytres est plus large, de même que l'espace sutural qui est absolument parallèle et nullement atténué en son milieu; il en résulte que l'espace intercostal est sensiblement plus étroit.

Cet Orectogyrus (six femelles) a été capturé par Mr. J. Büttikofer à Liberia (Junk river) en même temps que les deux sexes du *specularis* Aubé (type), une femelle de l'*Oscaris* Apetz (c'est encore une localité de plus pour cet insecte), les deux sexes du *dimidiatus* Cast., et cinq femelles du *Stampflii* Rég. (Notes Leyd. Mus. VIII, 1886, p. 143). Il est étonnant que pas un seul mâle n'ait été trouvé en même temps que ces femelles.

Obs. Quatre exemplaires de l'*Aulonogyrus amoenulus* Bohem., d'Angola (Welwitch), assez semblables aux types d'Afrique méridionale, mais néanmoins avec les élytres un peu plus arrondies au sommet, se trouvent dans la collection de Mr. Neervoort van de Poll.

NOTE XXXVI.

CONTRIBUTIONS TO THE KNOWLEDGE OF THE LONGICORN GROUP OF THE BATOCERIDAE.

BY

J. R. H. NEERVOORT van de POLL.

Recently Mr. Ritsema has published (vide ante p. 219) an alphabetical list of the described species of the genus *Batocera* with indication of the synonyms. These synonymical remarks are partly due to his own observations, partly to Mr. van Lansberge's informations concerning many of the Thomsonian species, and my own notices on the species described by Major Parry, whilst a few are copied from the Munich Catalogue. Having just now successively visited the Museums of Genoa, Darmstadt and London, as well as the private collection of Mr. Pascoe, I am able to give still some additional synonymical annotations on the types contained in the above mentioned collections.

The examination of the Batocerids of the Museum of Genoa did not afford me observations on the genus *Batocera* itself, but for the knowledge of the group it is interesting to know that *Apriona Straussi* Gestro proved to belong to the genus *Rosenbergia* Rits. It is closely allied to *R. vetusta* Rits. but differs in having the underside thickly clothed with long brown hairs, whilst the corresponding part in *vetusta* is covered with a short whitish

pubescence. Mr. Gestro described his species from a large and robust ♀ specimen not unlike the ♀ of *R. megalocephala* v. d. Poll. From the knowledge of this second female results that the sexual differences of the development of the head and mandibles must be enumerated among the characteristics of the genus *Rosenbergia*.

At Darmstadt I found the Batocerids in a most deplorable condition, which made it very difficult to study them. Since Kaup's death, I believe about fourteen years ago, no special entomologist seems to have been charged with the care of the entomological collections, and either it is the carelessness of Kaup, who might have neglected to label his Batocerids, or somebody else has spoiled the collection by destroying nearly all the labels. Besides four or five labels, which are pinned before some specimens, they are all absent and not a single one of Kaup's type-specimens bears any indication as such. Moreover the greater part of the specimens are broken, gummed, rubbed, dirty and oily. Of the species described by Kaup, *B. Rosenbergii* and *Apriona punctatissima* are so very distinct that I easily recognized them, but it was much more difficult to identify the dubious *B. Whitei* and *B. Wieneckei*, in as much as the collection proved to consist of well known species only. Under these circumstances I thought it the best plan to make a catalogue of the contents of the drawer, with such annotations and sketches as could be useful to recognize the specimens afterwards. The drawer proved to contain: one *B. Celebiana* Th., three *B. albofasciata* Deg., four *B. rubus* L., two *B. lineolata* Chevr., one *B. Rosenbergii* Kaup, one *B. hercules* Boisd., one *B. humeridens* Th., six *B. hector* Th. & *helena* Th. (both species are as usually mixed up, and are partly in so bad a condition that I could not separate them with certainty; they are mistaken by Kaup for *B. Ajax* (Dej.) Th., according to the label pinned before them, and whilst Kaup in his publication compares his *B. Whitei* with *Ajax*),

two *B. laena* Th., two *B. Wallacei* Th., four *B. armata* Oliv. (a specimen with white-spotted elytra bears the manuscript name *dubia* Kaup), one *Abatocera leonina* Th., one *Apriona punctatissima* Kaup, one *A. spec.* (α), one *A. spec.* (β), and a Lamiid not belonging to the group of the Batoceridae.

A careful comparison of Kaup's descriptions and figures with my own notes and remarks convinced me that Kaup undoubtedly has described a ♀ of *B. armata* as *B. Whitei* and a ♂ of *B. humeridens* as *B. Wieneckei*. The description of *Wieneckei* does not well agree with *humeridens*, but this is only due to the very bad condition of Kaup's type-specimen, which is strongly rubbed and almost entirely destitute of the white pubescence on the elytra. The *Apriona* which I marked α proved to be *A. Deyrollei* Kaup from Sylhet, that marked β *A. flavescens* Kaup from Sumatra; both species are closely allied. *A. flavescens* is a larger and rather broad species, showing a thorax with numerous irregular wrinkles on the disk, and elytra with numerous granules at the base, which become more distant at the shoulders; *A. Deyrollei* is a smaller and slender species, having the thorax covered with a few wrinkles, forming a triangle which is placed with its base on the frontmargin, and the basal portion of the elytra sparingly covered with granules which become very closely set at the shoulder-region.

Last not least the Lamiid which I indicated as not belonging to the group of the Batocerids, and which has proved to be *Iothocera tomentosa* Buq., is Kaup's *Apriona humeralis* [1]).

My inquiries about Newman's types, which may be found

1) Mr. Snellen van Vollenhoven and Mr. Ritsema have both published a notice on the Batocerids of the Leyden Museum, wherein mention is made of a specimen of *Apriona humeralis* Kaup from Bouru; as the Museum specimen is a true *Apriona* it has of course nothing to do with the misplaced insect described by Kaup under that name.

in the collection of the British Museum, showed the exactness of Mr. Ritsema's supposition concerning *B. aphetor* Newm. and *B. rixator* Newm. Both these species belong undoubtedly to the genus *Apriona*. *A. aphetor* is nearest allied to *A. punctatissima* Kaup, according to the thick and woolly pubescence; its prothorax is provided with numerous wrinkles, like that of *A. flavescens* Kaup, and the base of the elytra is thinly covered with small and pointed granules, the shoulders are strongly prominent but rounded, with a hardly perceptible obtuse humeral-tooth and the apex is armed with four strong spines. *A. rixator* is the smallest Apriona I am acquainted with; its thorax is slightly wrinkled and the elytra are covered at the base with a very few large and distant granules, the humeral-tooth is very large but obtuse, the apex is provided with four blunt spines, and the undersurface shows a white band along the sides. *B. numitor* Newm. is a true *Batocera* but not a distinct species; a careful comparison with *B. Ajax* (Dej.) Th. (which is already recorded from Celebes), convinced me that there is not a single characteristic to separate it specifically from that species. Besides two large specimens, there are also two much smaller ones in the Museum collection, which are ornated with some small brownish spots on the elytra, but otherwise they do not differ.

These observations on *B. numitor* involuntarily induced me to put the question »what are the specific differences between *B. titana* Th. and *B. Ajax* (Dej.) Th.?" At first sight the differences between *B. titana*, with spotted elytra and thorax, and *Ajax*, with immaculate elytra and thorax, is very large, however a series of intermediate forms to connect these extreme links is present. The elytral spots of *titana* are very large in some specimens, but in other ones they are very small, like those of *rubus* L.; *B. javanica* Th. is a variety of *titana* with inconspicuous red spots on the thorax, but on the other hand a specimen of *Ajax* in my own cabinet presents a distinctly spotted

thorax. Besides these most variable differences of the covering pile, I am quite unable to find a single characteristic justifying a specific separation, in all the essential points, as the peculiar structure of the antennae, the shape of the thorax, the truncature of the elytra etc., they correspond exactly. My opinion is that *B. Ajax* (Dej.) Th. must be regarded as the immaculate variety of *B. Titana* Th.

The Banksian collection, which has served Fabricius for his descriptions and is now preserved in the British Museum, contains a ♂ specimen of *B. humeridens* Th. under the name of *B. rubus* Fabr. Fabricius almost always indicates from what collection he has described the species, but unfortunately his *B. rubus* is wanting this useful indication; however it is most probable that the specimen mentioned above is the very type.

Most of the synonymical remarks about the species described by Mr. Pascoe proved to be correct. *B. Ammon* Pasc. must certainly be referred to *B. armata* Oliv.; Mr. Pascoe's name is chiefly relative to small male specimens of *armata*. *B. orcus* Pasc. was founded upon a ♂ & ♀ specimen of the variety of *B. armata* Oliv. with distinct white spots on the elytra. *B. metallescens* Pasc. is a large strongly rubbed specimen of *B. celebiana* Th. *B. cinnamomea* Pasc. ♀ is a distinct species and not at all identical with *B. armata* Oliv. ♀; it is more nearly allied to the female of *B. Wallacei* Th., its prothorax being very like that of the latter; from *armata* it might easily be distinguished by the last antennal joint, which is not spatula-shaped, and by the truncature of the elytra, which is not cut off in a straight line, but is rather deeply emarginated. In regard to *B. Claudia*, Mr. Pascoe kindly informed me that he had made mention of it only incidentally; moreover the specimen is no longer in his cabinet and Mr. Pascoe did not remember what became of it, of course this name ought to drop from the genus.

Taking into consideration the synonymical observations contained in Mr. Ritsema's note and the rectifications and additions given in this paper, the genus *Batocera* should be composed of the following species and varieties:

Adelpha Thoms. — Assam.

Aeneonigra Thoms. — Ternate, Halmaheira, Morty, Waigiou.

Albofasciata Deg. (*octomaculata* F., *stigma* Voet, *Downesi* Hope). — E. India, E. I. Archipelago.

Var. *Sarawakensis* Thoms. — Borneo.

Var. *Magica* Thoms. — Java.

Var. *Sabina* Thoms. [1]) — Borneo, Sumatra.

Andamana Thoms. — Andaman Isl.

Armata Oliv. (*Thomae* Voet, *Lacordairei* Thoms., *Ammon* Pasc., *Whitei* Kaup). — Amboyna, Ceram, Celebes, Aru Isl.

Var. *Orcus* Pasc. (*dubia* Kaup i. litt.). — Ceram.

Boisduvali Hope. — Australia.

Browni Bates. — Duke of York Isl., N. Australia.

Bruyni Lansb. — Sanghir Isl.

Calanus Parry. — Assam.

Var. *guttata* Voll. [2]) (*octomaculata* Thoms. nec. Fabr., *Fabricii* Thoms.). — Sumatra, Java.

Celebiana Thoms. (*octomaculata* Boisd. nec Fabr. [3]), *metallescens* Pasc.). — Celebes.

Var. *obliqua* Voll. [4]) — Bouru, Boano.

Chevrolati Thoms. — E. India.

Cinnamomea Pasc. — Sula.

---

1) I regard this species only as a variety of *albofasciata* with strongly reduced white band along the sides of the undersurface.

2) Thomson mistook this species for the Fabrician species, some time afterwards perceiving his error he rebaptized it *Fabricii*, but in the mean time Vollenhoven had described the same insect under the name of *Megacriodes guttata*.

3) The Batocera from Menado (N. Celebes) described and figured by Boisduval under the name of *octomaculata* Fabr. must be referred to *Celebiana* Thoms.

4) This species I believe to be only a local variety of *Celebiana* Thoms.

Davidis H. Deyr. — China.
Eurydice Thoms. — Java.
Frenchi v. d. Poll. — Queensland.
Gerstaeckeri Thoms. — Sula.
Gigas Drap. — Java, Borneo.
Hector Thoms. — Java, Borneo.
Helena Thoms. (*Attila* Pasc.). — Siam, Sumatra.
Hercules Boisd. — Celebes.
Horsfieldi Hope. [1]) — Assam.
Humeridens Thoms. (*rubus* Fabr. forte, *pulverosa* Pasc., *Wieneckei* Kaup). — Timor.
Lactiflua Fairm. — New Britain.
Laena Thoms. — Aru Isl., New Guinea.
Var. *Sappho* Thoms. — Cape York.
Lineolata Chevr. (*Chinensis* Thoms., *Catenata* (De Haan) Voll.). — Japan, China.
Meleager Pasc. — Bouru.
Mniszechi Thoms. — Philippine Isl.
Nebulosa Bates. — Duke of York Isl., Fidgi Isl.
Plutonica Thoms. (*Orpheus* Pasc.). — Morty.
Rosenbergii Kaup. — Flores.
Roylei Hope (*Parryi* Hope, *Porus* Parry, *Princeps* Redtenb., *Megacriodes ebenina* Voll.). — Assam, Sylhet, Himalaya.
Rubus L. (*rufomaculata* Deg., *rubiginosa* Voet, *cruentata* Gmel.). — Mauritius, Bourbon, Reunion, E. India.
Var. *Chlorinda* Thoms. — E. India.
Var. *Thysbe* Thoms. — Cochinchina.
Thomsoni Javet. — Borneo, Banka, Riouw, Sumatra.
Titana Thoms. (*ferruginea* Thoms.). — E. India, Ceylon, Sumatra.
Var. *Javanica* Thoms. — Java.

---

1) Judging from the short and bad description of Hope's *Lamia Horsfieldi*, I think it most probable that it will prove to belong to the form of *Batocera Titana* Thoms. with large ill-defined spots on the elytra; if the examination of Hope's type might show the correctness of my supposition, *B. Titana* becomes a synonym of *Horsfieldi*, being subsequent in date to the latter.

Var. *Ajax* (Dej.) Thoms. (*Numitor* Newm.). — Java, Banka, Sumatra, Celebes, Philippine Isl.

Una White. — New Hebrides.

Victoriana Thoms. — Borneo.

Wallacei Thoms. — Aru Isl.

Var. *Proserpina* Thoms. (*Woodlarkiana* Montr. forte [1]). — New Guinea, Salomon Isl., Ins. Woodlark.

Wyliei Chevr. (*Albertiana* Thoms.). — Old Calabar, Gaboon, Congo.

---

1) The description of *B. Woodlarkiana* Montr. does not at all agree with *B. Boisduvali* Hope, and the authors of the Munich Catalogue have wrongly placed it in synonymy with the latter. I think it more probable that it must be referred to *B. Wallacei* var. *Proserpina* Thoms., of which I have seen specimens from the Salomon Islands, a group of islands close to the island of Woodlark.

NOTE XXXVII.

ON THE FORMA PRIODONTA OF ODONTOLABIS DALMANI, HOPE AND THE FORMA TELEDONTA OF ODONTOLABIS CELEBENSIS, LEUTHN.

BY

J. R. H. NEERVOORT van de POLL.

Dr. Leuthner in his Monograph of the Odontolabini, describing the mandibles of *O. Dalmani* Hope, indicates the forma teledonta and priodonta of that species to be still unknown. In as much it concerns the forma priodonta this statement is rather strange, as the collection of the Royal Zoological Society »Natura Artis Magistra" at Amsterdam, which has been studied by Dr. Leuthner, contained two males belonging to the priodont form. One of these males has passed some years ago into my own cabinet, and that specimen is still provided with Leuthner's well-known label, bearing his name in print on one side and the name »*Dahlmani*" in his own handwriting on the other side. Of course Dr. Leuthner has entirely forgotten the existance of these specimens and his assertion »I diligently sought for as many specimens as possible, but was unable to meet with either the teledont or the priodont form", is rather funny.

Description of the forma priodonta.

Mandibles about as long as the head, flattened, straight

and slightly curved inwards, with from seven to nine crowded teeth, very strongly punctured; head flattened.

Measurements.

Total length.	Head.	Mandibles.	Prothorax.	Elytra.
mm.	mm.	mm.	mm.	mm.
48	8 by 13	7	10 by 19	25 by 19
43	7 » 11	7	9 » 17	23 » 17

Odontolabis Celebensis has been imperfectly known to Dr. Leuthner; the female, which remained unknown to him, has been captured in South Celebes by Mr. Ribbe and was shortly afterwards described by Mr. Albers. Besides specimens obtained by this collector I received also a teledont Odontolabis captured at Tomboegoe (East Celebes) by his companion Mr. Kuhn. At first this specimen puzzled me very much, but after a most careful examination I was happy enough to recognize it to be the true teledont form of *O. Celebensis*. Now I do not well understand why Dr. Leuthner, who has called the largest form of *O. Dalmani* Hope known to him, the forma amphiodonta, has taken without any hesitation the same development of *O. Celebensis* with mandibles exactly similar to those of *Dalmani* for the forma teledonta. The knowledge of the true teledont form proves that the teledont form of Leuthner is the large amphiodont form and moreover that *O. Celebensis* is a very distinct species and not at all, as suggested by Dr. Leuthner »a well-marked local form of *O. bellicosus*". The teledont form of *Celebensis* is just intermediate between that of *bellicosus* Cast. and *alces* F.; the mandibles with basal teeth placing it near *bellicosus*, whilst the downwards curved mandibles and the head with raised crest approach it towards *alces*.

Description of the forma teledonta.

Mandibles as long as the head and prothorax together, curved downwards, rounded, convex within, slightly in-

curved at the tip, with three teeth of which the innermost large, the two other ones very minute; near the base they are thickened on the inside, and provided with two large obtuse teeth of equal development. Head with raised frontal crest, which is slightly lowered in the middle.

Measurements.

Total length.	Head.	Mandibles.	Prothorax.	Elytra.
mm.	mm.	mm.	mm.	mm.
78	12 by 20	24	13 by 26	32 by 24

NOTE XXXVIII.

SYNONYMICAL REMARKS ON MADAGASCAR CETONIIDAE.

BY

J. R. H. NEERVOORT van de POLL.

---

1. *Coptomia iridoides* Krtz. (Deutsch. ent. Zeit. XXVII (1883), p. 382) = *Coptomia apicalis* Waterh. (Ent. Mo. Mag. XV (1878), p. 86).
2. *Coptomia Hildebrandti* Krtz. (l. c. p. 381) = *Coptomia rufo-varia* Waterh. (Trans. ent. Soc. London. 1880, p. 60).
3. *Pyrrhopoda mantis* Krtz. (Deutsch. ent. Zeit. XXIV (1880), p. 312) = *Coptomia marginata* Waterh. (Ann. a. Mag. Nat. Hist. (5) IV (1879), p. 81).
4. *Pyrrhopoda cyanescens* Krtz. (l. c.) = *Coptomia marginata* Waterh. (l. c.).

NB. I compared specimens of the above mentioned species, which I received from Dr. Kraatz himself, with the types of Mr. Waterhouse at the British Museum. Mr. Waterhouse kindly forwarded me the following synonymical observations.

5. *Pygora costifer* Waterh. (Cist. Ent. II (1878), p. 292) = *Euchilia quadrata* G. & P.
6. *Anochilia punctatissima* Waterh. (Ann. a. Mag. Nat. Hist. (5) IX (1882), p. 323) = *Anochilia scapularis* G. & P.

NOTE XXXIX.

DESCRIPTION OF A NEW SPECIES OF THE AUSTRALIAN LONGICORN GENUS BRACHYTRIA, NEWM.

BY

J. R. H. NEERVOORT van de POLL.

Four species have been described belonging to the genus *Brachytria*, which are all pretty similar in general appearance and show almost the same variable pattern of white spots on the elytra. As a matter of convenience they may be divided in two groups, viz.: species with the elytra and legs concolor (*centralis* Pasc., *gulosa* Newm., *varia* Waterh.) and species with the elytra and legs bicolor (*picta* Waterh.). To the second section I may now add a very distinct species with the thorax short and broad and very deeply emarginated laterally below the middle, its outline mimicking the thorax of the genus *Typhocesis*. According to this peculiarity I propose to call this new species

Brachytria thoracica, v. d. Poll.

Length 12½ mm., breadth at the shoulders 3 mm., length of the antennae 17 mm.

Head pale red, with the eyes, the tip of the mandibles and the palpi black; sparingly punctured on the vertex, more coarsely so between the eyes, where the front is also deeply grooved in a longitudinal direction, with a transverse glabrous spot before the labrum. Antennae dull

black, the 3rd and 4th joint small, of about equal length, the 5th joint longer than the two foregoing ones taken together, the remainder gradually increasing in length.

Prothorax short, broad, the frontmargin straight, the sides gradually and rather strongly rounded towards the top, very deeply emarginated below the middle, the base curved backwards; brightly shining black, the frontmargin bordered with a pale red stripe; the disk is impunctate, showing some traces of very indistinct gibbosities, and there is a deep transverse impression near the base parallel with a deep groove just along the base. Scutellum narrow, triangular, rounded at the tip, subconcave, impunctate.

Elytra with the basal half pale red, the apical half smoky, darkest and slightly violaceous near the line of demarkation, which amounts obliquely towards the suture. There is a small oblong black spot on each side of the scutellum, which touches the base. Below the scutellum and at the line of demarkation between the red and smoky parts, the reddish color is much paler; these spots exactly corresponding with the whitish spots of the hitherto described species, I think it very probable that there may be found specimens with distinctly spotted elytra. Each elytron shows three elevated shining ridges, the innermost being rather indistinct; the interstices are dull, filled with large and partly confluent punctures. Anteriorly the prosternum is reddish, behind black, and shallowly punctured all over; the meso- and metasternum are black, coarsely punctured, and covered with a fulvous pubescence; the mesosternal process is rather strongly prominent and pointed; the abdomen is shining black with the first segment reddish, very distantly punctured; the legs are shining black with the greater middle part of the femora reddish. The whole body is very sparingly covered with long and soft greyish hairs, which are much more closely set at the apical portion of the elytra.

I received a single ♂ specimen, captured by Mr. Hill in the Mountain-district of Victoria.

NOTE XL.

DESCRIPTION D'ÉLATÉRIDES NOUVEAUX,

PROVENANT DE NORMANTOWN: BAIE DE CARPENTARIA

(Australie septentrionale).

PAR

E. CANDÈZE. [1]).

Lacon Van de Polli, nov. spec.

Brunneus opacus, crassus, squamulis auratis obductus; prothorace tumido, subquadrato, apice subito angustato, dorso inæquali; elytris seriatim grosse punctatis, seriebus geminatis; subtus argenteus, sulcis tarsorum in prothorace profundis. — Long. 10 mill., lat. 3 mill.

Remarquable par sa forme épaisse et la coloration des téguments. Celle-ci est dûe à la vestiture écailleuse, qui est dense et dorée sur la tête, le prothorax, l'écusson et le bord antérieur des élytres. Sur ces dernières elle est plus rare et la couleur foncière brune domine. Le prothorax est fortement bossué et présente un large et profond sillon médian en arrière. Les élytres sont criblées de gros points qui les rendent mates. Ces points, disposés par séries géminées, ne laissent que quatre intervalles linéaires un peu élevés. En dessous les sillons tarsaux n'existent qu'aux flancs du prothorax, toute sa surface ainsi que les cuisses, sont revêtues d'écailles argentées.

---

1) Les espèces décrites dans ces pages font partie de la collection de M. J. R. H. Neervoort van de Poll.

Ce *Lacon* fait exception parmi les nombreuses espèces australiennes, qui toutes sont uniformément brunes et de forme moins cylindrique. Ceci, bien entendu, s'applique aux espèces des côtes orientales et méridionales qui ont été plus explorées.

Je le dédie à M. Neervoort van de Poll, à qui j'en dois la connaissance.

Monocrepidius tumidus, nov. spec.

Brunneus, subnitidus, griseo-pubescens; fronte rufescente; prothorace ampliato, latitudine multo longiore, tumido, æquali, crebre punctato, angulis posticis non divaricatis, sat longe extrorsum carinatis; elytris brevibus, depressis, punctato-striatis, ad apicem emarginatis; pedibus flavis. — Long. 10—11 mill., lat. $2^1/_2$—$2^3/_4$ mill.

Cette espèce est aisé à reconnaître à l'ampleur de son prothorax qui est notablement plus long que large, bombé et dépourvu de sillon médian, ce qui lui donne une apparence enflée et fait paraître les élytres courtes. Son front est plus ou moins rouge.

J'en ai vu plusieurs exemplaires. Sa place est à côté de *M. Torresi.*

Monocrepidius squalescens, nov. spec.

Piceo-testaceus, subnitidus, griseo-pubescens; fronte nigricante; prothorace latitudine vix longiore, a medio angustato, creberrime punctulato, angulis posticis cum margine antica pallescentibus, fortiter carinatis; elytris breviusculis, depressis, punctato-striatis, apicibus integris, basi et marginibus nigricantibus; subtus obscurus, pedibus pallidis. — Long. 6 mill., lat. $1^1/_2$ mill.

Sa forme et sa coloration empêcheront de le confondre avec aucune des nombreuses espèces du genre. Il vient auprès de *M. flavicans* et *simulans* de Somerset.

Megapenthes lituratus, nov. spec.

Niger, nitidus, parce flavo-pubescens; antennis brevibus, testaceis, sensim paulo crassioribus; prothorace angusto, apice parum attenuato, punctulato, margine antica, linea dorsali, angulisque posticis testaceis, his acutis, haud divaricatis, acute carinatis; elytris prothorace latioribus, punctato-striatis, apicibus integris, flavis, litura dorsali abbreviata, maculisque minimis mediis nigris; pedibus flavis. — Long. 5 mill., lat. $1^1/_3$ mill.

Espèce ambiguë, qui a des rapports avec certains *Corymbites*, aussi bien qu'avec les *Melanotus*, genres qui, tous deux, ont des représentants en Australie. Je n'en ai vu qu'un seul exemplaire.

Megapenthes futilis, nov. spec.

Niger, nitidus, flavo-pubescens; antennis testaceis, ad apicem paulo incrassatis; prothorace longitudine vix latiore, apice attenuato, æqualiter punctulato, angulis posticis acutis, haud vel vix divaricatis, carinatis, testaceis; elytris prothorace vix latioribus, sat fortiter punctato-striatis, sutura fasciaque media arcuata nigris; pedibus flavis. — Long. $3^1/_2$ mill., lat. 1 mill.

Je possède depuis longtemps plusieurs individus de la N^lle^ Galle du Sud, restés inédits sous le nom de *futilis*, ayant de grands rapports avec celui-ci. Les élytres sont plus ou moins variées suivant l'envahissement d'une des deux couleurs, noire ou jaune. La première ne forme parfois qu'un léger trait transversalement courbe au milieu de chaque élytre, la convexité tournée en arrière. D'autres fois le noir domine et la couleur jaune consiste en deux ou quatre grandes taches, les postérieures, ovales, persistant seules dans le cas où il n'en reste que deux.

Il a de grands rapports avec le *lituratus* mais il est beaucoup plus petit.

Hapatesus pretiosus, nov. spec.

Brunneo-niger, nitidus, parce crinitus; prothorace longi-

tudine latiore, inæqualiter sat fortiter punctato, pilositate holosericea et aurea ornato; elytris profunde sulcatis, sulcis punctatis, interstitiis angustis et costiformibus, pilositate rara longa et argentea. — Long. 10 mill., lat. 3 mill.

Il offre tous les caractères principaux de l'*H. hirtus*, type du genre, mais il est plus petit, plus rétréci au sommet, de teinte plus foncé et plus brillant. Les poils qui le revêtent sont moirés et dorés sur le prothorax, plus rares et argentés sur les élytres, où par leur reflet, ils forment une sorte de pointillé scintillant très élégant et tout à fait caractéristique.

Crepidomenus ovalis, nov. spec.

Latiusculus, brunneus, subnitidus, puberulus; prothorace latitudine vix longiore, valde convexo, linea media longitudinali impressa, crebre et fortiter punctato, angulis posticis divaricatis, acutis, carinatis; elytris pallidioribus, punctato-striatis, ad apicem acuminatis; pedibus testaceis. — Long. $6^1/_2$ mill., lat. $2^1/_4$ mill.

Le caractère principal de cette petite espèce est sa largeur plus grande en proportion de sa longueur, que chez les autres espèces. Sa couleur varie du brun foncé, bronzé, au brun rougeâtre; les bords du prothorax et les élytres sont ordinairement plus rougeâtres, surtout les premiers. Elle parait se trouver non seulement à la baie de Carpentaria, mais aussi dans d'autres points du Queensland.

Agonischius semiflavus, nov. spec.

Niger, nitidus, flavo-puberulus; prothorace latitudine longiore, sat fortiter punctato, angulis posticis unicarinatis; elytris punctato-striatis, interstitiis rugulosis, dimidia parte antica flava; pedibus testaceis. — Long. 6 mill., lat. $1^1/_3$ mill.

Il rappelle pour la couleur l'*Anilicus semiflavus;* c'est au reste la seule ressemblance qu'il ait avec ce dernier, car pour le reste c'est bien un *Agonischius* de forme et d'aspect ordinaires.

La couleur jaune se prolonge un peu sur le milieu du disque de chaque élytre, en sorte que la séparation des deux couleurs ne se fait pas transversalement, mais forme deux courbes.

La taille varie; la grandeur indiquée est une moyenne.

Agonischius brevis, nov. spec.

Niger, minus nitidus, pilosulus; antennis testaceis, apicem versus gradatim nigricantibus et crassioribus; prothorace subquadrato, apice tantum angustato, æqualiter convexo, sat dense fortiterque punctato, angulis posticis brevibus et tenuiter carinatis; elytris brevibus, fortiter punctato-striatis, ad basin lutescentibus; pedibus testaceis. — Long. 5 mill., lat. $1^1/_2$ mill.

L'un des plus courts du genre et comparable sous ce rapport aux *militaris*, *marginatus*, etc. L'épaississement graduel des antennes se remarque aussi dans ce genre, où ces organes sont tantôt filiformes et longs, ou bien très courts et larges (*pectoralis* et voisins).

J'ai indiqué la grandeur *maxima* de la taille. Dans le grand nombre d'individus que j'ai pu examiner, il s'en trouve de beaucoup plus petits (3 mill.) et de couleur plus uniforme, c'est-à-dire que la tache jaune caractéristique de la base des élytres s'y est éteinte au point de disparaître presque entièrement. Au surplus, de grands exemplaires peuvent être unicolores en sorte qu'il n'y a pas à attacher plus d'importance qu'il ne convient à la tache en question.

Doloporus, nov. gen.

Frons convexa, longitudine latiore, antice immarginata, lata.

Antennæ breves, simplices.

Prosternum latum, suturis rectis simplicibus, apice haud apertis.

Coxarum laminæ posticarum intus sensim latiores.

Tarsi non lamellati, articulis 1—3 *subdilatatis, subtus scopulatis; unguiculi simplices.*

Les deux espèces suivantes pour lesquelles j'ai formé ce genre ne peuvent rentrer dans aucun de ceux connus. Ses analogies l'amènent dans le voisinage des *Ectinus* et *Sericosomus*.

Doloporus aterrimus, nov. spec.

Aterrimus opacus, breviter pilosulus; antennis brevibus, brunneis, articulo primo ovali, secundo breviore testaceo, sequentibus similibus, æqualibus; prothorace quadrato, crebre et fortiter punctato, angulis posticis vix divaricatis, parum carinatis; elytris thorace haud latioribus, subparallelis, granulatis, punctato-striatis; pedibus testaceis. — Long. 7—8 mill., lat. 2 mill.

La femelle a le prothorax plus large et plus bombé que le mâle; le pli qui sépare les élytres du prothorax est rempli de poils jaunâtres; les angles postérieurs du dernier sont parfois bruns; le dessous du corps est couvert de poils, plus dense qu'au dessus, courts, couchés et jaunes; enfin l'abdomen est plus ou moins teinté de rouge. J'en ai vu un grand nombre d'exemplaires.

Doloporus thoracicus, nov. spec.

Aterrimus opacus, breviter pilosulus; prothorace rufo, quadrato, fortiter punctato; subtus rufo-testaceus, abdomine nigricante; pedibus testaceis, tarsis obscuris. — Long 7 mill., lat. $1^2/_3$ mill.

Il diffère du précédent par son prothorax rouge vif. Le dessous du corps est d'un rouge jaune sauf l'abdomen qui passe au noirâtre. Je n'en ai vu qu'un seul individu.

NOTE XLI.

DESCRIPTIONS OF EARTHWORMS.

BY

Dr. R. HORST.

III [1]).

On *Acanthodrilus Büttikoferi*, Horst.
(Plate 5).

During his last journey in Liberia, my colleague Mr. Büttiköfer had the opportunity to collect a number of earthworms under a mouldering palm-tree. Among them I met with some specimens of *Ac. Büttikoferi*, a species which I briefly described in this Journal, Vol. VI, p. 105. However this description being based upon the examination of a single very badly preserved individual, I wish to give in the following note some illustrations and a more full account of the distinguishing characters of this species. The number of described species of Lumbricidae from all parts of the world is increasing daily, and it is a well-known fact to every-one, dealing with this matter, that it is hardly possible to determine the systematic position of earthworms only by their external features; therefore I believe it to be an absolute necessity to indicate accurately not only their external but also their internal characters.

In all our specimens the clitellum is very apparent,

1) For Part I see p. 97—106 and pl. 1, and for Part II p. 247—258 and pl. 4 of this volume.

extending from segment 13 (14) to 19; it is distinguished from the remaining part of the body as well by its darker colour, as by the pronounced glandular integument of its segments. However at its ventral side there is a small area without glandular development, bounded on each side by a narrow groove, that runns from the genital pore on the 17th segment to that on the 19th ring. Each segment is divided by two transverse grooves in three annuli, the median of which is elevated as a ridge and bears the bristles; the longitudinal diameter of a segment in front of the girdle is as large as that of three segments behind it. The dorsal pores appear to commence behind the clitellum.

The penial setae differ widely in their appearance from those of *Ac. Schlegelii*; they were already described in my foregoing paper and are illustrated in figg. 2 and 3.

In dissecting our worm from the dorsal side we are struck by the strong development of the mesenteries in segment 5 to 12; especially the anterior of them are so stout and thick, that the intestinal tract is entirely concealed by them (fig. 1). Apparently this has been the cause, that I overlooked before a remarkable character of the alimentary canal, hitherto not observed in any species of *Acanthodrilus*, viz. the presence of two gizzards. A short oesophagus leads from the pharynx to the first gizzard and extends into the 5th segment; it has a somewhat conical shape and its anterior portion lies entirely concealed between two large glands, fixed on the 5th septum, its posterior margin being limited by a rather deep constriction. The first gizzard (fig. 4, *g*) lies in the 6th segment and is separated by a narrow, thin-walled, oesophageal portion from the second gizzard (fig. 4, *g'*), which extends into the 8th ring.

Though we know some other Lumbricidae (*Digaster*, *Moniligaster*, *Didymogaster*) to possess two or more distinct gizzards, it is the first time, as far I am aware of, that we meet with a species, showing the same character, but

belonging to a genus, the other species of which are characterized by the presence of only a single gizzard. From this fact we may infer, that it is not permitted to consider such characters as marks of generic difference, if they are not accompanied by other characters, especially by those relating to the generative system. Therefore I am inclined to assume, that the worm, described by Mr. Benham [1]) as *Trigaster Lankesteri*, which agrees in its main characters with *Acanthodrilus*, except in the presence of three gizzards, really belongs to this genus.

The vascular system possesses a dorsal vessel, being a single tube, which communicates with the ventral trunk by 4 pairs of transverse hearts, situates in segment 6, 7, 8 and 9; from the third of these commissural vessels a strong branch arises, running along the anterior side of the 8th mesentery. In the 10th, 11th, 12th and 13th ring there are situated large abdominal hearts, which arise from the supra-intestinal vessel and communicate by a small branch with the dorsal trunk. Moreover in the 10th segment a pair of lateral vessels arises from the dorsal side of the intestine; they run forward along the side of the gizzards and communicate with each other by a transverse vessel in the 7th ring. The lateral vessels agree much in their arrangement with those of *Ac. Schlegelii*.

As stated in my first note, we find in the 13th segment a pair of vesiculae seminales, containing spermatozoa in different stages of development (fig. 5).

The ovaries are situated in the 14th segment; they have the appearance of a rather broad, ribbon-shaped body, showing numerous folds, radiating from its base. The basal portion of the ovary consists of indifferent germinal cells, while its inferior half contains several fully developed eggs, lying each in a well-defined capsule of connective tissue (fig. 6).

In stead of the real segmental organs we find in each

1) Quart. Journal of Microsc. Science, Vol. XXVII, 1887, p. 94.

segment, beginning from the 13th, a narrow tranverse strip, consisting of tufts of faint coiled tubes. In the 5th, 6th and 7th segment there are three pairs of racemous glands, made up of numerous loop-like coiled tubules, supplied by a network of capillaries, which show several dilatations in their course; their structure is quite similar to that of the »grape-like glands" in *Trigaster Lankesteri*, circumstantially described and illustrated by Mr. Benham [1]).

On *Allobophora Oerleyi*, n. sp.

Lumbricus terrestris, var. *platyurus* Oerley; A magyarországi Oligochaeták Faunája, I, Terricolae, p. 583, pl. I, fig. 1, *d*.

We owe to the kindness of Dr. L. Oerley a fine collection of earthworms from Hungary, enumerated and described by him in the above-named catalogue [2]). Among these worms there are three specimens, labelled *Lumbricus terrestris*, var. *platyurus* mihi. From a careful examination of these specimens I must conclude, that they cannot be assigned to the genus *Lumbricus*, neither can be identified, so far I am aware of, with one of the hitherto described species.

The individuals before me measure from 100 to 120 m.m. in length; the number of their segments is about 145. The body is cylindrical, somewhat octogonal, resulting from the presence of eight prominent series of bristles; it is nearly equally broad over its whole length, only its anterior portion before the girdle being somewhat thickened. The cephalic lobe is broad, triangular, impinging over the half of the buccal segment, without a longitudinal groove at the ventral side. Each segment is furnished with a transverse groove over its middle. The dorsal pores are

1) Loc. cit. p. 96, pl. IX, fig. 35 and 36.

2) I regret not to be able to understand Mr. Oerley's diagnosis, these being written in the Hungarian tongue.

beginning between the 5th and 6th ring. The clitellum consists of 6 well-defined segments, extending from the 25th—30th ring; a ridge of genital tubercles is present on segment 26, 27, 28 and 29. The setae are protruding strongly out of the bodywall and are furnished on their distal portion with small arches, resembling the bristles of *Criodrilus*. They are arranged in eight series, separated by a rather large space from each other; the medial lateral interval is as large as the superior lateral, but smaller than the inferior lateral interval, which is about as large as the ventral one. The dorsal interval is nearly twice as broad as the ventral one.

The number of copulatory pouches varies in the different specimens. One individual has four pairs of them, in the 7th, 8th, 9th and 10th segment, situated in front of the posterior septum; their external apertures lie in a line with the superior dorsal setae. The second specimen has but three pairs of copulatory pouches in the 8th, 9th and 10th segment, and the third specimen has only two pairs of them, those of the left side situated in segment 7 and 8, those of the right side in segment 8 and 9. It appears therefore to me that four pairs of copulatory pouches is in all probability the typical number in fully-developed specimens. This is not the first time that a variation is observed in the number of copulatory pouches, for Beddard tells us [1]), that he examined a *Perichaeta*-species from Manila, in which these organs varied in number in the most extraordinary way and the same author stated several variations in the number of spermathecae in *Perionyx excavatus* [2]).

There are three pairs of vesiculae seminales in segment 9, 11 and 12; the first pair of them is fixed to the anterior, the second pair to the posterior septum of the 10th

1) Observations on the structure of *L. complanatus* Dugès; Proc. R. Soc. of Edinburgh, 1885—86, p. 453.

2) Proc. Zool. Soc. of London, 1886, p. 308.

ring, and the third pair to the posterior wall of the 11th segment. The funnels of the vasa deferentia are situated in segment 10 and 11. The ovaria are contained in the 13th segment; their shape is quite similar to that of *L. terrestris*. A gizzard and the oesophageal glands are also present, like in the last named species.

As stated above, I believe that our specimens cannot be identified with one of the species described before. By the presence of widely distant bristles, the hidden position of the male genital pores, and the compressed tail, they show much resemblance to *Allobophora complanata*, but in this species the clitellum consists of 10 segments (28th—37th), and the number of copulatory pouches amounts to 7 pairs [1]). In *Allob. Boeckii* Eis. [2]) the setae are also widely separated from each other, showing a position quite similar to that of our specimens; but according to the conformable descriptions of Eisen and Rosa, this species has a small size, its number of segments amounting only to 90, and the clitellum is situated more backward, extending from segment 29 to 33 (34). Perhaps our individuals may belong to the *Enterion platyurum*, observed by Fitzinger in Austria, and characterized by having »keine Genitalporen? Gürtel aus 6 Ringen, Borsten gleichweit" [3]). Unfortunately nothing is mentioned by him about the number of its copulatory pouches, that in our specimens is greater than in any other of the European species, except in *Allob. complanata*. Therefore I propose to name our species after the Hungarian naturalist, that first described it.

---

1) Conf. Rosa, I Lumbricidi del Piemonte, p. 40, fig. 2, 3 and 4; — Beddard, loc. cit.; — Ude, Ueber die Rückenporen der terricolen Oligochaeten, Zeitschr. f. Wissensch. Zoologie, Bd. XLIII, p. 137.

I had recently the opportunity of confirming the correctness of these characters in two specimens from Algeria, kindly collected for me by Dr. H. ten Kate; the first dorsal pore lies between segment 12 and 13, as mentioned by Ude, but is somewhat concealed and therefore perhaps overlooked by Rosa.

2) Rosa, loc. cit. p. 48.

3) Isis, 1833, p. 553.

On *Lumbricus terrestris* var. *stagnalis* (Hoffm.) Oerley.

On page 583 of his Fauna above referred to, Mr. Oerley mentions *L. terrestris* var. *stagnalis* Hoffm. Of this variety I found four individuals in the collection, presented to our Museum by the Hungarian naturalist. In examining these earthworms I observed, that like the foregoing specimens they cannot be assigned to *L. terrestris*, but that in their external characters they show more resemblance to *Allob. complanata*.

The largest of our specimens has a length of 88 m.m., the number of its segments being about 125. The cephalic lobe impinges into the buccal ring only to the half of its length. The segments 1—14 have a longitudinal diameter about twice as large as that of the following segments. The clitellum consists of 8 to 9 segments, extending from the 29th (30th) to the 37th (38th) ring. The first dorsal pore is situated between segment 6 and 7. The openings of the segmental organs lie somewhat outward from the series of the external setae of the ventral pair. The setae are arranged in eight series, being separated from each other by a rather broad space; the superior lateral interval is as large as the inferior one, on the contrary the medial lateral interval is somewhat larger and measures two thirds of the ventral one.

In dissecting one of these worms from the dorsal side, I was no less surprized to find it presenting 5 pairs of copulatory pouches, situated in segment 6, 7, 8, 10 and 11; the three anterior pairs of them lie in front of the posterior wall of their segments, while those of the 10th and 11th ring are situated behind the anterior septum. In all our four specimens I found not only the same number, but also the same arrangement of the copulatory pouches; therefore I believe it may be considered as a specific character. There are 4 pairs of seminal vesicles occupying segment 9—12; of these the second pair is the least developed, the fourth pair is the largest. The first pair of vesiculae seminales is attached to

the anterior side of the 9th septum; the 10th septum bears the second pair of them on its anterior side, the third pair on its posterior side, while the fourth pair is fixed on the posterior side of the 11th mesentery. The two anterior pairs agree in their appearance and are somewhat retort-shaped. The funnels of the vasa deferentia lie free in segment 10 and 11.

In comparing our specimens with the known species, they appear to approach very nearly *Allob. complanata*, agreeing with this species as well in the position of the girdle as in the arrangement of the setae and the presence of 4 pairs of seminal vesicles; however there are two important points of difference between them, viz. the number of copulatory pouches and the situation of the dorsal pores. Though it is stated by Dugès [1]), that in *Allob. complanata* the number of spermathecae is not always the same, but depends on its state of sexual maturity, however in adult individuals 7 pairs of them appear always to be present; Rosa [2]) at least states, that he examined very many specimens and he never could find the slightest variation. While all our specimens had a well-developed girdle and were without doubt in a condition of sexual maturity, I believe we must consider the disagreement in the number of the spermathecae between both species as marks of specific difference. In the position of the first dorsal pore our specimens differ also from *Allob. complanata*, and though this may be a character of not much importance, it results from Ude's investigations [3]), that the situation of the first dorsal pore in the different species is rather constant and not subject to much variation. Mr. Oerley seems to have identified our specimens with the *L. stagnalis* Hoffm. [4]); I believe it may be possible, however Hoffmeister's species is too imperfectly characterized to admit of recognition with

1) Annal. Sc. Nat. Tom. XV, 1828, p. 327.
2) Loc. cit. p. 42.
3) Loc. cit. p. 121.
4) Die jetzt bekannten Arten aus der Familie der Regenwürmer, p. 35, fig. 7.

certainty. It appears to me, that *L. stagnalis* by no means can be identical with *Allob. complanata*, as suggested by Beddard; there is too great a difference in the shape of the tail in both species. In *Allob. complanata* the tail is compressed, »en forme de feuille de myrte" according to Dugès, »in figura di foglio d'olivo" according to Redi, whereas in *L. stagnalis* the posterior part of the body is »scharf vierkantig" (Hoffmeister).

EXPLANATION

OF

Plate 5.

Fig. 1. *Ac. Büttikoferi* Horst; general view of the contents of the body-cavity: *gl.* intestinal coeca; *lv.* lateral vessel; *n.* modified nephridia; *o.* ovary; *pr.* prostate gland; *vs.* vesicula seminalis.

Fig. 2. *a.* Penial seta; *b.* ordinary seta. × 36 diam.

Fig. 3. The free extremity of a penial seta, highly magnified.

Fig. 4. The anterior part of the intestinal tract, to show the two gizzards *g* and *g'*. × 2 diam.

Fig. 5. Contents of the vesicula seminalis, highly magnified.

Fig. 6. A portion of the ovary. × 36 diam.

NOTE XLII.

DESCRIPTION OF TWO NEW SPECIES OF ÆSERNIA.

BY

MARTIN JACOBY.

Æsernia australica, nov. spec.

Metallic green; the head (a spot at the vertex excepted), the thorax, the base of the anterior femora, the apices of the elytra and the last abdominal segments, flavous; thorax with two greenish spots (sometimes absent).

Length $5^1/_2$—$8^1/_2$ lines.

Elongate, subparallel; head impressed between the eyes, flavous, the vertex with a triangular metallic greenish æneous spot; antennæ half the length of the body, metallic bluish or greenish, the basal joint fulvous below; thorax twice as broad as long, the sides straight, the posterior margin rounded at the middle, the surface impunctate, with a row of deep foveæ near the lateral margins; scutellum black; elytra finely punctate-striate, with a deep transverse depression before and another at the middle, the sides near the lateral margins with three elongate depressions, the apices very faintly punctured; the surface metallic green or purplish, interrupted at the sides below the middle by a flavous band which occupies the entire apex, its inner margin being deeply concave; underside and legs metallic greenish, the base of the anterior femora and the last abdominal segments flavous.

Hab. Australia, Queensland.

The species of *Æsernia* described here, and of which more than 30 specimens are before me which have been kindly sent to me for examination by Mr. Neervoort van de Poll, seems to be intermediate between *A. Whitei* Baly and *A. splendens* Guér. It differs from the first in the shorter antennæ, the smaller greenish spot at the vertex of the head and in the pattern of the elytra, which, instead of having a narrow transverse fulvous band as in *A. Whitei* have their entire apices and part of the sides flavous; this colour forms a broad lateral band, extending upwards to the first third of the elytra, the anterior edge of this band is straight and acutely separated from the metallic portion which extends posteriorly along the suture in a broadly rounded angle, causing the inner margin of the flavous band to assume a concave shape; the two small lateral greenish spots of the thorax are as often absent as present, and the femora are either entirely metallic or with a fulvous upper or lower margin. The colour of the thorax and the shape of the elytral flavous band separates *A. australica* from *A. splendens*.

Of the present genus, no species was previously known from Australia. I give here the description of another apparently new species contained in my collection, and of which a variety has also been received by Mr. van de Poll from Australia.

Æsernia latefasciata, nov. spec.

Metallic green; antennæ black; head and thorax fulvous; elytra dark metallic blue, finely punctate-striate, a broad transverse band below the middle, flavous or fulvous; the base of the femora and the last abdominal segment, fulvous.

Var. Elytra entirely metallic violaceous blue.

Length 8 lines.

Hab. Port Moresby, New Guinea (coll. Jacoby); the variety: Australia, Queensland (coll. van de Poll).

Again closely allied to *A. Whitei* but I believe distinct from that species. The differences are as follows: in the present insect the entire head and thorax are fulvous; the elytra are more finely punctured and the posterior fulvous band is of double the width than in the allied species the third elytral row of punctures is impressed at its commencement with a deep fovea which in all the specimens of *A. Whitei* which I have examined, is absent. *A. latefasciata* is also distinct, according to the descriptions, from those species described by Dr. Gestro.

NOTE XLIII.

DIE VAN HASSELT'SCHEN NUDIBRANCHIEN.

VON

Dr. R. BERGH.

(Tafel 6).

Das schon seit frühen Zeiten um die Wissenschaft so verdiente Holland scheint im dritten Decennium dieses Jahrhunderts die Absicht gehabt zu haben die Fauna und Flora seiner indischen Besitzungen gründlich zu erforschen. Holland hat damals eine kleine Reihe von seinen Söhnen, von talentvollen jungen Männern der Wissenschaft, dorthin geschickt, die unermüdlich und mit einem Kraftaufwande, der in den Tropen meistens verhängnissvoll ist, gearbeitet haben, die auf ihre Forschungen das Leben eingesetzt haben, und fast alle nach kurzer Zeit dort gestorben sind. Fern vom Mutterlande starben hier van Oort, Forsten, Horner, van Raalten, von den Chinesen getödtet Macklot, ferner der treffliche Boie, vor allen aber Kuhl und van Hasselt [1]). Auch die begleitenden Zeichner wurden vom Tode nicht geschont; dort starben Keultjes und Bik, dessen Zeichnungen ihn hier überleben.

1) Vgl. H. J. Veth, Overzicht van hetgeen, in het bijzonder door Neder-

Van Hasselt scheint für die damals so wie nachher durch lange Zeiten vernachlässigten und doch überaus interessanten Nudibranchiaten Gastraeopoden eine besondere Vorliebe gehabt zu haben; er hat eine kleine Reihe von solchen gesammelt, beschrieben und veröffentlicht.

Für die genauere Bestimmung der von van Hasselt erwähnten oder beschriebenen, theilweise auch nach Holland gekommenen Nudibranchien liegen mehrere Documente vor. Erstens der in 1824 gedruckte, originale, am 25 Mai 1823 von Tjuringe auf Java an Prof. van Swinderen geschriebene Brief[1]) van Hasselt's mit den von ihm gelieferten Beschreibungen. Dann die (an in die Quere beschriebenen, halben Folioblättern) im Leidener Museum bewahrten, an Ort und Stelle von van Hasselt entworfenen originalen Beschreibungen. Ferner die schönen, meistens in natürlicher Grösse, unter den Augen von van Hasselt, von den Malern Maurevert und Bik ausgeführten Zeichnungen von allen beschriebenen Formen (mit Aus-

---

land, gedaan is voor de kennis der Fauna van Nederlandsch-Indië. Leiden 1879. p. 20—39.

Johan Coenraad van Hasselt, zu Doesburg 24/6 1797 geboren, starb am 8/9 1823 in Buitenzorg in Java an Dysenterie Heinrich Kuhl, in Hanau am 17/9 1797 geboren, langte in Batavia in Decbr. 1820 an, starb daselbst, 24 Jahr alt, am 14/9 1821 an Leberleiden. Im Museum zu Leiden hat der verstorbene Director Temminck den beiden jungen Forschern in 1833 eine Gedenktafel gesetzt.

In dem so seltenen Almanak der Akademie van Groningen (voor het jaar 1825. XIII. p. 1—67) findet sich die von Th. van Swinderen im „Genootschap ter bevordering der natuurl. hist. te Groningen" gelieferte „Bijdrage tot eene schets van het leven, het karakter en de verdiensten van wijlen Dr. J. C. van Hasselt".

Ich verdanke die Kenntniss dieser Arbeiten meinem werthen, gelehrten Freunde Prof. Dr. Max Weber in Amsterdam.

1) Uittreksel uit eenen brief van Dr. J. C. van Hasselt, aan Prof. van Swinderen. — Algemeene Konst- en Letterbode. 1824, 2. p. 20—24; 3. p. 34—39; 4. p. 54—55.

Der Brief findet sich in Uebersetzung als „Extrait d'une lettre du Dr. J. C. van Hasselt an Prof. van Swinderen, sur les Mollusques de Java" in Bull. des sc. natur. et de géologie. III. 1824. p. 237—244. — Der Uebersetzer hat versucht das wahrhaftig nicht klassische Lateinisch des Verfassers zu verbessern, nicht immer aber mit Glück; noch dazu ist die ganze Uebertragung von Druckfehlern überfüllt und viele Wörter sind ganz ausgefallen.

nahme von einer). Endlich fanden sich noch im Leidener Museum (in Juni d. J.) einige der Originalien zu den Beschreibungen von van Hasselt.

Das letzt erwähnte Document, die noch bewahrten Originalien umfassend, ist selbfolglich das wichtigste, leider aber auch das kleinste. Von den Originalien schienen sich, und zwar noch mit den originalen Etiquetten, nur die *Doris lineolata* (in zwei Exemplaren) und (ein Exemplar der) *Phyllidia verrucosa* bewahrt. In einem nebenstehenden Glase mit folgender Etiquette [1]) neueren Datums: »*Acteon*, Ok.; *Elysia*, Risso; *Diphyllidia verrucosa*, Cantr.; Méditerranée" — lagen aber zwei Thiere, die etwas ganz anderes waren, die nämlich den Beschreibungen und den Abbildungen von van Hasselt's *Dermatobranchus pustulosus* und *Dermatobr. gonatophorus* entsprechen und sich bei genaueren Untersuchung auch als solche zu erweisen schienen.

Bei dem Fehlen der Originalien der meisten von van Hasselt beschriebenen Nudibranchien sind die originalen Zeichnungen dieser Thiere um so wichtiger. Ich spreche dem Director des Leidener Museums, Herrn Dr. Jentink meinen besten Dank aus, weil er meinem Wunsche eine Auswahl der Zeichnungen zu publiciren hat Folge geleistet, so wie weil er mir, in so weit möglich, die Untersuchung der vorhandenen Originalien erlaubt hat. Ebenso bin ich dem Herrn Custos Dr. Horst für sein freundliches Entgegenkommen verpflichtet.

---

1) Nebenbei stand noch ein anderes Glas mit zwei Originalexemplaren der *Pleurophyllidia verrucosa* Cantraine. Die oberflächliche Aehnlichkeit zwischen den Pleurophyllidien (Diphyllidien) und den Dermatobranchen van Hasselt's hat wahrscheinlich die obige Nach-Etiquettirung veranlasst.

Man erfährt übrigens auch hierdurch, das diese *Pleurophyllidia verrucosa* von Cantraine nur eine Varietät der *Pleuroph. undulata* Meckel ist, bei welcher die sonst continuirlichen Linien in lauter runden und länglichen Knötchen aufgelöst sind. Die von Cantraine erwähnte Form gehört also nicht in die Gruppe der verrucosen oder pustulosen Pleurophyllidien, wie sonst angenommen. Vgl. R. Bergh, Bidr. til en Monogr. af Pleurophyllidierne. 1. Naturh. Tidsskr. 3 R. IV. 1866. p. 15.

Die erwähnten originalen Manuscripten enthalten wenig ausser den in dem gedruckten, oben besprochenen Briefe mitgetheilten Beschreibungen und Bemerkungen. Man erfährt doch, dass die Einsammlungen hauptsächlich in März und April und an oder zwischen Korallen stattgefunden haben. Es findet sich ferner hier eine in dem gedruckten Briefe nicht vorkommende, aber unten den Zeichnungen vorhandene

Eolidia leuconotus, van Hasselt.

Das im Straat-Sunda, an einem Stück Holz kriechend gefischte Thier ist in $^2/_3$ der natürlichen Grösse abgebildet (die Länge der Figur ist 17 mm.). Dem Texte nach überragt der Fuss den Körper hinten und an den Seiten; die Rückenpapillen sollen in drei nicht scharf geschiedenen Gruppen stehen (welche Anordnung in der Figur nicht zu bemerken ist). Der schmale nackte Theil des Rückens ist rein weiss; der Kopf, die Körperseiten und das Fussgebräme sind gelblichweiss; die Papillen hellbraun mit einem orangefarbigen Streifen der Innenseite. An den Körperseiten schimmerte die Zwitterdrüse als gelbe Punkte durch. — Das Thier ist generisch unbestimmbar, wird aber wahrscheinlich an Ort und Stelle wieder gefunden werden.

In diesem Manuscript ist der Gattungsname theils *Dermobranchus*, theils *Dermatobranchus* geschrieben. Dem *Dermatobr. pustulosus* werden fünf ganz schlechte und unverständliche anatomische Dintenzeichnungen mitgegeben. In zwei (Fig. 2, 3) dieser Figuren findet sich (bei *d*) »der Gosier aufgeschnitten mit einer hornartigen schmalen Lamelle des Gosier, die die Gestalt eines Dreiecks hat". Diese Angaben sind vollständig unverständlich (s. unten).

Aus einer kritischen Untersuchung der Beschreibungen van Hasselt's und seinen mit denselben verglichenen Figuren scheinen nun die folgenden näheren Bestimmungen hervorzugehen:

1. *Doris javanica*, van Hasselt.

Brief, l. c. 1824. N°. 2, p. 21. — Lettre, p. 238.

Diese Form, die nicht abgebildet ist, lässt sich nach der Beschreibung nicht bestimmen. Vielleicht stellt sie eine der in den indischen Meeresgegenden häufigen Discodoriden dar.

2. *Doris radiata*, van Hasselt.

Brief, l. c. 1824. N°. 2, p. 21. — Lettre, p. 238.

Taf. 6, Fig. 8.

Diese schöne Thierform, die von van Hasselt als selten vorkommend angegeben wird, scheint seitdem nicht wiedergesehen. Sie wird durch ihre feuerrothe und braunschwarze Rückenfarbe mit den eigenthümlichen weissen Zeichnungen leicht wieder zu erkennen sein. Vielleicht ist sie eine *Doriopsis*.

3. *Doris cespitosa*, van Hasselt.

Brief, l. c. 1824. N°. 2, p. 22. — Lettre, p. 238.

Doris crescentica, Collingwood. On some new species of nudibr. moll. from the eastern seas. Trans. of the Linn. Soc. of London. II, 2. 1881. p. 126—127 (Pl. IX. Fig. 6—8).

Asteronotus bertrana, Bgh. Malacolog. Unters. (Semper, Philipp. II, II) Heft XIV. 1878. p. 629—644. Taf. LXVII. Fig. 10—22; Taf. LXVIII. Fig. 6—14. — Supplementheft I. 1880. p. 67—71.

? *Doris cerebralis*, Gould. Explor. Exped. 1852—1856. p. 298. Pl. 23. Fig. 393 *a—c*.

Taf. 6, Fig. 9.

Diese grosse und, wie schon von van Hasselt angedeutet, im indischen und stillen Meere häufig vorkommende Form gehört ganz bestimmt der Gattung *Asteronotus*. Sie ist der

Beschreibung (nicht aber den Figuren) Collingwood's nach mit seiner *Doris crescentica* identisch, und vielleicht auch mit den *Doris cerebralis* von Gould. Die von mir schon vor einem Decennium untersuchte *Asteronotus bertrana* fällt sicherlich auch mit der von van Hasselt beschriebenen Form zusammen; diese wird in der Zukunft den Namen *Asteronotus cespitosus* (van Hasselt) tragen müssen. — Van Hasselt hat das Thier laichen gesehen und beschreibt den Laich.

4. *Doris lineolata*, van Hasselt.

Brief, l. c. 1824. N°. 2, p. 22. — Lettre, p. 238.

Chromodoris lineolata, Bgh. Malacolog. Unters. Heft VI. 1874. Tab. XXXIII. Fig. 4.
— *striatella*, Bgh. l. c. Heft XI. 1877. p. 474—478. Taf. LI. Fig. 24—25.
— *striatella*, Bgh. Neue Nacktschnecken d. Südsee. III. Journ. d. Mus. Godeffroy. Heft VIII. 1875, p. 73. — IV. l. c. Heft XIV. 1878. p. 5.
— *striatella*, Bgh. Rep. on the Nudibranchiata. Challenger Exped. Zool. X. 1884. p. 73—76. Pl. III. Fig. 26—29; Pl. IV. Fig. 1—4.
— *funerea*, Collingw. l. c. 1881. p. 131—132. Pl. IX. Fig. 30—33.

Diese von van Hasselt auch als häufig vorkommend angegebene Form scheint im indischen und pacifiken Meere sehr allgemein verbreitet. Sie gehört der Gattung *Chromodoris*. Ich benannte sie vor Jahren (1874) *Chromodoris lineolata*; als ich später bemerkte, dass van Hasselt eine *Doris lineolata* beschrieben hatte, die wahrscheinlich auch eine Chromodoris wäre, änderte ich den Namen in *Chromodoris striatella* und habe diese Form mehrmals untersucht. Der Zeichnung van Hasselt's und seinen zwei Originalexemplaren nach ist meine *Chromodoris striatella* mit der von van Hasselt benannten Form identisch. Dasselbe gilt wohl den

von Collingwood beschriebenen Form, wenigstens dem Texte (weniger den Figuren) nach. Dieses Thier wird in der Zukunft *Chromodoris lineolata* (van Hasselt) zu benennen sein.

5. *Doris alba*, van Hasselt.

Brief, l. c. 1824. N°. 2, p. 22. — Lettre, p. 238. Taf. 6, Fig. 12.

Diese kleine (von van Hasselt in drei Figuren dargestellte) Form wird wegen ihrer ausgeprägten reinen Färbung wahrscheinlich wieder aufgefunden und erkannt werden. Sie scheint wegen der »branchiis 10, lamellosis, simplicibus" (van Hasselt) eine Chromodoris zu sein, *Chromodoris alba* (van Hasselt).

6. *Doris punctulata*, van Hasselt.

Brief, l. c. 1824. N°. 2, p. 22. — Lettre, p. 239. Taf. 6, Fig. 11.

Auch diese kleine Form wird wegen ihrer Färbung wahrscheinlich wieder aufgefunden werden. Auch sie scheint derselben Gattung wie die vorige Art zu gehören, wird als *Chromodoris punctulata* (van Hasselt) fungiren [1]).

7. *Doris sinuata*, van Hasselt.

Brief, l. c. 1824. N°. 2, p. 23. — Lettre, p. 239.

Miamira nobilis, Bgh. Neue Nacktschnecken der Südsee. II. l. c. Heft VI. 1874. Taf. I. Fig. 5. — III. Heft VIII. 1875. p. 53—63. Taf. VIII. Fig. 1—30; Taf. IX. Fig. 1—4.

1) Diese zwei kleinen Arten erinnern einigermassen an zwei von mir (nach Abbildungen von Dr. Graeffe) aus der Südsee benannten Formen, die *Chromodoris? pusilla* und die *Doris* (genus?) *punctulifera* (vgl. R. Bergh, Neue Nacktschnecken der Südsee. II. Journ. d. Mus Godeffroy. Heft VI. 1874. Taf. 1 Fig. 18—20), sowie an die von Collingwood l. c. p. 130—131. Pl. IX. Fig. 27—29 dargestellte *Chromodoris tenuis*.

Miamira nobilis, Bgh. Malacolog. Unters. Heft X. 1876. p. 411. Taf. XXXIII. Fig. 2.

Taf. 6, Fig. 10.

Dieses schöne, über das indische und pacifike Meer, wie es scheint, sehr verbreitete Thier, ist also schon von van Hasselt gefunden, denn es unterliegt keinem Zweifel, das dasselbe eine Miamira ist und ziemlich sicher mit der von mir beschriebenen Art identisch, die also *Miamira sinuata* (van Hasselt) zu nennen wäre.

8. *Eolidia alba*, van Hasselt.

Brief, l. c. 1824. N°. 2, p. 23. — Lettre, p. 239.

Diese, von van Hasselt durch zwei Figuren illustrirte Form, lässt sich weder durch den Text, noch durch die Figuren generisch bestimmen; vielleicht könnte sie einen *Proctonotus* darstellen.

9. *Eolidia macrobranchia*, van Hasselt.

Brief, l. c. 1824. N°. 2, p. 24. — Lettre, p. 240.

Auch diese, durch eine Zeichnung von van Hasselt erläuterte Form ist augenblicklich ganz unbestimmbar; sie könnte vielleicht eine *Cratena* sein.

10. *Placobranchus ocellatus*, van Hasselt.

Brief, l. c. 1824. N°. 3, p. 34—35. — Lettre, p. 240—242.

Plakobranchus ocellatus, van Hasselt. R. Bergh, Malacolog. Unters. Heft II. 1871. Tab. IX. Fig. 6—9.

Taf. 6, Fig. 5.

Diese merkwürdige, von van Hasselt aufgestellte Gruppe, stand bis zu meinen [1]) Untersuchungen (1872) ganz unbe-

1) R. Bergh, Malacolog. Unters. Heft III. 1872. p. 145—174. Taf. XVII—XX; — Supplementheft I. 1880. p. 5—7; Taf. I). Fig. 30—33.

R. Bergh, Neue Nacktschnecken d. Südsee. I. l. c. Heft II. 1873, p. 11—15. Taf. IX. Fig 5, 6; Taf. X. Fig. 22—25; Taf. XI. Fig. 3—6.

kannt. Die von ihm nach den schönen Augenflecken benannte Art, ist durch 3 Figuren illustrirt; er giebt im Texte auch einige (unwesentliche) anatomische Notizen. Es darf als ziemlich sicher angenommen werden, dass die Form die van Hasselt vorgelegen hat, mit der von Semper u. A. observirten und von mir untersuchten congruirt. Die Art scheint in Farben sehr zu variiren, und mehrere der aufgestellten Arten von *Plakobranchus* (*Pl. argus*, Bgh.; *Pl. ianthobaptus*, Gould; *Pl. gracilis*, Pease; *Pl. variegatus*, Pease; *Pl. camiguinus*, Bgh.) scheinen nur Varietäten der typischen Form zu sein.

11. *Abranchus glaucoleucus*, van Hasselt.

Brief, l. c. 1824. N°. 3, p. 36—37. — Lettre, p. 242.

Auch von diesem Thiere hat van Hasselt eine Abbildung liefern lassen; dem Texte und der letzteren nach hat aber eine der einigen Nudibranchiaten nicht unähnlichen Seeplanarien hier vorgelegen.

12. *Dermatobranchus striatus*, van Hasselt.

Brief, l. c. 1824. N°. 3, p. 37—38. — Lettre, p. 242—243.
Taf. 6, Fig. 1—2.

Die Dermatobranchen standen bisher als etwas apocryphe Thiere, die von den Verfassern verschieden gedeutet waren, von Blainville selbst in der Nähe der Scyllaeen gestellt. Als ich vor Jahren (1874) die Familie der Pleuroleuriden aufstellte [1]) zog ich die Dermatobranchen van Hasselt's als fragliches Synonym zu denselben und meinte, dass sich diese Frage nie sicher lösen würde, weil die originalen Exemplare der Dermatobranchen wahrscheinlich verloren gegangen wären [2]). Diese Annahme hat sich glücklicherweise nicht

1) R. Bergh, Malacolog. Unters. Heft VI. 1874. p. 276—285 (Taf. XXV. Fig. 3); Taf. XXXIV. Fig 27—32; Taf. XXXV.
2) Vgl. l. c. p. 278.

bestätigt. Es scheint durch die Untersuchung der (s. oben) (prätendirten) originalen Dermatobranchen festgestellt, dass diese mit den Pleuroleuriden congruiren. Nicht destoweniger habe ich diesen letzten Namen doch bewahrt, erstens weil er mir sehr gut gewählt scheint, mit einem Worte die Verwantschaft mit den Pleurophyllidien und den wesentlichen Unterscheidungs-Character, die ebene (nicht lamellirte) Körperseite dieser Thiere angebend; zweitens weil die Angabe van Hasselt's von einer Bewaffnung des Magens (s. oben) doch die Identificirung der beiden Gattungen zweifelhaft machen könnte. Persönlich bin ich davon überzeugt, dass die von mir im Leidener Museum gefundenen Thiere wirklich die Dermatobranchen van Hasselt's sind, aber auch davon, dass jene anatomische Angaben dieses Verfassers falsch waren; eine Magen-Bewaffnung wäre auch den Umständen nach bei diesen Thieren kaum zu erwarten.

Die *Dermatobranchus striatus* ist von van Hasselt durch zwei sehr werthvolle Zeichnungen illustrirt, von welchen die eine (Fig. 1) sehr deutlich den Gattungs-Character, das vollständige Fehlen von Kiemenblättern und von Seitenlamellen, darstellt, während die andere (Fig. 2) sehr an die Formverhältnisse der verwandten Pleurophyllidien erinnert. Die Thierform, die im Museum fehlte, wird ohne Zweifel wieder gefunden werden, und wird *Pleuroleura striata* (van Hasselt) zu benennen sein.

13. *Dermatobranchus pustulosus*, van Hasselt. Brief, l. c. 1824. N°. 3, p. 38. — Lettre, p. 243. Taf. 6, Fig. 3.

Von dieser hübschen Form, die auch von van Hasselt abgebildet ist, fand sich im Museum ein Individuum. Es ist besonders diese Form, die van Hasselt anatomisch untersucht hat (s. näher unten). Die Art wird *Pleuroleura pustulosa* (van Hasselt) zu nennen sein.

14. *Dermatobranchus gonatophorus*, van Hasselt.
Brief, l. c. 1824. N°. 3, p. 38. — Lettre, p. 243.
Taf. 6, Fig. 4.

Auch diese Form, die vielleicht von der vorigen wirklich specifisch verschieden ist, ist vom Verfasser abgebildet; auch von derselben fand sich ein Individuum, das wie die vorige genauer (s. unten) untersucht wurde. Die Art wird fernerhin als *Pleuroleura gonatophora* (van Hasselt) figuriren.

15. *Phyllidia verrucosa*, van Hasselt.
Brief, l. c. 1824. N°. 4, p. 54. — Lettre, p. 244.
Taf. 6, Fig. 7.

Diese schöne Form mit der (auf Kosten des Schwarzen) vorherrschenden grünen Farbe ist vom Verfasser abgebildet. Sie ist eine Phyllidiella, ob eine besondere Art oder nur eine Varietät der *Ph. nobilis*, lässt sich vorläufig nicht sicher bestimmen (s. näher unten). Einstweilen wird sie als *Phyllidiella verrucosa* (van Hasselt) zu notiren sein.

16. *Phyllidia nigra*, van Hasselt.
Brief, l. c. 1824. N°. 4, p. 54. — Lettre, p. 244.
? *Fryeria variabilis*, Collingwood. l. c. p. 137. Pl. X. Fig. 24—28.
Taf. 6, Fig. 6.

Auch diese Form is von van Hasselt bildlich dargestellt. Sie ist vielleicht mit der *Fryeria variabilis* von Collingwood [1]) identisch. Ob sie nicht nur eine Varietät der *Phyl-*

1) In der ganz oberflächlichen und unzuverlässlichen Arbeit von Collingwood ist diese Art als *Fryeria* und mit dem „Anus unter dem Mantel an der rechten Seite, etwa $^3/_4$ Zoll vom Vorderrand" verzeichnet. Diese Form (mit ihrer Genitalpapille an gewöhnlicher Stelle) ist (deshalb) ebenso wenig eine Fryeria wie die *Trevelyana* dieses Verfassers wirklich eine Trevelyana.

lidiella pustulosa darstelle, bleibt vorläufig unsicher. Jedenfalls ist sie eine *Phyllidiella* [1]).

---

1. *Pleuroleura pustulosa* (van Hasselt).
Dermatobranchus pustulosus, van Hasselt.
Taf. 6, Fig. 3.

Das in Alkohol bewahrte Individuum dieser Art hatte eine Länge von 3 Cm., bei einer Breite von 12,5 mm. und einer Höhe bis 6 mm.; die Breite des Mantelgebräme bis 5,5, die des Fusses auch bis 5,5 mm. — Die Farbe des Rückens gelbweiss, vorne aber noch strichenweise starke Ueberreste von Violet und Rosenroth, die Mitte etwas violetgrau, die Rückenwülste meistens schwärzlich eingefasst; der Vorderrand des Kopfes so wie theilweise auch der Mantel- und der Fussrand hell rosenroth; die Scheide und der Stiel der Rhinophorien rosenroth; die (1,5 mm. hohe) Keule gelblich, am freien Rande ihrer Blätter aber weisse, theilweise zusammenfliessende Fleckchen; die Unterseite des Thieres gelblichweiss; gegen den Mantelrand hin sind die Körperseiten mehr weisslich, gegen den Fussrand mehr gräulich.

Die Form des Thieres wie gewöhnlich bei den Pleuroleuriden, nach hinten ziemlich zugespitzt. Der im Vorderrande schmal eingeschnittene Rücken (Fig. 3) seiner ganzen Ausdehnung nach mit ovalen, hauptsächlich schrägen und quergehenden, nicht stark vortretenden, kleinen (bis fast 3 mm. langen) Wülsten bedeckt, die meistens ungeordnet, mitunter auch in Schrägreihen stehen. Durch die ganze

1) Während eines Aufenthaltes in London (1873) fand ich im Brit. Mus. das „Originalexemplar der *Linguella Elfortii*, Blv." im originalen Glase (vgl. Malacolog. Unters. Heft VI. 1874. p. 248). Dieselbe war mit der von mir vor Jahren (1863) beschriebenen *Saucara quadrilateralis* identisch. Im Leidener Museum fand sich jetzt auch ein originales, von der Brugmans'schen Sammlung herrührendes Exemplar der *Linguella Elfortii*, Blv., und noch mit der alten Etiquette „*Diphyllidia Brugmansi*, Cuv., *Linguella Elfortii*, Blv."; ein anderes Individuum derselben Form war als „*Diphyllidia emarginata*, Cuv. Pondichery" etiquettirt.

Länge des etwas rundzackigen Mantelrandes, besonders an der Unterseite desselben, zeigten sich äusserst zahlreich die feinen Nesselporen. Der Kopf wie gewöhnlich; die Keule der Rhinophorien mit etwa 9—10 wieder gespaltenen Blättern. Hinten dem Tentakel-artigen Seitentheile des Kopfes (rechts) die Genitalpapille; etwa am Anfange des zweiten Drittels der Körperlänge (vgl. Fig. 1), dem ziemlich breiten Mantelgebräme etwas genähert, der Anus; zwischen der flachen Genital- und der Analpapille, der letzteren ein wenig mehr genähert, die ganz feine Nierenpore (vgl. Fig. 1). Der Fuss wie gewöhnlich; eine oberflächliche feine mediane Furche erstreckt sich durch das hintere etwa Fünftel der Sohle.

Die Eingeweide wurden (in Uebereinstimmung mit der gegebenen Instruction) mit möglichster Schonung der äusseren Formverhältnisse des Thieres an Ort und Stelle ausgenommen und später (in Kopenhagen) untersucht. Sie waren, besonders die hintere Eingeweidemasse, von einer matt-silberglänzenden Bindesubstanzhülle (Pseudo-Peritonaeum) überzogen.

Das Centralnervensystem von der bei den (Pleurophyllidien und) Pleuroleuriden gewöhnlichen Form; die pedalen Ganglien nur wenig kleiner als die cerebro-pleuralen, die ovalen buccalen Ganglien durch eine Commissur verbunden, die länger als das Ganglion war. — Die Augen wie gewöhnlich, mit schwarzem Pigmente. Die Ohrblasen ein wenig kleiner als die Augen, mit zahlreichen kleinen Otokonien. In der Haut die gewöhnlichen kleinen, kugel- und flaschenförmigen Drüschen. Im Mantelrande eine Masse von grösseren und kleineren Nesselsäcken, deren Oeffnungen am Rande schon stark auffielen; die Säcke mit Nesselelementen voll gepackt, die zum grossen Theile mit der Spitze central und nach aussen sehend gelagert schienen; die Nesselfäden waren (ganz wie bei den Pleurophyllidien) langgestreckt, an Länge bis 0,15—0,2 mm. messend, weich, fast farblos, spitz zulaufend.

Der Schlundkopf 4 mm. lang bei einer Höhe von 3 und

einer Breite von 2,5 mm., von gewöhnlichen Formververhältnissen, kräftig; die Lippenscheibe schmal, die Raspelscheide hinten und unten ein wenig vortretend; die starke Muskelplatte an der Vorderseite der Kiefer wie gewöhnlich. Die horngelben Mandibel wie gewöhnlich, in Form mit denen der Pleurophyllidien übereinstimmend, längs der Mitte ihrer ganzen Länge nach bedeutend dicker, fast 4 mm. lang bei einer Breite bis fast 1 mm.; die Schlossparthie klein; der Kaurand oben (durch Abnutzen?) fast eben, sonst mit mehreren Reihen von ganz feinen Höckerchen [1]). Die Zunge stark, mit breiter Kluft; in der schwach gelblichen Raspel 17 Zahnplattereihen; weiter nach hinten und in der kurzen und dicken Raspelscheide 17 entwickelte und 2 jüngere Reihen, die Gesammtzahl derselben somit 36. In den Reihen kamen an jeder Seite der medianen Platte bis wenigstens 33 Seitenzahnplatten vor. Die Platten sehr hell gelblich; die Breite der medianen bis 0,08 mm., bei einer Höhe bis fast 0,065 mm. betragend; die Höhe der ersten Seitenzahnplatte bis 0,035 mm., und die Höhe der Seitenplatten sich allmählig bis zu etwa 0,11 mm. erhebend. Die medianen Platten ziemlich niedergedrückt und breit; eine Hakenspitze fehlt, der Schneiderand jederseits mit beiläufig 20 spitzen Dentikeln. Die innerste Seitenzahnplatte ziemlich hoch und schmal; der spitz zulaufende Schneiderand (kurzer Haken) jederseits mit 12—15 spitzen Dentikeln. Die folgende Seitenplatte schon etwas grösser, mit 12—15 spitzen Dentikeln des Aussenrandes; die Höhe der Seitenplatten allmählig steigend; so wie (bis zu etwa 25) die Anzahl der zusammen einen fein- und spitzzähnigen Kamm bildenden Dentikeln. Die äussersten Platten wieder an Grösse abnehmend, so wie die Anzahl der Dentikel auch etwas geringer; an den äussersten 2 oder 3 verschwinden die Dentikel mitunter ganz. Doppeltzahnplatten (die bei den

1) Eine kleine Reihe von Zeichnungen, die zur Untersuchung dieser und der folgenden Art gehören, wird anderswo in einer Monographie der Pleuroleuriden veröffentlicht werden.

Pleurophyllidien so häufig vorkommen) fehlten auch nicht.

Die gräulichen Speicheldrüsen (gl. salivales) aus langen, ziemlich stark verzweigten Lappen zusammengesetzt. — Mundröhrendrüsen (gl. ptyalinae) wurden nicht gefunden.

Die Speiseröhre kurz und ziemlich weit. Der Magen rechts gleich den Darm abgebend, nach hinten ohne Grenze in den Magenblindsack (Hauptgallengang) verlängert, der an der linken Seite der Zwitterdrüse und weiter nach hinten verläuft; von den Seiten nahmen der Magen und seine Verlängerung mehrere Gallengänge auf [1]). Der Darm ziemlich kurz, erst nach unten, dann gegen oben an den Anus aufsteigend. — Die Verdauungshöhle war leer.

Die stark geschlängelten und veraestelten braungrauen, weisslichen und gelblichen Leberröhren füllten das Mantelgebräme, an und zwischen den Nesselsäcken eindringend, und hüllten den Magen mit seiner Verlängerung, theilweise auch die Zwitterdrüse ein.

Das Herz und das pericardio-renale Organ (Nierenspritze) wie gewöhnlich. Das Nierengewebe wie gewöhnlich.

Die braungelbe Zwitterdrüse ziemlich gross, an der rechten Seite des Magenblindsackes liegend, fast wurstförmig; die vordere Hälfte der unteren Seite (wegen der vorderen Genitalmasse) schieff abgeplattet; 13 mm. lang bei einer Breite bis 4,6 und einer Höhe bis 3,5 mm.; längs der unteren Seite verläuft median eine Furche, in welcher sich der gemeinschaftliche Ausführungsgang bildet und verläuft. Die Drüse zeigte den gewöhnlichen Bau; in den Läppchen keine reife Geschlechtselemente. — Die (stark erhärtete) vordere Genitalmasse gross, von fast ovaler Form, 8 mm. lang bei einer Breite bis 4,75 und einer Höhe bis 5 mm.; an der linken Seite steigt die nicht dicke Ampulle des Zwitterdrüsenganges an die obere Seite hinauf; auch der Samenleiter weniger stark entwickelt; der Penis (Praeputium) wie in den Pleurophyllidien, die Glans Penis kegelförmig,

1) Es fand sich ganz bestimmt weder bei dieser noch bei anderen Pleuroleuriden eine Spur der von van Hasselt angedeuteten Bewaffnung des Magens.

bis an die Spitze von der Fortsetzung des Samenleiters durchbrochen. Die Samenblase sackformig, klein, leer. Die Schleimdrüse kalkweiss (oben) und gelblichweiss, die vorne an der rechten Seite entblösste Eiweissdrüse gelbbraun.

2. *Pleuroleura gonatophora* (van Hasselt).
Dermatobranchus gonatophorus, van Hasselt.
Taf. 6, Fig. 4.

Das in Alkohol bewahrte Individuum, das sehr schlecht erhalten war, hatte nur eine Länge von 15 bei einer Breite bis 5,5 (das Mantelgebräme war stark nach oben geschlagen) und einer Höhe bis 5 mm. Die Farbenverhältnisse waren etwa dieselben wie in der vorigen Art, nur trat das Violette und Rosenrothe gegen das Gelblichweisse stärker vor; an den von der Mittellinie schräge auswärts verläufenden erhabenen Linien kamen dunklere Knötchen vor; die Keule der Rhinophorien schwarzbraun.

Die Formverhältnisse waren etwa wie in der vorigen Art. Am Rücken kamen aber, die bei den *Pl. pustulosa* erwähnten grösseren Wülsten nicht vor, dagegen schräge von der medianen Längsmittellinie ausgehende, erhabene, feinknotige Linien. Die Unterseite des (weisslichen) Mantelgebrämes war in (bis etwa 2,6 mm.) grosser Breitenausdehnung mit dicht gedrängten Nesselporen ausgestattet. Der Kopf, die Oeffnungen der rechten Körperseite und der Fuss wie oben.

Die Hülle der Eingeweidemassen ganz wie in der vorigen Art.

Das Centralnervensystem wie in der vorigen Art, ebenso die Otocysten und die Augen. Die Nesselfäden eine Länge bis wenigstens 0,25 mm. erreichend.

Der Schlundkopf ganz wie oben. Die 2,4 mm. langen, horngelben Mandibel kaum weniger gewölbt als in der vorigen Art; die Höckerchen des Kaurandes vielleicht etwas stärker. Die Zunge wie oben; in der Raspel 16 Zahnplattenreihen; weiter nach hinten deren 13 entwickelte und 2 jüngere Reihen; die Gesammtzahl derselben somit 31. In

den Reihen schienen bis 30—32 Platten vorzukommen. Die Platten sehr hell gelblich, in Form- und Grössenverhältnissen kaum von denen der vorigen Art unterscheidbar. — Die (oberen) Speicheldrüsen wie in der vorigen Art; (untere) Mundröhrendrüsen konnten nicht nachgewiesen werden. — Die Leber wie oben, ebenso die dichtgedrängten Nesselsäcke.

Die Niere stark entwickelt; ihre Läppchen ziemlich lang, stark verzweigt.

Die Zwitterdrüse ganz wie oben, 6 mm. lang bei einer Breite bis 2,5 und einer Höhe bis fast 2,25 mm.; in den Läppchen keine reife Geschlechtselemente. Die vordere Genitalmasse ziemlich kugelrund, 4 mm. lang bei einer Höhe bis 3,5 und einer Breite bis 3 mm.; die einzelnen Theile derselben, in so weit solches beurtheilt werden konnte, ganz wie oben.

3. *Phyllidiella verrucosa* (van Hasselt).

Phyllidia verrucosa, van Hasselt.

Taf. 6, Fig. 7.

Von der Art lag nur ein einziges Individuum vor, von van Hasselt im Monat April 1823 bei Anjer gefischt.

Das lebende Thier hat, van Hasselt zufolge, eine Länge von 3,4 Cm. (1″ 11‴) bei einer Breite von 2 Cm. (9‴) gehabt. Der Beschreibung [1]) van Hasselt's und seiner Figur zufolge ist die Farbe ziemlich hellgrün gewesen, die Grundfarbe von schmalen schwarzen, kürzeren und längeren Linien durchzogen, von welchen besonders eine fast ringslaufende am Mantelgebräme und eine noch stärkere, die den eigentlichen Rücken fast umschreibt; der ganze Rücken mit grünen Knötchen dicht bedeckt, die an der Spitze ein wenig heller (grünlichweiss) waren; der Stiel der Rhinophorien grünlich; die Keule schwärzlich.

1) „Corpore ovali sulcis viridibus nigrisque irregulariter exarato, supra plagis viridibus tuberculoso, sulcis circumscriptis; punctis nigris nullis." van Hasselt.

Das (im Leydener Museum), mit ganz alter Etiquette versehene, in Alkohol bewahrte Individuum hatte eine Länge von 22 bei einer Breite bis 11 und einer Höhe bis 5 mm.; die Breite des Mantelgebrämes bis 3, die des Fusses bis 9 mm.; die Höhe der Rhinophorien 2,5 mm. Die Farbe war durchgehends schwach-gelblich weiss; nur ganz schwache Ueberreste der oben erwähnten schwarzen Linien als braungelbe und schwarzgraue, linienartige Einsenkungen. Die Keule der Rhinophorien schwärzlich an der Spitze, sonst weiss. — Die Form des (ziemlich harten) Thieres war länglich oval, abgeplattet. Der Rücken überall und bis an den Mantelrand mit Knötchen dicht bedeckt (von denen einige an der Oberfläche noch uneben oder zusammengesetzt waren); diese standen am Mantelgebräme ohne alle Ordnung; am eigentlichen Rücken bilden sie drei von vorne nach hinten gehende Hauptzüge, die ganz vorne und hinten verschmelzen, so wie auch im Verlaufe hier und da ein wenig mit einander communiciren. Im Vorderende der zwei äussersten Züge neben einander die runden Rhinophoröffnungen, am Hinterende des mittleren die runde Analöffnung. Diese ganze mittlere Parthie (der eigentliche Rücken) ist durch ein ziemlich tiefe Furche umschrieben, die Furchen zwischen den äusseren Zügen weniger tief, noch weniger die am Mantelgebräme. Die Keule der Rhinophorien mit etwa 25 schrägen Blättern; die kleinen, lappenartigen Tentakel wie gewöhnlich. Die Kiemenblätter kurz und niedrig. Der Fuss wie gewöhnlich, ohne deutliche Längsfurche hinten. — Das in Alkohol bewahrte Individuum ähnelte weder in Farbe noch in Beziehung auf die Rücken-Figuren der *Ph. nobilis*.

Die an Ort und Stelle, der Instruction gemäss, mit Schonung der äusseren Form des Thieres vorgenommene Exvisceration zeigte die ganz gewöhnlichen Lageverhältnisse der Eingeweide. Die die letzteren einschliessende Bindesubstanzhülle weisslich oder fast farblos.

Die Hülle der sehr stark abgeplatteten Centralnerven-

systems dünn, farblos. Die cerebro-pleuralen Ganglien nierenförmig, die Grenze zwischen den zwei Abtheilungen an der oberen Seite deutlich; die rundlichen pedalen Ganglien grösser als die pleuralen; die (deutlich doppelte) gemeinschaftliche Commissur etwa so breit wie der Querdurchmesser des Fussknotens. Die zwiebelförmigen Riechknoten, so wie die kleinen und rundlichen Sehknoten wie gewöhnlich. Die rundlichen buccalen Ganglien wie gewöhnlich, an der hinteren ampullenartigen Erweiterung des Schlundkopfes liegend.

Der N. opticus ziemlich lang; das Pigment des Auges schwarz, die Linze gelblich. Die Ohrblasen etwas kleiner als die Augen, mit (wenigstens 100) kleinen Otokonien gewöhnlicher Art und von einem Durchmesser bis 0,013 mm. prall gefüllt. Die ziemlich breiten Blätter der Rhinophorien in gewöhnlicher Weise durch, meistens zu dem freien Rand sagittal stehenden, Spikeln steiff gemacht. — In der Bindesubstanz kamen stark erhärtete, grössere und kleinere Spikel vor, besonders massenhaft um die Hauptausführungsgänge des Genitalapparates, hier oft eine Länge bis 0,3—0,4 bei einem Durchmesser bis etwa 0,025 mm. erreichend.

Die Mundpore wie gewöhnlich. Die Mundröhre sehr stark erhärtet, 5,5 mm. lang bei einer Breite bis 3,5 und einer Höhe bis 3 mm., hinten etwas breiter als vorne und schräge abgestutzt; gelb, das Vorderende aber rothbraun und Parthien von ähnlicher Farbe schimmerten auch hinten an den Seiten hindurch. Am Hinterende haftete sich jederseits der starke Retractor und zwischen diesen beiden tritt der Schlundkopf in gewöhnlicher Weise hervor. Die Mundröhre zum grössten Theile von den gewöhnlichen Drüsenlappen gebildet; ihre Höhle klein, mit längsgefalteten gelben und rothbraunen (sehr erhärteten) Wänden. Der sich hinten und oben in die Mundröhre öffnende intrabulböse Theil des Schlundkopfes ganz kurz; der cylindrische Schlundkopf sonst ganz wie gewöhnlich, noch etwa ein halbes Mal so lang wie die Mundröhre, mit dreieckiger Lichtung. Dicht neben den buccalen Ganglien schie-

nen kleine Speicheldrüsen vorzukommen. Die Speiseröhre kaum länger als der Schlundkopf, etwas weiter. Der Magen sich wie gewöhnlich durch die ganze Länge der Lebe erstreckend. Der Darm den gewöhnlichen Bogen bildend und nach hinten verlaufend. — Die hintere Eingeweidemasse (Leber) fast 12 mm. lang bei einer Breite (vorne) bis 4 und einer Höhe bis 3 mm., gestreckt-zungenförmig, gelblich.

Die Blutdrüse stark abgeplattet, rundlich, von einem Durchmesser von 1,5 mm., weisslich, das Centralnervensystem fast ganz deckend.

Das Pericardium wie gewöhnlich (mit starken Spiklen ausgestattet); die Pericardialkieme sehr schwach entwickelt. Die Niere, das pericardio-renale Organ und sein Gang ganz wie früher von mir beschrieben.

Die Zwitterdrüse ohne entwickelte Geschlechtselemente. Die (stark erhärtete) vordere Genitalmasse 3,5 mm. lang bei einer Höhe und Breite von 2,1 mm., planconvex. Die Ampulle des Zwitterdrüsenganges rundlich, klein. Die Spermatotheke fast birnförmig, ganz gelblichweiss, etwa 0,16 mm. lang; die Spermatocyste kugelförmig, von etwa 0,4 mm. Diam., mit durchschimmerndem schwarzem Epithele, leer. Der dünne geschlängelte Samenleiter in den fast 1,5 mm. langen, fast cylindrischen weissen Penis (Praeputium) übergehend; die innerhalb desselben liegende Glans etwa 0,25 mm. lang, mit, wie es schien 15—20 Längsreihen von fast farblosen Haken gewöhnlicher Art, die eine Länge (längs des Hakenrückens) bis etwa 0,03 mm. erreichten. Die Schleimdrüse horn- und vorne rothgelb.

Diese Form scheint von der *Phyllidiella pustulosa*, so wie von der *Ph. nobilis* in Farbenzeichnung und Knotenvertheilung des Rückens ganz verschieden, ebenso in Beziehung auf Farbe der Rhinophorien.

Kopenhagen. In August 1887.

TAFEL-ERKLÄRUNG.

Die Figg. 3, 4 und 11 sind von Maurevert, die übrigen von J. A. Bik, alle dem Leben nach und in natürlicher Grösse gezeichnet.

Fig. 1. *Dermatobranchus striatus*, van Hasselt (= *Pleuroleura striata* (van Hasselt)); von der rechten Seite.

Fig. 2. Dasselbe Thier, vom Rücken.

Fig. 3. *Dermatobranchus pustulosus*, van Hasselt (= *Pleuroleura pustulosa* (van Hasselt)); vom Rücken.

Fig. 4. *Dermatobranchus gonatophorus*, van Hasselt (= *Pleuroleura gonatophora* (van Hasselt)); vom Rücken.

Fig. 5. *Placobranchus ocellatus*, van Hasselt; vom Rücken.

Fig. 6. *Phyllidia nigra*, van Hasselt (= *Phyllidiella nigra* (van Hasselt)); vom Rücken.

Fig. 7. *Phyllidia verrucosa*, van Hasselt (= *Phyllidiella verrucosa* (van Hasselt)); vom Rücken.

Fig. 8. *Doris radiata*, van Hasselt; vom Rücken.

Fig. 9. *Doris cespitosa*, van Hasselt (= *Asteronotus cespitosus* (van Hasselt)); vom Rücken.

Fig. 10. *Doris sinuata*, van Hasselt (= *Miamira sinuata* (van Hasselt)); vom Rücken.

Fig. 11. *Doris punctulata*, van Hasselt (= *Chromodoris punctulata* (van Hasselt)); vom Rücken.

Fig. 12. *Doris alba*, van Hasselt (= *Chromodoris alba* (van Hasselt)); vom Rücken.

INDEX.

A.

Abatocera 221, 273.
Abirus 261.
Abranchus 311.
Acanthocerus 205—208.
Acanthodrilus 99, 100, 103, 252–258, 291—293, 299.
Acanthylis 39.
Accipiter 11, 93.
Acomus 77, 95.
Acteon 305.
Actitis 79.
acutipennis (Oxylanguria) 121.
adelpha (Batocera) 219, 276.
Aegithina 59, 94.
Aegoceros 173.
Aegosoma 143.
aenea (Carpophaga) 76, 95.
" (Columba) 76.
" (Tetralanguria) 125.
aeneomicans (Cleorina) 263.
" (Nodostoma) 263.
aeneonigra (Batocera) 219, 276.
Aepyceros 173.
Aesernia 300, 301.
aethiops (Rhinolophus) 179.
Aethopyga 56, 94.
affinis (Arachnothera) 58.
" (Tchitrea) 45.
" (Terpsiphone) 45, 94.
Agonischius 288, 289.
Agrypnus 189, 190.
ajax (Batocera) 219, 222, 272, 274, 275, 278.
alba (Chromodoris) 309, 323.
alba (Doris) 309, 323.
" (Eolidia) 310.
albertiana (Batocera) 219, 278.
albidofasciatus (Mutilloides) 197.
albirostris (Buceros) 33.
" (Hydrocissa) 33.
albofasciata (Batocera) 219—222, 272, 276.
albomaculata (Pharsalia) 117.
Alcedinidae 94.
Alcedo 37, 38.
alces (Odontolabis) 280.
Alcurus 60.
alligator (Anolis) 131.
Allobophora 294, 296.
Alseonax 45, 94.
amicta (Nyctiornis) 36, 94.
amictus (Merops) 36.
ammon (Batocera) 219, 275, 276.
amoenulus (Aulonogyrus) 270.
Anaides 201.
Analcipus 72.
analis (Ixus) 61.
analis (Pycnonotus) 61, 95.
analis (Turdus) 61.
Ananca 161.
Ancylonycha 213.
andamana (Batocera) 219, 276.
angustior (Callirhipis) 148.
angustissimus (Lancetes) 267.
Anilicus 288.
annulata (Dipsas) 133.
Anochilia 282.
Anolis 131.
Anomala 213.
Anorrhinus 34, 35, 94.

Anteus 97.
anthracinus (Buceros) 33.
Anthracoceros 33, 94.
Anthreptes 57, 58.
Anthus 70, 95.
antillensis (Dromicus) 133.
" (Gymnodactylus) 129, 139.
Antipha 238, 239.
Aonyx 172.
aphetor (Apriona) 274.
" (Batocera) 219, 274.
Aphtbona 230, 231.
apicalis (Coptomia) 282.
" (Sphaeroderma) 232.
" (Trachys) 181.
apicicornis (Casnonidea) 159.
apicipennis (Antipha) 239.
" (Sphaeroderma) 232.
Aplonis 71.
Apoleon 212.
Apolepis 262.
approximata (Languria) 123.
Apriona 219, 222, 271—274.
Arachnoraphis 57, 59.
Arachnothera 56, 57, 58, 59, 94.
Ardea 80, 81, 82, 92, 96.
Ardeidae 96.
Ardetta 81, 96.
argentata (Diapromorpha) 259.
argenteo-cinereus (Heliophobius) 176.
Argus 77.
argus (Argusianus) 77, 95.
" (Phasianus) 77.
" (Plakobranchus) 311.
Argusianus 77, 95.
armata (Arachnothera) 57.
" (Batocera) 219—222, 273, 275, 276.
Arrenga 66.
Artamia 72.
Artamidae 94.
Artamides 47, 94.
Artamus 46, 94.
arubensis (Cnemidophorus) 132.
" (Poecilia) 138, 139.
Asteronotus 307, 308, 323.
Astur 10, 93.
aterrimus (Doloporus) 290.
atra (Apolepis) 262.
atrata (Rhipidura) 3.
atricapilla (Alcedo) 38.
atriceps (Casnonidea) 159.
" (Turdus) 62.
attila (Batocera) 219, 277.
Aulexis 260.
aulica (Cleorina) 263.
Aulonogyrus 270.
auritus (Iyngipicus) 18, 93.
aurora (Synarmostes) 209.
australasiae (Trachys) 182.
australica (Aesernia) 300, 301.
australis (Bucco) 16.
austriacus (Onthophagus) 109.
azarae (Didelphys) 227.
azureus (Psittacus) 12.

B.

bacha (Spilornis) 8, 93.
badia (Strix) 12.
badius (Merops) 36.
" (Micropternus) 26.
" (Phodilus) 12, 93.
" (Picus) 26.
bangkana (Pitta) 65.
bankiva (Gallus) 78.
bantamensis (Columba) 77.
barwelli (Moniligaster) 100, 101.
bascha (Circaetus) 8.
basilicus (Acanthocerus) 208.
basipennis (Cebriorhipis) 146.
bassi (Diaphonia) 185.
Batocera 215, 219—222, 271—278.
Batoceridae 271—278.
Batrachia 134.
beckeri (Xylotrupes) 215.
bellicosus (Odontolabis) 280.
bentet (Lanius) 53, 94.
Berenicornis 34.
bertrana (Asteronotus) 307, 308.
Bhringa 49, 94.
bicolor (Garrulax) 67, 95.
bidens (Gyretes) 246.
bidentata (Ancylonycha) 213.
" (Haplidia) 213.
bimaculata (Antipha) 238.
bimaculatus (Ixus) 61.
" (Pycnonotus) 61, 95.
" (Turdus) 61.
bimaensis (Chibia) 49.
bistrigata (Calobates) 70.
" (Motacilla) 70.
Blennius 135, 136.
boeckii (Allobophora) 296.
boisduvali (Batocera) 219, 222, 276, 278.
borbonicus (Scotophilus) 180.
borneensis (Rhopodytes) 31.
Botaurus 82.
boyeri (Eudrilus) 247—250.
brachyphorus (Dissemurus) 50.
" (Edolius) 50.
Brachypodidae 95.
Brachypodius 62, 63.
Brachypus 61.
Brachytria 283.
brachyurus (Micropternus) 26, 93.
" (Picus) 26.
bradshawi (Catharsius) 107.
Branchiobdella 251.

brasiliensis (Acanthocerus) 206.
" (Hylecoetus) 157.
" (Titanus) 97.
brevicauda (Echimys) 225.
brevis (Agonischius) 289
brianus (Combe) 119.
brookeanus (Hemicercus) 19.
brooki (Languriosoma) 121.
browni (Batocera) 219, 276.
brugmansi (Diphyllidia) 314.
bruyni (Batocera) 220, 276.
Bubo 12.
Bubulcus 81, 96.
Bucco 15, 16.
bucephalus (Lanius) 54.
Buceros 32—36, 94.
Bucerotidae 94.
Buchanga 6, 49, 94.
Bufo 134.
Buteo 9.
Butio 82, 91.
Butorides 81, 96.
büttikoferi (Acanthodrilus) 291, 299.
" (Orectogyrus) 269.

C.

Cacomantis 27, 28, 93
calabarensis (Languria) 121.
calanus (Batocera) 220, 276.
caligatus (Falco) 10.
" (Limnaetus) 10.
Callichroma 127.
Callilanguria 121.
Callirhipis 146—154.
Callolophus 23, 24, 93.
Calobates 70.
Caloperdix 78, 96.
Calorhamphus 16, 17, 93.
Calornis 71, 95.
camiguinus (Plakobranchus) 311.
Campephagidae 94.
Campylus 153.
cancrivora (Didelphys) 227.
Cancroma 81.
Cantharidae 161.
cantor (Aplonis) 71.
" (Lamprotornis) 71.
cantori (Dipelicus) 214.
capensis (Alcedo) 37.
" (Georychus) 176.
" (Rhinolophus) 179.
capicola (Hydaticus) 244
capillata (Ciconia) 92.
capitalis (Hemipus) 51, 52.
capitata (Antipha) 238.
Capitonidae 93.
carbonaria (Chibia) 49.
carbonarius (Edolius) 48.
Carpophaga 76, 95.
Casnonidea 158—161, 192.
castaneus (Myiophoneus) 66, 95.
castelnaui (Trox) 200.
castetsi (Onthophagus) 163.
catenata (Batocera) 220, 277.
" (Muraena) 135, 138.
Catharsius 107.
caudacutus (Hirundinapus) 41.
cayopollin (Philander) 228.
Ceblepyris 47.
Cebrionidae 145.
Cebriorhipis 145.
celebensis (Erystus) 233.
" (Odontolabis) 279, 280.
celebiana (Batocera) 220, 221, 272, 275, 276.
centralis (Brachytria) 283.
Centrococcyx 32, 93.
Centropus 32, 93.
Cephalophus 172.
cephalotes (Horia) 194.
Cerambycidae 111, 215.
Cerambycini 113.
cerebralis (Doris) 307, 308.
Certhia 56, 58.
cespitosa (Doris) 307, 323.
cespitosus (Asteronotus) 308, 323.
Cetoniidae 282.
Cetonini 164.
ceylonensis (Strix) 12.
Ceyx 37, 94.
Chaetura 39, 40, 94.
Chaitaris 45.
Chalcostetha 56, 94.
chalcurum (Polyplectron) 77, 95.
Chalcurus 77.
chalybaea (Calornis) 71, 95.
chalybaeus (Turdus) 71.
Chaptia 49, 94.
Charadriidae 96.
Charadrius 79, 96.
Cheilichthys 138.
chevrolati (Batocera) 220, 276.
Chibia 48, 49, 94.
chinensis (Batocera) 220, 277.
" (Cissa) 72, 95.
" (Coracias) 72.
" (Laccophilus) 267.
" (Oriolus) 71.
" (Trox) 200.
Chiroptera 172.
Chloridolum 127.
chlorinda (Batocera) 220, 277.
chloris (Alcedo) 38.
" (Dacelo) 38.
" (Sauropatis) 38, 94.
chlorocephala (Alcedo) 38.
chlorophaea (Rhinorta) 29, 93.
chlorophaeus (Cuculus) 29.
" (Phoenicophaus) 29.

Chloropicus 24.
Chloropsis 59 [1]), 60, 92, 94.
chloroticus (Laccophilus) 267.
Chotorea 15.
Chromodoris 308, 309, 323.
Chrysococcyx 6 [2]), 26, 27, 92, 93.
chrysogenys (Arachnothera) 58, 94
Chrysophlegma 25, 93.
chrysopogon (Bucco) 15.
" (Chotorea) 15.
" (Megalaema) 15, 93.
Ciconia 92.
Ciconiidae 96.
cineraceus (Dicrurus) 49.
cinerea (Iole) 63.
" (Ortygometra) 6, 80, 96.
" (Porzana) 80.
cinereo-alba (Muscicapa) 45.
cinereus (Hemixus) 63, 95.
cinnamomea (Ardea) 81.
" (Ardetta) 81, 96.
" (Batocera) 220, 275, 276.
Cinnyris 56, 94.
Circaetus 8.
cirratus (Spizaetus) 10.
Cissa 72, 73, 95.
Cittocincla 69, 95.
claudia (Batocera) 220, 275.
Cleonica 233.
Cleorina 263.
Clinteria 110, 164.
Cloeotus 203, 204.
clypealis (Acanthocerus) 208.
clypeatus (Erystus) 232.
Clytra 259.
Cnemidophorus 131, 132.
coccometopus (Hemicercus) 19.
Coccystes 29, 93.
cochinchinensis (Turdus) 60.
coerulea (Myiothera) 64.
" (Pitta) 64, 95.
coerulescens (Falco) 7.
coeruleus (Megascolex) 97.
Colaspoides 264—266.
Colaspósoma 261.
Collocalia 38, 94.
Columba 75, 76, 77.
Columbidae 95.
comata (Dendrochelidon) 39.
" (Macropteryx) 39, 94.
comatus (Anorrhinus) 34, 94.
" (Berenicornis) 34.
" (Buceros) 34.
" (Cypselus) 39.
Combe 119.
complanata (Allobophora) 296—299.
complanatus (Lumbricus) 295.
Compsolanguria 121.
concinna (Compsolanguria) 121.
concolor (Arachnothera) 58.
concretus (Cuculus) 28, 93.
" (Hemicercus) 19, 20, 21, 22.
" (Picus) 18, 20, 21.
congicus (Sciurus) 173.
consimile (Nodostoma) 260.
" (Pagria) 260.
consimilis (Hydaticus) 244.
convexa (Hydrocissa) 33.
convexus (Anthracoceros) 33, 94.
" (Buceros) 33.
copii (Rana) 134.
Copriui 163.
Copsychus 69, 95.
Coptomia 282.
Coptops 215.
Coraciadae 94.
Coracias 41, 44, 47, 72.
coracina (Acanthylis) 39.
" (Chaetura) 39, 94.
coracinus (Cypselus) 39.
coromanda (Alcedo) 38.
" (Ardea) 81.
" (Cancroma) 81.
" (Dacelo) 38.
" (Halcyon) 38, 94.
coromandelicus (Cuculus) 29.
coromandus (Bubulcus) 81, 96.
" (Coccystes) 29, 93.
" (Cuculus) 29.
coronatus (Lanius) 67.
" (Oriolus) 71.
" (Platylophus) 67, 95.
Corone 74.
corrugatus (Buceros) 35.
" (Cranorrhinus) 35, 94.
Corvidae 95.
Corvus 71, 74, 95.
Corydon 44, 94.
corydon (Eurylaimus) 44.
Corymbites 287.
Corynodes 264.
costifer (Pygora) 282.
costipennis (Dapsiloderus) 157.
coucha (Mus) 174.
Cranorrhinus 35, 94.
crassirostris (Enneoctonus) 53.
Cratena 310.
crenatostriata (Casnonidea) 192.
" (Nemostira) 159, 161.
Crepidomenus 288.
crescentica (Doris) 307, 308.
cribricollis (Clytra) 259.
" (Diapromorpha) 259.
Criniger 64, 95.

1) in stead of *Choropsis* as is erroneously printed.
2) in stead of *Chrysoccyx* as is erroneously printed.

criniger (Brachypodius) 63.
" (Tricholestes) 63, 95.
crinigera (Ireua) 47, 48, 94.
crinitus (Blennius) 135, 136.
Criodrilus 98, 99, 256, 257, 295.
cristatus (Lanius) 54.
" (Pernis) 9.
croceosellata (Homœorhipis) 152.
Crocidura 178.
Crotalus 133.
cruciata (Euryope) 261.
crucicollis (Taeniodera) 165.
cruciger (Phryniscus) 134.
cruenta (Leptopteryx) 72.
cruentata (Batocera) 220, 277.
cruentus (Analcipus) 72.
" (Oriolus) 72, 95.
Cryptonyx 79.
Cuculidae 93.
cucullata (Pitta) 6, 64, 95.
cucullatus (Eurylaimus) 43.
Cuculus 26—29, 31, 93.
culminata (Lalage) 47, 94.
" (Volvocivora) 47.
culminatus (Ceblepyris) 47.
cuneiformis (Languria) 121.
cuprifer (Orectogyrus) 269.
cupripyga (Trachys) 182.
cyanea (Aphthona) 230.
" (Irena) 48.
cyanescens (Pyrrhopoda) 282.
cyanipennis (Sphaeroderma) 232.
cyaniventris (Ixidia) 62, 92.
" (Pycnonotus) 92.
" (Rubigula) 62, 95.
cyanopogon (Chloropsis) 60, 94.
" (Phyllornis 60.
Cyanops 16.
cyanoptera (Pitta) 64, 95.
Cymborhynchus 43, 94.
Cynorta 237.
Cyprinodontidae 135.
Cypselidae 94.
Cypselus 39, 40.

D.

Dacelo 37, 38.
Dactylomys 224, 225.
dahlmani (Odontolabis) 279.
dalhousiae (Psarisomus) 42.
dalmani (Odontolabis) 279, 280.
Damarsila 142.
Dapsiloderus 157.
davidis (Batocera) 220, 277.
decipiens (Eudrilus) 247, 248, 251.
dejeanii (Callirhipis) 147.
Demiegretta 80, 96.
Dendrobates 134.
Dendrochelidon 39.
Dendrocitta 73, 74, 95.
Dendrocopus 19.
derasus (Liparochrus) 201.
derbiana (Didelphys) 226.
Dermatobranchus 305, 306, 311—314, 318, 323.
dermestoides (Hylecoetus) 156.
Dermobranchus 306.
deshayesi (Moniligaster) 100, 101.
deyrollei (Apriona) 219, 273.
" (Batocera) 219.
Diaphonia 185.
Diapromorpha 259.
diardi (Melias) 30.
" (Phoenicophaës) 30.
" (Rhopodytes) 30, 93.
Diastellopalpus 109.
Dichrosoma 185.
dichura (Philander) 228.
dicrorhynchus (Myiophoneus) 65.
Dicruridae 94.
Dicrurus 48, 49, 50.
Didelphys 225, 226.
Didymogaster 292.
diffusus (Oriolus) 71.
Digaster 292.
dimidiata (Casnonidea) 192.
dimidiatus (Orectogyrus) 270.
Dineutes 245.
Dipelicus 214, 215.
Diphyllidia 305, 314.
Dipsas 133.
dispar (Rubigula) 62, 95.
" (Turdus) 62.
Dissemurus 50, 94.
Distichocera 113, 115.
dives (Clinteria) 111.
Doloporus 289.
dominica (Lalage) 47.
dominicus (Turdus) 47.
Doridea 241.
Doriopsis 307.
Doris 305, 307—309, 323.
downesi (Batocera) 220, 276.
Dromicus 133.
Drymophyla 46.
dubia (Ardea) 92.
" (Batocera) 273, 276.
duvaucelii (Bucco) 16.
" (Xantholaema) 16, 93.
duvaucelli (Megalaima) 16.
Dysides 212.

E.

ebenina (Megacriodes) 222, 277.
Echimys 225.
Ectinus 290.
edax (Apoleon) 212.
Edolius 47, 48, 49, 50.

egenus (Corynodes) 264.
Eleotragus 172.
elcotragus (Eleotragus) 172.
elfortii (Linguella) 314.
ellipsiprymnus (Kobus) 172.
elongata (Tetralanguria) 125.
elongatus (Orectogyrus) 269.
" (Phoenicophaës) 30.
" (Rhopodytes) 30, 31, 93.
Elysia 305.
emarginata (Diphyllidia) 314.
enca (Corone) 74, 75.
Enicurus 68.
Enneoctonus 53, 55.
Ennometes 154.
Enterion 296.
Eolidia 306, 310.
Epepeotes 215.
Erinaceus 172, 178.
Erystus 232, 233.
Erythra 80, 96.
erythrocephalus (Pyrotrogon) 13.
" (Trogon) 13, 93.
erythrognathus (Phoenicophaeus) 32.
" (Rhamphococcyx) 31, 32, 93.
" (Rhopodytes) 32.
esculenta (Hirundo) 38.
Euchilia 282.
Euchlora 213.
Eudrilus 247—251.
Eudynamis 29, 32, 93.
Eupetes 68, 95.
Eurycephalus 215.
eurycercus (Centrococcyx) 32.
" (Centropus) 32, 93.
eurydice (Batocera) 220, 277.
Eurylaemidae 94.
Eurylaimus 42, 43, 44, 94.
Euryope 261.
Euryotis 172, 175.
Eurystomus 41, 94.
excavatus (Perionyx) 295.
eytonii (Arachnothera) 59.

F.

fabricii (Batocera) 220, 276.
fairmairei (Dineutes) 245.
Falco 7, 9, 10, 11.
Falconidae 93.
fasciolatus (Cuculus) 27.
Felis 172.
ferruginea (Batocera) 220, 277.
ferrugineus (Gallus) 78, 95.
" (Tetrao) 78.
fimbriatus (Ceblepyris) 47.
fistulator (Monohammus) 215.
flagrans (Pyrotrogon) 13.
" (Trogon) 13.
flavescens (Apriona) 273, 274.
flavicans (Monocrepidius) 286.
flavigaster (Anthreptes) 58.
" (Arachnothera) 58, 94.
flavigastra (Arachnoraphis) 59.
" (Arachnothera) 58.
flavigula (Megalaima) 16.
flavirostris (Myiophoneus) 6, 65, 95.
" (Turdus) 65.
flaviventris (Arachnothera) 59.
flavomaculata (Macronota) 169.
flavomarginata (Clinteria) 111.
flavonotata (Clinteria) 111.
flavopustulata (Pagria) 260.
flavopustulatum (Nodostoma) 269.
flavus (Cuculus) 28.
floccosa (Typhocesis) 116.
fraseri (Pelargopsis) 37.
frater (Periaptodes) 119.
frenatus (Tephrodornis) 53.
frenchi (Batocera) 220, 277.
" (Trachys) 126, 182.
fringillarius (Microhierax) 7, 93.
Fringillidae 95.
frontalis (Enicurus) 68.
" (Erinaceus) 178.
" (Henicurus) 68, 95.
Fryeria 313.
fuciphaga (Collocalia) 38, 39, 94.
" (Hirundo) 38.
fuciphagus (Cypselus) 39.
fugax (Cuculus) 28.
" (Hierococcyx) 28, 93.
fuliginosa (Phyllorhina) 179.
fuliginosus (Calorhamphus) 16, 17, 93.
" (Micropogon) 16.
fulvitarsis (Cleorina) 263.
fulvus (Charadrius) 79, 96.
" (Pluvialis) 79.
funerea (Chromodoris) 308.
funesta (Galerucella) 236.
fuscimembris (Zonitis) 195.
fusco-albidus (Iyngipicus) 18.
futilis (Megapenthes) 287.

G.

galeatus (Buceros) 36.
galeritus (Anorrhinus) 35, 94.
" (Buceros) 35.
Galerucella 235—237.
Galerucinae 234
galgulus (Loriculus) 12, 93.
Gallinago 79, 96.
gallinago (Scolopax) 79.
Gallinula 80.
Gallus 78, 95.
gallus (Phasianus) 78.
Garrulax 67, 95.

Garrulus 67.
Gauropicoides 25.
gausapata (Callirhipis) 151.
geniculata (Zonitis) 195.
Geocichla 70, 95.
Geopelia 77, 95.
Georychus 172, 176, 177.
gerstaeckeri (Batocera) 220, 277.
gestroi (Synarmostes) 209.
geryon (Dipelicus) 214.
gideon (Xylotrupes) 215.
gigantea (Chaetura) 40.
„ (Phantasis) 112.
giganteus (Argus) 77.
„ (Cypselus) 40.
„ (Hirundinapus) 40, 94.
gigas (Anteus) 97.
„ (Batocera) 220, 277.
„ (Pitta) 64.
„ (Trox) 201.
glaucoleucus (Abranchus) 311.
Glaucomyias 45.
Glaucopis 73, 74.
Glyptolus 243.
Glytolus 243.
Gnorimidia 168, 169.
Gnorimus 168.
Gobius 135, 136.
Goisachius 82.
goisagi (Ardea) 82, 84, 86—88, 90.
„ (Botaurus) 86.
„ (Gorsachius) 82, 84—91.
„ (Nycticorax) 84, 86, 89, 90.
goisaki (Gorsachius) 82.
Goisakius 82.
gonatophora (Pleuroleura) 313, 318, 323
gonatophorus (Dermatobranchus) 305, 313, 318, 323.
Gorsachius 81, 82, 84, 85, 91, 96.
gouldii (Orescius) 14.
gourdinii (Pycnonotus) 61.
gracilis (Buceros) 35.
„ (Plakobranchus) 311.
Gracula 71, 95.
grammithorax (Miglyptes) 25, 93.
„ (Phaiopicus) 25.
grandis (Chaitaris) 45.
„ (Niltava) 45, 94.
granuliferum (Aegosoma) 143, 144.
granum (Melanoxanthus) 191.
Graucalus 47.
Gregarinidae 255.
griseicapilla (Treron) 75.
gularis (Accipiter) 11.
„ (Lanius) 52.
„ (Mixornis) 68, 95.
„ (Motacilla) 68.
„ (Tephrodornis) 52, 94.
gulosa (Brachytria) 283.
guttata (Batocera) 220, 276.
guttata (Megacriodes) 220, 276.
guttifera (Clinteria) 164, 165.
gutturalis (Criniger) 64, 95.
„ (Trichophorus) 64.
Gymnodactylus 129, 139.
Gymnophthalmus 133.
Gyretes 246.

H.

haemacephala (Xantholaema) 16, 93.
haemacephalus (Bucco) 16.
hageni (Abirus) 261.
„ (Agrypnus) 189, 190.
„ (Colaspoides) 265.
„ (Galerucella) 235.
Halcyon 38, 94.
Haliaetus 7, 10, 93.
Haliastur 10, 93.
Halticinae 229.
Hapalarpactes 14.
Hapatesus 287.
Haplidia 213.
hartlaubii (Hemicercus) 19—23.
hasselti (Cinnyris) 56, 94.
„ (Nectarinea) 56.
„ (Nectarophila) 56.
hayi (Bucco) 16.
„ (Calorhamphus) 17.
hector (Batocera) 220, 272, 277.
helena (Batocera) 219, 220, 272, 277.
„ (Pseudodipsas) 217, 218.
Heliophobius 176, 177.
Hemicercus 18, 19, 93.
Hemipus 51, 94.
Hemixus 63, 95.
hemprichanus (Cephalophus) 172.
Henicurus 68, 69, 95.
henrici (Bucco) 15.
henricii (Megalaema) 2, 15, 93.
hercules (Batocera) 220, 272, 277.
Herodias 81, 96.
heynei (Onthophagus) 108.
Hierococcyx 28, 93.
hilaris (Clinteria) 111.
hildebrandti (Coptomia) 282.
hirsuta (Noctua) 11.
„ (Strix) 11.
„ minor (Noctua) 11.
hirtus (Hapatesus) 288.
Hirudo 251.
Hirundinapus 40, 41, 94.
Hirundo 38, 39.
hispida (Nycteris) 179.
histrionicus (Garrulus) 67.
hodgsoni (Chrysococcyx) 26.
„ (Cuculus) 26.
„ (Trogon) 13.
holomelaena (Casnonidea) 159.
holoxantha (Zonitis) 161, 196.

Homœorhipis 152—154.
Horia 193.
horridus (Crotalus) 133.
horsfieldi (Batocera) 221, 277
hottentotus (Georychus) 176, 177.
houtenii (Moniligaster) 97, 101, 106
humei (Megalaima) 15.
humeralis (Apriona) 273.
humeridens (Batocera) 221, 222, 272, 273, 275, 277.
humilis (Falco) 7.
" (Haliactus) 7.
" (Pandion) 7.
" (Polioaetus) 7, 93.
" (Taeniodera) 167.
Hybosorus 201, 202.
Hydaticus 244.
Hydrocichla 69.
Hydrocissa 33.
Hyla 134.
Hylecœtus 155, 156.
hypoleucos (Actitis) 79.
" (Totanus) 79, 96.
" (Tringa) 79.
" (Tringoides) 79.
Hypsipetes 63.
Hypulus 157.

I.

ianthobaptus (Plakobranchus) 311.
icterocephala (Chloropsis) 60, 94.
" (Phyllornis) 60.
ignitus (Synarmostes) 209.
Iguana 131.
impressa (Ozomena) 240.
impressicollis (Callirhipis) 148.
incerta (Psittacula) 12.
incertus (Psittinus) 12, 93.
inclusus (Trox) 200.
indica (Motacilla) 70.
indicus (Limonidromus) 70, 95.
" (Oriolus) 71, 95.
" (Trox) 200.
indus (Haliactus) 10.
" (Haliastur) 10, 93.
infernalis (Diastellopalpus) 109.
innominata (Ceyx) 37.
innotatus (Pseudodipsas) 218.
inocellatus (Chalcurus) 77.
Inopeplus 140.
inornatus (Acomus) 77, 95.
Insectivora 172.
insignis (Chalcostetha) 56, 94.
" (Nectarinea) 56.
intermedia (Ardea) 81.
" (Herodias) 81, 96.
intermedius (Haliastur) 10.
" (Hemipus) 51, 52, 94.
intufi (Macroscelides) 177.
inunguis (Aonyx) 172.
Iole 63, 64, 95.
Iora 59.
Iothocera 273.
Irena 47, 48, 94.
iridoides (Coptomia) 282.
irregularis (Abatocera) 221.
" (Batocera) 221.
irrorata (Euryotis) 175, 176.
Ixidia 62, 92.
Ixus 60, 61.
Iyngipicus 18, 93.

J.

jacobus (Myripristis) 135.
Janthocincla 67, 68.
javana (Alcedo) 37.
" (Pelargopsis) 37, 94.
javanensis (Bubo) 12.
" (Centrococcyx) 32.
" (Corvus) 71.
" (Gracula) 71, 95.
" (Ketupa) 12 93.
" (Luperodes) 234.
" (Picus) 25.
" (Tiga) 25, 93.
javanica (Ardea) 81.
" (Batocera) 221, 274, 277.
" (Butorides) 81, 96.
" (Ciconia) 92.
" (Doris) 307.
" (Mycteria) 92.
javanicus (Hylecœtus) 155.
" (Leptoptilos) 92, 96.
judax (Lacon) 190.
jugularis (Ardea) 80.

K.

Ketupa 12, 93.
ketupa (Strix) 12.
kirbyi (Distichocera) 114.
klaesii (Chloridolum) 127.
" (Hirundinapus) 40, 94.
klecho (Cypselus) 39.
" (Hirundo) 39.
Kobus 172.
kutteri (Butio) 82, 91.

L.

lacazii (Eudrilus) 247, 248.
Laccophilus 267.
Lacertilia 129.
Lacon 190, 285.
lacordairei (Batocera) 221, 276.
Lactica 229, 230.
lactiflua (Batocera) 221, 277.

lacuum (Criodrilus) 256
laena (Batocera) 221, 222, 273, 277.
laevicollis (Colaspoides) 266.
Lagriidae 158
Lalage 47, 94.
lalandei (Proteles) 172.
Lamiini 117.
Lamprococcyx 26.
Lamprotornis 71.
Lancetes 267.
Languria 121, 122, 123.
Languriidae 121.
Languriosoma 121.
lanigera (Didelphys) 225, 226, 227.
Laniidae 94.
Lanius 46, 47, 52, 53, 54, 62, 67, 69, 94.
lankesteri (Trigaster) 293, 294.
lansbergei (Dichrosoma) 185.
" (Platedelosis) 185.
laportei (Colaspoides) 264.
latefasciata (Acsernia) 301, 302.
lateritius (Hylecœtus) 156.
lathami (Bucco) 16
laticeps (Callirhipis) 150.
latirostris (Alseonax) 45, 94.
" (Muscicapa) 45.
layardi (Acanthodrilus) 252, 254, 255.
Leiotrix 68
lemniscatus (Cnemilophorus) 132
" (Eurylaimus) 43.
lempiji (Scops) 11, 93.
" (Strix) 11.
leo (Felis) 172.
leonina (Abatocera) 221, 273.
" (Batocera) 221, 222
Lepocestes 23, 93.
leptogrammica (Columba) 76
" (Macropygia) 76, 95.
Leptophis 133.
Leptopteryx 72
Leptoptilos 92, 96.
Lepus 177.
leucocephala (Alcedo) 37.
" (Dacelo) 37.
leucogaster (Artamus) 46, 94
" (Falco) 7.
" (Haliaetus) 7, 93.
" (Ocypterus) 46.
leuconotus (Eolidia) 306.
leucophaeus (Aegoceros) 173
leucopterus (Glaucopis) 74
" (Platysmurus) 74, 95.
leucopygialis (Acanthylis) 39
leucorhynchus (Artamus) 46
" (Lanius) 46.
lichenea (Coptops) 215, 216.
Licyllus 233
Limnaetus 10.
limnaetus (Falco) 10.
limnaetus (Spizaetus) 10, 93.
limnicola (Botaurus) 82, 86.
limnophilax (Ardea) 82, 86, 87.
" (Botaurus) 82, 89.
" (Nycticorax) 81, 83, 85, 86, 87
Limonidromus 70, 95.
linearis (Campylus) 153.
lineata (Callirhipis) 149, 150, 151.
lineatus (Anolis) 131.
lineolata (Batocera) 220, 221, 272, 277.
" (Chromodoris) 308, 309.
" (Doris) 305, 308.
Linguella 314
liocercus (Leptophis) 133.
Liparochrus 201, 202.
lituratus (Megapenthes) 287.
lobatus (Dipelicus) 214.
longicollis (Languria) 122.
longipennis (Cypselus) 39.
" (Hirundo) 39
" (Macropteryx) 39, 94.
longirostra (Certhia) 58.
loricata (Myiothera) 66.
loricatus (Turdinus) 4, 66, 95.
Loriculus 12, 93.
lucionensis (Lanius) 55.
luctator (Periaptodes) 120
lugubris (Buceros) 34
" (Cuculus) 27
" (Garrulax) 67.
" (Melanocichla) 67, 95.
" (Surniculus) 27, 93.
lumbricus 99, 102, 103, 105, 106, 247, 256, 257, 294, 295, 297.
lunatus (Serilophus) 6, 44, 94.
lundi (Eurycephalus) 215
Luperodes 234
luscus (Epepeotes) 215.
lutosus (Lacon) 190.
Lymexylonidae 155

M.

mackloti (Trogon) 14, 93.
macleayi (Typhocesis) 117.
macloti (Hapalarpactes) 14
macrobranchia (Eolidia) 310.
macrocercus (Eupetes) 68, 95.
macrognatha (Horia) 193.
Macronota 168, 169.
Macropteryx 39, 94.
Macropygia 76, 95.
macrorhynchus (Cymborhynchus) 43, 94
" (Todus) 43.
Macroscelides 177.
macroura (Cittocincla) 69.
macroxantha (Zonitis) 194.
maculatus (Chrysococcyx) 6, 26, 92, 93.

maculatus (Lamprococcyx) 26.
" (Oriolus) 71.
" (Trogon) 26.
maculosa (Callirhipis) 146.
magica (Batocera) 221, 276.
magnirostris (Lanius) 53, 55.
malabaricus (Buceros) 33.
" (Phyllornis) 60.
malaccensis (Callolophus) 24, 93.
" (Cymborhynchus) 43.
" (Hemixus) 63, 95.
" (Hypsipetes) 63.
" (Picus) 24.
" (Psittacus) 12.
" (Venilia) 24.
Malacobdella 251.
Malaxia 243.
malayana (Eudynamis) 29.
" (Hydrocissa) 33.
malayanus (Anthracoceros) 33, 94.
" (Buceros) 33.
malayensis (Chaptia) 49, 94.
mandibularis (Rosenbergia) 184.
mantis (Pyrrhopoda) 282.
marginata (Coptomia) 282.
marginatus (Agonischius) 289.
marginiventris (Zonitis) 195.
marinus (Bufo) 134.
mariquensis (Crocidura) 178.
marmoratus (Turdinus) 4, 66.
martini (Phyllodactylus) 130, 139.
maxima (Hyla) 134.
media (Chloropsis) 59, 94.
" (Phyllornis) 59.
Medythia 242.
Megacriodes 220, 222, 276, 277.
Megalaema 2, 15, 16, 93.
Megalaima 15, 16
megalocephala (Rosenbergia) 184, 272.
Megalorhynchus 17.
Megapenthes 287.
Megascolex 97, 100.
Meiglyptes 25
melampus (Aepyceros) 173.
Melandryidae 157.
melanocephalus (Brachypodius) 62.
" (Lanius) 62.
" (Micropus) 62, 63, 95.
" (Nycticorax) 87
" (Turdus) 62.
Melanocichla 67, 95.
melanognathus (Cuculus) 31
melanolcucus (Micropus) 6, 63, 95.
" (Microtarsus) 63.
melanolopha (Ardea) 81, 86, 87.
" (Tigrisoma) 82, 87.
melanolophus (Botaurus) 82, 84.
" (Goisachius) 82, 84, 89, 90.
" (Goisakius) 82, 84, 89.
melanolophus (Gorsachius) 81—85, 87—91, 96.
" (Nycticorax) 82, 84, 90.
melanope (Calobates) 70.
" (Motacilla) 70, 95.
Melanotus 287.
Melanoxanthus 191.
melanura (Arrenga) 66.
" (Praonetha) 216.
melanurus (Myiophoneus) 66, 95.
meleager (Batocera) 221, 277.
Melias 30.
Melliphagidae 94.
Menius 263.
mentalis (Callolophus) 23, 93.
" (Picus) 23.
Meropidae 94.
Merops 36, 94.
Merula 69.
merulina (Cacomantis) 28, 93.
merulinus (Cuculus) 28.
mesomelaena (Homœorhipis) 153.
mesomelas (Campylus) 153.
metallescens (Batocera) 221, 275, 276.
metallica (Doridea) 241.
metallicus (Myiophoneus) 65.
Miamira 309, 310, 323.
Microchaeta 97, 253, 257.
Microhierax 7, 93.
Micropogon 16.
Micropternus 26, 93.
Micropus 6, 62, 63, 95.
Microtarsus 63.
Miglyptes 25, 93.
militaris (Agonischius) 289.
mindanensis (Copsychus) 69.
miniatus (Chloropicus) 24.
" (Picus) 23.
minor (Cissa) 72.
" (Picus) 18
minutus (Tricholestes) 63.
mitrata (Janthocincla) 68.
" (Leiotrix) 68.
" (Rhinocichla) 68, 95.
" (Timalia) 68.
Mixornis 68, 95.
mniszechi (Batocera) 221, 277.
modesta (Anthreptes) 57.
" (Arachnothera) 57, 58, 94.
moluccensis (Picus) 18.
Moniligaster 97, 100, 101, 292.
Monocrepidius 286.
monoglypta (Psiloptera) 141.
Monohammus 215.
morio (Melanoxanthus) 191.
Motacilla 68, 70, 95.
Motacillidae 95.
mucronatus (Agrypnus) 189, 190.
multicolor (Antipha) 238.
Munia 71, 95.

Muraena 135, 138.
Muridae 172.
murinus (Cnemidophorus) 131, 132.
Mus 174.
Muscicapa 45.
Muscicapidae 94.
musicus (Copsychus) 69, 95.
" (Lanius) 69.
mutabile (Colasposoma) 261.
mutator (Distichocera) 114
Mutilloides 197.
Mycteria 92.
Myiophoneus 6, 65, 66, 95.
Myiothera 64, 66.
Myripristis 135.
mystacalis (Chrysophlegma) 25, 92.
" (Nectarinea) 56.
mystacophanos (Bucco) 15.
" (Megalaema) 15, 93.
" (Chotorea) 15.

N.

nanus (Vesperugo) 179.
nasica (Treron) 75, 95.
nasutus (Dipelicus) 214.
" (Eurylaimus) 43.
nebulosa (Batocera) 221, 277.
Nectarinea 56.
Nectariniidae 94.
Nectarophila 56.
Nemostira 159.
Neodipelicus 215.
nepalensis (Treron) 75.
nidifica (Collocalia) 39
nigra (Phyllidia) 313, 323.
" (Phyllidiella) 323.
nigricauda (Mus) 174.
nigricolor (Cnemidophorus) 132.
nigripes (Colaspoides) 264.
nigriventre (Colasposoma) 261.
nigrocoronata (Cissa) 73.
nigrolimbatus (Phytorus) 262.
Niltava 45, 94.
Ninox 11, 93.
Nisus 11
niveus (Falco) 10.
nobilis (Miamira) 309, 310.
" (Phyllidia) 313, 320, 322.
Noctua 11.
noctula (Strix) 11.
Nodostoma 260, 263
Notographus 183.
Notograptus 183.
novae guineae (Ceblepyris) 47.
nucea (Casnonidea) 160.
nudipes (Hirundinapus) 40, 41.
numitor (Batocera) 221, 274, 278.
Nycteris 179.
Nycticorax 81, 83, 87.
Nyctiornis 36, 94.

O.

oberthüri (Taeniodera) 166.
obliqua (Batocera) 221, 276.
obscura (Merula) 69.
obscurus (Dysides) 212.
" (Hemipus) 51, 52.
" (Rhytidoceros) 34.
" (Turdus) 69, 95.
obtusus (Acanthodrilus) 252.
occidentalis (Phantasis) 111.
occipitalis (Dendrocitta) 73, 74, 95.
" (Glaucopis) 73.
ocellatus (Placobranchus) 310, 323.
" (Plakobranchus) 310.
" (Tetrao) 78.
ochrocephalus (Alcurus) 60.
" (Ixos) 60.
" (Trachycomus) 60, 95.
" (Turdus) 60.
ochromelas (Eurylaimus) 43, 94.
ochropus (Didelphys) 226.
" (Lepus) 177.
octomaculata (Batocera) 221, 276.
oculea (Caloperdix) 78, 96.
" (Perdix) 78.
Ocypterus 46, 72.
Odontolabis 279.
Oedemeridae 161.
oerleyi (Allobophora) 294.
Olenecamptus 216.
olivacea (Iole) 64, 95.
olliffi (Inopeplus) 140.
Onthophagus 108, 163.
oorti (Bucco) 16.
" (Cyanops) 16.
" (Megalaema) 16, 93.
opossum (Didelphys) 227.
optatus (Olenecamptus) 216.
orcus (Batocera) 221, 275, 276.
Orectochilus 246.
Orectogyrus 269.
Orescius 14.
oreskios (Trogon) 14, 93.
orientalis (Callirhipis) 147, 148.
" (Coracias) 41.
" (Cuculus) 29.
" (Eudynamis) 29, 32, 93.
" (Eurystomus) 41, 42, 94.
Oriolidae 95
Oriolus 71, 72, 95.
ornata (Didelphys) 226, 227.
orpheus (Batocera) 221, 277.
Ortygometra 6, 80, 96.
oscaris (Orectogyrus) 270.
Osmoderma 168.
Osmotreron 75.

ovalis (Crepidomenus) 288.
Oxylanguria 121.
oxyura (Columba) 75
" (Treron) 75, 95
oxyurus (Sphenocercus) 75.
Ozomena 240, 241.

P.

Pachylanguria 122, 124.
pacificus (Eurystomus) 42.
paedulus (Mus) 174.
Pagria 260.
pallens (Turdus) 69
palliata (Janthocincla) 67.
palliatus (Garrulax) 67, 95.
pallida (Aulexis) 260.
" (Zonitis) 196
pallidus (Georychus) 176.
" (Lacon) 190
" (Spilornis) 8.
Pandion 7.
Pantolasius 202, 203
paradiseus (Dicrurus) 50.
paradisii (Tschitraea) 45
Paradistichocera 114, 115.
paradoxus (Rhinodrilus) 102, 104.
parryi (Batocera) 221, 277.
paru (Pomacanthus) 135, 136.
parvula (Sphaeroderma) 231, 232
patricia (Macronota) 169.
pectoralis (Agonischius) 289.
" (Nectarinea) 56.
Pediotragus 173.
Pelargopsis 37, 94
Peloperdix 3, 78, 96
Penthoceryx 27.
Perdix 78.
peregrinus (Endrilus) 247, 248, 250.
Periaptodes 119, 120.
Perichaeta 106, 251, 253, 256, 295.
Pericrocotus 46, 94.
Perionyx 295.
Pernis 9, 93.
Phaeochridius 201, 202.
Phaeochroops 201, 202.
Phaeochrous 201.
Phaiopicus 25.
Phantasis 111, 112.
Pharsalia 117.
Phasianidae 95.
Phasianus 77, 78, 79.
Philander 228.
philander (Didelphys) 227, 228.
Philentoma 46, 94.
philippensis (Ardea) 82, 89
" (Botaurus) 89
" (Bucco) 16
Phodilus 12, 93.
Phoenicophaës 39.
Phoenicophaus 29.
phoenicura (Erythra) 80, 96.
" (Gallinula) 80.
phoenicurus (Rallus) 80.
Phrissoma 112.
Phryniscus 134.
Phyllidia 305, 313, 319, 323.
Phyllidiella 313, 314, 319, 322, 323.
Phyllodactylus 130, 139.
Phyllorhina 179.
Phyllornis 59.
Phytorus 262.
picatus (Hemipus) 51, 52.
Picidae 93.
picinus (Elolius) 49
picta (Brachytria) 283.
Picus 18, 20, 21, 23, 25, 26.
pileata (Alcedo) 38.
" (Dacelo) 38.
" (Halcyon) 38, 94.
pinguis (Callirhipis) 151.
" (Platedelosis) 185, 186.
Pisces 135.
Pitta 6, 64, 65, 95.
Pittidae 95
Placobranchus 310, 323.
Plakobranchus 310, 311.
Platedelosis 185.
platurus (Dicrurus) 50.
" (Dissemurus) 50, 94.
Platylophus 67, 95.
Platysmurus 74, 95.
platyurum (Enterion) 296.
platyurus (Lumbricus) 294.
plebeia (Languria) 122.
Pleuroleura 312, 313, 314, 318, 323.
Pleurophyllidia 305.
plicatus (Buceros) 34.
plumosus (Brachypus) 61.
" (Pycnonotus) 61, 95.
plutonica (Batocera) 221, 277.
Pluvialis 79.
pluvialis (Charadrius) 79.
Poecilia 137, 139.
Polioaetus 7, 93.
politus (Agrypnus) 189.
Polyplectron 77, 95.
Pomacanthus 135, 136.
Pontodrilus 105.
porphyromelas (Lepocestes) 23, 93.
" (Picus) 23.
porrecta (Cynorta) 237.
porus (Batocera) 221, 277.
Porzana 80.
Praonetha 216.
pravata (Cacomantis) 27, 93.
" (Cuculus) 27.
pravatus (Penthoceryx) 27.
pretiosus (Hapatesus) 287.
princeps (Batocera) 221, 277.

Proctonotus 310.
proserpina (Batocera) 222, 278.
Proteles 172.
Psarisomus 42, 94.
Psaromaia 219.
Pseudodipsas 217.
Pseudolycus 157.
psidii (Ixus) 61.
Psilopogon 14, 93.
Psiloptera 141.
Psittacidae 93.
psittacinus (Eurylaimus) 42.
" (Psarisomus) 42, 94.
Psittacula 12.
Psittacus 12.
psittacus (Cheilichthys) 138.
Psittinus 12, 93.
ptilorhyncha (Pernis) 9, 93.
ptilorhynchus (Falco) 9.
puella (Coracias) 47.
" (Irena) 48.
puellus (Edolius) 47.
pulchellator (Batocera) 219.
" (Psaromaia) 219.
pulverosa (Batocera) 222, 277.
pumilio (Mus) 174.
punctatissima (Anochilia) 282.
" (Apriona) 272, 273, 274.
punctatissimus (Synarmostes) 209.
punctipennis (Orcctochilus) 246.
punctularia (Munia) 71, 95.
punctulata (Chromodoris) 309, 323.
" (Doris) 309, 323.
punctulatus (Acanthocerus) 207.
punctulifera (Doris) 309.
puniceus (Callolophus) 23, 93.
" (Picus) 23
purpurea (Ardea) 80, 96.
pusilla (Chromodoris) 309.
pustulosa (Phyllidiella) 314, 322.
" (Pleuroleura) 312, 314, 318, 323.
pustulosus (Cloeotus) 204.
" (Dermatobranchus) 305, 306, 312, 314, 323.
Pycnonotus 61, 92, 95.
Pygora 282.
pyramidata (Tetralanguria) 125.
pyritosus (Acanthocerus) 206.
pyrolopha (Megalaima) 15.
pyrolophus (Bucco) 15.
" (Psilopogon) 14, 93.
Pyrotrogon 13.
Pyrrhopoda 282.

Q.

quadrata (Euchilia) 282
quadrilateralis (Saucara) 314.
quadrilineatus (Gymnophthalmus) 133
quadrimaculata (Medythia) 242.
quadrioculata (Psiloptera) 142.
quadriplagiata (Cleonica) 233.
quinquecinctus (Pomacanthus) 136.

R.

radiata (Doris) 307, 323.
rafflesii (Gauropicoides) 25.
" (Picus) 25.
" (Tiga) 25, 93.
Rallidae 96.
Rallus 80.
Rana 134.
rapicaudus (Thecadactylus) 131.
rappi (Microchaeta) 97, 253.
ravassae (Languria) 122.
rectunguis (Centrococcyx) 32, 93.
" (Centropus) 32.
religatus (Laccophilus) 267.
religiosa (Gracula) 71.
remifer (Bhringa) 49, 50, 94.
" (Dicrurus) 50.
" (Edolius) 49, 50.
resectus (Agrypnus) 189.
reticulatus (Synarmostes) 211.
retifer (Edolius) 50.
retrospinosa (Phantasis) 112.
" (Phrissoma) 112.
Rhamphococcyx 31, 93.
Rhinoceros 173.
rhinoceros (Buceros) 32, 94.
Rhinocichla 68, 95.
Rhinodrilus 101.
Rhinolophus 179.
Rhinoplax 36, 94.
Rhinorta 29, 93.
Rhipidoceridae 146.
Rhipidura 3.
Rhopodytes 30, 93.
Rhytidoceros 34, 94.
ritsemae (Trapezidistes) 124.
rixator (Apriona) 274.
" (Batocera) 222, 274.
robusta (Arachnoraphis) 57.
" (Arachnothera) 56, 57.
Rollulidae 96.
Rollulus 79, 96.
rosenbergi (Batocera) 222, 272, 277.
Rosenbergia 184, 271, 272.
roulroul (Cryptonyx) 79.
" (Phasianus) 79.
" (Rollulus) 79, 96.
roylei (Batocera) 220, 221, 222, 277.
rubiginosa (Batocera) 222, 277.
rubiginosus (Picus) 23.
Rubigula 62, 95.
rubrirostris (Peloperdix) 3, 78, 96.
rubus (Batocera) 220, 222, 272, 274, 275, 277.

ruficeps (Columba) 76.
" (Macropygia) 76, 77, 95.
rufidorsa (Ceyx) 37, 94.
" (Dacelo) 37.
rufomaculata (Batocera) 222, 277.
rufo-varia (Coptomia) 282.
rufulus (Anthus) 70, 95.
" (Garrulus) 67.

S.

sabina (Batocera) 222, 276.
sacra (Ardea) 80.
" (Demiegretta) 80, 96.
salae (Lepus) 177.
sanguinolenta (Artamia) 72.
sanguinolentus (Megalorhynchus) 17.
" (Ocypterus) 72.
sappho (Batocera) 222, 277.
sarawakensis (Batocera) 222, 276.
Saucara 314.
saularis (Copsychus) 69.
Sauropatis 38, 94.
Saxicoliidae 95.
scapularis (Aegithina) 59.
" (Anochilia) 282.
" (Iora) 59.
" (Turdus) 59.
Scarabaeidae 107, 213.
schaufussi (Onthophagus) 109.
schierbrandii (Volvocivora) 47.
schlegelii (Acanthodrilus) 252—254, 256—258, 292, 293.
schwaneri (Enneoctenus) 55.
Sciurus 173.
Scolopacidae 96.
Scolopax 79.
Scops 11, 93.
Scotophilus 180.
sculpticollis (Ananca) 161.
scutatus (Buceros) 36.
" (Rhinoplax) 36.
scutellata (Callirhipis) 148.
scutulata (Ninox) 11, 93.
" (Strix) 11.
semiflavus (Agonischius) 288.
" (Anilicus) 288.
Semiotopsis 187.
semiotulus (Ypsilostethus) 187.
Semiotus 187.
semmelinki (Trox) 199.
senegalensis (Horia) 194.
serdangensis (Clinteria) 110, 111.
Sericosomus 290.
Serilophus 6, 44, 94.
Serpentes 133.
Serranus 135.
setiger (Lacon) 190.
sctosula (Trachys) 126.
sctulosus (Lacon) 190.
sibirica (Geocichla) 70, 95.
sibiricus (Turdus) 70.
silaceus (Mus) 175.
Simianus 154, 155, 158.
simplex (Pycnonotus) 61, 95.
simulans (Monocrepidius) 286.
sinensis (Cissa) 72, 73.
sinuata (Doris) 309, 323.
" (Miamira) 310, 323.
siparaja (Aethopyga) 56, 94.
" (Certhia) 56.
smaragdinus (Chrysococcyx) 26.
sobrinus (Agrypnus) 190.
sonnerati (Cuculus) 27.
" (Phyllornis) 59.
soporator (Gobius) 135, 136.
sordidus (Dendrocopus) 19.
" (Hemicercus) 18, 19, 20, 21, 22, 93.
Soricidae 178.
speciosa (Colaspoides) 265.
specularis (Orectogyrus) 270.
sperata (Certhia) 56.
Sphaeroderma 231, 232.
Sphenocercus 75.
Spilopelia 76, 95.
Spilornis 8, 93.
spitzlyi (Gyretes) 246.
Spizaetus 10, 93.
splendens (Aesernia) 301.
" (Tetralanguria) 125.
squalescens (Monocrepidius) 286.
squamata (Ixidia) 62.
stagnalis (Lumbricus) 297, 298, 299.
stampflii (Orectogyrus) 270.
stenura (Gallinago) 79, 96.
Sternoplus 185.
stevensoni (Accipiter) 11.
sthenura (Scolopax) 79.
stigma (Batocera) 222, 276.
stigmatops (Buchanga) 6, 49, 94.
Stoparola 45, 94.
straussi (Apriona) 271.
Strepsiceros 173.
strepsiceros (Strepsiceros) 173.
striata (Columba) 77.
" (Geopelia) 77, 95.
" (Pleuroleura) 312, 323.
striatella (Chromodoris) 308.
striatulus (Synarmostes) 210.
striatus (Cuculus) 28.
" (Dermatobranchus) 311, 312, 323.
" (Graucalus) 47.
striga (Lanius) 47.
strigatus (Turdus) 71.
Strigidae 93.
Strix 11, 12.
Sturnidae 95.
subruficollis (Rhytidoceros) 34.

sulcipennis (Notographus) 183.
" (Notograptus) 183.
sumatrana (Chibia) 48, 94.
" (Cynorta) 237.
sumatranus (Coracias) 44.
" (Corydon) 44, 94.
" (Dicrurus) 48.
" (Eurylaemus) 44.
" (Merops) 36, 94.
" (Phoenicophaës) 30, 31.
" (Rallus) 80.
" (Rhopodytes) 31.
sumatrensis (Artamides) 47, 94.
" (Ceblepyris) 47.
" (Graucalus) 47.
" (Pagria) 260.
superba (Distichocera) 113.
superciliosus (Lanius) 54.
Surniculus 27, 93.
suturalis (Acanthocerus) 205.
" (Callichroma) 127.
" (Lactica) 229, 230.
Synarmostes 209, 210, 211.

T.

Taeniodera 165—167, 169.
tarsalis (Menius) 263.
Tchitrea 45.
tenkatei (Rhinodrilus) 101, 106.
tennemarginata (Zonitis) 196.
tenuirostris (Corvus) 74.
" (Oriolus) 71.
tenuis (Chromodoris) 309.
Tephrodornis 52, 94.
terat (Lalage) 47, 94.
" (Turdus) 47.
terminatus (Inopeplus) 140.
" (Simianus) 155, 158.
Terpsiphone 45, 94.
terrestris (Lumbricus) 294, 296, 297.
Tetralanguria 125.
Tetrao 78, 79.
thalassinoides (Stoparola) 45, 94.
thalassoides (Glaucomyias) 45.
Thecadactylus 131.
Theopea 240.
thomae (Batocera) 222, 276.
thomsoni (Batocera) 215, 222, 277.
thoracica (Brachytria) 283.
thoracicus (Doloporus) 290.
thysbe (Batocera) 222, 277.
Tiga 25, 93.
tiga (Picus) 25.
tigrina (Columba) 76.
" (Spilopelia) 76, 95.
tigrinus (Lanius) 53, 55, 94.
" (Serranus) 135.
" (Turtur) 76.
Tigrisoma 82, 87.
Timalia 68.
Timeliidae 95.
titana (Batocera) 220, 221, 222, 274, 275, 277.
Titanus 97.
Todus 43.
tomentosa (Iothocera) 273.
torresi (Monocrepidius) 286.
Totanus 79, 96.
toyae (Gnorimidia) 169.
Trachycomus 60, 94.
Trachys 126, 181, 182.
tragulus (Pediotragus) 173.
Trapezidera 122, 124.
Trapezidistes 124.
Treron 75, 95.
Treronidae 95.
Trevelyana 313.
Tricholestes 63, 95.
Trichophorus 64.
tricolor (Cittocincla) 69, 95.
" (Turdus) 69.
tridactyla (Alcedo) 37.
Trigaster 293.
Tringa 79.
Tringoides 79.
tristis (Meiglyptes) 25, 26.
" (Rhopodytes) 31.
tristriata (Didelphys) 227.
trivirgatus (Falco) 10.
" (Astur) 10, 93.
trivittatus (Dendrobates) 134.
Trogon 13, 14, 26, 93.
Trogonidae 93.
Trox 199, 200.
truncata (Nemostira) 159.
Tschitraea 45.
tuberculata (Iguana) 131.
tumidus (Monocrepidius) 286.
turcosa (Irena) 48.
Turdidae 95.
Turdinus 4, 66, 95.
Turdus 47, 59—62, 65, 69—71, 92, 95.
Turtur 76.
Typhocesis 116, 283.
typus (Dactylomys) 224, 225.
" (Gorsachius) 82, 87.

U.

una (Batocera) 222, 278.
uncipennis (Casnonidea) 159.
" (Nemostira) 159.
undulata (Pleurophyllidia) 305.
undulatus (Acanthocerus) 206, 207.
" (Buceros) 34.
" (Rhytidoceros) 34, 94.
ungulata (Semiotopsis) 187.
ungulatus (Acanthodrilus) 252, 253, 254, 256, 257.

unicolor (Crotalus) 133.
uniformis (Cebriorhipis) 145.
usta (Homœorhipis) 153.

V.

valida (Clinteria) 164, 165.
validus (Corvus) 74, 75, 95.
" (Picus) 18.
" (Xylolepes) 18, 93.
vandepolli (Lacon) 285.
" (Poecilia) 137, 139.
varia (Brachytria) 283.
variabilis (Fryeria) 313.
" (Ozomena) 240, 241.
" (Theopea) 240.
variegata (Motacilla) 70.
variegatus (Plakobranchus) 311.
variipennis (Casnonidea) 158
varius (Cuculus) 28.
velata (Drymophyla) 46.
velatum (Philentoma) 46, 94.
velatus (Enicurus) 69.
" (Henicurus) 69, 95.
" (Hydrocichla) 69.
venusta (Chloropsis) 60, 94.
" (Phyllornis) 60.
vernans (Osmotreron) 75.
" (Treron) 75, 95.
verrucosa (Diphyllidia) 305.
" (Phyllidia) 305, 313, 319, 323.
" (Phyllidiella) 313, 319, 323.
" (Pleurophyllidia) 305.
Vesperugo 179.
vethi (Pantolasius) 203.
vetusta (Rosenbergia) 184, 271, 272.
victoriana (Batocera) 222, 278.
vigil (Buceros) 36.
" (Rhinoplax) 36, 94.
villosus (Orectochilus) 246.
virgatus (Accipiter) 11, 93.
" (Falco) 11.
" (Nisus) 11.
" (Tephrodornis) 52.
viridirostris (Rhopodytes) 30, 31.
viridirufus (Phoenicophaus) 31.
viridis (Aegithina) 59, 94.
" (Anomala) 213.
" (Cloeotus) 203.
" (Euchlora) 213.
" (Iora) 59.
" (Phyllornis) 59.
" (Tetrao) 79.
Volvocivora 47
vulgaris (Buteo) 9.

W.

wallacei (Batocera) 222, 273, 275, 278.
" (Callilanguria) 121.
" (Synarmostes) 211.
webberi (Ixidia) 62.
" (Rubigula) 62, 95.
whitei (Aesernia) 301, 302.
" (Batocera) 222, 272, 273, 276.
wieneckei (Batocera) 222, 272, 273, 277.
woodlarkiana (Batocera) 222, 278.
wyliei (Batocera) 219, 222, 278.

X.

xanthogaster (Lanius) 46.
" (Pericrocotus) 46, 94.
Xantholaema 16, 93.
xanthonotus (Oriolus) 72, 95.
xanthorhynchus (Chrysococcyx) 27, 93.
" (Cuculus) 27.
Xylolepes 18, 93.
Xylotrupes 215.

Y.

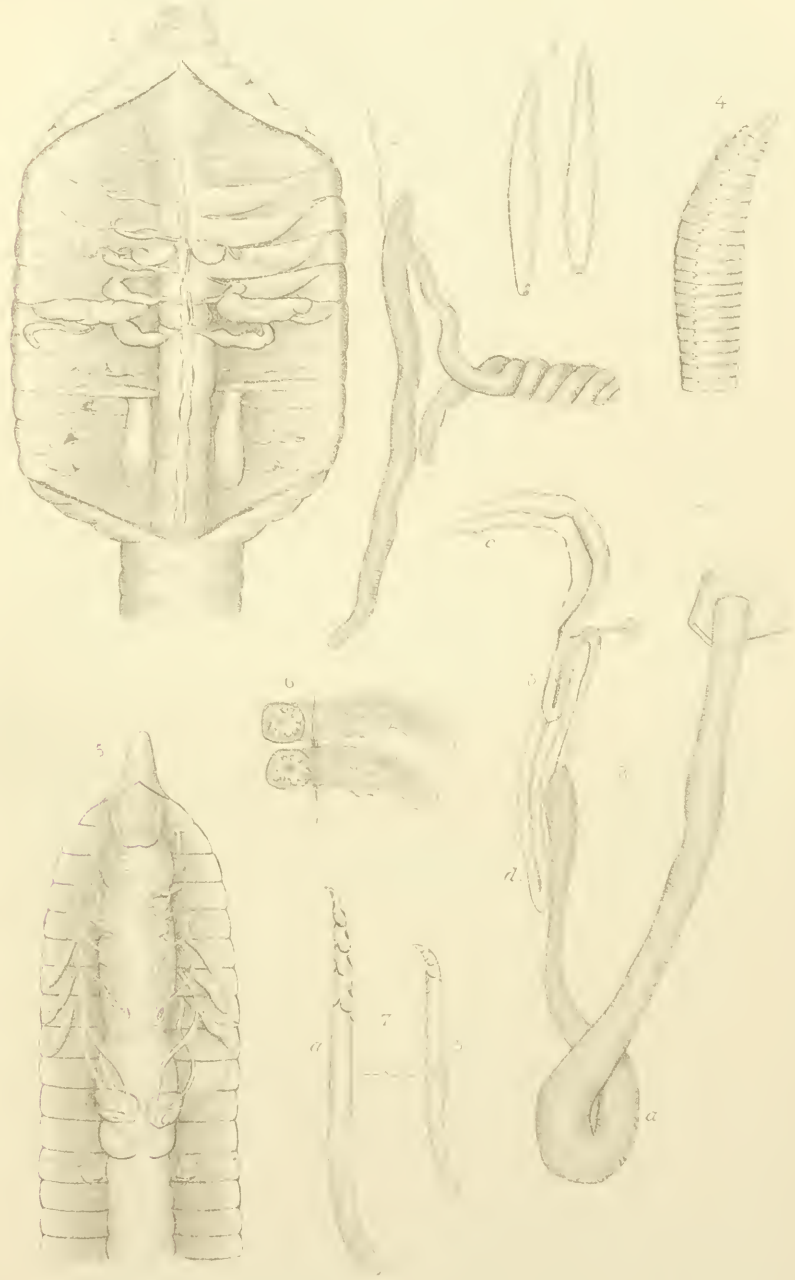
Ypsilostethus 187.

Z.

zanzibarica (Phantasis) 112.
Zonitis 161, 194, 195, 196.
zosterops (Chloropsis) 59, 92, 94.

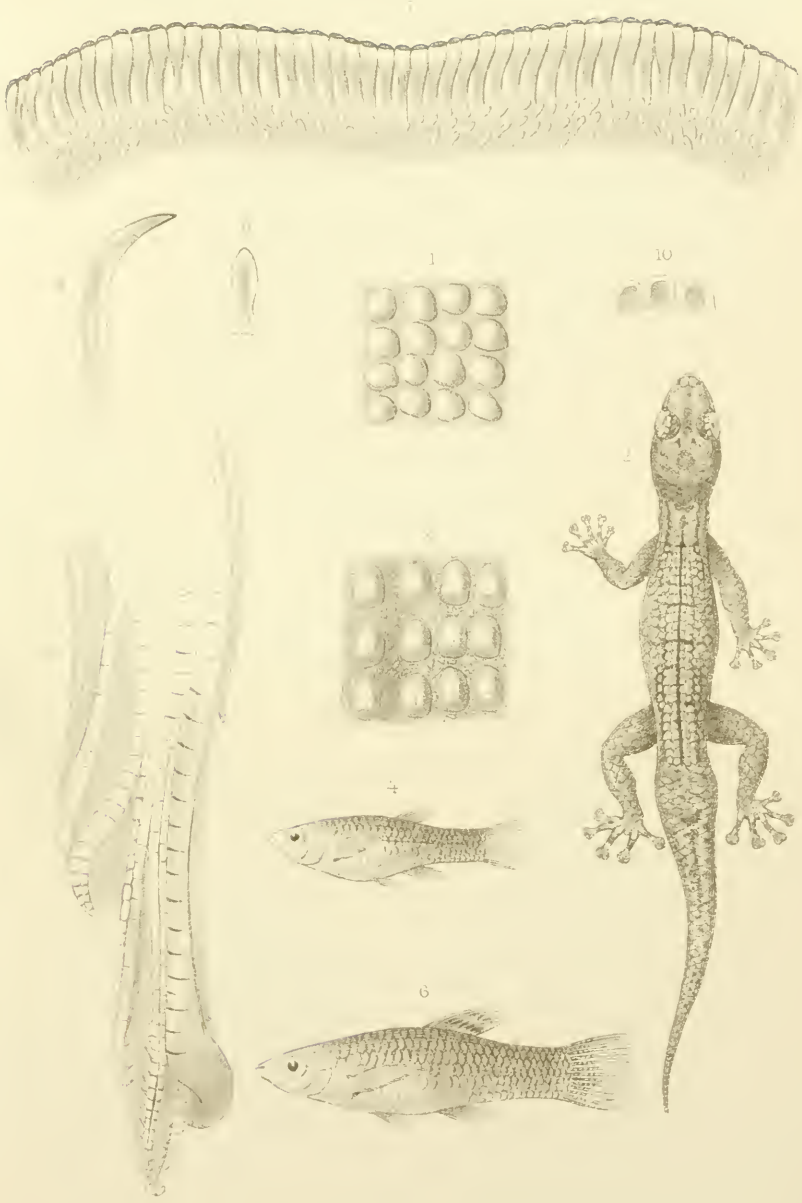
Correction.

On p. 322 the two first words of line 4 from top are accidentally mutilated; there ought to stand:
Leber erstreckend.



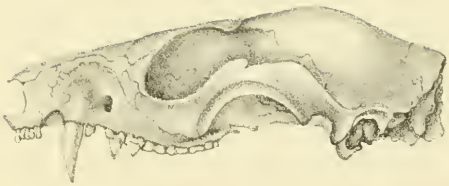
Dr. R. Horst ad nat. del. H. Verlint lith. P. W. M. Trap impr.

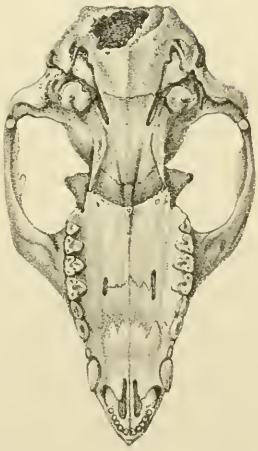
1—3. Moniligaster Houtenii *Horst.*
4—8. Rhinodrilus Tenkatei *Horst.*



Dr. van Lidth de Jeude et H. Verlint ad nat. del. H. Verlint lith. P.W.M. Trap impr.

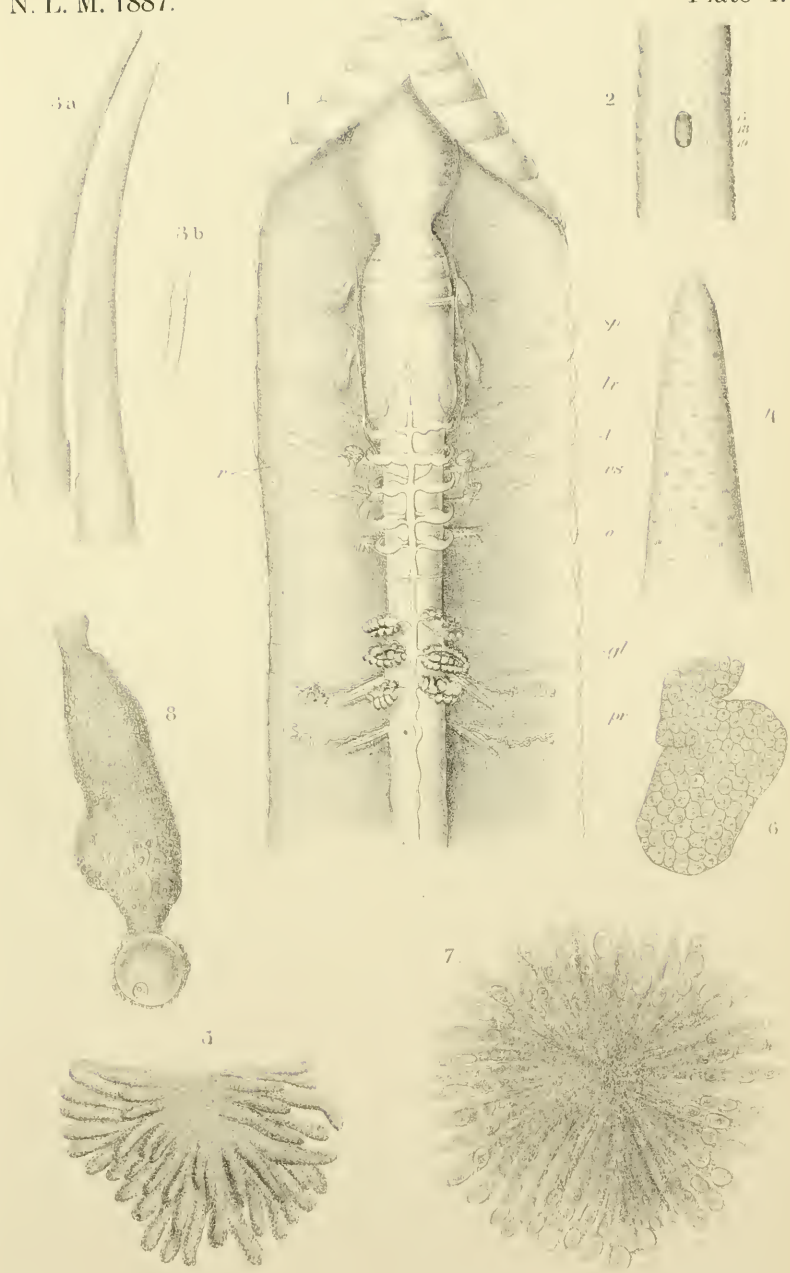
1. Gymnodactylus antillensis *v. L. d. J.*
2, 3. Phyllodactylus Martini *v. L. d. J.*
4, 5. Poecilia Vandepolli *v. L. d. J.*
6—10. Poecilia Vandepolli, *var.* arubensis *v. L. d. J.*





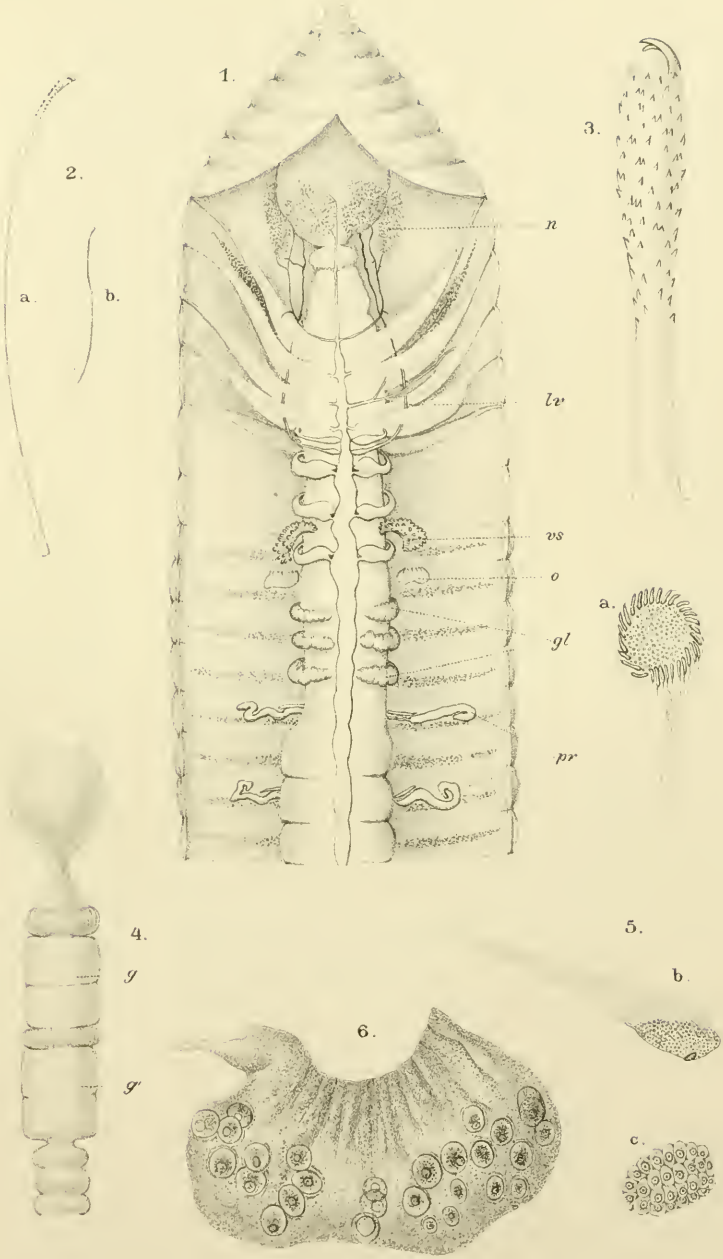
A. J. J. Wendel ad nat. del. et lith. P.W.M.Trap impr.

Didelphys lanigera *Desmarest.*



Dr. R. Horst ad nat. del. A. J. J. Wendel lith. P.W.M.Trap impr.

Acanthodrilus Schlegelii *Horst.*



Dr. R. Horst ad nat. del. A. J. J. Wendel lith. P. W. M. Trap impr.

Acanthodrilus Büttikoferi *Horst.*

A. J. J. Wendel, lith. P.W. M. Trap, impr.

Die Nudibranchien von *van Hasselt.*

7209
Mar. 7. 1887.

NOTES

FROM THE

LEYDEN MUSEUM

EDITED

BY

Dr. F. A. JENTINK
Director of the Museum.

VOL. IX.

N°. 1. January 1887.

LEYDEN
E. J. BRILL.

LIST OF CONTENTS.

PART I.—1887.

Page

Note I. On a collection of Birds made by Dr. C. Klaesi in the Highlands of Padang (W. Sumatra) during the winter 1884—85, by J. Büttikofer 1.

Note II. Descriptions of Earthworms, by Dr. R. Horst. I. (Plate 1) . . 97.

Note III. Cinq espèces nouvelles de Coléoptères exotiques appartenant au Musée de Leyde, décrites par J. W. van Lansberge . . . . . 107.

Note IV. Description of a new genus and four new species of Longicorns, by J. R. H. Neervoort van de Poll . . . . . 113.

Note V. A new genus and new species of Languriidae from the collection of the Leyden Museum, described by the Rev. W. W. Fowler . . . . 121.

Note VI. Nova species Buprestidarum, descripsit J. R. H. Neervoort van de Poll . . . . . 126.

Note VII. A new species of the Longicorn genus *Chloridolum* Thoms., described by C. Ritsema Cz. . . . . 127.

Note VIII. On a collection of Reptiles and Fishes from the West-Indies, by Dr. Th. W. van Lidth de Jeude. (Plate 2) . . . . . 129.

Note IX. Nova species Cucujidarum, auctore J. R. H. Neervoort van de Poll . . . . . 140.

Note X. Description d'une espèce nouvelle de Buprestide de l'Afrique, par J. W. van Lansberge . . . . . 141.

Note XI. Description d'une espèce nouvelle de Cérambycide de Sumatra, par J. W. van Lansberge . . . . . 143.

Note XII. Coléoptères nouveaux ou peu connus du Musée de Leyde, décrits par L. Fairmaire . . . . . 145.

Note XIII. Description d'un genre nouveau et de six espèces nouvelles de Scarabaeides des Indes orientales, par J. W. van Lansberge . . . 163.

7209
Oct. 8. 1887.

NOTES

FROM THE

LEYDEN MUSEUM

EDITED

BY

Dr. F. A. JENTINK
Director of the Museum.

VOL. IX.

N°. 2. April 1887.

LEYDEN
E. J. BRILL.

LIST OF CONTENTS.

PART II.—1887.

Page

Note XIV. On Mammals from Mossamedes, by Dr. F. A. Jentink. . . 171.

Note XV. Description d'une *Trachys* nouvelle, et quelques remarqnes Buprestérologiques, par J. R. H. Neervoort van de Poll . . . . . 181.

Note XVI. On the male of *Rosenbergia megalocephala* van de Poll, by J. R. H. Neervoort van de Poll . . . . . 184.

Note XVII. Synonymical remarks about *Dichrosoma Lansbergei* Krtz., by J. R. H. Neervoort van de Poll . . . . . 185.

Note XVIII. Description d'un Elatéride nouveau de l'Amérique méridionale, par E. Candèze . . . . . 187.

Note XIX. Quatre espèces nouvelles d'Elatérides de l'île de Sumatra, décrites par E. Candèze . . . . . 189.

Note XX. Description d'une espèce nouvelle du genre *Casnonidea* Fairm., par L. Fairmaire . . . . . 192.

Note XXI. Description de cinq espèces nouvelles de la famille des Cantharides, par L. Fairmaire . . . . . 193.

Note XXII. Description d'un genre nouveau de la famille des Clérides, par L. Fairmaire. . . . . 197.

Note XXIII. Trogides nouveaux, décrits par J. W. van Lansberge . . 199.

Note XXIV. Sur le genre *Apoleon* Gorh., par L. Fairmaire . . . . 212.

Note XXV. On a few Coleoptera from the island of Riouw, by C. Ritsema Cz. 213.

Note XXVI. Nouvelle espèce de Lépidoptère de la famille des Lycaenides, décrite par P. C. T. Snellen . . . . . 217.

7209
Oct. 8. 1887.

NOTES

FROM THE

LEYDEN MUSEUM

EDITED

BY

Dr. F. A. JENTINK
Director of the Museum.

VOL. IX.

N°. 3. July 1887.

LEYDEN
E. J. BRILL.

LIST OF CONTENTS.

PART III.—1887.

Page

Note XXVII. Alphabetical list of the described species of the Longicorn genus *Batocera* Cast., with indication of the synonyms, by C. RITSEMA CZ. 219.

Note XXVIII. On three rare South-American Mammals, by Dr. F. A. JENTINK. (Plate 3) . . . . . 223.

Note XXIX. Descriptions of some new genera and species of Phytophagous Coleoptera contained in the Leyden Museum, by MARTIN JACOBY . . 229.

Note XXX. Description d'un Dytiscide nouveau, par M. RÉGIMBART. . . 244.

Note XXXI. Remarques sur trois espèces de Gyrinides, par M. RÉGIMBART. 245.

Note XXXII. Descriptions of Earthworms, by Dr. R. HORST. II. (Plate 4). 247.

Note XXXIII. Clytride et Eumolpides nouveaux de l'Afrique tropicale occidentale, et des îles de Sumatra et de Banka, décrits par ED. LEFÈVRE. 259.

7209
Feb. 6. 1888
212.7

NOTES

FROM THE

LEYDEN MUSEUM

EDITED

BY

Dr. F. A. JENTINK
Director of the Museum.

VOL. IX.

N°. 4. October 1887.

LEYDEN
E. J. BRILL.

LIST OF CONTENTS.

PART IV.—1887.

Page

Note XXXIV. Description de deux Dytiscides nouveaux, par M. Régimbart. 267.

Note XXXV. Description d'un Gyrinide nouveau, par M. Régimbart. . 269.

Note XXXVI. Contributions to the knowledge of the Longicorn group of the Batoceridae, by J. R. H. Neervoort van de Poll . . . . . 271.

Note XXXVII. On the forma priodonta of *Odontolabis Dalmani* Hope, and the forma teledonta of *Odontolabis celebensis* Leuthn., by J. R. H. Neervoort van de Poll . . . . . 279.

Note XXXVIII. Synonymical remarks on Madagascar Cetoniidae, by J. R. H. Neervoort van de Poll . . . . . 282.

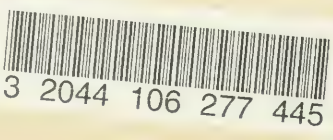
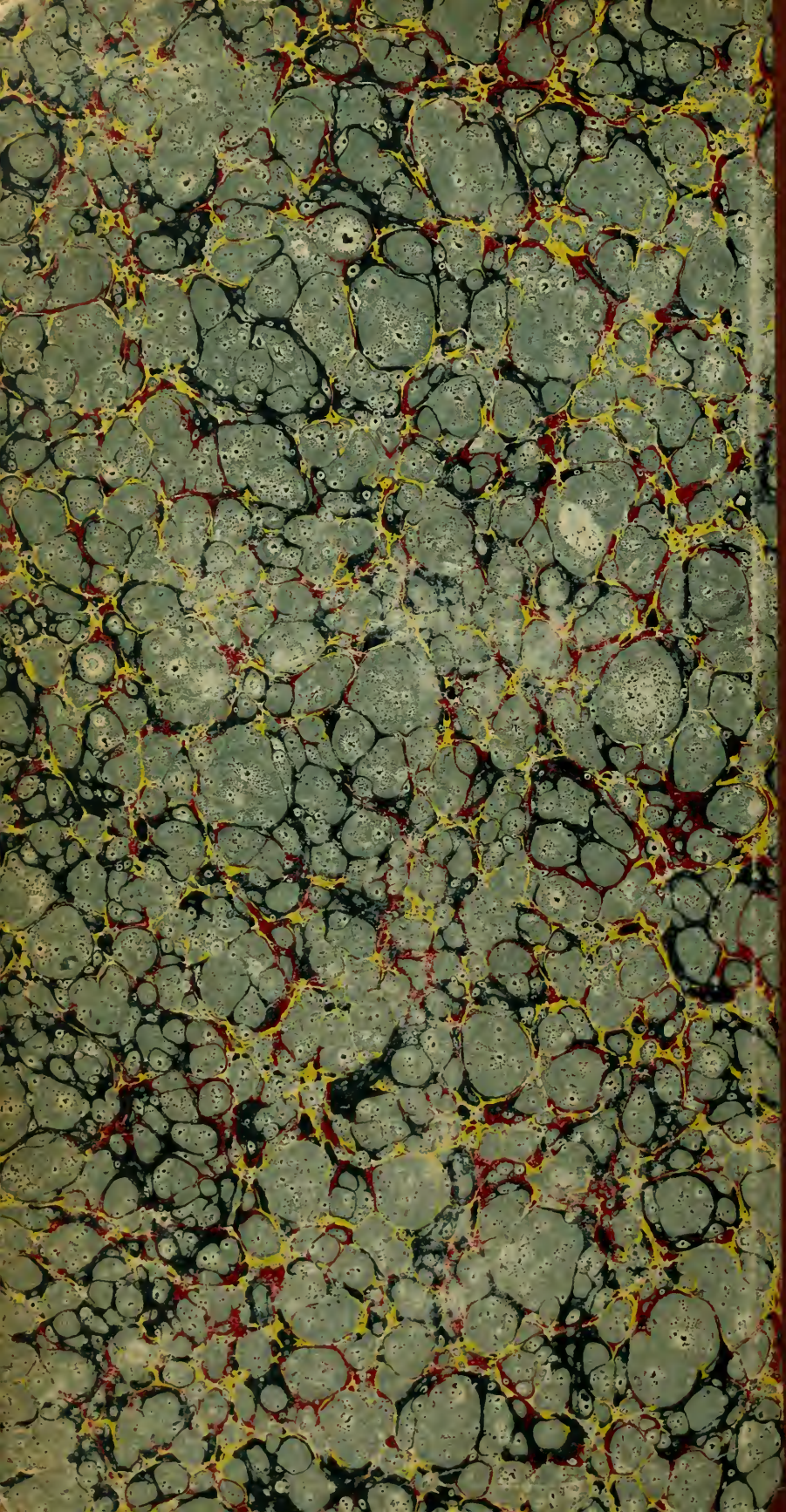
Note XXXIX. Description of a new species of the Australian Longicorn genus *Brachytria* Newm., by J. R. H. Neervoort van de Poll . . 283.

Note XL. Descriptions d'Elatérides nouveaux, provenant de Normantown: baie de Carpentaria (Australie septentrionale), par E. Candèze . . . 285.

Note XLI. Descriptions of Earthworms, by Dr. R. Horst. III. (Plate 5). 291.

Note XLII. Description of two new species of *Aesernia*, by Martin Jacoby. 300.

Note XLIII. Die van Hasselt'schen Nudibranchien, von Dr. R. Bergh (Tafel 6) . . . . . 303.


3 2044 106 277 445