# NOTES

FROM THE

# LEYDEN MUSEUM.

# NOTES

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# LEYDEN MUSEUM

FOUNDED BY THE LATE

**Prof. H. SCHLEGEL,**

CONTINUED BY

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

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## CRUSTACEA.



## MOLLUSCA.



## ECHINODERMATA.

# NOTE I.

## DESCRIPTION OF A NEW SPECIES OF THE LUCANOID GENUS CYCLOMMATUS, AND LIST OF THE DESCRIBED SPECIES

BY

**C. RITSEMA Cz.**

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*Cyclommatus Frey-Gessneri*, n. sp. ♂ [1]).

This species is allied to *Cyclommatus canaliculatus* Rits. from Nias (Notes Leyd. Mus. XIII, p. 235) on account of the presence of the notch on the outer upper margin of the mandibles at some distance from the tip. It differs from *canaliculatus* by the want of the distinct groove along the middle of the pronotum.

Length of the forma major 40 mm., breadth at the shoulders $8^3/_4$ mm. — Rather pale castaneous, head and thorax slightly darker than the elytra, with aeneous tints; the margins of the mandibles, of the thorax and of the elytra (the basal margin excepted) bronze black; the tarsi, the apical teeth of the mandibles and the scape of the antennae glossy black, the flagellum (with the exception of the three apical joints of the club) glossy brownish red; the upper side of the femora pale yellowish brown.

The insect is rather densely covered with whitish scales;

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1) This species will perhaps prove to be the *Cyclommatus Dehaani* of Burmeister which is perfectly distinct from Westwood's *Dehaani* of which I have examined the type-specimen preserved in the late Melly's collection in the Natural History Museum at Geneva. The latter species is not notched on the outer upper margin of the mandibles at some distance from the tip.

these scales are roundish on the head and pronotum, narrow on the elytra.

The mandibles are as long as the distance between the front-margin of the head in front of the eyes and the base of the abdomen; their outer margin is regularly convex from the base to the apex, their inner margin armed at one 6th of their length with a strong tooth; the ante-apical tooth is not truncated, and between it and the tip of the mandible three teeth are present. On the apical third of the mandibles the outer upper margin rises slowly, but opposite the front-margin of the ante-apical tooth this raised margin ends suddenly so as to form here a small tooth-like projection. The mandibles are opaque and covered with scale-bearing punctures which disappear, however, towards the end where the mandibles are glossy.

The upper side of the head shows a large flattened depression, the margins of which are only raised in front of the eyes; the sculpture on the cheeks is slightly coarser than that on the disk. The front-margin of the head between the outer margin of the mandibles is broadly emarginate, the middle portion of the emargination nearly straight; at this margin the head sinks perpendicularly down towards the clypeus which is declivous and broadly truncate and has its front-margin faintly or more distinctly [1]) bisinuate.

The sides of the prothorax are angular about the middle; the front-margin is accompanied laterally by an indistinct impression, and the surface is densely covered with a scale-bearing punctuation; a faintly impressed line runs along the middle of the pronotum.

The elytra are covered with a fine but very distinct scale-bearing punctuation, and each of them shows two indistinct costae.

The intercoxal part of the prosternum is conically porrected. The fore-tibiae are unarmed and nearly straight.

Two male specimens of equal development and both from

1) This latter is the case in the male specimen of the Museum at Geneva.

Java. One of them belongs to the Leyden- the other to the Geneva Museum. The latter specimen has been communicated to me, together with the type of *Cyclommatus Dehaani* Westw., by the able Conservator of the named Museum, Mr. E. Frey-Gessner, and I have much pleasure in naming this new species after that gentleman.

## List of Species [1]).

| | |
|---|---|
| **affinis** Parry. *Cat. Col. Lucan.* 1864, *p.* 40; — id. 1870, *p.* 109; — id. 1875, *p.* 12. | Borneo, [Philippines [2])]. |
| (This is in my opinion a mere synonym of *Dehaani* Westw.). | |
| **canaliculatus** Rits. *Notes Leyd. Mus.* XIII, 1891, *p.* 235. | Nias. |
| **Dehaani** Westw. *Ann. a. Mag. Nat. Hist.* VIII, 1842, *p.* 124 [3]). | Borneo. |
| Westw. *Cab. Orient. Entom.* 1848, *p.* 21; *pl.* 10, *f.* 2 (sub *rangifer* Schönh.). | „ |
| Thoms. *Ann. Soc. Ent. France*, 1862, *p.* 397. | [Java]. |
| Parry. *Cat. Col. Lucan.* 1864, *p.* 84; — id. 1870, *p.* 109; — id. 1875, *p.* 12. | „ |
| (I believe *affinis* Parry to belong to this species). | |
| **elaphus** Gestro. *Ann. Mus. Genova*, XVI, 1881, *p.* 309, *fig.* | Sumatra. |

1) I have thought it of interest to indicate in this list the localities of the species like they are recorded by the various authors, much confusion existing in this regard. The incorrect localities are in brackets.

2) The specimen from the Philippines in the British Museum, alluded to by Major Parry, no doubt will prove to belong to *Cyclommatus Zuberi* Waterh.

3) Published in October 1841.

| | |
|---|---|
| **faunicolor** Hope. *Proc. Ent. Soc.* 1844, *p.* 106. | ? [1]) |
| Westw. *Trans. Ent. Soc. London*, IV, 1847, *p.* 273; *pl.* 20, *f.* 1. | Java? |
| Parry. *Cat. Col. Lucan.* 1864, *p.* 84. | „ |
| Parry. *Cat. Col. Lucan.* 1870, *p.* 109; — id. 1875, *p.* 12. | Java, [Nias]. |
| **Frey-Gessneri** Rits. *anteà p.* 1. | Java. |
| ? *Dehaani* Burm. (*nec* Westwood), *Handb. d. Ent.* V, 1847, *p.* 375. | Borneo. |
| **insignis** Parry. *Proc. Ent. Soc.* 1862, *p.* 111; — id. *Cat. Col. Lucan.* 1864, *p.* 41. | Oriente. |
| Parry. *Cat. Col. Lucan.* 1864, *p.* 84. | Archipel or.? |
| Parry. *Cat. Col. Lucan.* 1870, *p.* 109, and 1875, *p.* 12. | Borneo. |
| **Kaupi** H. Deyr. *Ann. Soc. Ent. Belge*, IX, 1865, *p.* 30; *pl.* 2, *f.* 2. | [Celebes [2])]. |
| Parry. *Cat. Col. Lucan.* 1870, *pp.* 59 and 109, and 1875, *p.* 12. | [Celebes, Batchian]. |
| Gestro. *Ann. Mus. Genova*, XVI, 1881, *p.* 310, *fig.* (without synonym). | Nov. Guinea. |
| **Maitlandi** Parry. *Cat. Col. Lucan.* 1864, *p.* 40; *pl.* 12, *f.* 4. | Nias. |
| Parry. *Cat. Col. Lucan.* 1870, *pp.* 86 and 109. | Nias, [Java]. |
| (I believe *Maitlandi* Parry to be specifically distinct from *faunicolor* Hope). | |

1) I have not been able to compare the Proceedings of the year 1844.

2) This locality is given by mistake in stead of New Guinea (see: Gestro in *Ann. Mus. Genova*, XVI, 1881, *p.* 311).

| | |
|---|---|
| **Margaritae** Gestro. *Ann. Mus. Genova*, IX, 1877, *p.* 324, *fig.*; — id. XVI, 1881, *p.* 310, *fig.* | Fly river. |
| (*Margaritae* Gestro and *Kaupi* Deyr. are said to be distinct species). | |
| **metallifer** Boisd. *Voy. Astrolabe. Fn. Ent.* 1835, *p.* 236; *pl.* 6, *f.* 20. | Menado. |
| H. Deyr. *Ann. Soc. Ent. Belge*, IX, 1865, *p.* 30; *pl.* 2, *f.* 1. | Celebes. |
| Parry. *Cat. Col. Lucan.* 1864, *pp.* 39 *a.* 84 (*aeneomicans* Parry). | Batchian. |
| Parry. *Cat. Col. Lucan.* 1870, *p.* 109, *and* 1875, *p.* 12. | Batchian, Celebes. |
| Gestro. *Ann. Mus. Genova*, XVI, 1881, *p.* 310. | Menado. |
| **Mniszechi** Thoms. *Rev. Zool.* (2) VIII, 1856, *p.* 526. | [Borneo]. |
| Thoms. *Ann. Soc. Ent. France*, 1862, *p.* 397. | Shanghai. |
| Parry. *Cat. Col. Lucan.* 1864, *p.* 84; — id. 1870, *p.* 109; — id. 1875, *p.* 12. | China. |
| **Pasteuri** Rits. *Notes Leyd. Mus.* XIII, 1891, *p.* 233; *pl.* 10, *f.* 1. | Sumatra. |
| **strigiceps** Westw. *Cab. Orient. Entom.* 1848, *p.* 18; *pl.* 8, *f.* 5. | Himalaya. |
| var. *multidentatus* Westw. *l. c. p.* 17; *pl.* 8, *f.* 3. | India or. |
| Parry. *Cat. Col. Lucan.* 1864, *p.* 84; — id. 1870, *p.* 109; — id. 1875, *p.* 12. | „ „ |
| **tarandus** Thunb. *Mém. Moscou.* I, 1806, *p.* 190; *pl.* 12, *f.* 1. | India or. |
| Burm. *Handb. d. Entom.* V, 1847, *p.* 374. | India. |
| Thoms. *Ann. Soc. Ent. France*, 1862, *pp.* 397 *and* 421. | Borneo. |

| | | |
|---|---|---|
| | Parry. *Cat. Col. Lucan.* 1864, *p.* 84; — id. 1870, *p.* 109; — id. 1875, *p.* 12. | Borneo. |
| | H. Deyr. *Pet. Nouv. Entom.* II, 1870, *p.* 87. | „ |
| | Gestro. *Ann. Mus. Genova*, XVI, 1881, *p.* 309. | „ |
| *rangifer* [1]) | Schönh. *Syn. Ins.* I, 3, 1817, *p.* 322. | India or. |
| **Zuberi** | Waterh. *Ent. Mo. Mag.* XII, 1876, *p.* 173. | Mindoro. |
| | Parry. *Cat. Col. Lucan.* 1875, *p.* 12. | „ |

Obs. The specimens from Palembang and Deli, recorded in my List of Sumatran Lucanidae (Notes Leyd. Mus. XI, p. 233) under the name of *Cyclommatus faunicolor* (Hope) Westw., do not belong to that species but to *Cyclommatus Dehaani* Westw.

As to the Lucanoid fauna of Nias, a recent consignment of Nias-beetles received from Mr. Pasteur, contained three species which were not yet recorded from that island, viz. *Metopodontus occipitalis* Hope, *Eurytrachelus purpurascens* Voll. and *Gnaphaloryx taurus* Fabr. (see also Notes Leyd. Mus. XIII, p. 238).

Leyden Museum, October 1891.

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1) This name was proposed by Schönherr to substitute *tarandus* Thunb., the latter name having already been used by Swederus for a *Lucanus*. Both species, however, belong to distinct genera, viz. *Mesotopus* and *Cyclommatus*.

# NOTE II.

## DESCRIPTION D'UNE ESPÈCE NOUVELLE DU GENRE EUGITHOPUS

PAR

**W. ROELOFS.**

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*Eugithopus nobilis*, n. sp.

D'une forme ovale, couvert d'un enduit noirâtre sur le prothorax, brun-pourpre foncé sur les élytres, orné d'un dessin blanc-jaunâtre en dessus; dessous blanc-jaunâtre lavé de gris. — Long. 25 millim. (rostr. excl.).

Espèce offrant beaucoup d'analogie avec *E. elegans* mihi, par la forme et le mode de coloration, mais se distinguant surtout par la couleur du fond et la forme des taches.

Rostre de la longueur du prothorax, médiocrement arqué, épaissi à la base, avec un point assez profond entre les yeux et une ligne imprimée le parcourant jusqu'au bout. Un enduit blanc-jaunâtre qui le couvre, laisse le bout dénudé. L'espace entre les yeux et les scrobes est irrégulièrement et profondément ponctué. Les antennes sont couvertes du même enduit que le rostre. La tête est très finement ponctuée.

Prothorax faiblement arrondi sur les côtés, garni d'un enduit noirâtre, vaguement couvert d'une ponctuation peu apparente, brune sur les parties noires du fond, sa base bordée d'une ligne étroite blanc-jaunâtre, quatre lignes un peu ondulées de la même couleur vont de la base au sommet, se rapprochant un peu en avant. Ecusson blanc-jaunâtre, un peu déprimé, en triangle, arrondi au bout.

Elytres ovales, moins rétrécies en arrière que chez *E. elegans*, faiblement calleuses vers l'extrémité, finement striées, vaguement ponctuées sur les taches claires. Elles sont couvertes d'un enduit velouté d'un pourpre très-foncé, la base des intervalles des stries est garnie d'un enduit blanc-jaunâtre sur l'espace d'environ deux millimètres, la strie à côté de l'écusson en est dépourvue, la couleur claire s'étend plus en arrière sur le 3e intervalle, où elle se réunit avec celle du second intervalle, qui en est couvert à cette place et forme une ligne, d'abord droite puis se courbant, au delà du milieu des élytres vers leur bord. Une petite tache se voit enfin vers l'extrémité des élytres.

Le pygidium, d'un gris-jaunâtre, porte une ponctuation assez grosse et une carène médiane, garnie, comme l'extrémité de l'abdomen, de pilosité courte et brune.

Le dessous est d'un blanc-jaunâtre, lavé par place de gris, sa ponctuation fine est plus serrée sur les côtés et vers l'extrémité de l'abdomen. Les pattes ont la couleur du dessous; les jambes ont des côtes peu élevées et une double rangée de poils courts sur la tranche intérieure.

Un individu ♂ de Brunei, nord de Borneo, découvert par Mr. Waterstradt (collection Neervoort van de Poll).

La Haye, Novembre 1891.

# NOTE III.

## TROIS ELATÉRIDES NOUVEAUX

DÉCRITS PAR

**E. CANDÈZE.**

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*Campsosternus Pasteuri*, n. sp.

*Nitidissimus, aureo-cupreus, glaber; antennis nigris, basi æneis; capite æneo, haud nitido; prothorace longitudine paulo latiore, æqualiter convexo, disperse et subtiliter punctulato, angulis posticis vix apice obtuse carinatis; elytris convexis, basi subsulcatis, disco disperse punctulatis et leviter striato-punctatis margine anguste viridi; subtus æneo-viridis, cupreo-micans; pedibus viridibus.* — Long. 22 mill., lat. 8 mill.

*Hab.* Ile Nias.

Cette espèce, de taille moyenne pour le genre, a des rapports évidents avec plusieurs autres, notamment avec les *C. auratus*, *latiusculus* et *igneus*. Du premier, elle diffère avant tout par la taille et la ponctuation bien moins forte. C'est également par une ponctuation beaucoup plus fine et plus rare qu'elle diffère du *latiusculus*; enfin, ses angles prothoraciques postérieurs n'ont pas cette forte carène qui se remarque chez l'*igneus*. On le distinguera encore de tous les trois par les séries de points des élytres, qui manquent entièrement aux espèces auxquelles je la compare.

La teinte générale est d'un cuivreux doré très brillant, avec les élytres étroitement bordées de vert. Les pattes sont de teinte métallique, à l'exception des tarses qui sont noirs. Les téguments sont entièrement glabres.

Je dédie l'espèce à Mr. Pasteur, à qui le Musée de Leyde est redevable de l'exemplaire unique que j'ai vu.

*Megapenthes litteratus*, n. sp.

*Ferrugineus, cinereo-pilosulus, nitidus; prothorace latitudine paulo longiore, a basi leviter angustato, punctato, nigro-trimaculato; elytris punctato-striatis, apice parum emarginatis, disco vitta nigra; subtus niger, pedibus infuscatis, tarsorum articulo quarto dilatato.* — Long. 14 mill., lat. $3^1/_4$ mill.

*Hab.* Java oriental. (Musée de Leyde, et ma collection).

J'en ai vu un grand nombre d'exemplaires. Il a une tournure de *Simodactylus*, et la légère dilatation du quatrième article des tarses démontre que cette espèce a certaines tendances à se rapprocher de ces derniers, aussi bien, du reste, que des *Aeolus*, parmi lesquels il conviendrait de le ranger, si l'on ne considérait que la structure des tarses. Mais la construction des hanches et surtout de la tête m'engage à le classer dans les *Megapenthes*, à la suite de *M. marginatus*.

Les taches noires du prothorax consistent en trois lignes longitudinales parallèles souvent reliées en elles, au milieu du disque, par une ligne transversale.

*Megapenthes remotus*, n. sp.

*Elongatus, brunneus, griseo sat dense breviter pilosus; antennis ferrugineis; prothorace latitudine sesqui longiore, subcylindrico, æqualiter punctato, angulis posticis divaricatis, bicarinatis; elytris a basi attenuatis, apice emarginatis, striis angustis fortiter punctatis; subtus plus minusve nigrescens; pedibus flavis.* — Long. 14 mill., lat. $3^1/_2$ mill.

*Hab.* Célèbes. (Musée de Leyde, et ma collection).

Même remarque que pour le précédent en ce qui regarde la tendance à une dilatation des tarses, sans être toutefois aussi accentuée que chez les *Simodactylus*. C'est aussi une forme de transition. Il a des rapports de taille et de couleur avec les *M. junceus* et *inflatus*, des Philippines.

Glain-lez-Liége, Décembre 1891.

# NOTE IV.

## DESCRIPTION DE DEUX HYDROCOPTUS (DYTISCIDAE) NOUVEAUX

PAR

**M. RÉGIMBART.**

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*Hydrocoptus opatrinus*, n. sp.

Long. $2^1/_3$ mill. — *Oblongo-ovalis*, *minime attenuatus*, *convexus*, *rufus; supra subtilissime reticulatus*, *subopacus; capite et pronoto rufo-ferrugineis*, *in medio vage adumbratis*, *hoc ad latera antice arcuato et postice cum elytris continuo; elytris nigro-fuscis*, *fortiter reticulatis*, *subopacis*, *punctato-striatis*, *seriebus octo sat regularibus et punctis magnis sat approximatis formatis; pedibus antennisque rufis*, *his in medio leviter incrassatis.*

Espèce extrêmement distincte par la sculpture des élytres et par son aspect qui rappelle assez bien celui de certains Opatrides, la forme étant assez largement oblongue, très arrondie aux deux bouts, avec son maximum de convexité vers la seconde moitié des élytres; la couleur est d'un roux ferrugineux, avec le milieu de la tête et du pronotum très vaguement et légèrement obscurcis; les élytres sont d'un brun noir foncé et subopaques à cause de la réticulation qui est très fine mais très imprimée; elles sont marquées de huit séries assez régulières de points gros, assez rapprochés et bien imprimés, ce qui leur donne presque l'aspect de sillons; les antennes sont légèrement épaissies au milieu.

*Hab.* Borneo occidental: Sambas (Dr. Bosscha). — Un seul exemplaire dans la collection du Musée de Leyde.

*Hydrocoptus Bosschae*, n. sp.

Long. 2 mill. — *Praecedenti simillimus: minor, minus convexus, minus latus, colore paulo minus obscurus et paulo magis nitidus; in elytris serierum octo punctis paulo minoribus.*

Malgré sa grande ressemblance avec la précédente, je considère cette espèce comme différente par les caractères suivants: la taille est plus petite, la coloration un peu moins foncée, la forme moins large et moins convexe; les huit séries des élytres sont formées de points moins gros et moins imprimés.

De la même provenance que le précédent et également pris par le Dr. Bosscha à qui je me fais un plaisir de dédier cette espèce. — Quatre exemplaires dont deux dans la collection du Musée de Leyde.

Evreux, Décembre 1891.

# NOTE V.

## THE SPECIMENS OF THE GENUS TATARE IN THE LEYDEN MUSEUM

BY

**J. BÜTTIKOFER.**

In looking over our specimens belonging to the genus *Tatare*, I had some difficulties in determining them and found that the localities mentioned on the labels of some of them would not agree with what Tristram (Ibis 1883) and Sharpe (Cat. Birds Br. Mus. VII) published about the habitat of the different species.

Our material consists in the following specimens:

### 1. *Tatare longirostris* (Gm.).

*Sitta otatare* Less. = *Tatare otaitensis* Less. — *Acrocephalus otatare* Tristram, Ibis 1883, p. 41.

General character: Feathers on upper surface brown with very broad pale yellow edgings, these edgings however very narrow on the head, and broadest on rump and upper tail-coverts. Lower surface sulphur-yellow, tail brown, very broadly tipped and on the inner web narrowly margined with yellowish white. Primary quills rather narrowly, the secondaries very broadly edged and tipped with pale yellow. Bill slender, straight.

| | Wing | tail | culmen | tarsus |
|---|---|---|---|---|
| *a.* Huaheina (Mus. Godeffroy) | 4.1 | 3.7 | 1.45 | 1.3 |
| *b.* » ( » » ) | 4.05 | 3.6 | 1.4 | 1.3 |
| *c.* » ( » » Coll. Garrett) | 4.1 | 3.5 | 1.4 | 1.3 |
| *d.* Tahiti ( » » » » ) | 4.1 | 3.8 | 1.45 | 1.3 |
| *e.* » ♂ Verreaux 1867. | 3.9 | 3.4 | 1.35 | 1.3 |
| *f.* » Voyage of the Coquille | 4.1 | 3.6 | 1.4 | 1.3 |
| *g.* Marquesas | 4.0 | 3.5 | 1.5 | 1.3 |

Of these seven specimens the first five are, in every respect, true members of the species *longirostris*, about which nothing particular is to be said. Specimen *f* however has the two outermost tail-feathers and also the fifth on the left side entirely yellow, while on the right side only the second tail-feather is entirely yellow, the outermost one being only very broadly tipped with that color. With the exception of this particularities, which I consider to be a mere case of xanthism, the bird is in every respect a true *T. longirostris* and has nothing to do, as one might believe with regard to the mentioned entirely yellow tail-feathers, with Tristram's *T. mendanae* (Ibis 1883, p. 526, pl. I). To such a case of partial xanthism (resp. albinism) I would also refer the Vienna specimen mentioned by Pelzeln in Ibis 1873, p. 23, in which five of the rectrices on one side are entirely yellowish white, and four on the other side, while one is brown on the basal and yellow on the terminal half, and another statement of xanthism would be indicated by Gmelin who, in the original description of this species, says the tail to be yellow. Moreover the habitat of our bird in question is said to be Tahiti, while *T. mendanae* belongs to the Marquesas group.

Specimen *g*, with the Marquesas mentioned as its habitat, is in every respect a true *T. longirostris* and has nothing to deal with *T. mendanae*. I leave the question open whether the locality »Marquesas" may be wrong or not, though, for my own, I would rather believe the first.

### 2. *Tatare mendanae* Tristr.

Under this species I propose to range a specimen in our Museum, which we received long ago from the Paris Museum, and which, according to its label, is collected by the Astrolabe-Expedition on the Island of Nuka-hiva, Marquesas.

General character: Above nearly uniform olive green, somewhat darker on the head, strongly tinged with yellow on rump and upper tail-coverts, and with but very slight

indications of the yellow edgings to the feathers, which are so characteristical in the preceding species. The primaries are narrowly, the secondaries and wing-coverts broadly edged with pale yellow, the superciliaries and the whole lower surface are of the same yellow as the underparts of *T. longirostris*, and also the tail is like in the preceding species, having all the rectrices brown, tipped with yellow. The under wing-coverts are yellow, the lower surface of the quills is brown, with whitish edges to the inner webs. The bill seems to me hardly more curved than the average of the preceding species. Wing 3.8; tail 3.45; culmen 1.2; tarsus 1.2. This specimen agrees, in general coloration, sufficiently with the colored plate given by Tristram in Ibis 1883, and also in the measurements as given in the original description, measurements in every respect inferior to those of the preceding species. Compared with Mr. Tristram's original description, however, our specimen shows some rather important differences, and even his description will not entirely agree with the plate annected to it. In the plate the back is nearly uniform green, while in the description that part is said to resemble *T. otatare*, thus to be brown with broad yellow edges to the feathers.

As essential differences are mentioned by Tristram the much smaller size, the slightly incurved bill, the rich lemon-yellow under surface of the wing and, last not least, the entirely yellow two outermost pairs of tail-feathers.

From the short description of our specimen given above, we may see that it differs from that described by Tristram in having the upper surface nearly plainly olive green and the under surface not as yellow as *T. mendanae* is said to be, while the two outermost pairs of tailfeathers are like the rest and not entirely yellow.

In my opinion the essential characters of *T. mendanae* Tristr. which distinguish it at a glance from its congener *T. longirostris* are the considerably inferior size, connected with the rather plain olive green color of the upper sur-

face and perhaps also a slight incurvation of the bill. The more plain lemon-yellow color of the under surface of the wing as well as the entirely yellow outer two pairs of tail-feathers I would rather believe to be an individual case of xanthism, which latter seems to be rather common in the preceding species and which, therefore, will very likely be found in this present species as well.

3. *Tatare luscinia* Q. & G.

*Acrocephalus mariannae*, Tristr. Ibis 1883, p. 45.
*Tatare mariannae*, Sharpe, Cat. Birds Br. Mus. VII, p. 528.

General character: Upper surface olivaceous brown, more fulvous on rump and upper tail-coverts, wings and tail earthy brown, both slightly tipped with fulvous, a superciliary stripe, beginning at the nostrils, under wing-coverts and edge of wing as well as the whole lower surface of the body, except the brown thighs and flanks, pale yellow. Bill slender, very sensibly incurved, upper mandible pale brown, lower whitish, feet brown.

Wing 3.3; tail 3.0; culmen 1.4.

One specimen from Guam, Marianne Islands.

It might be of some value to say, perhaps, that all the three above mentioned species have the tail waved with narrow dark cross-bands when seen under certain lights, and these wavings are by no means stronger in *T. luscinia* than they are in the two preceding species, so that a division of the genus *Tatare* into a group with the tail unbanded and another with banded tail, as it is made by Mr. Sharpe in his key to the species of the genus *Tatare*, is rather inconveniant.

Having united the species of *Tatare* to the genus *Acrocephalus*, to which they certainly are very closely allied, Mr. Tristram was obliged to give the present species another name. As long, however, as the genus *Tatare* will be kept separate, and I hope it will, there is no reason whatever to alter the name of *T. luscinia* into *T. mariannae*.

Leyden Museum, November 1891.

# NOTE VI.

## ON THE SPECIFIC VALUE OF LEVAILLANT'S TRAQUET COMMANDEUR

BY

**J. BÜTTIKOFER.**

In his Histoire naturelle des oiseaux d'Afrique, Vol. IV, p. 84, pl. 189, Levaillant described and figured, under the name of »Traquet Commandeur", a species of Bird, the type of which made part of the old Cabinet Temminck and is at present contained in the Collections of the Leyden Museum.

Our bird in question agrees very well with the colored plate given by Levaillant, with the exception of the shoulder-patch, which in the bird is white with a well pronounced rosy tinge, the white feathers being broadly tipped with rosy, especially so near the edge of the wing. The same is the case in Levaillant's plate, only is the rose color on the tips to the feathers much exaggerated.

This tropical West-African form, which seems to be very rare in collections, differs from its southern and eastern congeners by its entirely black head and the white shoulder-patch occupying the lesser and median wing-coverts only, leaving the greater ones entirely black.

The synonymy of the Traquet Commandeur, which has to bear the name of

*Thamnolaea nigra* (Vieill.),

will be as follows:

*Oenanthe nigra*, Vieill. N. Dict. d'Hist. Nat. XXI, p. 431 (1818).

*Saxicola nigra*, Gray, Gen. B. I, p. 179 (1846).
*Myrmecocichla nigra*, Bp. Consp. I, p. 302 (1850); Hartl. Orn. W. Afr. p. 65 (1857); Bocage, Orn. d'Ang. p. 268 (1881).
*Myrmecocichla levaillanti*, Rchw. J. f. O. 1882, p. 212.

Under the name of *Sylvia nigra*, Vieillot mentioned in Encycl. Méth. II, 1823, p. 489, a white-capped bird, so that this name has to be referred to the southern or eastern form. Whether the forms with white on head or throat, which are known under the names of *Thamnolaea shelleyi* Sharpe, *leucolaema* Rchw. and *arnotti* Tristr., belong all to one and the same species, as Dr. Reichenow suggests, or not, I dare not say, having at my disposal only the southern form with a white superciliary stripe, a form which I mentioned as *T. arnotti* in N. L. M. 1888, p. 227. (Mr. Van der Kellen, whom we owe that bird, has sent a female specimen of the same species, probably a young one, the whole plumage of which is olive brown, all the feathers above and below being edged with fulvous brown, while not the least trace of white is to be seen on head or wing-coverts).

Whenever the southern and eastern forms, with more or less white on the head and a large white wing-patch which occupies, with the exception of the tips, also the greater wing-coverts, might prove to belong to one and the same species, this latter would receive the name of

*Thamnolaea arnotti* (Tristr.)

with the following synonymy:
*Sylvia nigra*, Vieill. Encycl. Méth. II, p. 489 (1823).
*Saxicola arnotti*, Tristram, Ibis, 1869, p. 206, pl. 6.
*Saxicola shelleyi*, Sharpe, Layard's Birds of South Afr. p. 246.
*Myrmecocichla leucolaema*, Rchw. Orn. Centralbl. 1880, p. 181.

Leyden Museum, November 1891.

# NOTE VII.

## ON THE COLLECTIONS OF BIRDS,

### SENT BY THE LATE A. T. DEMERY FROM THE SULYMAH RIVER (W. AFRICA)

BY

**J. BÜTTIKOFER.**

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The collecting work of our much lamented african naturalist, Mr. A. T. Demery, having been abruptly stopped last year by his unexpected death (N. L. M. 1891, p. 248), it will be of no little importance to publish a list of the species of birds, obtained during his sojourn on the banks of the Sulymah River, the more as Demery is the first and hitherto the only collector who explored this part of the vast country between Grand Cape Mount and the Isle of Sherbro. His chief station was Juring, a native town on the left bank of the Sulymah River, about 10 miles off the sea-coast. From Juring he made several excursions, especially higher up the river, which latter is practicable for row-boats and canoes much farther inland than most of the rivers in Liberia. The whole country between the Mahfa River (Grand Cape Mount) and Sherbro is rather flat and seems to have about the same aspect as the country round the Fisherman Lake. High forest, interrupted by savannahs, extensive reed-jungles and large swamps cover the alluvial plain, which is crossed by the Mannah-[1]), the Sulymah- and the Gallinas River, and, especially in its western or northern part, by an immense net of mangrove-skirted creeks, while, a few mi-

1) The Mannah River is, since 1887, the actual frontier between Liberia and the British Colony of Sierra Leone.

les west from the Gallinas River, and not far inland from the coast, is situated the Palma Lake, covered, especially in its eastern part, with numerous islands, and forming a conveniant abode for swamp- and water-birds. As the oro- and hydrographical conditions of this territory are the same as in Liberia and there being no important difference in latitude, it is evident that their fauna will be principally the same. Amongst the few mammals sent by Demery from the Sulymah River, there was not one which had not been obtained in Liberia before and, with a few exceptions, the same is the case with the birds from that river, and even of these few exceptions it is by no means certain that they are really wanting in the ornis of Liberia.

The species, ten in number, which hitherto have not been found in Liberia, will be marked with an asterisk.

1. *Astur macroscelides* (Hartl.).
2. *Baza cuculoides* (Swains.).

An adult male with a very distinct chestnut cross-band on the hind neck, partially concealed under the elongated crest-feathers, and the longest of the rufous under wing-coverts barred with white.

This specimen is somewhat paler than the adult male I collected in Liberia and in which the under wing-coverts are uniform rufous, while the chestnut neck-band is entirely wanting. I believe the white bars on the under wing-coverts as well as the red neck-band to be the last remnants of the immature dress, these characteristical marks also being found in an immature female from the Gold Coast and two females of the South African form, known as *Baza verreauxi*.

The chief character, which distinguishes this latter form from *B. cuculoides*, is said to be the white-banded under wing-coverts, and these bands existing in our nearly adult West African male, will, therefore, loose a great deal of specific value, the more as the »adult" specimen of *Baza verreauxi*, figured in Sharpe's edition of Layard's Birds of

South Africa, shows some remains of longitudinal spots on the breast, which spots are undoubtedly a sign of immaturity. In our bird from the Sulymah River the cross-barring on breast and flanks is complete.

Unfortunately we do not possess an adult male from South Africa, and therefore I do not wish to make out whether, after all, Schlegel was correct or not in uniting both forms under the name of *Baza cuculoides*.

3. *Syrnium nuchale* (Sharpe).

An adult female. It differs from the adult male by its larger size and in having the white cross-bands on the under surface and the white spots on the upper wing-coverts much broader. Length of wing 24 cm., while in our adult male from Liberia it is only 21,7.

4. *Scotornis longicauda* (Drap.).

*5. *Macrodipteryx longipennis* (Shaw).

Adult male and female, shot in the Savannahs near Juring. The male has the two accessorial feathers between the primaries and secondaries not fully developed, the bare basal part of the shaft not reaching farther than the tips of the primaries. The vanes, about 15 cm. long, are entirely black on the under surface while the upper surface is broadly barred across with ashy gray. The rufous collar on the hind neck is very distinct and quills and tail-feathers are entirely destitute of any white markings, being regularly banded across with dark brown and rufous. Wing 16,7 cm., tail 10,5 cm. The female does not differ from the male in color, only the pair of long waving wing-feathers are wanting. Wing 16 cm., tail 10,4 cm. The two specimens in our Museum, one from the Senegal, the other from the Gold Coast, both with exceedingly long accessorial wing-feathers, have the vanes of the latter above and below entirely black, showing however, by careful examination, some faint traces of light cross-bars on the upper surface.

*6. *Psalidoprocne obscura*, Hartl.

An adult male, obtained on October 4th, is similar to

our Gold Coast-specimens, amongst which is the type of the species. This latter is not a fully adult specimen, its wings and tail are shorter than in the adult stage and the gloss on the upper surface is not as metallic green as in the adult. Wing 9,5 cm., outermost tail-feather 10 cm. Iris brown, bill and legs black.

7. *Eurystomus afer* (Lath.).
8. » *gularis*, Vieill.
9. *Halcyon malimbica* (Shaw).
10. *Ceryle maxima* (Pall.).
11. *Corythornis cyanostigma* (Rüpp.).
12. *Ispidina picta* (Bodd.).
13. » *leucogastra* (Fras.).
14. *Alcedo quadribrachys*, Bp.
15. *Merops superciliosus*, L.
16. » *erythropterus*, Gm.
17. » *gularis*, Shaw.
18. *Cinnyris cyanolaemus* (Jard.).
19. » *obscurus* (Jard.).
20. » *johannae*, Verr.
21. *Anthreptes hypodilus* (Jard.).
22. *Prinia mystacea*, Rüpp.
23. *Camaroptera concolor*, Hartl.
24. » *brevicaudata* (Cretzschm.).
25. *Hylia prasina* (Cass.).
26. *Cossypha poensis*, Strickl.
27. *Alethe diademata* (Bp.).
28. *Crateropus atripennis*, Swains.
29. *Xenocichla eximia* (Hartl.).
30. » *canicapilla* (Hartl.).
31. *Criniger barbatus* (Temm.).
32. » *verreauxi*, Sharpe.
33. » *simplex* (Hartl.).
34. » *leucopleurus* (Cass.).
35. » *indicator*, Verr.
36. *Chlorocichla gracilirostris* (Strickl.).
37. *Andropadus latirostris*, Strickl.

38. *Andropadus curvirostris*, Cass.
39. » *virens*, Cass.
40. *Pycnonotus barbatus* (Desf.).
41. *Acrocephalus turdoides* (Meyer).

Adult male and female, shot in high cane on February 28th and March 4th 1890. Both specimens are richly tinged with fulvous on the lower surface, still richer than our specimens in the early spring plumage. Nothing is known as yet about the arrival of these birds on the West-Coast in autumn and their departure in spring.

42. *Motacilla flava*, L.
43. *Anthus pyrrhonotus*, Vieill.
44. *Cassinia finschi*, Sharpe.
45. *Terpsiphone nigriceps* (Hartl.).
*46. *Pratincola rubetra* (L.).

An adult male, obtained March 3rd 1890, in splendid breeding plumage.

47. *Diaphorophyia castanea* (Fras.).
48. » *blissetti*, Sharpe.
49. *Bias musicus* (Vieill.).
50. *Dicrurus atripennis*, Swains.
51. » *modestus*, Hartl.
52. *Fraseria cinerascens* (Hartl.).
53. *Sigmodus caniceps*, Bp.
54. *Telephonus senegalus* (L.).
55. *Nicator chloris* (Less.).
*56. *Laniarius poliochlamys*, Gadow.

Several specimens. Iris white, bill black, feet bluish white.

57. *Chaunonotus sabinei*, J. E. Gray.
58. *Dryoscopus leucorhynchus* (Hartl.).

A male with white bill, collected March 10th 1890. Both the males collected at Robertsport and one of which was shot from a nest with eggs, have the bill entirely black. All three specimens are jet-black and seem to be fully adult.

59. *Oriolus brachyrhynchus*, Swains.
60. *Corvus scapulatus*, Daud.

61. *Lamprocolius cupreicauda*, Hartl.

62. *Pholidauges leucogaster* (Gm.).

63. *Malimbus rubricollis* (Swains.) [1]).

*Sycobius rubricollis*, Bütt. N. L. M. 1885, p. 195; 1886, p. 259.
*Malimbus malimbicus*, Bütt. N. L. M. 1888, p. 90; id. Reisebilder aus Liberia, II, p. 475.
*Malimbus bartletti*, Sharpe, Cat. Birds, Br. Mus. XIII, p. 479.

In his above mentioned catalogue, Dr. Sharpe separates, under the name of *M. bartletti*, the birds from Upper Guinea (Liberia to the Gold Coast) from those from Lower Guinea (Gaboon to Congo), which he considers to be the true *M. rubricollis*. The reason for this separation is said to be the difference in the tinge of red on crown and hind neck, which ought to be crimson in the true *M. rubricollis* from Lower Guinea, while it is scarlet or vermilion in the birds from Upper Guinea (*M. bartletti*). At the moment we possess only one specimen from Lower Guinea (Congo) which really has head and hind neck more crimson than those from Liberia and the Gold Coast, but the fact is that it also shows a remarkable tinge of vermilion and can, therefore, hardly be specifically separated from the birds from Upper Guinea.

64. *Malimbus malimbicus* (Daud.).

*Sycobius cristatus* (Vieill.). Bütt. N. L. M. 1885, p. 195.
*Malimbus cristatus*, Bütt. N. L. M. 1889, p. 124; id. Reisebilder aus Liberia, II, p. 475.

An adult and an immature male. The crest in the males from Liberia and the Sulymah River are constantly less developed than in our specimens from the Gold Coast, and much less so than in a specimen from Angola (probably erroneously for Loango).

In the genus *Malimbus*, and more than in any other in this present species, many questions about the distribution of the red color in connection with the sex and the

1) See the explanations about the much entangled synonymy of *Malimbus malimbicus* and *M. cristatus* in Sharpe, Catalogue of Birds Br. Mus XIII, p. 478.

different stages of age are still unsettled. Dr. Hartlaub, in his „Ornithologie Westafrica's", says that in *M. malimbicus* (the *Sycobius cristatus* of his) the female resembles the male in the distribution of the red, but that the crest in the female is wanting and the bill flesh-color instead of black. This statement is adhered to by Prof. Bocage, quoting it without additional remarks in his „Ornithologie d'Angola."

Dr. Sharpe, however, in his Catalogue of Birds, Vol. XIII, p. 480, says that the female differs from the male in having the red color of the (uncrested) crown continued onto the hind neck, and that the throat is black, generally intermixed with some red feathers, while this part is bright crimson in the male.

On ground of the material before me (three skins from the Sulymah River, one from Liberia, eleven stuffed specimens from the Gold Coast and one from Lower Guinea) I cannot agree with Dr. Sharpe's opinion as developed above, and rather yield to that of Dr. Hartlaub's, brought forward in his Ornithologie Westafrica's. All our specimens from the Gold Coast are collected by the late Dutch Governor Nagtglas, and those which I consider to be adult are all well-sexed, while two of the other four are marked »avis jun." As the annotations made by Nagtglas have always proved to be very trustworthy, there is no reason to doubt their accuracy in this case. The fact now is that all the birds sexed as males, four in number (with inclusion of the specimen from Lower Guinea), have the throat, sides of face and the crested crown with the exception of the black frontal band and the black hind neck, red; and four specimens, all females, are precisely colored like the males, differing from the latter only by their want of a crest. Immature birds, and as such has the bird to be considered, described by Dr. Sharpe as the adult female, have the whole head, including the front, hind neck and sides of neck, red; throat and fore-neck are entirely black. In a more advanced stage the black throat becomes intermixed

with red feathers which gradually occupy the entire throat, leaving the chin black. In the meantime, i. e. after the throat has become almost entirely red, a different process is going on with the hind neck, where some black feathers begin to make their appearance, continually increasing in number until the whole hind neck has changed his originally red colour into black, and the same is the case on the fore-head, which later on becomes black in males and females. After the birds have assumed the plumage of the adult, or sometimes even before, the distinctive character of the male, the crest, begins to get its full length, while in the immature stage the males cannot be distinguished from the females. Amongst our specimens which I consider to be immature, i. e. not to have assumed the last stage of plumage, we have one with entirely black throat and but few red feathers on the chest, and other specimens represent the gradual change into the red throat of the adult.

If the above developed ideas prove, by further investigations, to be correct, a concise diagnosis of the species would be as follows:

Adult male: General color sooty black, some of the feathers, especially on the back, margined with a metallic gloss; base of fore-head, lores, circlet round the eye, angle of mouth and the chin also black; crested crown, sides of head, sides of fore-neck as well as the entire throat and upper chest, crimson.

Adult female: Similar to the male, but no occipital crest.

Immature male and female: Similar to the adult female, but the throat black instead of red, in more advanced stage intermixed with red feathers, the red of the crown continued foreward right down to the base of the bill, and backward onto the hind neck. The change of the color is performed by a complete moult.

65. *Malimbus nitens* (Gray).

A large series was collected, which contains a number

of specimens representing a very interesting transitional stage of plumage, analogous in its development to that described in the preceding species. The adult, males as well as females are easily recognized by the red lower throat and chest, while the rest of the plumage is sooty black, with broad glossy edgings to the feathers on the upper surface. One of these specimens, probably the youngest, has the whole chin, throat and chest, and also the centre of the crown entirely red, while the rest of the head is intermixed with red feathers. Another specimen has the chin already black, but still intermixed with red, while numbers of red feathers are found between the black plumage of the crown and the sides of the head, and some of the feathers on the breast are broadly tipped with brownish red. A third specimen, still nearer the adult stage, has the chin entirely black, but the black crown and sides of head show some sparsely distributed red feathers. The first specimen here described, with the entirely red chin and throat, has moreover a small spot of white feathers on the breast, and the same is the case, even in a much higher degree, with the fully adult specimen mentioned in my first paper on Liberian birds (N. L. M. 1885, p. 196).

The young bird is smoky brown with the shield on the chest dark fulvous, intermixed with young glossy red feathers, which also make their appearance on the head.

66. *Malimbus scutatus* (Cass.).

This species, easily distinguished from all its congeners by its scarlet under tail-coverts, is represented by a single specimen in that peculiar transitional stage of plumage, upon which Capt. Shelley, Ibis, 1887, p. 41, pl. II, based his *Malimbus rubropersonatus*, a species which afterwards is recognized as an immature specimen of *M. scutatus* and reunited with this latter by Dr. Sharpe in his Catalogue of Birds, Vol. XIII, p. 482. But while the above mentioned coloured plate of Capt. Shelley's does perfectly agree with one of our birds from the Gold Coast, the specimen from the Sulymah River, which is a female, has the red feathers

on the fore-head intermixed with black ones, the cheeks are already entirely black, as well as the sides of chin and throat, and it is evident that the red on chin, upper throat and the fore-head very soon would have given way to the black color, peculiar to the adult female of this species. (About the immature specimens from Liberia, see my remarks in N. L. M. 1885, p. 196). The bill in young birds is nearly white and through all the transitional stages becomes continually darker until it has got the black color of the adult stage.

The bird from the Cameroons, mentioned by Dr. Sharpe under the head of *M. scutatus* in his Catalogue, belongs certainly to this species. Although none of the specimens in our Museum have the red patch on the chest longitudinally divided by a black line, nearly all, and especially the immature ones, have the red patch more or less deeply notched from below, and this is, in a very high degree, the case with a fully adult specimen from the Gaboon.

67. *Hyphantornis aurantius* (Vieill.).

*68. » *superciliosus*, Shelley.

Two males, shot in the cane-jungles near Juring.

69. *Sitagra brachyptera* (Swains.).

*Hyphantornis brachyptera*, Bütt. N. L. M. 1885, p. 189.
*Symplectes brachypterus*, Bütt. N. L. M. 1886, p. 259.

A large series of these birds having been collected, the species seems to be very common on the Sulymah River, while at Robertsport and farther down the coast of Liberia it is rather rare.

70. *Pyromelana flammiceps* (Swains.).

*71. *Coliopasser ardens* (Bodd.), var. *concolor* (Cass.) [1]).

Ten male specimens, all belonging to the northern variety in which the red cross-band is entirely wanting. It

1) I cannot see sufficient reason for rejecting Rüppell's generic name of *Coliuspasser* in favor of *Penthetria* of Cabanis, on account of its unscholarly composition, as it can easily be altered, and has already been done so (N. L. M. 1889, p. 74 and J. f. O. 1889, p. 283) into *Coliopasser*. Corrections of such names are not rare in ornithological literature.

is on the authority of eminent Ornithologists as Cabanis and Shelley (see Sharpe, Cat. Birds Br. Mus. Vol. XIII, p. 227) that I consider my entirely black birds to be a variety of *C. ardens*, a variety which has been named *Vidua concolor* by Cassin. They have been killed in the cane-jungles near Juring during the months of September, October and November.

72. *Penthetriopsis macrura* (Gm.).

*Penthetria macroura*, Bütt. N. L. M. 1885, p. 197.
*Coliuspasser macrourus*, Bütt. N. L. M. 1886, p. 259; 1881, p. 91.
*Coliopasser macrurus*, Bütt. N. L. M. 1889, p. 134.

Numerous specimens, found in the same reed-jungles as the preceding species.

73. *Spermestes cucullata*, Swains.
74. *Nigrita emiliae*, Sharpe.
75. » *bicolor* (Hartl.).
76. *Corythaix macrorhynchus*, Fras.
*77. » *buffoni* (Vieill.).
*78. *Schizorrhis africana* (Lath.).
79. *Berenicornis leucolopha*, Sharpe.
80. *Tockus semifasciatus* (Temm.).
81. *Pogonorhynchus hirsutus* (Swains.).
82. *Trachyphonus goffini* (Schleg.).
83. *Mesopicus pyrrhogaster* (Malh.).
84. *Centropus leucogaster* (Leach) [1]).

*Centropus francisci*, Bütt. N. L. M. 1885, p. 222; 1886, p. 264; 1888, p. 96; 1889, p. 135.

85. *Centropus senegalensis* (L.).
86. *Ceuthmochares aeneus* (Vieill.).
87. *Coccystes cafer* (Licht.).
88. *Chrysococcyx klaasi* (Steph.).
89. *Treron calva* (Temm.).
90. *Turtur semitorquatus* (Rüpp.).
91. *Peristera tympanistria* (Temm.).
92. *Vanellus inornatus*, Swains.

1) See Hargitt, Cat. Birds Br. Mus. Vol. XIX, p. 358.

93. *Charadrius forbesi* (Shelley).

An adult female, shot in an old plantation near Juring.

94. *Ardea atricapilla*, Afzel.

*95. *Ardeola ralloides*, Scop.

A nearly adult male, shot February 20th 1890 on the banks of the Sulymah River.

*96. *Fuligula fuligula* (L.).

An adult female, shot near the Sulymah River (no date mentioned).

Leyden Museum, January 1892.

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# NOTE VIII.

## A NEW LUCANOID BEETLE FROM JAVA

DESCRIBED BY

**C. RITSEMA Cz.**

In a consignment of beetles, lately received from Mr. J. D. Pasteur and brought together by himself in Western Java (Mt. Poentjak, on the frontier between the districts of Buitenzorg and Preanger), I found among a fine series of *Cladognathus giraffa* Oliv. a specimen which was at once distinguished from the others by its more slender mandibles which were regularly curved downwards, and by the rounded, not obliquely truncate anterior angles of the prothorax. A more careful examination of this specimen showed me clearly that it had nothing to do with *Cl. giraffa* but that it was a very close ally of the interesting *Prosopocoelus decipiens* Parry [1]) from Malabar. The Javanese species is certainly undescribed and I propose to call it after its discoverer:

*Prosopocoelus Pasteuri.*

Length of my unique male specimen (without mandibles) 44 mm., that of the mandibles 23,5 mm. — Dull black, the mandibles and the elytra very faintly shining, the latter along the suture with a broad, dark red streak, which is however only visible under certain lights [2]).

The mandibles are long and slender, slightly waved, strongly curved inwards at the tip, and regularly curved downwards; they are rounded, but flattened and broadest a little before the base in consequence of a toothlike dilatation on their inner margin; beyond the middle a slender tooth is present, and the sharply pointed tip is preceded by an irregular flattened tooth; between this latter and the post-median tooth the inner margin is indistinctly

1) Nederl. Tijdschr. v. Entom. VIII (1865), p. 148; pl. 10, fig. 1, 1*a*.

2) A similarly colored spot is present on the sides of the pronotum, and another transverse one on the apical ventral segment.

crenulate; the extremely fine and dense sculpturing of the mandibles is intermixed with very distinct punctures.

The head is square, slightly narrower than the front of the thorax, declivous and unevenly depressed on the frontal half; the front edge is semicircularly emarginate and almost perpendicularly sinking towards the clypeus, which latter is broadly trapezoidal and has on the middle of its front margin a small, rounded projection; the lateral front angles of the head are obliquely truncate. the canthus is narrow, faintly emarginate in the middle and extends as far as the middle of the eye; in front of the thoracical angles the head is slightly swollen; the surface is very densely covered with extremely fine granulations.

The prothorax is somewhat broader at the base than in front, and strongly convex along the middle; the sides are straight, the front angles protruding and rounded, the hind angles very broadly rounded and their hind margin turned upwards; the front margin of the prothorax is deeply bisinuate, the hind margin faintly so; the sculpturing agrees with that of the head. The scutellum is large and slightly transverse, its surface coriaceous, without distinct puntures.

The elytra are coriaceous and densely covered with extremely fine punctures.

The intercoxal part of the prosternum is conically prolonged backwards. The femora and tibiae, as well as the under surface of the insect are opaque, with the exception however of a large triangular spot on the metasternum posteriorly and of the abdomen which are subshining; the latter is sparingly and finely punctate, its apical segment more strongly so.

The outer edge of the front tibiae is irregularly crenulate, some of the crenulations dentiform; the middle and hind tibiae unarmed.

A single ♂ of the forma maxima in the Leyden Museum.

Leyden Museum, January 1892.

# NOTE IX.

## OBSERVATIONS SUR LES ESPÈCES DU GENRE OXYOPISTHEN ET DES GENRES VOISINS

PAR

**W. ROËLOFS.**

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Depuis ma dernière publication d'espèces du genre *Oxyopisthen* et des genres du même groupe [1]), j'ai eu connaissance du travail de Mr. Aurivillius sur ces insectes, et j'ai su examiner un grand nombre d'individus, surtout dans la collection de Mr. van de Poll, acquis par lui depuis ma publication mentionnée. Cet examen ne m'a pas fait connaître de nouvelles espèces, mais des sexes et des variétés que je n'avais pas vus.

Mr. Aurivillius a décrit un certain nombre des mêmes espèces que j'ai publiées [2]). Je veux communiquer ici quelques observations que la comparaison des descriptions et un nouvel examen des espèces m'ont suggérés.

### *Oxyopisthen vittatum* Roel. [3])

Mr. van de Poll a acquis depuis mon travail, deux individus auxquels s'applique la description de *linea-alba* de

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1) Notes from the Leyden Museum, Vol. XIII (1891), p. 167.

2) La publication de Mr. Aurivillius est d'un petit nombre de jours postérieure à celle de mon travail; le „Öfversicht af Kongl Vetenskaps-Akademiens Förhandlingar, 1891, N° 6" a été publié le 29 Août, — les „Notes from the Leyden Museum, Vol XIII, N° 3" ont été publiés le 20 Août 1891.

3) Notes from the Leyden Museum, Vol. XIII (1891), p. 119.

Thomson. Mr. Desbrochers des Loges, qui possède les Calandrides de la collection Thomson, m'écrit qu'il n'a pas trouvé cette espèce dans la collection; le type paraît par conséquent perdu ou égaré. Comparaison faite de mon *O. vittatum* avec *O. linea-alba* Thomson de la collection van de Poll, je crois que ces insectes appartiennent à la même espèce. Il est vrai que mon *vittatum* (individu unique du Musée de Leyde) n'a pas de tache blanche sur les élytres, mais cette tache est plus grande dans un des deux individus de *linea-alba* que dans l'autre, ce qui prouve qu'elle est variable et je crois que son absence dans mon *vittatum*, provient de ce que l'exemplaire qui m'a servi de type est un peu usé. Les autres caractères s'accordent, sauf que dans l'individu du Musée de Leyde, le pygidium est plus allongé et pointu. De plus je ne découvre point de dent aux cuisses antérieures des *linea-alba*, tandis qu'elle est très visible chez le *vittatum*. Ces différences me paraissent sexuelles. Chez les trois individus sous mes yeux, le rostre est plus courbé et moins gros que chez les congénères de l'espèce. Un nouvel examen me démontre que dans ma description de *vittatum* l'indication de la forme de la massue des antennes manque d'exactitude: elle est peu élargie au bout mais pas, comme j'avait dit, »presque cylindrique". Chez *linea-alba* elle est de même forme; l'espèce rentre donc dans le genre *Ichthyopisthen* Auriv. [1])

Les espèces suivantes lui sont congénères:

*Oxyopisthen deplanatum* Roel. [2])

Depuis ma publication de cette espèce, d'après un unique du Musée de Leyde, j'en ai vu un individu de la collection

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1) Mr. van de Poll, ayant examiné l'*Anoxyopisthen Büttneri* Kolbe, s'est assuré que la 10e strie des élytres n'est pas entière comme l'auteur avait indiqué. — Cette différence des stries serait, à ce qu'il parait, le seul caractère générique de *Anoxyopisthen*, et l'espèce de Mr. Kolbe serait du même genre que les *Ichthyopisthen* de Mr. Aurivillius. Dans ce cas le nom générique de M. Kolbe aurait la priorité.

2) Notes from the Leyden Museum, Vol. XIII (1891), p. 116.

de Mr. Duvivier de Bruxelles. Celui de Leyde provient de Niam-Niam, celui de Mr. Duvivier a été capturé par son frère à Ibembo au Congo. L'espace mat à côté de la carène du pygidium, dont il est parlé dans ma description, est occupé dans l'individu, moins usé, de Mr. Duvivier par une tache blanche bien marquée. Une toute petite tache sur le côté de la base du dernier segment m'était échappée lors de ma description.

L'espèce est voisine de *clavatum* Roel., comme Mr. Aurivillius observe avec raison.

*Oxyopisthen clavatum* Roel. = *Ichthyopisthen rufoclavatum* Auriv.

Je dois ajouter à ma description que l'extrémité des cuisses postérieures est noire. La ligne médiane du prothorax, dont parle Mr. Aurivillius et que je ne mentionne pas, est si faible que dans certains individus on n'en trouve pas de trace. L'appendice remarquable du premier article des tarses postérieurs, décrit par Mr. Aurivillius, m'était échappé.

L'extrémité du pygidium de la femelle subit des modifications de forme assez sensibles dans les huit individus que j'ai sous les yeux.

Les carènes latérales finissent presque toujours en pointe saillante (toujours moins forte que la carène médiane), mais chez un des exemplaires elles ne sont pas saillantes, de façon à rapprocher la forme du pygidium de celle du mâle. Dans un autre individu, le bout du pygidium n'est pas symétrique. — La dent, ou plutôt l'élargissement anguleux des tibias postérieurs, est un caractère sexuel du ♂; il est plus ou moins prononcé et parfois très faible. Les articles deux à six du funicule sont plus larges dans le ♂ que dans la ♀.

*Ichthyopisthen convexicolle* Auriv.

La collection van de Poll contient un individu conforme à la description de cette espèce donnée par Mr. Aurivillius,

et un second individu à pattes entièrement noires. Le premier porte l'étiquette: »Murray, Old Calabar", le second seulement »West-Africa".

*Oxyopisthen Büttikoferi* Roel. [1])

La base du prothorax presque droite fait hésiter Mr. Aurivillius de ranger l'espèce dans son genre *Ichthyopisthen*; je ne pense pas qu'une légère différence de structure suffit pour l'en exclure.

*Oxyopisthen nitidum* Roel.

Je n'ai vu de cette espèce qu'un individu ♂ dans la collection van de Poll. Elle est la même que *Ichthyopisthen albolineatum* Auriv.

*Haplorhynchus Valdaui* ♀ Roel. = *Cyrtopisthen rubicundum* Auriv.

L'anatomie, faite par Mr. van de Poll de sept individus de sa collection, lui a appris que la description de *H. Valdaui* Auriv. s'applique à 4 mâles, celle de *Cyrtopisthen rubicundum* du même auteur et de mon *H. Valdaui* ♀, à 3 femelles. La différence des deux formes est donc une différence sexuelle, comme je l'avais supposé. — Il est singulier que la couleur brun-rouge de la femelle ne m'a pas frappé; elle est plus sensible vue dans un certain jour. Mr. Aurivillius parait n'avoir pas remarqué la forme des hanches antérieures, dont je parle dans ma description.

*Oxyopisthen suturale* Roel. = *Stenophida trilineata* Auriv.

Lors de ma description de cette espèce, je n'ai pas prêté une attention suffissante à la construction des tarses, différente de celle des autres espèces. Elle justifie, jointe aux yeux subcontigus en dessous et à la forme du prothorax et de l'écusson, la place de l'espèce dans un genre séparé.

1) Notes from the Leyden Museum, Vol. XIII (1891), p. 118.

Je ne saurais décider, pas plus que Mr. Aurivillius, si elle peut rester réunie avec *linearis* Pascoe, qui forme le type du genre *Stenophida* de cet auteur. La garniture de poils des quatre fémurs antérieurs est propre à la ♀. Je remarque dans les deux individus (♂ et ♀) que j'ai sous mes yeux, un espace luisant, à ponctuation assez forte devant la ligne blanche du prothorax.

*Acherus nigricans* Roel.

Depuis ma publication de cette espèce, Mr. van de Poll a acquis un second individu, également ♀, dont les cuisses sont rouges jusque près de leur extrémité. L'anatomie des deux individus donne la certitude de leur sexe. La forme du rostre est remarquable par son analogie avec celle de la ♀ de *Haplorhynchus Valdani.*

La garniture de poils du dessous du rostre se trouve chez d'autres femelles de Curculionides, entre autres chez les femelles de certains *Poteriophorus*; il me parait probable que ces poils, joints à la structure particulière du rostre dans ce sexe, doivent jouer un rôle dans la déposition de l'oeuf lors de la ponte.

La Haye, 16 Janvier 1891.

# NOTE X.

## A NEW LONGICORN BEETLE

DESCRIBED BY

**C. RITSEMA Cz.**

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*Euclea nodicornis*, n. sp. ♂.

Length 17½ mm. — Strongly resembling *E. nigritarsis* Pascoe [1]) of which I have a male specimen before me [2]), but differing from it in the following characteristics: the new species is somewhat broader; its 3rd antennal joint is slightly longer, more slender, more distinctly incurvate and covered all over with a pubescence of a pale ochraceous colour [3]); the 4th joint is more strongly swollen at the tip, and the 5th joint is thicker and consequently more strongly contrasting with the 6th; the prothorax becomes broader towards the base, and the scutellum is strongly transverse; finally the two basal joints of the tarsi do not show a black but an ochraceous pubescence. Each elytron is faintly notched at the end in an oblique direction which gives the apex of the elytra the appearance of being slightly prolonged at the suture.

*Hab.* Amboyna (Ludeking). — A single male specimen in the collection of the Leyden Museum.

Leyden Museum, December 1891.

1) Longicornia malayana, p. 150.

2) It may be said here that the pubescence of this specimen, which measures 15 mm. in length, is very pale ochraceous approaching to grey, and that the derm of the antennae and legs has a dark blue metallic hue. It originates, like the type, from Amboyna (Ludeking).

3) In *nigritarsis* Pascoe the colour of the pubescence on the basal two thirds of this joint is grey, on the apical third it is black.

# NOTE XI.

## DESCRIPTIONS DE TROIS ESPÈCES NOUVELLES DE LYCIDES DE BORNÉO

PAR

**J. BOURGEOIS,**

ancien Président de la Société entomologique de France.

M. Ritsema ayant bien voulu me communiquer, par l'entremise de M. Fairmaire, quelques Lycides récoltés dans la partie occidentale de l'île de Bornéo, j'y ai trouvé trois espèces encore inédites dont je donne ci-dessous les descriptions, en les faisant suivre de la liste des Lycides de Bornéo décrits jusqu'à ce jour.

1. *Xylobanus Ritsemae*, n. sp.

*Valde elongatus, parallelus, opacus, subtilissime pubescens, niger; rostro nullo; mandibulis rufis; antennis compressis, profunde serratis; prothorace nitidiusculo, latitudine basali longiori, apicem versus vix attenuato, undique pulvinato-marginato, antice rotundato, lateribus fere parallelis, medio haud vel fere inconspicue coarctatis, angulis anticis rotundatis, posticis rectis, retusis, disco distincte 7-areolato, areola dorsali angusta, elongato-rhomboïdali, antice in carinam evadente; scutello apice triangulariter exciso; elytris subparallelis, prothorace paullo latioribus, 4-costatis, intervallis clathris transversis uniseriatim quadrato-areolatis, costis, clathris transversis sicut et sutura in triente anteriori rufo-flavis.* — Long. $8^1/_2$ mill.; lat. 2 mill.

*Hab.* Bornéo occid.: Sambas (Dr. Bosscha). — Un seul exemplaire dans la collection du Musée de Leyde.

Bien distinct des *X. humilis* C. Waterh. et *vetulus* Bourg., dont il rappelle le système de coloration des élytres, par la forme du prothorax qui est allongé, non ou à peine rétréci en avant, arrondi en courbe régulière au bord antérieur, avec les angles postérieurs droits, nullement saillants. Les aréoles intercostales des élytres sont assez régulièrement carrées, sauf vers la base, où elles sont plus serrées et transversales.

2. *Trichalus hypocrita*, n. sp.

*Valde elongatus, parallelus, omnino niger vel fuliginoso-niger; rostro distincto, brevi; prothorace apicem versus angustato, latitudine basali vix breviori, antice rotundato, lateribus reflexis, in medio leviter coarctatis, angulis posticis divaricatis, acutis, basi profunde bisinuata, disco areola longitudinali, sat angusta, bilanceolata, a basi usque fere ad apicem extensa exarato, margine antico irregulariter et grosse punctato; scutello quadrato, apice arcuatim emarginato; elytris prothorace distincte latioribus multoque longioribus, subparallelis, 7-costatis, costis alternis minus elevatis, prima basi trifida, intervallis clathris transversis uniseriatim quadrato-areolatis; corpore subtus nitidiori, trochanteribus femorumque stirpe saepius dilutioribus, abdomine obscure chalybeo-micante.*

♂. *Antennis paullo longioribus; abdominis segmento ventrali penultimo profunde triangulariter emarginato, ultimo triangulari, bivalvato.*

♀. *Abdominis segmento ventrali ultimo semi-lunato.*

Long. $8^1/_2$—10 mill.; lat. 2—$2^1/_2$ mill.

*Hab.* Bornéo occid.: Sambas (Dr. Bosscha). — Un seul exemplaire (♀) dans la collection du Musée de Leyde. — Aussi trouvé à Sarawak (ma collection).

Se rencontre également à Sumatra (Wallace) et à Singapore, d'après un exemplaire communiqué par M. Fairmaire.

Cette espèce présente un pronotum conformé à peu près comme celui du *T. anceps* C. Waterh. (Illustr. typ. Sp.

Col., I, p. 69, pl. XVII, fig. 2), et pourrait être confondue à première vue avec la variété à élytres entièrement noires de cette espèce (Bourg., Ann. Mus. Civ. Genova, XVIII, 1883, p. 645); mais la réticulation régulière et distinctement bisériée des intervalles intercostaux des élytres ainsi que le reflet bleu-métallique de l'abdomen permettront de l'en distinguer facilement. Sa taille est aussi sensiblement supérieure à celle du *T. anceps*.

### 3. *Trichalus flavidus*, n. sp.

*Sordide flavido-testaceus; capite, antennis pedibusque nigris, elytris apice fuscescentibus; rostro brevissimo; prothorace trapeziformi, latitudine basali breviori, apicem versus valde angustato, lateribus fere parallelis, angulis anticis bene distinctis, posticis productis, acutis, disco antice et ad latera irregulariter punctato, fossula mediana profunda, bilanceolata, antice in carinulam evadente exarato; scutello postice leviter emarginato; elytris prothorace vix latioribus, parallelis, 7-costatis, costis alternis multo minus elevatis, prima basi trifida, intervallis clathris transversis sat irregulariter quadrato-areolatis; corpore subtus nigro-fusco.* — Long. 6 mill.; lat. 2 mill.

*Hab.* Bornéo occid.: Sambas (Dr. Bosscha). — Un seul exemplaire dans la collection du Musée de Leyde.

Cette espèce est voisine du *T. serraticornis* Fabr. (Oliv., Entom., II, 29, p. 12, pl. I, fig. 14 et C. Waterh., Illustr. typ. Spec. Col., I, p. 71, pl. XVI, fig. 10); elle en diffère surtout par la forme du prothorax, beaucoup plus atténué en avant, trapéziforme, tandis qu'il est subcarré dans *serraticornis*. On ne pourra pas non plus la confondre avec le *T. longicollis* Bourg., de Manille, dont elle s'éloigne par le prothorax moins allongé, à fossette discale large et non linéaire, par la coloration, etc.

*Obs.* Les *Lycus* (*Lycostomus*) *Gestroi* Bourg. et *Metriorrhynchus Kirschi* C. Waterh., déjà signalés de Sarawak, ont aussi été trouvés à Sambas, le premier également à Sintang.

LISTE DES LYCIDES DE BORNÉO DÉCRITS JUSQU'À CE JOUR.

1. *Lycus (Lycostomus) ferrugineus* Fabr.
2. » » *Gestroi* Bourg.
3. » » *Waterhousei* Bourg.
4. *Bulenides cognatus* Bourg.
5. » *dubius* C. Waterh.
6. » *indus* Kirsch.
7. » *obsoletus* C. Waterh.
8. » *pauperulus* Bourg.
9. *Cautires excellens* C. Waterh.
10. *Xylobanus elusus* C. Waterh.
11. » *fumigatus* C. Waterh.
12. » *humilis* C. Waterh.
13. » *reticulatus* C. Waterh.
14. » *Ritsemae* Bourg.
15. » *senex* C. Waterh.
16. » *vetulus* Bourg.
17. *Taphes brevicollis* C. Waterh.
18. » » var. *frontalis* C. Waterh.
19. *Metanaeus conformis* C. Waterh.
20. *Trichalus anceps* C. Waterh.
21. » *flavidus* Bourg.
22. » *fuliginosus* Bourg.
23. » *hypocrita* Bourg.
24. *Metriorrhynchus Kirschi* C. Waterh. (*lineatus* Kirsch).
25. » *sericeus* C. Waterh.
26. » *atrofuscus* C. Waterh. (an *Cladophorus?*).
27. *Ditoneces rufobrunneus* Gorh.
28. *Melampyrus alternans* C. Waterh.
29. *Dihammatus pallens* C. Waterh.
30. *Plateros expletus* C. Waterh.
31. *Micronychus aemulus* C. Waterh. (an *Calochromus?*).
32. » *dispar* C. Waterh.
33. » *sericeus* Bourg.
34. *Calochromus melanurus* C. Waterh.
35. *Dilophotes exilis* C. Waterh.
36. » *pygmaeus* C. Waterh.

# NOTE XII.

## DEUX ESPÈCES NOUVELLES DE COLÉOPTÈRES DE LA FAMILLE DES NITIDULIDAE

DÉCRITES PAR

**A. GROUVELLE.**

*Carpophilus Bosschae*, n. sp.

*Ovatus, vix convexus, nitidus, glaber, testaceo-piceus; clava antennarum infuscata; capite prothoraceque sat fortiter punctatis, margine antico prothoracis emarginato, postico utrinque sat profunde sinuato; angulis anticis productis, posticis acutis; elytris punctatis, apice oblique truncatis, versus suturam in longitudine impressis, humeris dentatis.* — Long. $1^1/_2$ mill.

Ovale, faiblement convexe, glabre, brillant, testacé, plus ou moins enfumé sur la tête, le disque du prothorax et le pourtour des élytres. Base des antennes et pattes plus claires.

Ponctuation de la tête et du prothorax assez forte, un peu écartée, plus serrée vers les angles postérieurs du prothorax. Front convexe, angles postérieurs de la tête à peine marqués. Prothorax environ deux fois plus large que long, assez rétréci en avant; bords latéraux parallèles dans la moitié basilaire; marge antérieure largement échancrée, postérieure droite devant l'écusson, assez fortement échancrée de chaque côté; angles antérieurs saillants, un peu émoussés, postérieurs aigus; disque légèrement déprimé devant ces derniers; marges latérales et basilaires rebordées. Ecusson subpentagonal, finement et très éparsement ponctué. Elytres

moins longs que larges ensemble, présentant leur plus grande largeur un peu avant la base, tronqués obliquement au sommet, laissant à découvert deux segments de l'abdomen; ponctués moins fortement que le prothorax, impressionnés contre la base de la suture. Angles huméraux dentés.

*Hab.* Bornéo occidental: Sambas (Dr. Bosscha). — Trois exemplaires dont un dans la collection du Musée de Leyde.

*Parametopia Bosschae*, n. sp.

*Ovata, subconvexa, nitida, glabra, picea; antennis, pedibus et lateribus prothoracis elytrorumque dilutioribus, singulo elytro rufo bi-maculato; capite bi-impresso, lateribus prothoracis elytrorumque sat late explanatis.* — Long. 3 mill.

Ovale, légèrement convexe, brillant, glabre, couleur de poix; marge antérieure de la tête, bords latéraux du prothorax et des élytres, antennes et pattes plus clairs. Sur chaque élytre deux taches rougeâtres; la première transversale, légèrement réniforme, sur la moitié basilaire; la deuxième, ovale, sur la seconde moitié.

Tête assez densément ponctuée, strie interantennaire effacée au milieu, prenant naissance de chaque côté dans une impression assez large, peu profonde. Ponctuation du prothorax assez dense, entremêlée de gros points sur les côtés; marges latérales explanées, un peu relevées. Ponctuation des élytres un peu plus forte que celle du prothorax surtout sur les côtés; rebords latéraux explanés, ponctués, séparés de la partie convexe des élytres vers la base par une strie ponctuée de gros points.

Voisin de *Parametopia (Prometopia) rotundata* Reitt. mais plus petit et moins foncé; 2me tache plus apicale, et ponctuation des côtés du prothorax double.

*Hab.* Bornéo occidental: Sambas (Dr. Bosscha). — Un seul exemplaire dans la collection du Musée de Leyde.

Paris, Janvier 1892.

# NOTE XIII.

## CYCLOMMATUS SQUAMOSUS, A NEW SPECIES OF LUCANID FROM BORNEO

DESCRIBED BY

**C. RITSEMA Cz.**

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Years ago I received from his Excellency, the Ex-Governor General of Dutch India J. W. van Lansberge, a lot of beetles from Sintang (Borneo), containing a. o. a male *Cyclommatus* of minor development, which I believed to belong to an undescribed species. I abstained, however, from describing it for want of the major development, but gave it the provisory name of *squamosus*, making allusion to the large scales by which the insect is covered on its upper surface. Now, a few days ago, my friend Neervoort van de Poll handed to me for identification a male *Cyclommatus* of major development from Brunei (Borneo), captured by Mr. Waterstradt, and I was highly surprised to find that it belonged to the same, still undescribed species as my small male from Sintang. Under these circumstances I believe to be fully entitled to publish here a description of both specimens under the name of

*Cyclommatus squamosus.*

The species is allied to *Cyclommatus Dehaani* Westw. (*affinis* Parry) on account of its being covered with scales in connection with the slowly declivous, neither excavated nor perpendicularly truncated front portion of the head, and the want of the tooth on the outer upper margin of the mandibles at some distance from the tip, but it is at

once distinguished by the conspicuous larger size of the scales.

Length of the forma major (without mandibles) 26 mm., that of the mandibles 14 mm.; breadth at the shoulders of the elytra 9 mm., length of the elytra $14^1/_2$ mm. — Reddish brown with a strong bronze green hue; the outer upper margin of the mandibles, the teeth, the scape of the antennae and the thickened outer margin of the elytra blackish. — Covered with dirty white scales which are roundish on the mandibles, head, pronotum and lateral margins of the elytra, elongate ovate on the remaining portion of the latter and here thin and soft and considerably larger.

The mandibles are slightly curved and armed a little beyond the middle with an acute tooth; on the basal half of the space between this tooth and the base of the mandibles about five crenulations are present; the space between the ante-apical tooth (which is broad and obliquely truncate) and the tip is occupied on the right mandible by two, on the left one by about six sharply pointed teeth; the space between the ante-apical and the post-median tooth is without any tooth or crenulation. The mandibles are opaque in consequence of a very minute sculpturing which is intermixed with scale-bearing punctures; the apical portion, however, is glossy.

The head is opaque being very densely covered with minute granulations which are intermixed with scales; the cheeks are somewhat coarser; the upper side shows a large semilunar impression in front of which the head slopes slowly to the clypeus which is broad and has the middle portion of its front margin turned upwards and notched at the top.

The pronotum is opaque, subshining along the middle, covered with large and deep scale-bearing punctures; the front margin is deeply bisinuate and accompanied in the middle by a narrow groove which widens out towards the sides and which is narrowly interrupted by a shallow median groove.

The elytra are subshining and covered with very distinct punctures; the interspaces are very minutely sculptured except along the suture. Between the shoulders and the scutellum a very distinct transverse impression is present.

Under surface and legs densely covered with small roundish yellowish scales, on the sides of the head and of the metasternum, however, the scales are elongate. The prosternal process is conically porrected. The fore-tibiae are slightly curved and armed on the outside, a little beyond the middle, with a small spine.

As is already said this specimen originates from Brunei (Borneo) and makes part of the collection of Mr. Neervoort van de Poll.

Length of the forma minor (without mandibles) 20 mm , that of the mandibles 8 mm.; breadth at the shoulders of the elytra 7 mm., length of the elytra $11^3/_4$ mm. — In this specimen, which has a narrow shape, the scales are larger than in the forma major, especially on the head and pronotum, and they are less numerous on the under surface; the coloration is somewhat darker, the tarsi and antennae nearly black, the metallic hue on the pronotum and elytra somewhat coppery.

The mandibles, which are as long as the head and thorax taken together, are broad, not narrowed towards the tip, and enlarged at the base on the inner margin; these enlarged portions are narrowly and deeply notched, so as to form two cylindrical teeth on each mandible; between these basal teeth and the broad obliquely truncate ante-apical ones the inner margin is faintly undulate; the space between the ante-apical tooth and the tip is occupied by five distinct teeth.

The head is less distinctly impressed and its front portion more rapidly sloping to the clypeus; the front margin of the latter is regularly convex, and not turned upwards.

The groove which accompanies the front margin of the pronotum is less distinct and more widely interrupted in

the middle, but the shallow median groove is wanting.

The elytra are proportionately longer and their sides more parallel; the punctures with which they are covered are somewhat larger, but the minute sculpturing between them is wanting.

There are four distinct spines on the outside of the left fore-tibia, and three on that of the right one.

This specimen originates from Sintang (Borneo) and belongs to the collections of the Leyden Museum.

Leyden Museum, February 1892.

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# NOTE XIV.

## DESCRIPTION DE DEUX NOUVELLES ESPÈCES DU GENRE ONYCHOGYMNUS, QUEDENFELDT

PAR

**W. ROELOFS.**

Mr. Neervoort van de Poll possède deux nouvelles espèces de Curculionides voisins du genre *Diabathrarius* Schh. qui me paraissent, malgré quelques différences, peut-être génériques, pouvoir entrer dans le genre *Onychogymnus* Quedenf. [1]).

La première de ces espèces, originaire de Madagascar, possède un rostre à peine plus étroit que la tête, droit, et aplati en avant, mais différent de celui de *Onychogymnus Mechowi*, par sa plus grande longueur qui dépasse sa largeur. L'écusson de la nouvelle espèce est plutôt brièvement ovale que rond, et les élytres n'ont point de tubercule huméral.

Je crois que ces légères différences ne justifient pas la

1) Dans la liste des genres qui, comme *Onychogymnus*, ne possèdent point de 4e article aux tarses, et dont le 3e article est arrondi, Mr. Quedenfeldt omet de mentionner le genre *Syarbis* Pascoe (Journal of Entom. II, 1865, p. 423). Ignorant dans le temps la publication de M. Pascoe, j'avais publié (Ann. Soc. Ent. Belge, Tome X, 1866, et Tome XI, 1867) quelques espèces d'Australie et créé pour eux le genre *Acroteriasus*; j'ai reconnu plus tard l'identité de mon genre avec celui de M. Pascoe. Le Professeur Lacordaire a fait quelques observations à propos de la publication de ma petite notice; elles ont été publiées à la même place dans les Annales Belges.

Depuis, j'ai eu connaissance d'un genre, également privé du 4e article tarsal et dont le 3e article est arrondi, c'est le genre *Acherus*, du groupe des *Oxyopisthen*; je l'ai publié récemment dans les Notes from the Leyden Museum, où se trouve décrit son espèce unique *A. nigricans* et sa variété à fémurs rouges. (Notes from the Leyden Museum, Vol. XIII (1891), p. 173 et suivantes, et Vol. XIV (1892), p. 37).

création d'un genre nouveau, les caractères génériques essentiels, comme la forme générale du rostre, des antennes, des scrobes, des yeux, du pronotum, et l'armature des pattes ainsi que la construction de l'abdomen étant les mêmes.

*Onychogymnus ursulus*, n. sp.

Long. 9 millim., rostr. excl. — D'une forme plus ovale et relativement plus large que *Diabathrarius apicalis* Schh., moins élargi aux épaules que *Onychogymnus Mechowi* Quedenf., d'un noir brunâtre, densément garni d'écailles piliformes brunes.

Rostre plan par devant, dénudé vers l'extrémité, rugueux, séparé de la tête par une faible dépression, pourvu au milieu d'une fine ligne peu marquée et élevée, et de carènes, également peu sensibles, sur les côtés; des poils brun-jaunâtres entourent la bouche, surtout en dessous. Antennes brun-rouges, articles du funicule garnis de poils brunâtres.

Tête aplatie sur le front, densément garnie d'écailles brunes.

Prothorax aussi long que large, bisinué à la base, presque droit sur les côtés en arrière, sa partie antérieure rétrécie et assez fortement séparée du reste; il porte une grosse ponctuation, peu serrée, irrégulière, et sur le disque une faible ligne médiane, imprimée, allant de la base jusqu'à la partie déclive du lobe antérieur; il est garni d'écailles brunes, un peu plus sombres devant l'écusson; des écailles brun-sombres dressées forment une touffe peu élevée vers les côtés du disque au bord de la partie rétrécie antérieure. Ecusson ovale, brun-pale.

Elytres ovales, isolément arrondies à leur base, épaules obliquement saillantes, le bout des élytres arrondi; elles sont un peu déhiscentes à l'extrémité de la suture et portent des stries, peu profondes, de points arrondis; leur garniture consiste en écailles piliformes brunes, plus ou

moins claires; la couleur claire forme un peu derrière le milieu une bande transversale, peu marquée, en forme d'arc. Les intervalles alternants des stries, surtout les 3es et 5es, sont un peu plus élevés et portent des touffes d'écailles redressées d'un brun foncé.

Dessous et pattes munis d'écailles brun-pales, les dernières en outre portent des poils, surtout sur les jambes et les tarses.

Deux individus de Madagascar. (Coll. Neerv. van de Poll).

La deuxième espèce que j'ai sous les yeux est représentée par un individu unique, originaire du Gabon.

Elle offre un caractère générique, assez important, établissant une différence aussi bien avec l'espèce précédente, qu'avec *Onychogymnus Mechowi*. L'extrémité de la jambe, chez ces deux insectes, étant armée d'un mucro aigu, au dessus duquel se trouve une petite pointe triangulaire, la première armature n'existe pas chez l'espèce actuelle, qui possède cependant, comme chez les deux autres insectes, la petite pointe située plus haut. L'extrémité de la jambe est ici tronquée et la corbeille est garnie au côté extérieur d'une petite rangée de poils noirs rigides, beaucoup moins développés aux jambes antérieures. J'ai cherché en vain d'autres caractères, qui pourraient forcer de séparer l'espèce génériquement des deux autres. Je la place par conséquent, du moins provisoirement et avec doute, dans le même genre.

*Onychogymnus(?) ocellatus*, n. sp.

Long. 12 millim., rostr. excl. — D'une forme plus allongée, surtout en ce qui concerne le prothorax, que les espèces précédentes et que *Diabathrarius apicalis* Schh.; garni d'écailles rondes d'un jaune d'ocre pale en dessous et sur les jambes, d'une couleur de foie un peu argentée au milieu du prothorax et sur les élytres, avec deux ocelles noires vers le bout de ces dernières.

Rostre aussi long que large, anguleusement aplati en avant et devant les yeux, muni d'une carène obsolète, garni comme la tête d'écailles jaune-ochracées; des poils brun-jaunes entourent les parties de la bouche, surtout en dessous.

Tête vaguement ponctuée, plane par devant, avec un gros point peu profond sur le front se perdant dans une dépression qui remonte sur le vertex. Scape et funicule des antennes brun-rouges, le bout du premier et le dernier portent des poils jaunes; massue gris-jaunâtre.

Prothorax aussi long que large, en forme de cône tronqué, bisinué à la base, ses angles postérieurs saillants et un peu relevés, muni d'une ligne courte mais profonde devant l'écusson, couvert d'une ponctuation vague, déprimé sur le disque en arrière; il est garni sur les côtés d'écailles jaune d'ocre, d'écailles noirâtres au milieu; des poils couchés, courts et noirs sont dissémenés entre les écailles. Ecusson arrondi, jaune d'ocre.

Elytres à la base isolément arrondies, puis sinuées en dedans des épaules, ces dernières obliques; les côtés des élytres graduellement et faiblement rétrécies en arrière, leur extrémité arrondi; elles sont faiblement et un peu anguleusement calleuses vers le bout, déclives à la base, garnies de stries de points et présentent des rides transversales peu sensibles sur le dos. La coloration générale est couleur de foie, la couleur ochracée s'étend un peu sur les épaules et se voit sur l'extrémité des élytres; elle couvre également l'espace entre la gibbosité et la tache noire, veloutée, irrégulièrement arrondie, située un peu plus en avant; la couleur jaune borde cette tache sur le côté extérieur. Une tache claire, très petite, se montre sur le 5e intervalle vers le milieu de l'élytre. Des poils couchés, courts et noirs, sont irrégulièrement dissémenés entre les écailles.

Le dessous et les pattes sont garnies d'écailles jaune d'ocre pale. Le dessous est lisse, à l'exception de l'extrémité du dernier segment abdominal qui est ponctuée. Le

bord des élytres, qui est assez épais en arrière, est couvert d'une grosse ponctuation. Sur les pattes se voient des poils, plus abondants sur les jambes et le dessus des tarses; elles dépassent le bord du 3e article. Les tibias sont rugueusement ponctuées. Les hanches antérieures présentent une touffe de poils jaunâtres.

Un individu du Gabon. (Coll. Neervoort van de Poll).

L'insecte que j'ai sous les yeux me parait être du sexe mâle; le métasternum est déprimé en arrière; la dépression se continue sur le milieu des deux premiers segments de l'abdomen.

La Haye, Février 1892.

# NOTE XV.

## ON TWO GENERA DESCRIBED BY JAMES THOMSON IN HIS »SYSTEMA CERAMBYCIDARUM"

BY

**C. RITSEMA Cz.**

To an interesting lot of Longicorn Beetles, communicated to me by Mr. René Oberthür, was joined the unique type-specimen of the genera *Hysterarthron* (*collare*) Thoms. and *Camira* (*sexmaculata*) Thoms., both described by the author as belonging to the family of the Cerambycidae [1]).

I was astonished to find that the first did not at all belong to the named family, its anterior tarsus being composed of five joints [2]) (the middle legs are wanting). A further examination showed me that *Hysterarthron collare* Thoms. belongs to the family of the Lagriidae, and that it will find its place in the neighbourhood of the genera *Statira* Serv. and *Casnonidea* Fairm.

The second genus (*Camira* Thoms.) cannot be maintained at all, its type-specimen being composed of the head and prothorax of a *Praonetha*-species, and the elytra with meso- and metathorax of a species of the genus *Perissus* Chevr. (*x-littera* Chevr., *femoralis* Chevr., *trizonatus* Boisd. or *glaucinus* Boisd.).

Leyden Museum, February 1892.

1) Thomson, Systema Cerambycidarum, pp. 224 and 325. — Lacordaire, Genera des Coléoptères, IX, pp. 232 and 582.

2) In the „Atlas" belonging to Lacordaire's „Genera" the artist has given four joints to all the tarsi! (Plate 95, fig. 5).

# NOTE XVI.

## ON TAENIODERA QUADRILINEATA AND SOME ALLIED SPECIES

BY

**OLIVER E. JANSON.**

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It has been long evident to me, that several distinct species have been confused under the name of *Macronota* or *Taeniodera quadrilineata*, but owing to the want of sufficient material, I have hitherto been unable to arrive at any satisfactory conclusion regarding them. Recently however, by the acquisition of Mr. F. Moore's collection of Cetoniidae, I have secured a good series of specimens from India, and by the courtesy of Mr. Ritsema I have obtained the loan of the various Javanese and Sumatran examples of this group contained in the collection of the Leyden Museum. These, together with other specimens to which I have had access, have enabled me to recognize both sexes of no less than four species, all of which closely resemble one another in general form and coloration, but present structural and other characters by which they may be readily separated.

The first of these species, *quadrilineata* Hope, was very briefly described in 1831 by that author in his Synopsis of Nepaul Insects [Gray's Zool. Misc. p. 24 [1])] under

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1) Schaum maintains (Ann. Soc. Ent. France, 1844, p. 367; 1849, p. 294) that these brief and useless descriptions of Hope's should be entirely ignored, but I consider where the types are accessible and their identity can be clearly established, the law of priority should be adhered to. The authors of the Munich Catalogue have adopted this course.

the name of »*Trichius*" *quadrilineatus*. The original specimens from Major Hardwicke's collection are in the British Museum, and one of them, bearing Hope's label and evidently the specimen which served as his type, is an example of a common Indian species, in which the usual red ground color of the elytra is entirely replaced by black; this has enabled me to determine without doubt as to which species the name of *quadrilineata* should be applied.

The second species is the *quadrilineata* G. & P. (Mon. Cét. p. 321, t. 63, f. 5). Dr. Schaum appears to have first committed the error of regarding this species as identical with *quadrilineata* Hope, with which it has ever since been associated. It is evidently only by accident that Gory adopted the same name (which he ascribes to Drapiez) for his Javan species as had been used two years prior by Hope for the allied Indian species. As it is therefore necessary to rename Gory's species, I have followed the usual practice in such cases in proposing the name of *Goryi* for it.

The third species, *scenica* G. & P., was considered by Burmeister to be the male of *quadrilineata* G. & P., the similar habitat, resemblance in color and the fact that Gory's types of the two species chanced to be of opposite sexes, are no doubt the reasons that he was led into this error. I had long suspected that the dissimilarity in the clypeus was not merely a sexual character, but we are indebted to Mr. Ritsema for the first discovery and correction of this error (Notes Leyd. Mus. XII, p. 11).

The fourth species is apparently undescribed. I have therefore proposed a name and indicated wherein it differs from *quadrilineata*. I have possessed specimens for some years and have observed it in other collections under that name.

The following are the principal characters by which the four species may be distinguished, after which I have given further details of the points in which they differ, with particulars of their localities as far as they are known to

me. I may mention that besides the secondary sexual characters in the antennae, etc., the males of all the four species have the abdomen furrowed beneath.

1. Clypeus emarginate at the apex.
   A. Antennae in the male very large, the club nearly as long as the head.
      a. Base of thorax moderately lobed, scutellum with an impressed yellow median line . . . . . *quadrilineata* Hope.
      b. Base of thorax strongly lobed, scutellum with yellow marginal line. . . . . *scenica* G. & P.
   B. Antennae in the male with the club much shorter than the head . *virgata* Jans.
2. Clypeus broad and entire at the apex . . . . . *Goryi* Jans.

### 1. *T. quadrilineata* Hope.

This species has the clypeus emarginate at the apex, the club of the antennae very large in the male, the thorax is slightly narrowed at the base and but moderately lobed behind, the scutellum is slightly sulcate with an impressed and punctured yellow median line, the elytra have a strong longitudinal discal carina, the pygidium has only one central linear yellow spot, and the legs are always entirely black.

I have a specimen agreeing with Hope's type in having the ground color of the elytra entirely black, and have seen specimens intermediate between it and the ordinary form. I also have examples in which there are scarcely any indications of the usual black markings. It is represented in most collections and appears to be moderately common in the Himalayan region of India. I have specimens from Nepaul, Darjeeling and Assam. Mr. Doherty has recently taken it in some quantity in N. Manipur.

### 2. *T. Goryi* Jans.

(4-*lineata* G. & P., nec Hope).

This species may be at once distinguished from the other three by its broad, non-emarginate clypeus, the margins are also more reflexed and the punctuation is closer; both the head and thorax are usually red or piceous, and the latter has a distinct elevated median line; the scutellum is sparsely punctured and has no median line; the elytra are more coarsely punctured and have a more strongly raised discal carina than in *quadrilineata*; there is a large round central spot on the pygidium, and in the single male example I have seen, there is an additional small spot on each side as in *scenica*; the tibiae are red or piceous and in some specimens the legs are entirely red; the anterior tibia of the male has no indication of lateral teeth.

Appears to be rare in collections. I possess only two females from Java, the only male I have seen comes from the same Island, and has been kindly communicated to me by Mr. Ritsema, together with two examples of the other sex, one of them taken by Dr. B. Hagen at Tandjong Morawa, East Sumatra.

### 3. *T. scenica* G. & P.

This species differs from *quadrilineata* Hope in having a stronger longitudinal carina on the head, the thorax is more strongly lobed at the base, has a feeble but distinct longitudinal elevation in the centre, and in the male it is evidently broader at the base; the scutellum is flat, without a median line and is margined at the sides with yellow; the elytra are less sulcate at the suture and have a narrower discal carina; the pygidium is usually marked with three yellow spots and is often red at the apex; the underside is often red or yellow in the centre, and the legs almost invariably have the tibiae and tarsi red or piceous or are entirely red or yellow; the mesosternal process

is more compressed and forms an acute carina in front.

I possess both sexes from Batavia, and have examples before me, belonging to the Leyden Museum, likewise from West Java, and collected by Messrs. Blume, Muller, Piepers and Sijthoff. A very pretty pale variety with yellow legs has been sent by Mr. Doherty from Perak.

The black markings on the elytra are very variable in this as well as in the allied species, and are sometimes quite absent; it is this variety that has been described recently by Dr. Kraatz under the name of *rufipennis*, as has been already indicated by Mr. Ritsema. In the female of this species the yellow lines on the thorax are much broader than in the male.

### 4. *T. virgata*, n. sp.

Very similar to *quadrilineata* Hope but larger, head more coarsely and closely punctured, the median carina rather stronger, clypeus deeply emarginate, club of the antennae in the male about half the length of the head, much shorter in both sexes than in *quadrilineata*. Thorax regularly rounded at the sides and distinctly narrowed behind, the basal lobe short and broad, more closely punctured than in *quadrilineata*, the four longitudinal bands broader and more regular. Scutellum black, with a few coarse punctures and an impressed yellow median line. Elytra red with elongate black markings and small yellow spots, more produced and rounded at the apex than in *quadrilineata*, the black portion broader with the yellow spot linear, oblique and further from the apex than in that species. Pygidium coarsely rugulose, black with a narrow yellow central line. Underside and legs black or piceous with broad yellow markings, mesosternal process broader and more obtuse than in *quadrilineata*. — Length 18—19 mm.

India; Mungphu and Darjeeling. In my collection and the Indian Museum.

*T.* (*Euselates*) *magna* Thoms., from Cochin China, is only known to me by the very imperfect description; it would appear to be allied to *virgata* but to differ in the markings of the elytra and in having four spots on the pygidium; the form of the clypeus is not mentioned.

*T. quadrivittata* Schaum, from Ceylon, belongs to the same group as *quadrilineata*, but is very distinct and is too well-known to need description here.

London, February 1892.

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# NOTE XVII.

## A NEW SPECIES OF THE STAPHYLINID GENUS TRYGAEUS

DESCRIBED BY

**D. SHARP.**

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*Trygaeus javanicus*, n. sp.

*Niger, nitidus, convexus, antennarum apice ferrugineo, tarsis rufis; prothorace inaequali, dense fortiterque punctato; elytris profunde sulcatis, interstitiis convexis, parum latis.* — Long. 6 millim.

Head with the upper surface somewhat uneven, rather closely and finely, but irregularly, punctate, scarcely shining. Antennae reaching backwards slightly beyond the base of the thorax; piceous-black, at the base with five joints free from sensitive pubescence and therefore somewhat shining; the joints from this to the extremity are somewhat broader, the penultimate joint being scarcely so long as broad, they are densely pubescent, and the terminal joint — as also the apex of that preceding it — is ferruginous. The thorax is strongly transverse, and very convex in the transverse direction; it is strongly narrowed in front, the sides are somewhat irregular in outline, and are a little rounded and very slightly contracted behind near the hind angles; the base is deeply sinuate on each side of the middle, and also less deeply emarginate in the middle in front of the scutellum; the surface is uneven, bearing several rather indefinite impressions, it is glabrous, and is rendered rough by a deep, coarse punctuation which is somewhat irregularly distributed, the punctures being in some places nearly confluent:

the lateral raised margin ceases entirely at about one-third of the length in front of the base. The scutellum is large and quite smooth and shining. The elytra are scarcely twice as long as the thorax; they are very deeply sulcate, the interstices being strongly elevated and rather narrow, the grooves are somewhat indistinctly crenate. The legs are piceous-black, the sulcation of the tibiae is very distinct.

One specimen found on Mount Poentjak in West Java by Mr. J. D. Pasteur, and belonging to the Leyden Museum.

This species is somewhat closely allied to *T. princeps* m. [1]) but is narrower, and is more densely sculptured, has deeper sulci on the elytra, with narrower interstices; the outline of the prothorax is more irregular, and its sides are less explanate.

Although an insect of small size, the discovery of this species of *Trygaeus* in the island of Java is of considerable interest, as the genus is a very peculiar one, and hitherto has only been found in Japan, where it is represented by a single species. The idea seems to be prevalent in many minds that the insect-fauna of Japan is more similar to that of the Palaearctic region than to that of the Oriental region. I am myself inclined to think that this will not prove to be truly the case, and that when we know as much of the fauna of the east as we do of that of Europe, the insects of Japan will be found to belong in greater part to the former fauna.

Cambridge, 12th February 1892.

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1) Trans. Ent. Soc. London, 1874, p. 420. — Ann. and Mag. of Nat. Hist. (6) III, 1889, p. 467. — Aid Ident. Ins. Pl. 133, fig. 3.

# NOTE XVIII.

## ON A NEW SPECIES OF BATRACHOSTOMUS

BY

**ERNST HARTERT.**

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When in February, on my return from London to Frankfurt, I visited the Leyden Museum, I had — through the liberality of the Director and the kindness of my friend J. Büttikofer — the opportunity of examining the collection of Cypselidae, Caprimulgidae and Podargidae in the Museum, and among them the unique specimen of *Caprimulgus binotatus*, Bp. Consp. I and Hartl. Orn. W. Afr., a most singular and distinct species, which has no near ally.

In a not yet revised lot of Podargidae I noticed a specimen of *Batrachostomus*, collected by Horner in the province of Padang in W. Sumatra in 1837. The label which is attached to the stand of the specimen bears the name of *Podargus poliolophus* Temm. n. sp. This name however seems to be unpublished, but the bird is totally different from all the species of the genus which have been described until now. I give the following description of it.

*Batrachostomus poliolophus.*

*Female.* Top of the head, back and rump bright cinnamon-rufous, a white collar formed by white bands across the feathers on the hind neck; scapulars with large white spots, encircled by a brownish black line; wing-coverts cinnamon-rufous with white tips; outer webs and tips of

inner webs of primaries pale cinnamon, inner webs dusky; secondaries similar in colour, innermost ones uniform cinnamon; rectrices cinnamon, lateral ones with distinct whitish spots to the tips; feathers of the lower parts pure white, dusky at lowest bases and margined with rufous, narrower on the feathers of the throat, much broader and darker on the breast; lower wing-coverts brown and white; elongated feathers and bristles of the ear-tufts and above the bill and on the chin extremely long, longest 1.5 inches in length. Total length nearly 9 inches, wing 5.3, tail 3.8, culmen 0.8, tarsus 0.55, width of gape 1.2.

*Habitat.* Padang, Sumatra (Leyden Museum).

The specimen is apparently in perfect plumage, only the somewhat fluffy under tail-coverts indicate that it is a younger specimen and, judging from analogies, the whitish tips to the rectrices are remains of immaturity.

This species has the long ear-tufts and tuft-bristles as *B. hodgsoni* from the Himalayas, but it is easily distinguished from it by the spotted wing-coverts, whiter lower parts and unbarred rectrices. It agrees with *B. stellatus* in the spotted wing-coverts, but it is distinguished from it by the white abdomen and unbarred tail as well as by the long tufts and tuft-bristles.

Frankfurt a/Main, February 1892.

# NOTE XIX.

## UEBER DIE ARTEN UND DEN SKELETTBAU VON CULCITA

VON

**Dr. CLEMENS HARTLAUB.**

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»The variability of the forms of the genus Culcita is obviously very great and a careful revision of the species with the aid of a large number of specimens is a pressing necessity".

BELL, 1887. l. c.

(Tafel 1 und 2).

Das Genus *Culcita* Agass. zählt durch die merkwürdige Form und die ansehnliche Grösse seiner Arten zu den interessantesten Asteriden, und gut conservirte Exemplare davon gehören zu den Zierden unsrer Museen. Um so bedauerlicher erschien es mir, als ich vor einiger Zeit den Versuch machte die von Prof. Brock in Amboina und Pulo Edam (Java) gesammelten Stücke zu bestimmen, dass die Determination der Species, wollte man sich nicht mit blossen Muthmassungen begnügen, trotz der sehr geringen Zahl von Formen, fast zu den Unmöglichkeiten gehörte. Die Ursache hiervon war der fast gänzliche Mangel an Abbildungen und genügenden Beschreibungen. Die Müller-Troschel'schen Diagnosen von *C. novae guineae*, *grex* und *coriacea* waren, gegenüber der ungemeinen Variationsfähigkeit der Arten, ganz unzureichend geworden; ebenso ungenügend war Gray's Beschreibung von *C. pentangularis*, und die natürliche Folge davon wurde eine merkliche Unsicherheit bezüglich dieser Arten in der späteren Litteratur. Die einzigen sicher bestimmbaren Species waren die vortrefflich abgebildete *C. schmideliana* Retz. (Schmidel l. c.) von der africanischen Ostküste und *C. veneris* Perr. von St. Paul, die sehr abweichende Charaktere hat.

Um dem besagten Uebelstande abzuhelfen beschloss ich

die photographische Aufnahme, wenn möglich sämmtlicher Typen, und zunächst einen Besuch im Leydener Museum, welches mehrere Müller-Troschel'sche Originale besitzt. Den Herren, welche mich dort liebenswürdiger Weise unterstützten, besonders Herrn Dr. Horst, meinen besten Dank! dem Director der Sammlung, Herrn Dr. Jentink, bin ich ausserdem für die Gewährung einer Doppeltafel sehr verpflichtet. Was ich im Leydener Museum feststellen konnte, möchte ich mir erlauben an dieser Stelle zu veröffentlichen, in der Hoffnung damit dem Bestimmer von *Culcita*-Arten die Arbeit bereits zu erleichtern und um Directoren von Museen anzuregen mich für die Fortsetzung meiner Studien mit Material, resp. durch Mittheilung von Fundorten zu unterstützen. Diese kleine Publication ist nur eine vorläufige und macht keinen Anspruch auf abschliessende Resultate; ihr wird, wie ich hoffe, eine zusammenfassende Darstellung mit der Reproduction des für die Arten und zahlreichen Variationen äusserst interessanten Photographieen Materials folgen. Ein ähnliche Bearbeitung habe ich auch für das artenreichere Genus *Pentaceros* begonnen, für welches sich der Mangel an Abbildungen nicht minder fühlbar macht. Im Anschluss an die Besprechung der Arten, möchte ich sodann einige Beobachtungen über das Skelett der Gattung bringen.

Es wird wenige Seesterne geben, die so ausserordentlich zu individueller Abänderung neigten, wie grade *Culcita*. Nehmen wir beispielsweise die bekannte *C. schmideliana* Retz., so wäre Nichts einfacher als zwei Exemplare von ihr herauszugreifen, die der Nichteingeweihte für verschiedene Species erklären würde. Ich erwähne nur das auf Taf. 97 der Encyclopédie méthodique abgebildete Exemplar, welches Müller und Troschel für *C. coriacea* M. T. hielten, während Perrier l. c. 1876 und früher schon Michelin ganz richtig seine Zugehörigkeit zu *C. schmideliana* bestätigten. Während der Besitz sehr grober dicker Rückentuberkel bei der Art normal ist, hat dieses Exemplar fast gar keine, ein kleiner Unterschied, der bei *Culcita* eben

keine Rolle spielt. Auch Folgendes diene als Beispiel: Bei dem von Schmidel abgebildeten Exemplare besitzt die Ventralseite gröbere Granula in kleinen Gruppen, die durch beträchtliche Zwischenräume getrennt sind und Feldern angehören, welche ihrer Lage nach den subcutanen Skelettplatten entsprechen. Ebenso verhält sich ein Zanzibar-Exemplar in Göttingen, bei welchem jedoch die Felderung ganz fehlt. Ein Exemplar von Mauritius jedoch, in unsrer Sammlung, zeigt Gruppen von etwa 15 gröberen Granula, und wenig fehlte, so wäre ein Verhalten erreicht, wie es für *C. novae guineae* M. T. characteristisch oder doch sehr häufig ist, nämlich gleichmässige Vertheilung grober Granula über die ganze Bauchfläche mit gänzlich fehlenden oder sich berührenden Gruppen. In der That habe ich im Hamburger Museum ein sehr interessantes Stück gesehen, welches auf der Bauchseite dies letztere Verhalten hat, während seine Rückenseite die typischen Eigenschaften einer *C. schmideliana* besitzt. Leider war der Fundort als »Canton oder Africa" bezeichnet. Welcher Art es angehörte, war durchaus nicht zu sagen, vielmehr schien es darauf hinzudeuten, dass die in ihren Typen so verschiedenen Species *C. schmideliana* und *C. novae guineae* nur locale Varietäten ein und derselben Art seien. Dass die gewöhnlich hochgewölbte letztere Art, freilich wohl in Folge schlechter Conservirung, selbst in Spiritusexemplaren gelegentlich die flache Scheibenform der ersteren haben kann, zeigt ein Hamburger Stück von Java, dass augenscheinlich seiner Form wegen als *C. discoidea* Agass. (= *C. schmideliana* Retz.) bestimmt war, während die Charaktere seiner dorsalen und ventralen Granulirung ganz die von *C. novae guineae* waren [1]).

Man sieht, welche Schwierigkeiten die Gattung *Culcita*

1) Das bei Arten mit normal gruppenbildender Bauchgranulation durch Vergrösserung und gegenseitige Verschmelzung dieser Gruppen, eine vollkommen gleichmässig vertheilte Granulation vorkommen kann, beweist auch ein fälschlich als *C. coriacea* M. T. bestimmtes Exemplar von Mauritius im Berliner Museum, welches ich zu meiner neuen Art *C. plana* rechnen möchte. vergl. pag. 86.

dem Systematiker bereitet, und wie interessant sie durch ihre vielfachen Variationen ist. Wollte man den Versuch machen ganz zuverlässige Speciescharaktere für sie aufzufinden, so würde dies, wie ich glaube, in den meisten Fällen ein vergebliches Bemühen sein. Fast alle sind mehr oder weniger variabel. Besonders gilt das für die ventrale und dorsale Granulation, die als ein Hauptmerkmal in den Beschreibungen herangezogen wird. Für die ventrale Granulirung wurde bereits *C. schmideliana* als Beispiel angeführt. Ein andres bietet unsre neue *C. plana* die vielfach mit *C. novae guineae* M. T. verwechselt worden ist, weil ein Exemplar von ihr fälschlich als solche bestimmt, im Leydener Museum ausgestellt war (vergl. pag. 85). Bei dieser Species liegen zwischen der feinen Grundgranulation der Bauchseite meistens grössere, unbestimmt begrenzte Gruppen etwas gröberer Körner, ihrer Lage nach den äusserlich schwach angedeuteten Feldern der ventralen Skelettplatten entsprechend. Sowohl das Leydener Neu Guinea-Exemplar als eins von Amboina und eins von den Philippinen zeigen dies Verhalten, dagegen hat ein Stück von den Viti Inseln im Hamburger Museum derartige Gruppen nur in der oralen und ambulacralen Umgebung und zwar nur spärlich und kaum auffallend; ein grosser Theil der Bauchseite aber ist gleichmässig ganz fein granulirt und nähert sich damit dem für *C. grex* M. T. eigenthümlichen Verhalten. Eine nicht seltene Abänderung der ventralen Granulation scheint die zu sein, dass sie aus der gewöhnlichen stumpf abgerundeten Form in eine spitzdornige übergeht. Das zeigt unter andern die vortreffliche Schmidel'sche Abbildung von *C. schmideliana* Retz., wo die sehr groben ventralen Tuberkel in der oralen und ambulacralen Region entschieden dornartig sind; ebenso kann bei *C. novae guineae* die ihr eigenthümliche sehr grobe dichte perlartige Granulation dornförmig umgestaltet sein; eine ähnliche Umgestaltung beobachtete ich bei *C. arenosa* Perr. für die äussere Ambulacralbewaffnung, die bei einem Göttinger und Stuttgarter Exemplare von den Sandwich

Inseln aus einer Doppelreihe starker stumpfer Kegel besteht. Umgekehrt können aber die groben Granula auch die Form polygonaler Platten annehmen, so bei dem Pulo Edam-Exemplare in Göttingen, und einem ebenfalls Javanischen Stücke dieser Art in Hamburg. Dann kommt es bei *C. novae guineae* sogar zu einer gewissen Gruppenständigkeit der groben Granula, so dass die Ventralseite ein von dem typischen sehr verschiedenes Aussehen bekommt.

Für die dorsale Granulation gilt eine nicht minder grosse Variationsfähigkeit. Erwähnt wurde, dass die sehr groben, zwischen den Porenfeldern stehenden, kegelförmigen Rückentuberkel von *C. schmideliana* manchmal in ziemlicher Menge auftreten, manchmal dagegen gänzlich fehlen. Aehnlich variirt die Rückenseite van *C. novae guineae*; bei dieser durch ihre meistens hochgewölbten Form kenntlichen Art, ist die grobe Tuberculirung des Rückens viel schwächer als bei jener Species und dabei meistens differenzirt in feinere Dornen, welche auf den Porenfeldern stehen und in gröbere, die auf die Zwischenräume vertheilt sind. Bei dem Göttinger Exemplare von Pulo Edam und einem von Prof. Hubrecht bei Padang gesammelten fehlen jedoch die kleineren Dornen gänzlich. Andrerseits kommen Individuen vor, die durch ganz besonderen Reichthum und durch gleichmässigere Grösse und Vertheilung der Dornen sich auszeichnen, wie z. B. ein Stück der Bremer Sammlung aus dem »Indischen Meere" und eins von den Viti Inseln im Hamburger Museum, bei denen dichte Vertheilung und Stärke der dorsalen Dornen sehr bedeutend sind, und wo namentlich die gewöhnlich spärlicher und schwächer tuberculirten Seitenflächen sowohl auf den Porenfeldern als auf ihren Zwischenräumen von spitzen Dornen der gröbsten Sorte dicht übersät sind, die ohne Unterbrechung allmählig in die grobe Granulirung der Bauchfläche übergehen.

Nicht minder schwankend sind die Verhältnisse der dorsalen Porenfelder. Bei *Culcita veneris* Perr. und wahrscheinlich auch *C. coriacea* M. T. sind die Poren

gleichmässig über die ganze Rückenfläche vertheilt, bei den übrigen Arten liegen sie in mehr oder minder rosettenständigen Feldern angeordnet. Bei letzteren sind die individuellen Abstufungen in der Grösse und Form dieser Felder und in dem Grade, bis zu welchem diese untereinander verschmelzen können, sehr mannigfach. Das Original Exemplar von *C. novae guineae* z. B. besitzt grosse, dreieckige, dicht in Rosetten zusammengruppirte, nur an wenigen Stellen verschmolzene Porenfelder. Ihm gleicht darin ein Exemplar von Amboina in Göttingen; dagegen hat eins von Pulo Edam rundliche, viel weitläufiger stehende Porenfelder; bei dem Hubrecht'schen von Padang sind sie ausserdem viel kleiner und bei dem Stücke der Bremer Sammlung aus dem Ind. Ocean sind sie an vielen Stellen miteinander verschmolzen. Keines dieser Exemplare gleicht dem andern, und rechnet man nun die ebenso variable Tuberculirung des Rückens hinzu, so kann man sich von dem verschiedenartigen Totaleindrucke aller dieser Indivuduen einen Begriff machen. Auch in ihrem Verhalten auf den Seitenflächen ändern die Porenfelder bedeutend ab. Bei manchen der *C. novae guineae* Exemplare greifen sie fast auf die Bauchfläche über, bei andern dagegen, z. B. dem von Padang, befindet sich zwischen Bauchfläche und der unteren Grenze der Porenfelder ein 10 mm. breiter Zwischenraum von feiner Granulirung, mit einzelnen zerstreut stehenden sehr groben Dornen.

Nicht besser fährt man, wollte man etwa auf die Eigenschaften der Ambulacralbewaffnung besonderes Gewicht legen. Die Inneren Furchenpapillen, die in Gruppen von durchschnittlich etwa fünfen stehen, sind bei ein und derselben Art bald fein stäbchenförmig, bald mehr grob keulenförmig, bald gleich von Länge, bald ungleich. Sichere Speciescharactere bieten sie kaum; nur die merkwürdige *C. veneris* soll Gruppen von zwei, höchstens drei inneren Furchenpapillen besitzen, was, wenn constant, allerdings eigenartig wäre. Dass die Stäbchen einer Gruppe auf der der Rinnenwand zugewendeten Fläche, bis auf

ihr distales Ende häutig mit einander verbunden sind, scheint eine ziemlich allgemeine Eigenschaft zu sein; auch ist der untere Theil dieser Fläche an die Rinnenwand selbst angewachsen, wie ich mich an dem Exemplar von *C. grex* M. T. (Moluccen) im Leydener Museum und bei *C. novae guineae* überzeugte.

Mehr noch als die inneren variiren die äussern Furchenpapillen. Ein gutes Beispiel hierfür ist ein Exemplar von *C. plana* Nob., das Prof. Semper auf den Philippinen sammelte. Bei ihm ist die Bewaffnung mehr oder minder triplacanthid, und zwar besteht die mittlere Reihe aus ganz ähnlichen Papillengruppen wie die innerste, während bei andern Exemplaren der Species eine derartige Aehnlichkeit fehlt. Ein andres Beispiel bietet, wie schon erwähnt wurde, *C. arenosa*. Wie bei ihr können auch bei *C. schmideliana* die äusseren Furchenpapillen dornartig werden, was die erwähnte Abbildung des in dieser Hinsicht ganz abweichenden Schmidel'schen Originals zeigt. Sehr vielfältig ist auch bei *C. novae guineae* die äussere Bewaffnung. An dem Göttinger Exemplare von Pulo Edam würde man die »Reihe dickerer Papillen, von denen je zwei auf eine Platte kommen" (M. T. l. c.) vergeblich suchen. Hier haben sie durchaus den tafelartigen Charakter der übrigen ventralen Granula, vor denen sie in keiner Weise ausgezeignet sind. Ebenso wenig sind die äusseren Furchenpapillen des Hubrecht'schen Exemplares von Padang im Vergleich mit der groben Granuliring der Ventralplatten irgendwie differenzirt.

Trügerisch als Kennzeichen ist auch der Besitz oder Mangel von ventralen mehr oder minder scharf begrenzten sechseckigen Feldern, die ihrer Lage nach den subcutanen Skelettplatten entsprechen. Bei *C. schmideliana* z. B., wo derartige Felder die Regel sind, können sie auch gänzlich fehlen. Für *C. novae guineae* ist im Gegentheile der Mangel von Felderung typisch, doch hat das Hubrecht'sche Exemplar solche stellenweise entwickelt und die ganze Bauchseite mit Reihen von seitlich scharf begrenzten

Feldern bedeckt, die nur einer Abtrennung durch Querfurchen ermangeln. Ein mittelgrosses Exemplar von Pulo Edam in Göttingen, hat sogar die ausgeprägteste Felderung, die ich je bei einer Culcita gesehen habe. Bei ihr sind nämlich die mit platter, polygonaler grober Granulation dicht bedekten, sanftgewölbten, scharfumgrenzten Felder durch etwa 1 mm. breite Züge einer ebenfalls groben Granulation getrennt, wodurch die ganze Bauchseite sehr schön gemustert erscheint (vergl. pag. 83).

Bell giebt für seine *C. acutispinosa* als Hauptmerkmal an, dass die Enden der Ambulacralrinnen sich bei ihr unter dem Niveau der dorsalen oder abactinalen Fläche befänden. Doch auch dies Kennzeichen dürfte schwerlich zuverlässig sein, denn zwei Exemplare von *C. novae guineae* in unserem Museum zeigen das gleiche Verhalten, in sofern man bei einer Betrachtung von der Rückenseite die Enden der Rinnen nicht wahrnimmt. Auch sind die fünf Rinnen des einen Stückes von ziemlich ungleicher Länge. Auch hat Bell 1887 l. c. eine *C. schmideliana* von den Andamanen beschrieben, bei welcher »the apices of the ambulacra just touch the equator, so that R is almost exactly equal to r''.

Für alle eben besprochenen Eigenschaften lassen sich in der Mehrzahl der Fälle wohl gewisse Regeln aufstellen, aber kein beständiges Verhalten nennen. — Das beste Criterium dürfte noch die allgemeine Körperform abgeben, welche zum grossen Theile abhängt von der Festigkeit des Skelettes und dem Gehalt des Integumentes an kalkigen Bestandttheilen. Ganz weich ist, wie bereits erwähnt wurde, *C. veneris* Perr. von St. Paul; ihr am nächsten dürfte *C. grex* stehen, die sich ebenfalls ziemlich weich anfühlt, und deren Haut mit einer so feinen Granulation bedeckt ist, dass man sie wenigstens auf der Rückenseite nicht mehr mit blossem Auge erkennen kann (s. Taf.). Letztere Art wird sich wohl in ihrer Form ähnlich verhalten wie *C. veneris* Perr., von welcher der Autor 15 mm. Dicke angiebt, »lorsque l'animal a expulsé l'eau, qui

remplit habituellement sa cavité générale, mais pouvant passer à une forme presque sphérique lorsqu'au contraire la cavité générale est gonflé par l'eau de mer ce qui est le cas le plus habituel." Einen Gegensatz zu derartigen Formen bildet *C. novae guineae*, deren hochgewölbte Körper an allen gut conservirten Stücken, die ich sah, von durchaus starrer Form waren, und deren festes Skelett dann ein Zusammendrücken des Körpers wenig oder garnicht zuliess. Flache Körperform besitzt *C. arenosa* Perr., ferner *C. plana* Nob., *C. acutispinosa* Bell., und in der Regel auch *C. schmideliana*, wenigstens habe ich keine gewölbten Exemplare von ihr gesehen.— Für *C. novae guineae* scheinen auch Convexität der Körperseiten und abgerundete Ecken charakteristisch zu sein.

Ich möchte nun die einzelnen Formen, soweit sie durch eigne Anschauung zu meiner Kenntniss gelangt sind, besprechen und vor Allem die M. T. Originale des Leydener Museums näher beschreiben. Was *C. arenosa* Perr. betrifft, bin ich in der Lage auf einen Irrthum aufmerksam machen zu können, den nach eignen brieflichen Zugeständniss des Autors die Original Beschreibung enthält. Schliesslich möchte ich das Skelett der Gattung kurz erörtern, von dessen Verhalten die Viguier'schen Beschreibungen und Figuren (l. c.) leicht eine falsche Vorstellung erwecken könnten.

Ich schicke der Beschreibung der einzelnen Arten eine Uebersicht derselben voran, so gut sie sich augenblicklich geben lässt. Eine genauere Kenntniss der in England befindlichen Originale von *C. pentangularis* Gray und *C. acutispinosa* Bell fehlt mir zur Zeit noch und dürfte vielleicht spätere Aenderungen nothwendig machen. Weder die eine noch die andre Art scheint mir berechtigt zu sein.

### Uebersicht der Culcita-Arten.

A. Körper weich, sämmtliche äussere kalkige Ornamente, incl. Ambulacralbewaffnung, von Haut bekleidet. . . . 1) *C. veneris* Perr.

B. Aeussere kalkige Ornamente nackt.
I. Keine Porenfelder. Bauchseite grob granulirt. . . 2) *C. coriacea* M. T.
II. Poren stehen in Feldern.
1) Körper meist hart und hoch gewölbt, von etwas abgerundetem Umriss. Bauchseite grob granulirt 3) *C. novae guineae* M. T.
2) Körper gewölbt, ziemlich weich, überall äusserst fein granulirt . . . . 4) *C. grex* M. T.
3) Körper scheibenförmig.
*a*) Ende der Amb. Rinne nicht auf die dorsale Fläche übergreifend. Bauchfläche grob granulirt. . . . . 5) *C. acutispinosa* Bell.
*b*) Enden der Amb. Rinne greifen auf den Rücken über.
*α*) dorsale Tuberkeln in form kleiner Dornen.
1) ohne ventrale Gruppen gröberer Granula . . . 6) *C. arenosa* Perr.
2) mit Gruppen gröberer Granula auf der Bauchseite. Gruppen innerhalb scharf conturirter sechseckiger Felder. . . 7) *C. pentangularis* Gray.
Gruppen nicht innerhalb scharf begrenzter Felder . 8) *C. plana*, n. sp.
*β*) dorsale Tuberkeln in

| | |
|---|---|
| Form plumper grober Kegel, die vorwiegend auf den porenfreien Räumen stehen. Grobe ventrale Granula in Gruppen . . . . | 9) *C. schmideliana* Retz. |

Uebersicht ueber die Geographische Verbreitung.

Indischer Ocean: *C. schmideliana*, *C. coriacea*, *C. pentangularis*, *C. veneris*. *C. novae guineae?*

Indischer Archipel: *C. novae guineae*, *C. grex*, *C. arenosa*, *C. plana*.

Stiller Ocean: *C. novae guineae*, *C. pentangularis*, *C. arenosa*, *C. acutispinosa*, *C. plana*, *C. schmideliana??*

| *C. schmidel.* | *C. coriacea.* | *C. veneris.* | *C. pentang.* | *C. plana.* |
|---|---|---|---|---|
| Ind. Oc. | Ind. Oc. | Ind. Oc. | Ind. Oc. Pac. Oc. | Ind. Oc. Pac. Oc. |

| *C. nov. guineae.* | *C. grex.* | *C. arenosa.* | *C. acutisp.* |
|---|---|---|---|
| Ind. Arch. Pac. Oc. | Ind. Arch. | Ind. Arch. Pac. Oc. | Pac. Oc. |

Fundorte der einzelnen Arten:

*C. schmideliana* Retz.: Zanzibar, Moçambique, Madagascar (Paris), Mauritius, Ceylon, Andamanen, Java?, Tropisches Australien (fide Bell [1]), Galapagos??

*C. coriacea* M. T.: Rothes Meer, Moçambique (fide Peters, v. Martens).

*C. veneris* Perr.: St. Paul.

*C. pentangularis* Gray: Moçambique (fide Perrier, im Mus. Cambridge Mass.), Torres Str. (Typus), Viti Inseln (fide Perrier, Mus. Paris).

*C. plana* Nob.: Mauritius, Amboina, Philippinen, Neu Guinea, Viti, Samoa.

*C. novae guineae* M. T.: Mascarenen (fide Perrier), Padang, Java, Pulo Edam, Amboina, Neu Guinea, Neu Hannover, Marshall Ins., Viti Inseln.

1) Bell, 1884, l.c. p. 173.

*C. grex* M. T.: Moluccen, Andamanen? (fide Bell l. c. 1887).
*C. arenosa* Perr.: Amboina, Ceram Laut, Sandwich Inseln (Typus).
*C. acutispinosa* Bell: Neue Hebriden.

Das Vorkommen von *C. schmideliana* auf Java und im Pacif. Ocean kann ich einstweilen nicht für sicher halten, da wenigstens die von mir gesehenen und so bestimmten Exemplare von Java sich bei näherer Betrachtung als *C. novae guineae* erwiesen (vergl. pag. 67). Nach Gray [1]) soll die Art sogar durch den ganzen Stillen Ocean bis zu den Galapagos (Lord Hoods Island) verbreitet sein, was jedoch Sladen als »perhaps doubtful" bezeichnet.

Sehr weite Verbreitung hat *C. novae guineae*, namentlich, wenn es sich bewahrheiten sollte, dass diese Species mit *C. pentangularis* identisch ist (Sladen, Chall. Rep. p. 352). Ihr Gebiet würde dann von den Viti Inseln bis Moçambique reichen.

Dass die bisher nur von den Sandwich Inseln bekannte Art *C. arenosa* Perr. sich in das Gebiet des Indischen Archipels erstreckt, ist von Interesse.

Unsre neue Art *C. plana*, die zweifelsohne von *C. novae guineae* streng zu unterscheiden ist, theilt nichtsdestoweniger deren Verbreitungsgebiet. Ein als *C. coriacea* M. T. bestimmtes von de Robillard gesammeltes Mauritius-Exemplar in Berlin ist zu dieser Art zu rechnen.

Sehr selten und beschränkt in ihrem Vorkommen ist, wie es scheint, *C. grex* M. T. Ausser den Leydener Exemplaren sollen nach Perrier drei trockne Exemplare im Pariser Museum sein, deren Fundorte jedoch nicht feststehen.

Da sich manche Arten in ihrer Verbreitung durchaus nicht ausschliessen, so geben die Fundorte einen nur sehr unsicheren Anhaltspunct für die Bestimmung. Auf Amboina allein kommen z. B. 3 Arten vor.

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1) Gray, Synopsis, 1867, p. 5.

SYNONYME.

*C. discoidea* (Lam.) Agass. = *C. schmideliana* Retz.
*C. pulverulenta* (Val. M. S.) Perr. = *C. novae guineae* M. T. (fide Perrier).
*Randasia spinulosa* Gray = *C. coriacea* M. T.
*Randasia granulata* Gray = *C. pentangularis* Gray.
*Randasia luzonica* Gray = ?

Perrier hielt *Randasia spinulosa* für ein junges Exemplar von *C. grex* M. T., doch zeigt sie mit dieser keine Aehnlichkeit. Uebrigens wies auch Perrier schon auf die Möglichkeit einer Beziehung zu *C. coriacea* hin.

*C. novae guineae* M. T. 1842, l. c.

Original Beschreibung: »Körper fünfeckig, selten sechseckig. Gestalt und Verhältnisse wie beim vorigen (*C. coriacea*). Furchenpapillen gross, vorstehend, fünf auf jeder Platte, eine etwas schräge Reihe bildend, die mittlere etwas höher. Dicht neben diesen Furchenpapillen eine Reihe kürzerer, dickerer, von denen je zwei auf eine Platte kommen. Grössere niedrige Knötchen auf der Bauchseite zwischen der feineren Granulation stehen dicht, werden jedoch an den Seiten des Körpers seltener und höher. Mitten auf den Seitenflächen beginnen plötzlich sehr grosse Porenfelder mit vielen Poren und kleinen stachelartigen Tuberkeln. Auf den Räumen zwischen den Porenfeldern stehen einzelne etwas grössere stachelartige Granula zerstreut. Porenfelder wie Zwischenräume überall granulirt. Pedicellarien sind nicht beobachtet.

Grösse bis 10 Zoll.

Fundort: Neu Guinea. Im Museum zu Leyden durch Salomon Müller."

Unser Göttinger Museum besitzt ein Exemplar von Amboina, 1864 durch Bleeker gesammelt, welches als *C. novae guineae* M. T. bestimmt war. Wie ich jedoch dasselbe mit der Beschreibung sorgfältig verglich, fiel mir auf, dass es in Reihen stehende Gruppen gröberer Granula auf der Bauchseite besass, und dass seine Porenfelder nicht gross, sondern im Gegentheil relativ klein waren. Als ich kurze Zeit darauf nach Hamburg kam, fand ich ein ganz ähnliches Stück von Samoa mit derselben Be-

stimmung, und als ich später Leyden besuchte, fand ich auch hier ein von Neu Guinea stammendes durch Salomon Müller gesammeltes und in Spiritus vortrefflich conservirtes Exemplar, welches als *C. novae guineae* M. T. bezeichnet war und den beiden Stücken des Göttinger und Hamburger Museums vollkommen glich; offenbar hatte es für die Bestimmung dieser als Vorbild gedient. Da es aber, wie sich bald heraus stellte, augenscheinlich nicht das Exemplar ist, welches den Autoren der Species zum Typus diente, sondern vielmehr zweifelsohne einer andern Art angehört, so frägt es sich, ob von Seiten späterer Autoren das erwähnte Spiritus Exemplar in Leyden als Typus aufgefasst würde oder aber das richtige Original Stück, welches trocken conservirt und in einem Auszuge aufbewahrt gewesen ist. Ich möchte auf Grund des Hamburger und Göttinger Stückes das erstere für wahrscheinlicher halten. Dann würde es mir erklärlich sein, warum Sladen in seinem Challenger Report sagt, er sei nach sorgfältiger Prüfung nicht im Stande *Culcita pentangularis* Gray von *C. novae guineae* zu unterscheiden. Mir scheint in der That auch das fälschlich als *C. novae guineae* bestimmte Spiritus Exemplar in Leyden grosse Aehnlichkeit mit der Gray'schen Species zu haben, obwohl ihr die bei letzterer vorhandene sechseckige Felderung fehlt, doch wage ich ohne den Gray'schen Typus gesehen zu haben nicht den Pseudo-typus von *C. novae guineae* mit ihr zu identificiren; ich ziehe es vor letztere Art auf die Gefahr hin sie später wieder einziehen zu müssen, unter neuem Namen zu beschreiben. Leider ist in der spärlichen Litteratur über die Gattung ein sicheres Urtheil über die von einem Autor besprochene Art in den seltensten Fällen zu gewinnen, wenn man von der einzigen durch gute Abbildungen bekannt gewordenen *C. schmideliana* absieht. Ganz unsicher scheint z. B. Perrier gewesen zu sein. Der Mangel von Abbildungen macht sich ausserordentlich fühlbar. Die Bestimmungen scheinen überall auf gut Glück und nach den Fundorten gemacht zu sein, jedoch selten

auf Kenntniss der Originale oder auf Grund guter Beschreibungen. Letztere fehlten eben bislang gänzlich.

Die Gründe, die mich bewegen, das trockne *C. novae guineae* Exemplar als allein gültigen Typus der Art anzusprechen, sind folgende: das Spiritus Exemplar hat einen Durchmesser von 117 mm., ist also um Vieles kleiner als die von den Autoren angegebene Maximalgrösse; es ist ferner kaum anzunehmen, dass die Autoren die Gruppenständigkeit der gröberen Granula auf der Bauchseite sowie die besondere Kleinheit der dorsalen Porenfelder nicht von ihm erwähnt haben sollten; es ist schliesslich sehr wahrscheinlich, dass die Autoren die von Salomon Müller in Spiritus conservirten Stücke nicht gesehen haben, weil sie sonst den Fundort von *C. grex* M. T. nicht als unbekannt angegeben haben würden, denn das Leydener Museum besitzt ein von diesem Reisenden gesammeltes ausgezeichnetes Exemplar dieser Art von den Molucceu, in Spiritus conservirt. Das trockne Exemplar von *C. novae guineae*, welches in seinem Habitus mit dem in Spiritus garkeine Aehnlichkeit hat, misst im Durchmesser 158 mm. (R + r), ist also, zwar grösser wie jenes, doch auch viel kleiner als 10 Zoll. Dennoch müssen wir allein dieses als Original auffassen, denn nur so finden die Worte der Autoren eine Erklärung, wenn sie die Porenfelder »sehr gross" nennen, und wenn sie von der ventralen Granulirung sagen »grössere niedrige Knötchen auf der Bauchseite zwischen der feineren Granulation stehen sehr dicht." Einige Stellen freilich bleiben dennoch dunkel in ihrer Beschreibung: die Worte »selten sechseckig" passen weder auf das eine noch auf das andre Exemplar. Dies und die Grössenangabe beruhen vielleicht auf mündlichen Aussagen des Reisenden. Viel unerklärlicher ist, dass es von der Gestalt heisst »wie beim vorigen." Die hier gemeinte *C. coriacea* ist nach einem allerdings ausgetrockneten Originale des Berliner Museums und andern Exemplaren zu urtheilen, ganz flach, während der Typus von *C. novae guineae* entschieden gewölbt ist, doch ist vielleicht in Betracht zu

ziehen, dass es auch in der Beschreibung von *C. coriacea* »Gestalt und Verhältnisse der vorigen" heisst, und dass hier *C. discoidea* Agass. gemeint ist, von welcher das Leydener Museum ein Original Exemplar von ganz ungewöhnlich hoher Form besitzt. Dieser Art können allerdings schlechter conservirte, gequetschte Stücke von *C. novae guineae* in der Gestalt so ähnlich sehen, dass wie erwähnt wurde, ein Hamburger von Java stammendes Stück offenbar nur seiner Form wegen als *C. discoidea* Agass. bestimmt war. (vergl. pag. 67).

Eine eingehende Beschreibung des von mir als Typus der Art aufgefassten Exemplares anzufertigen ermangelte mir leider bei meinem Leydener Aufenthalte die Zeit. Ich musste mich darauf beschränken dasselbe von der Bauch und Rückenseite zu photographiren und möchte nach den so erhaltenen Bildern und nach etwa einem Dutzend Exemplaren, die ich genau untersuchte, folgendes zur näheren Kenntniss der Species anführen.

Diagnose.

*Gestalt hoch gewölbt, mit convexen Seiten und abgerundeten Ecken. Porenfelder des Rückens rosettenständig, oft gross und polygonal, seltener mittelgross und dann weitläufiger stehend und abgerundet; an den Seiten sehr gross und meist bis an die Ventralkante reichend. Rücken und Seiten bedornt. Dornen der Porenfelder feiner oder fehlend. Bauchseite von einer sehr groben, dichtstehenden, selten gruppenständigen Granulation bedeckt, deren Charakter von einem polygonalplattenförmigen bis zu einem dornförmigen variirt. Dazwischen eine feine Grundgranulirung. Innere Furchenpapillen kräftig, in Gruppen von 3—6, meist 5. Aeussere Bewaffnung, wenn deutlich differenzirt, eine einfache oder Doppelreihe grober, manchmal dornförmiger Tuberkel. Kleine Pedicellarien auf den Porenfeldern und der Ventralseite. Madreporenplatte nicht sehr gross, oft von einem Dornenkranze umgeben.*

*Färbung in Spiritus: meist hell grau gelb, seltener hell bräunlich oder weiss.*

*Grösse: bis* 151 *mm. Dm. (R + r).*

*Fundorte: Viti, Marshall Inseln, Neu Guinea, Neu Hannover, Amboina, Java, W. Küste v. Sumatra (Padang). Mascarenen?*

Ich kann in Anschluss an die Diagnose nur empfehlen der weitgehenden Variation der Culciten bei der Bestimmung Rechnung zu tragen. Die geringe von mir gesehene Anzahl von Exemplaren beweist dieselbe in hohem Maasse. Ich kann unter diesem Materiale drei Varietäten unterscheiden:

Die erste ist die Ausbildungsform des trocknen M. T. Exemplares in Leyden, welcher ein von J. Brock auf Amboina gesammeltes schön erhaltenes Spiritus Exemplar unserer Sammlung vollkommen gleicht. Ihnen eigenthümlich sind in der Regel grosse drei, bis sechseckige Porenfelder, die durch schmale, ein Netzwerk bildende, porenfreie Züge getrennt und um grössere porenfreie Stellen rosettenartig gruppirt sind. Auf diesen porenfreien Räumen stehen in kleinen oder mässigen Zwischenräumen ziemlich kräftige Dornen, die aber höchstens ein Drittel so stark sind wie die dicken Rückendornen von *C. schmideliana* Retz. Auf den Porenfeldern stehen in ziemlich der selben Dichtigkeit bedeutend feinere Dornen, die jedoch aus der Granulation derselben deutlich hervorragen. Die ventrale Fläche ist ausser ihrer feinen Grundgranulirung mit einer dichtstehenden sehr groben rundlichen Granulation bedeckt, die keine deutliche Gruppenständigkeit oder gar Felderung zeigt.

Die zweite Varietät ist durch eine besonders dichte Bedornung ausgezeichnet, die namentlich auf den Seiten des Körpers sehr kräftig wird und hier ohne Unterbrechung in die grobe Granulirung der Bauchseite übergeht. Die Tendenz zur Dornenbildung ist so gross, dass an dem Hamburger Exemplar von den Viti Inseln sogar die ganze grobe Ventralgranulation dornigen Charakter hat, incl. der äusseren Ambulacralbewaffnung. Für die Bedornung

des Rückens und der Seiten ist sodann eigenthümlich, dass der Grössenunterschied zwischen den Dornen der Porenfelder und denen der Zwischenräume sehr gering ist, und dass namentlich die grossen Porenfelder der Seitenflächen starke Dornen tragen. Die Porenfelder sind weniger gross als bei der ersten Varietät und neigen sehr zur Verschmelzung. Die grobe Granulirung der Bauchseite ist gleichmässig, aber manchmal weniger dicht vertheilt, ohne Andeutung von Gruppenbildung oder von Zügen. Von dieser Varietät sah ich ausser dem Hamburger Exemplare nur eins im Bremer Museum aus dem »Mare indicum." Beide Stücke zeigen ziemlich zahlreiche kleine Klappen pedicellarien.

Für einen dritten von den beiden bis jetzt beschriebenen ziemlich verschiedenen Habitus sind als Beispiele ein Exemplar von Pulo Edam (Java) und das Hubrecht'sche von Padang zu nennen, beide in Alcohol tadellos erhalten. Ihnen ist eigenthümlich eine spärlichere, aber kräftigere Bedornung des Rückens und der Seiten, die fast ausschliesslich auf die porenfreien Räume beschränkt ist. Die feinere Bedornung der Porenfelder fehlt fast ganz. Die Porenfelder sind von mässiger Grösse und mehr abgerundet. Die Bauchseite ist entsprechend dem Verlauf der subcutanen Plattenreihen mehr oder minder deutlich gefurcht und die grobe Granulation mit Ausnahme der oralen Umgebung in deutlicheren Gruppen gesondert. Diese groben Granula haben bei dem Pulo Edam Exemplare die Form kleiner polygonaler Tafeln, bei dem andern sind sie etwas weniger dicht gestellt und mehr perlartig.

Dass zwischen diesen drei Ausbildungsformen allemöglichen Uebergänge vorkommen, unterliegt kaum einem Zweifel. Schon das Hubrecht'sche Exemplar nähert sich durch den perlartigen Charakter der groben Granulation, und dadurch, dass die groben Granula wohl in scharf getrennten Zügen aber nicht in vollständig gesonderten Gruppen stehen, den beiden andern Varietäten. Ein Hamburger Exemplar von Java dagegen hat ganz die feine polygonale Täfelung und Gruppenständigkeit unsres von Pulo

Edam stammenden Stückes, aber auf der Rückenseite viel dichter stehende Dornen und auch Dornen auf den Porenfeldern.

Ein sehr merkwürdiges mittelgrosses Exemplar von Pulo Edam besitzt die Göttinger Sammlung, welches zu *C. novae guineae* zu stellen etwas gewagt sein dürfte. Ziehen wir indessen in Erwägung, dass es von einem Fundorte stammt, wo diese Art erwiesener Maassen vorkommt, dass es ferner ein jüngeres Exemplar ist, und dass es fast nur durch die höchst eigenthümliche Felderung der Bauchseite abweicht, so werden unsre Bedenken, wenn auch nicht ganz schwinden, so doch wesentlich verringert. Es hat die charakteristische hochgewölbte abgerundete Form unsrer Art. Die Bedornung des Rückens ist die typische, indem sie der des Leydener Originales gleicht, obwohl sie im Allgemeinen etwas schwächer ist. Die Madreporenplatte ist von einem Kranze kräftiger Dornen umgeben. Die Porenfelder sind rundlich und auffallend klein für die Art. Sie erreichen auf den Seitenflächen bei weitem nicht die Ventralkante (was sich indessen auch an ganz zweifellosen Individuen der Species gelegentlich wiederholt). Die grobe Granulation ist in Gruppen gesondert, die ihrer Lage nach den Tafeln des unter der Haut liegenden Skelettes entsprechen. Die Gruppen sind von beträchtlicher Grösse, enthalten etwa 20—25 Granula von der Form kleiner polygonaler Täfelchen und sind im ganzen schwach vorgewölbt. Sie sind von einander durch etwa 1 mm. breite Züge einer mit zahlreichen groben Körnern untermischten Granulation getrennt, welche im Interradius zu einem Doppelstrang zusammentreten. Die die äussere Ambulacralbewaffnung vertretende grobe Granulation der Ambulacralplatten ist perlartig, und sind dadurch die Gruppen von der Ambulacralrinne durch ein ziemlich breites Band von sehr differenten Aussehen getrennt. Da das Exemplar die Bedornungsart des Rückens unsrer ersten Varietät hat, welche auf den Porenfeldern bedeutend feiner ist als auf den Zwischenräumen, dagegen auf der

Bauchseite gruppenständige polygonale Täfelchen besitzt wie das Pulo Edam Exemplar unsrer dritten Varietät, so kann man es als eine Art Bindeglied zwischen beiden auffassen.

Als Hauptmerkmale der Art seien nochmals die grobe Granulation der Bauchseite und für gute Spiritus Exemplare die hoch gewölbte Körperform und die abgerundeten Ecken hervorgehoben.

Die als dritte Varietät beschriebenen Formen mit gruppenständiger grober Bauchgranulirung und mangelnder Bedornung auf den Porenfeldern würden sich bei anatomischer Untersuchung vielleicht als sexuell differenzirt erweisen, sie als eigene Art aufzufassen scheint mir einstweilen nicht geboten.

### *Culcita plana*, n. sp.

*Körper flach scheibenförmig (an jüngeren Exemplaren gewölbter), mit schwach eingebogenen Seiten und vortretenden Ecken. Porenfelder rosettenständig, klein, zahlreich; auch auf den Seiten klein. Bedornung des Rückens fein. Dornen der Porenfelder kleiner als die der Zwischenräume. Bauchseite von feiner Granulation bedeckt, zwischen welcher schwach vortretende Gruppen etwas gröberer Granula stehen, die jedoch nicht auf scharf begrenzten Feldern liegen. Die Gruppen bilden Reihen und entsprechen ihrer Lage nach den subcutanen Skeletttheilen. Innere Furchenpapillen in Gruppen von 5—6 ziemlich gleichmässigen Stäbchen. Aeussere Furchenpapillen in zuweilen ähnlichen, der Rinne parallel liegenden Gruppen von meist drei Tuberkeln, deren Stärke gering ist. Bisweilen eine dritte undeutlich differenzirte Reihe. Manchmal kleine Pedicellarien von der Grösse und Form kleinerer Granula in Menge auf der Bauchseite. Madreporenplatte von einem Dornenkranze umgeben.*

*Färbung in Spiritus: meist weisslich, seltener grau gelb.*
*Grösse: bis* 160 *mm. Dm.*

*Fundorte: Samoa, Viti, Neu Guinea, Philippinen, Amboina, Mauritius.*

Zu dieser Species, gehört das erwähnte, fälschlich als *C. novae guineae* M. T. bestimmte Exemplar des Leydener Museums, welches von Salomon Müller auf Neu Guinea gesammelt wurde. Sie ist möglicher Weise mit *C. pentangularis* identisch; um den Leser darüber das Urtheil zu erleichtern, citire ich hier wörtlich die Gray'sche Beschreibung seiner Art [1]):

»Body pentangular; back flat when dry, convex beneath, minutely and closely granulated, with obscure reticulations, the reticulations armed with small conical tubercles; the interspaces closely and minutely porous. The oral surface protected by distinct well defined ossicula, defining the lower edge of the margin, covered with close and minute granules and larger round topped tubercles, those near the ambulacra and the oral angles being largest and highest. Gray, P. Z. S. 1847, p, 47. Inhab. — Reef of Oomaga."

*C. pentangularis* Gray scheint sich also von unsrer Art dadurch zu unterscheiden, dass ihre Porenfelder keine Dornen tragen und ihre ventralen Granulationsgruppen scharf begrenzt sind. Ich halte es aber auch für möglich, dass beide zu einander in einem ähnlichen Verhältniss stehen wie unsre dritte Varietät von *C. novae guineae* zu unsrer ersten, dass sie also nur eine Art bilden.

Mit *C. novae guineae* hat unsre Species nur in der dorsalen Bedornungsart eine gewisse Aehnlichkeit. Der Bestimmer des Leydener Spiritus-Exemplares hielt dasselbe möglicherweise für ein junges Individuum dieser Art, da seine Grösse, wie die fast aller übrigen Exemplare, die ich sah, ziemlich gering ist (R + r 117 mm.). Dass diese Annahme jedoch durchaus verkehrt gewesen wäre, zeigt ein grösseres Exemplar von den Philippinen im Göttinger Museum, welches in jeder Hinsicht die typischen Merkmale besitzt.

In Bezug auf die ventralen Gruppen etwas gröberer Granula variirt die Art sehr. Diese Gruppen können ganz klein sein und nur aus wenigen, kaum merklich grösseren

1) Synopsis of the Species of Starfish, London, 1866 p. 5.

und lose vereinigten Körnern bestehen, oder aber ziemlich gross und körnerreich sein und sich in letzterem Falle so nähern, dass ihre gegenseitige Abgrenzung verwischter wird. Ohne dass ich derartige Exemplare gesehen habe, halte ich es für wahrscheinlich, dass bei weitergehender Ausbildung im letzteren Sinne auch Stücke vorkommen, die auf der Bauchseite mit einer mässig groben Granulation gleichmässig bedeckt sind. Für ein solches Exemplar halte ich z. B. ein als *C. coriacea* M. T. bestimmtes Stück von Mauritius (Robillard), von dem mir Herr Prof. v. Martens in Berlin auf meine Bitte Photographieen anfertigen liess. Dasselbe gleicht von der Rückenseite durchaus unsrer Art und unterscheidet sich von *C. coriacea* M. T. sehr wesentlich durch den Besitz getrennter Porenfelder. Andrerseits würde das Extrem mangelhafter Gruppenbildung eine ganz gleichmässige sehr feine Granulirung der Bauchseite sein. Das Hamburger Museum besitzt ein Stück von Samoa, bei welchem ein derartiges Verhalten fast erreicht ist.

Sehr characteristisch für die Species ist ferner die äussere Ambulacralbewaffnung, welche der inneren durch ihre in der Richtung der Rinne stehenden Tuberkelgruppen manchmal (Philippinen-Exempl. in Göttingen) in auffallender Weise gleicht.

Ein junges Exemplar von den Viti Inseln im Lübecker Museum unterscheidet sich durch einen gewölbteren Rücken. Die Seiten aber sind eingebogen und die Ecken stark vortretend. Die Gruppen der Bauchseite sind sehr deutlich und vorgewölbt, aber nirgends durch scharfe Furchen begrenzt. Das Exemplar hat einen Durchmesser von 80 mm. (R + r). Die Lage der unteren wie oberen Marginalplatten ist äusserlich noch erkennbar.

Die Porenfelder, auf deren Kleinheit nochmals hingewiesen sei, scheinen ventralwärts niemals über die dorsale Grenze der oberen Marginalplatten hinauszureichen. Die Granulation der Bauchseite kann der von *C. coriacea* sehr ähnlich sehen, bei welcher die gröberen Körner auch ge-

legentlich in undeutlichen Gruppen stehen (trocknes Exempl. im Stuttgarter Museum vom Rothen Meer); in solchen Fällen dürfte jedoch nicht nur die so verschiedene Vertheilung der Poren sondern auch der für *C. coriacea* eigenthümliche Charakter der dorsalen Granulirung sofort entscheidend sein (s. pag. 91).

*Culcita grex* M. T. 1842 l. c. — Taf. 1 und 2.

»Verhältniss des kleinen Radius zum grossen wie 1 : $1^1/_4$. Körper regelmässig pentagonal. Die Furchenpapillen in einer Reihe, 6—7 auf jeder Platte, gedrängt, platt, die Höhe der daneben liegenden Platten nicht erreichend. Die Bauchfläche scheint dicht mit grösseren und kleineren weissen Körnern und Tuberkeln besetzt, ohne dass sich Häufchen grösserer Körner bildeten. Der Rücken scheint glatt und schwarz zu sein. Rundliche oder ovale, sehr grosse Porenfelder, bis 3 Linien lang, erheben sich aus der lederartigen Bedeckung des Rückens und bilden kleine Hügel, welche sehr viele Poren enthalten und mit vielen weissen grösseren und kleineren Körnern bedeckt sind, so dass sie hell gegen den schwarzen Grund abstechen. Die Madreporenplatte ist sehr erhoben und steht auf ein Drittel der Entfernung vom Centrum zum Rande. Klappenartige Pedicellarien von der Grösse der Körner auf der Bauchseite.

Grösse: $5^1/_2$ Zool.

Fundort: unbekannt. In den Museen zu Leyden und Paris." [1])

Diese Beschreibung der Autoren beruht auf einem trocknen Exemplare des Leydener Museums; die Rückenseite desselben ist gut, die Bauchseite aber sehr schlecht erhalten; die häutige Bedeckung der letzteren mit ihrer Granulation ist nur noch an wenigen Stellen erkennbar, worauf die Worte „die Bauchfläche scheint" etc. begründet sind. Das Exemplar ist durch Eintrocknung sehr geschrumpft, und die natürliche Form des Körpers ist durch weites Auseinanderklaffen der Ambulacralrinnen verloren gegangen. Die Beschreibung konnte mithin nur sehr lückenhaft ausfallen, und die Bestimmung danach wird noch dadurch erschwert, dass die Autoren die Porenfelder als sehr gross bezeichnen, während sie in der That, verglichen wenig-

1) Müller und Troschel, „System der Asteriden", 1842, p. 39.

stens mit den Porenfeldern von *C. novae guineae*, eher klein zu nennen sind. Im Pariser Museum scheinen sich nach Perrier mit Sicherheit keine Exemplare als *C. grex* bestimmen und auf die Autoren zurückführen zu lassen, wenngleich Perrier [1]) drei als *C. novae guineae* bestimmt gewesene Stücke auf sie zurückführen möchte.

Das Leydener Museum besitzt zum Glück ein von den Moluccen stammendes von Salomon Müller gesammeltes Spiritus Exemplar, das unzweifelhaft zu dieser Art gehört und auch als solche später bezeichnet wurde. Es ist vortrefflich erhalten und gestattet also unter Berücksichtigung des Typus folgende neue Diagnose aufzustellen:

*Gestalt gewölbt, mit convexen Seiten und abgerundeten Ecken. Porenfelder rosettenständig, rundlich und von mässiger Grösse, an den Seiten länglich und grösser, nicht bis an die Ventralkante reichend, nirgends verschmolzen. Dornen des Rückens sehr fein und auf die Porenfelder beschränkt. Granulirung des Rückens und der Seiten dicht und von ausserordentlicher Feinheit. Granulirung der Bauchseite ebenfalls sehr fein und gleichmässig und, mit Ausnahme einer kurzen Reihe kräftiger Tuberkel auf den an die Adambulacralia stossenden Platten, ohne Gruppen gröberer Granula und ohne Granulationszüge vom Verlaufe der ventralen Ptattenreihen. Innere Furchenpapillen in Gruppen von 4—6; ihnen entsprechend ein, selten zwei kräftige etwas dornartige Tuberkel in der äusseren Waffenreihe. Manchmal »Pedicellarien von der Grösse der Körner auf der Bauchseite". Madreporenplatte von mässiger Grösse.*

*Färbung in Spiritus: einfärbig gelblich weiss.*

*Grösse:* 125 *mm. Dm.*

*Fundort: Moluccen, durch* Salomon Müller *im Leydener Museum.*

Durch das freundliche Entgegenkommen des Herrn Dr. Jentink bin ich in der Lage die von letzterem Exemplar gemachten photographischen Aufnahmen hier publi-

1) Stellerides du Museum: Arch. Zool. exp. 1876, p. 77.

ciren zu können. Leider kann man an denselben selbst auf den schärfer eingestellten Stellen die Granulation des Rückens auch mit der Lupe nicht erkennen, deren ausserordentliche Feinheit die Species von allen andern bisher bekannten auszeichnet. Auch an dem M. T. trocknen Original Exemplare lässt sich dieselbe nicht wahrnehmen, was wohl Folge der Eintrocknung und Verschmutzung ist und die Autoren veranlasste den Rücken als »glatt" zu bezeichnen. Für das unbewaffnete Auge ist diese Bezeichnung übrigens auch auf alle Fälle zutreffend. Im Vergleich mit dem Originale ist sodann hervorzuheben, dass die Bedornung der Porenfelder des Spiritus Exemplares, wo sie nicht ganz fehlt, viel schwächer ist. Die feinen kleinen und ziemlich spärlichen Tuberkel, welche sich hier aus der allgemeinen Granulation abheben, sind kaum Dornen zu nennen. — Das von den Autoren hervorgehobene hügelartige Hervortreten der Porenfelder ist offenbar nur durch Eintrocknung entstanden, ebenso das Vorspringen der Madreporenplatte. An dem Spiritus Stücke ist die Madreporenplatte klein, nicht von Dornen umgeben und kaum irgendwie hervorragend. Ferner ist gegenüber der Originalbeschreibung auf die ganz eintönig gelblich weisse Färbung des Moluccen Exemplares nochmals hinzuweisen. Der Charakter der ventralen Granulation wurde von den Autoren aus den wenigen Resten ihres Exemplars sehr richtig gemuthmasst. Aus der aus »grösseren und kleineren Körnern" bestehenden aber überall sehr feinen Granulation der Bauchseite treten nur eine sehr geringe Anzahl stellenweise paariger grober Tuberkel hervor, welche ihrer Lage nach den an die Adambulacralia stossenden Skelettplatten entsprechen und eine der Rinne parallellaufende kurze Reihe bilden. Pedicellarien nachzuweisen ist mir nicht gelungen. Die inneren Furchenpapillen sind auf der Wandseite durch eine Membran verbunden, die nur das äusserste Ende frei lässt. Was die Gestalt betrifft, so ist dieselbe leider auch am Spiritus Exemplare durch Quetschung sehr geschädigt. Der Umriss ist noch mehr wie bei *C. novae guineae* abgerundet, und der Rücken

scheint gewölbt gewesen zu sein. Das M. T. Original ist sehr instructiv für die Kenntniss des ventralen Skelettes.

*Culcita coriacea* M. T. 1842, l. c.

Der Vollständigkeit halber sei auch von dieser Art die M. T. Diagnose hier wiedergegeben.

»Gestalt und Verhältnisse der vorigen: (*C. discoidea* Agass.). »Furchenpapillen in einer Reihe, 5—7 auf jeder Platte, von denen die mittleren die längsten sind; nach aussen davon dicke Tuberkeln in einer Querreihe auf einer Platte. Sie gehen in die Knötchen der Bauchseite über. In einer feineren Granulirung der Bauchfläche erheben sich wie bei der vorigen Art sehr niedrige stärkere Knötchen, welche nicht in Haufen, sondern entweder zerstreut stehen, oder eine Neigung haben, sich in einfache oder haufenförmige Reihen zu ordnen, welche schief von den Furchen abgehen. An den Seiten und auf dem Rücken werden die Knötchen spitzig und viel kleiner; auch die kleineren Granula des Rückens sind zerstreut und verlängert. Die grossen Tuberkeln der vorigen Art fehlen. Die Pedicellarien haben auf der Bauchseite platte aber wenig breite Arme, so dass sie den Uebergang von den klappenartigen zu den zangenartigen bilden. Auf der Rückenseite und an den Seiten sind sie zangenartig.

Grösse 5½ Zoll, am Rande über 1 Zoll hoch.

Fundort: Rothes Meer. Im Museum zu Berlin durch Hemprich und Ehrenberg. Auch in den Museum von Paris und Bamberg."

Meine Kenntnisse der Art beruhen bis jetzt auf einem trocknen Original Exemplare des Berliner Museums sowie zwei Exemplaren aus dem Stuttgarter Naturalien Kabinet, von denen das eine in Alcohol conservirt ist. Ich bemühte mich an ihnen vergeblich über die Vertheilung der Rückenporen Aufklärung zu gewinnen. Obwohl ich mit Sicherheit überhaupt keine habe entdecken können, ist es nicht wahrscheinlich, dass sie gänzlich fehlen. Sicher ist nur, dass sie nicht in Feldern stehen. Müller und Troschel sagen gar nichts darüber, was auffallend genug ist und de Loriol (s. unten) zu einer ganz irrthümlichen Auffassung veranlasste. An dem Stuttgarter Spiritus Exemplare liessen einige Stellen am Rande des Rückens auf ein Vorhandensein von Hautkiemen schliessen. Da die Rückenhaut aber überall sehr dünn zu sein scheint, so wäre es immerhin denkbar, dass die Athmung auch ohne die Ver-

mittlung besonderer Organe vorsichginge. — Eigenartig ist die dorsale Granulirung. Eine dichte, körnige, feine Granulation, wie sie zwischen den Porenfeldern andrer Arten steht, scheint ganz zu fehlen; dagegen ist der Rücken übersäht von einer Menge getrennt stehender kleiner spitzer Dornen, die an ihrer Basis verdickt sind und hier einen Kranz ganz kleiner Stäbchen tragen. (Aehnliche Dornen findet man auch auf den Porenfeldern von *C. novae guineae*). Auf den Seitenflächen des Berliner Typus von *C. coriacea* stehen viele derartige Dornen, die dicht unterhalb ihrer Spitze etwas verdickt waren und hier eine Art Zackenkrone besassen. — Die Gruppen der inneren Ambulacralpapillen bestehen aus 6—7 Stäbchen, sind aber nicht immer fächerförmig, sondern ihre Höhe nimmt manchmal nach ihrem peripheren Ende hin zu, sodass vom Munde aus gezählt das erste Stäbchen am kleinsten, das letzte am längsten ist. Die äusseren Papillen sind an dem grossen Stuttgarter Weingeist-Exemplare, dessen Durchmesser 170 mm. beträgt, sehr kräftig und stumpf dornförmig. Zangenförmige Pedicellarien stehen nicht nur in Menge auf dem Rücken sondern kommen auch an den Ambulacralrinnen vor (trocknes Exempl. Stuttgart). — Die Madreporenplatte ist klein. — Die Färbung des Weingeist-Exemplares ist dorsal dunkelbraun, ventral hell gelblich braun.

Dass die Species nicht identisch ist mit *C. schmideliana* Retz., wie de Loriol für wahrscheinlich hielt, hat bereits Döderlein durch eine treffende Vergleichung der beiden Arten dargethan. De Loriol glaubte, da die Autoren den Mangel der Porenfelder nicht erwähnten, dass die Species solche besitze und hielt daher Exemplare einer andern Species, die de Robillard auf Mauritius sammelte, für *C. coriacea*. Von diesen sagt er »la face dorsale est toujours couverte de grandes aires porifères limitées par des trabécules". Ich habe durch die Güte des Herrn Prof. von Martens in Berlin die Photographieen eines dieser von de Robillard herstammenden Stücke

erhalten und kann danach, trotzdem auch Studer [1]) die Art von Mauritius anführt, versichern, dass dieselben gewiss nicht zu *C. coriacea* gehören. Der Photographie nach möchte ich glauben, dass sie zu meiner neuen Art zu rechnen sind (s. pag. 84). Unerklärlich aber ist mir, wie de Loriol auf Grund solcher Stücke eine Identität von *C. schmideliana* Retz. und *coriacea* M. T. für möglich halten konnte, da eine Aehnlichkeit derselben mit der Retziusschen Species absolut nicht vorliegt.

Als Diagnose möchte ich für die Art folgende vorschlagen:

*Gestalt flach scheibenförmig, Ecken vorspringend. Keine Porenfelder. Rücken und Seiten gleichmässig mit zahlreichen feinen getrennt stehenden Dornen bedeckt, die einen Kranz kleiner Stäbchen an ihrer Basis tragen. Bauchseite mässig grob granulirt; die gröberen Granula in Reihen, welche schief von den Furchen abgehen, und manchmal in undeutlich begrenzten Gruppen stehend; dazwischen eine sehr feine Grund-Granulirung. Innere Furchenpapillen ziemlich fein, in Gruppen von meist 6—7; äussere in einer Reihe von kräftigeren, zuweilen stumpf-dornförmigen Tuberkeln, an welche sich nach aussen gröbere Granula anschliessen und in die Granulation der Ventralplatten übergehen. — Auf der Rückenseite zahlreiche zangenförmige, auf der Ventralseite diese und kleine klappenartige Pedicellarien. — Madreporenplatte klein.*

*Färbung in Spiritus: oben dunkelbraun, unten hellbraun.*

*Grösse: bis 210 mm. Dm.* (Perrier).

*Fundorte: Rothes Meer* (Koseir), *Moçambique* (*fide* Peters »*nicht selten bei Ibo*"; v. Martens).

*Culcita arenosa* Perrier, 1869, l. c.

*Gestalt flach scheibenförmig, Ecken nicht abgerundet. Porenfelder mehr oder minder rosettenständig, zur Verschmel-*

1) l. c. 1884.

*zung neigend, von mittlerer Grösse, auch die Seitenflächen bis an die ventrale Kante bedeckend. Rücken und Seiten mit nur einer Sorte kleiner schlanker spitzer Dornen bedeckt, die ziemlich zerstreut stehen aber gleichmässig vertheilt sind. Bauchseite mässig grob granulirt. Die gröbere Granulation dicht, nicht gruppenständig, perlartig. Verlauf der ventralen Plattenreihen nur stellenweise durch seichte Furchen schwach angedeutet. Innere Furchenpapillen ziemlich kräftig, in Gruppen von 5—6. Aeussere in Gruppen von 2—3 groben, oft cylindrischen oder conischen Tuberkeln. Zuweilen noch eine dritte Reihe weniger grosser Tuberkel. Kleine zangenförmige Pedicellarien in der Nähe der Rinnen, sowie zahlreiche kleinere, von der Grösse und Form gröberer Granula, auf der Bauchseite. Madreporenplatte ohne Dornenkranz.*

*Färbung in Spiritus: schmutzig weiss, oder dunkel olive mit schmutzig violetten Hautkiemen.*

*Grösse: bis* 200 *mm. Dm.* $(R + r)$.

*Fundorte: Sandwich Inseln (Typus), Amboina, Ceram Laut.*

Die Bestimmung dieser zweifellos guten Art war insofern bisher mit Schwierigkeiten verbunden, als Perrier die Porenfelder als undeutlich und die Poren als gleichmässig über den ganzen Rücken vertheilt beschrieben hatte. Diese Aussage beruhte, wie der Autor die Güte hatte mir brieflich mitzutheilen, auf einem Irrthum. Die Art hat also, wie die meisten andern, getrennte Porenfelder, obgleich diese entschieden zur Verschmelzung neigen. An einem Göttinger Exemplare von Amboina, dessen Photographie ich Prof. Perrier zur Begutachtung meiner Bestimmung schickte, sind z. B. die einzelnen Felder eines Rosettenringes in der Regel miteinander etwas verwachsen. Da Perrier die Poren für gleichmässig vertheilt hielt und die Porenfelder als »indistinctes" beschrieb, so hätte nach unserm Dafürhalten ein Vergleich mit *C. coriacea* M. T. nahe gelegen, mit welcher die Species ohne Frage viel Aehnlichkeit hat. Dagegen scheint der Autor eine grössere Verwandtschaft mit *C. grex* angenommen zu haben, mit wel-

cher die Art eingehender verglichen wird. Mit dieser hat jedoch *C. arenosa* kaum etwas gemein. Die Form von *C. grex* ist nicht abgeplattet, wie Perrier glaubt, und abgesehen davon ist der Charakter der Granulation und die Vertheilung der dorsalen kleinen Dornen bei *C. grex* ein so eigenthümlicher, dass sie mit keiner andern bekannten Art verwechselt werden kann. Mit *C. coriacea* M. T. aber theilt unsre Species die Körperform, ferner einen ganz ähnlichen Habitus der Bauchseite und schliesslich die Einförmigkeit der dorsalen Dornen. Letztere stehen jedoch bei jener dicht, bei letzterer zerstreut. Diese Einförmigkeit der dorsalen Dornen unterscheidet *C. arenosa* leicht von *C. novae guineae* und Verwandten, bei denen die Dornen der Porenfelder viel kleiner sind als die der Zwischenräume.

Von den Exemplaren dieser Art, die mir zu Gebote standen, waren zwei von den Sandwich Inseln, eins dem Stuttgarter, eins dem Göttinger Museum gehörig. Beide sind ausgezeichnet durch sehr kräftige, schlank conische Form ihrer äusseren Ambulacralpapillen. Dieselben scheinen an dem Perrier'schen Originale ähnlich zu sein, insofern sie hier als »cylindrisch" bezeichnet wurden; anders aber erscheinen sie an dem Stücken von Amboina und Ceram Laut, wo sie kurz, dick und abgerundet sind. Sie stehen selten einzeln, sondern kommen meist als Zwillingstuberkel vor und an dem Amboina Exemplare bilden sie stellenweise sogar Gruppen von drei mit einander verwachsenen. Von den Zwillingstuberkeln ist gewöhnlich der eine viel grösser wie der andre. Die Stellung dieser Gruppen ist häufig eine zur Rinne quere, braucht es aber nicht zu sein. Das Amboina Exemplar besitzt eine fast überall deutliche dritte Bewaffnungsreihe in Gestalt einfacher dicker rundlicher Tuberkel.

Der ziemlich schmale Raum zwischen der ventralen Grenze der Porenfelder und der Bauchkante ist mit stärkeren Dornen besetzt, die in die perlartige gröbere Granulation der Ventralfläche allmälig übergehen.

Die von Perrier beschriebenen zangenartigen Pedicel-

larien des Rückens habe ich nicht gefunden, ebenso ist der von ihm erwähnte eigenthümliche Verlauf der Furchen der Madreporenplatte kein constantes Merkmal. An dem Amboina Exemplare z. B. haben dieselben einen entschieden radiären Verlauf.

Die Art ist aufs nächste verwandt, wenn nicht gar identisch, mit der folgenden.

*Culcita acutispinosa* Bell, 1883, l. c. p. 334.

Diese Art soll von allen anderen dadurch unterschieden sein, dass die Enden ihrer Ambulacralrinnen nicht auf den Rücken übergreifen. Es ist dies jedoch unsres Erachtens ein etwas trügerisches Merkmal, da ich Exemplare von *C. novae guineae* sah, bei denen dies ebenso wenig der Fall war, und bei denen die Länge der einzelnen Rinnen ganz erheblich variirte (vergl. pag. 72). Da aber die Art auf nur ein Individuum begründet wurde, so scheint mir das Verhalten der Ambulacralrinnen noch kein genügender Grund für die Annahme der Species zu sein. Die übrigen von Bell angeführten Merkmale weisen aber zum grossen Theil auf Uebereinstimmung mit *C. arenosa* Perr. hin. Zur Bestätigung dessen führe ich folgende Citate an:

»Resembling *C. coriacea*". — »The body is almost completely discoideal in shape". — »The adambulacral spines are in two rows"; »in the outer row there are generally two spines, one of which is much smaller." »The actinal surface is not marked out into areolae." »The greater part of the sides and the whole of the abactinal surface of the disk are covered with short sharp spines, which are scattered over them with considerable profusion, though in no definite order; dotted among the spines are pores of moderate size, which are very indistinctly grouped into pore-areas."

Ich kann nicht läugnen, dass mich diese Stellen mit einigem Zweifel erfüllen; einige andre freilich könnten vielleicht doch für die Species sprechen, so z. B. »the an-

gles of the rays being very nearly altogether rounded of." Aber dann versteht man kaum, wie die Art *C. coriacea* ähneln soll, bei der die Ecken keineswegs abgerundet sind. Bemerkenswerth ist ferner (»the actinal surface") »is richly invested by a number of short, blunt, stout processes, hardly to be called spines, amidst which a coarse granular covering is to be observed." Dies Verhalten wäre vielleicht dasjenige, welches noch am meisten für die Berechtigung der Species ins Gewicht fällt.

Der Fundort der Art sind die Neuen Hebriden (Aneityum Insel).

*Culcita veneris* Perr. 1879, l. c.

*Die Merkmale dieser interessanten Art lassen sich nach der Originalbeschreibung zu folgender Diagnose zusammenfassen:*

*Körper weich, Gestalt mehr oder minder fünfeckig, in Leben dehnbar und im Zustande stärkster Wasseraufnahme fast kugelig. Keine Porenfelder. Hautkiemen zahlreich, gleichmässig über die ganze Rückenfläche und die Seiten bis an die Bauchkanten vertheilt. Sämmtliche Ornamente, wie Granulation, Tuberkel, Dornen, Pedicellarien, ferner innere und äussere Ambulacralbewaffnung bekleidet und mehr oder weniger verborgen durch Fortsätze der Haut. Auf dem Rücken kleine, spitze, bewegliche unregelmässig zerstreute unter der Haut verborgene Dornen in grosser Zahl. Bauchseite von häutigen Papillen bedeckt, die in Streifen von etwa 5 mm. Breite stehen und durch feine Furchen getrennt sind; ferner ausgezeichnet durch stumpfe, ziemlich lange, dünne, bewegliche Spitzen (pointes), welche häufig in Gruppen von zweien stehen, die 1—2 mm. von einander entfernt sind. Diese Spitzen werden gegen die Ambulacralrinne hin stärker und bilden hier 2 Reihen, die sich nach den Enden der Rinne zu einander nähern. Innere Furchenpapillen in Gruppen von zweien seltener dreien. Madreporenplatte klein.*

*Färbung: schön orange roth.*
*Grösse:* 120—130 *mm. Dm.*
*Fundort: St. Paul, Pariser Museum, durch* Vélain *und* Rochefort.

Die Art soll bei St. Paul ziemlich häufig sein. Die Sammler beobachteten, dass sie ihre Gestalt verändern kann, bald kuglig wird, bald sich abplattet und dann sternförmig wie andre Asteriden wird.

Die Furchen der Bauchseite dürften der Beschreibung nach den auch bei andern Culciten (*C. coriacea, arenosa*) gewöhnlichen Verlauf haben.

*C. schmideliana* Retz. 1805, l. c.

Diese Art ist die am längsten bekannte; sie wurde bereits 1781 von Schmidel unter der Bezeichnung eines Seesternes mit rosenförmigen Verzierungen beschrieben und von der Bauchseite vortrefflich abgebildet. Die ältere Litertatur der Art hat 1876 Perrier l. c. zusammengestellt, von späteren Besprechungen sind nur die von de Loriol, Döderlein und Bell 1887 l. c. von Wichtigkeit. De Loriol's Verdienst ist besonders die Beschreibung und Abbildung jugendlicher Exemplare. Er weist nach, dass die Gray'sche Gattung »*Randasia*" auf jungen Culcita Exemplaren beruhe, wie es bereits Perrier vermuthet hatte. Die junge *Culcita schmideliana* von 58 mm. Dm. hat ganz das Aussehn eines *Goniodiscus* »les côtés sont un peu échancrés, les plaques marginales très distinctes, les dorsales étroites au nombre de treize pour un arc interbrachial, les ventrales au nombre de 17, plus larges au milieu de l'arc, plus petits vers les extrémités, formant exclusivement le bord sans participer à la face ventrale. Les trabécules de la face dorsale sont très distincts et ils portent déjà les tubercules coniques caractéristiques" (vergl. pag. 101 Anm.). Das Göttinger Museum besitzt ein junges Exemplar von 95 mm. Dm., das dieser Beschreibung durchaus entspricht. Nur die Marginalplatten sind etwas zahlreicher, indem man

nach Entfernung der Granulation oben 16, unten über 20 für jeden Arm zählt. Die Ventralseite ist regelmässig gefeldert, die Felder in der Regel scharf sechseckig, obwohl die darunterliegenden Skelettplatten sämmtlich abgerundet sind. Die Porenfelder sind rosettenständig, dreieckig, an vielen Stellen verschmolzen, und überall dicht stehend.

Wie sehr diese Art der Variation unterliegt, wurde schon erwähnt (pag. 67). Die groben Tuberkel der Rückenseite können ganz fehlen (von Bruguières 1791 l. c. Taf. 97 abgebildetes Exemplar) oder in beträchtlicher Anzahl über den Rücken zerstreut sein. Die charakteristischen Gruppen grober Granula auf der Bauchseite, können sehr klein sein und aus nur zwei oder drei Körnern bestehen, oder sie können gegenüber der feinen Grundgranulation stark überwiegen und sich aus viel zahlreicheren Körner zusammensetzen. Im ersteren Fall sind die Gruppen, da eine jede einer ventralen Skelettplatte entspricht, weit von einander getrennt, im letzteren Falle sich gegenseitig stark genähert. Ebenso variirend ist die Felderung der Bauchseite. Dieselbe kann sehr ausgeprägt sein oder auch gänzlich fehlen wie bei einem Göttinger Stücke von Zanzibar.

Diagnose:

*Gestalt flach, scheibenförmig; Ecken nicht abgerundet. Porenfelder rosettenständig, stark zur Verschmelzung neigend, auf den Seiten nicht bis an die Ventralkante reichend. Sehr plumpe grobe Dornen auf den porenfreien Räumen des Rückens und den oberen Hälften der Seiten, resp. auf den Verschmelzungsstrecken der Porenfelder, in sehr wechselnder aber niemals bedeutender Zahl; selten ganz fehlend. Keine feinere Dornen auf den Porenfeldern. Bauchseite mit Gruppen sehr grober perlartiger seltener etwas dornförmiger Granula; oft deutlich gefeldert oder gefurcht. Innere Ambulacralpapillen meist kräftig, von ungleicher Länge, in Gruppen von 4—7; Aeussere nicht stärker, häufig schwächer wie die dicksten Granula der Ventralplatten, in der Richtung der Rinne manchmal*

*comprimirt, meist zwei Reihen bildend. Pedicellarien der Rückenseite von der Grösse und Form feiner Granula; auf der Bauchseite ähnliche, und vereinzelte zangenförmige auf den Adambulacralien.*

*Färbung in Spiritus: hell grau braun; im Leben (nach* Desjardins *l. c.): mehr oder minder hell gelblich; Rücken mit grossen schwärzlichen Flecken auf gelblich braunen Grunde. Die dicken Tuberkel des Rückens schwärzlich. Innere Papillengruppen der Ambulacralrinne carminroth, ebenso die übrigen groben Granula der Bauchseite, deren Carminfärbung jedoch schwächer wird, je weiter sie von der Rinne entfernt stehen. Ambulacralfüsse weiss mit carminrothen Furchen.*

*Grösse: bis* 250 *mm. Dm. (nach* Desjardins).

*Fundorte: Zanzibar, Moçambique, Madagascar, Mauritius, Ceylon, Andamanen, Java? Stiller Ocean? Galapagos??*

*Littorale Lebensweise.*

Die Diagnose, welche Müller und Troschel von dieser Art gegeben haben, könnte insofern irre führen, als sie sagen: „Aus der allgemeinen Granulation der Bauchfläche treten viele ungranulirte kurze perlartige Knoten hervor, welche sich zu Häufchen zusammenrotten ohne Reihen zu bilden." Die so gebildeten Häufchen entsprechen aber ein jedes einer subcutanen Skelettplatte und bilden somit sehr deutliche Reihen. Wenn die Gruppen gross sind, sind ihre Reihen ununterbrochen.

## Das Skelett [1]).

Unsre Kenntnisse des Culcitaskelettes beruhten bisher auf der Beschreibung und den Abbildungen Viguiers. Seine Angaben beziehen sich auf *C. schmideliana*, dieselbe Art,

1) Meine Beobachtungen wurden vorwiegend an einem Göttinger, von Mauritius stammenden Exemplare von *C. schmideliana* Retz. gemacht und beziehen sich, wenn nicht Andres bemerkt wird, sämmtlich auf dieses. Durchmesser 127 cm.

die in erster Linie auch mir als Untersuchungsobject diente. Ich bin jedoch zu ziemlich verschiedenen Resultaten gekommen und glaube namentlich, dass die Abbildung (s. fig. 1), welche jener Autor von dem Skelett der Bauchseite gegeben hat, von dem bei der Art und dem ganzen Genus bestehenden Verhalten einen falschen Begriff giebt.

Ich entnehme der Viguier'schen Abhandlung folgende Stellen: »La face ventrale est composée d'ossicules épais à surface normalement hexagonale, sauf sur le bord des sillons où elle est pentagonale et vers la margue du disque où elle devient irrégulière". . . . »Ils sont arrangés en séries régulières parallèles au bord des sillons, mais deviennent sans ordre apparent vers le bord du disque où ils sont beaucoup moins épais et recouvrent les plaques marginales inférieures. L'ensemble forme une véritable carrelage".

Betrachten wir eins der dreieckigen, von zwei Ambulacralrinnen begrenzten Ventralfelder einer *Culcita* und seine von der Oberhaut entblösste Täfelung, so haben wir unter den uns hier entgegentretenden Platten, drei Arten zu unterscheiden, erstens die Adambulacralplatten, zweitens diejenigen Platten, welche die Adambulacralia und Marginalplatten miteinander verbinden und demnach als Armplatten aufzufassen sind, und drittens zehn Platten, welche im oralen Winkel des dreieckigen Ventralfeldes liegen und dem Körper oder der Scheibe des Seesternes angehören und daher als Scheiben oder Discoidalplatten gehen mögen (s. Fig. 2).

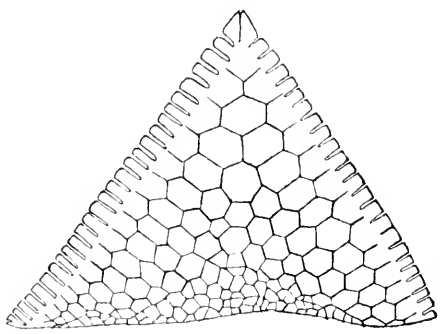

Fig. 1. Ventralskelett von *Culcita schmideliana* Retz. nach Viguier l. c.

Die Adambulacralia sind auf der Viguier'schen Figur

(s. Fig. 1), trotzdem sich der Autor ausdrücklich hiergegen verwahrt, schematisirt gezeichnet. Ihre in der Ventralebene liegende Oberfläche ist bedeutend kleiner als sie dort erscheint, und nur wenn man einen tiefer in der Rinne gelegenen Absatz, auf welchem die inneren Furchenpapillen ruhen, mit in diese Ebene verlegt denkt, kommt die von diesem Autor gezeignete Grösse heraus. Die eigentliche Grösse der ventralen Oberfläche dieser Platten beträgt so viel wie die der kleinen Brachialplatten, welche an die Marginalia stossen. Die Zahl der Adambulacralia ist an dem jungen Exemplar von *C. schmideliana* (97 mm. Dm.) 45, abgerechnet die Kieferplatte, an dem grösseren Exemplare von Mauritius, 52. Davon gehören die drei ersten Paare, vom Munde aus gerechnet, der Scheibe an, der Rest den Armen, indem erst die 7te und 8te Platte durch die erste Brachialplattenreihe mit den Marginalplatten in Verbindung stehen (s. Fig. 2). Dies gilt nicht nur von *C. schmideliana* sondern auch für *C. grex* M. T. und *C. plana* Nob. und wahrscheinlich für alle andern Culcita-Arten, während verwandte Genera wie *Pentaceros*, *Pentaceropsis*, *Nidorellia* nur drei der Scheibe angehörende Adambulacralia haben, ein Unterschied, auf welchen bislang nicht hingewiesen wurde, und der *Culcita* in einen Gegensatz zu den meisten näher stehenden Formen bringt [1]). Die Grösse der Adambulacralia nimmt nach dem peripheren Ende der Rinne zu ganz allmälig ab. Die ventrale Fläche der zu den Oralia umgewandelten ersten Adambulacralia liegt unter dem Niveau der allgemeinen Bauchfläche und zwar etwa so tief wie jener Absatz, der an den übrigen Adambulacralplatten die inneren Furchenpapillen trägt.

Ich wende mich nun zu den bei *C. schmideliana* äus-

1) Vollkommen übereinstimmend mit diesem Verhalten des ventralen Skelettes von Culcita ist das von *Goniodiscus Sebae* M. T., der einzigen Species, die ich von diesem Genus vergleichen konnte.

serst regelmässig gestellten zehn Discoidalplatten (s. fig. 2). Ihre Lagerung ist folgende. Drei von ihnen liegen in kleinen Abständen von einander entfernt im Interradius, und zwar die erste genau in dem von zwei convergirenden Adambulacralreihen gebildeten Mundwinkel; sie stösst seitlich an das erste Paar von Adambulacralplatten. Die zweite liegt zwischen ihr und der folgenden und ist quer zum Interradius etwas verbreitert. Die dritte, die als Brachialwinkelplatte bezeichnet werden möge, liegt in dem Winkel der beiden convergirenden und sich vereinigenden Brachialplattenreihen. Die erste oder Mundwinkelplatte ist, wenigstens an dem kleinen Exemplare unsrer Sammlung, oralwärts zugespitzt und überlagert stets die Hinterenden der beiden Oralplatten. Von den übrigen sechs Discoidalplatten liegen äusserst regelmässig vertheilt je drei jederseits vom Interradius, von diesen stossen je eine an das zweite und dritte Adambulacralplattenpaar, und die noch übrig bleibende dritte liegt zwischen der Brachialwinkelplatte und der zum dritten Adambulacralplattenpaare gehörigen Discoidaltafel. Die beiden an Adambulacralia stossenden Seitenplatten richten sich in ihrer Grösse und Lagerung nach den jedesmal ersten Platte der verschiedenen Brachialreihen, welche zusammen eine der Rinne parallellaufende Reihe bilden. Zu gleicher Weise richtet sich die dritte Seitenplatte nach den zweiten Platten der Brachialreihen. Die Oberfläche der Discoidalplatten zeigt an dem jungen Göttinger Exemplare einzelne kleine, Einstichen gleichende Grübchen als Insertionspuncte von Pedicellarien,

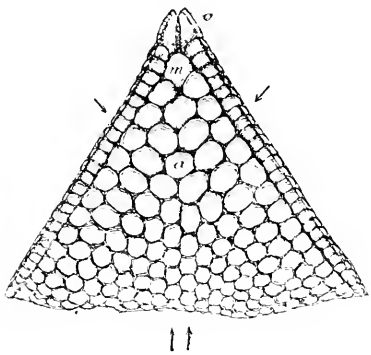


Fig. 2. Ventralskelett von *Culcita schmideliana* Retz. nach einem jüngeren Exemplare des Göttinger Museums.
*o.* Orale; *m.* Mundwinkelplatte; *a.* Armwinkelplatte. Die Pfeile bezeichnen die Lage der ersten Armplattenreihen.

übrigens ist ihre Oberfläche glatt, während an älteren Exemplaren die Ansatzpunkte der groben ventralen Tuberkel durch Grübchen kenntlich sind. Vergleichen wir das Verhalten der Discoidalplatten bei *C. schmideliana* mit dem von *C. grex* und *C. plana*, so ergiebt sich im Allgemeinen die grösste Uebereinstimmung, nur besitzt, unseren spärlichen Materiale nach zu urtheilen, *C. plana*, statt drei, vier Interradialplatten und auch an dem Original-Exemplare von *C. grex* macht es den Eindruck, alsob hier statt der einen Oralwinkelplatte deren zwei vorhanden gewesen wären. Wir haben hier möglicher Weise constante specifische Merkmale vor uns, auf die genauer zu achten wünschenswerth wäre. Die Auflösung der einen Oralwinkelplatte in zwei, ist in sofern interessant, als sie möglicher Weise den Anfang eines Processes zeigt, der bei manchen *Pentaceros* Arten sich über sämmtliche Discoidalplatten ausdehnte und einen Zerfall in eine Menge kleiner Täfelchen zur Folge hatte, während bei andern Species dieser Gattung derselbe noch auf die Mundwinkelplatte beschränkt ist. Erwähnt sei schliesslich dass die Gattung *Nidorellia* in Bezug auf die Regelmässigkeit und Zahlbeschränkung ihrer Discoidalplatten *Culcita* nahe steht. Sie besitzt wie *Pentaceros* nur drei zur Scheibe gehörige Adambulacralplatten, und dem entsprechend ist auch die Anzahl ihrer Discoidalplatten geringer, nämlich in der Regel vier. Die Gestalt derselben ist rund, und sie bilden ihrer Lage nach ein regelrechtes Kreuz, sodass zwei von ihnen interradial liegen. Diese letzteren können noch um eine oder zwei vermehrt sein, im Falle, dass der Vereinigungspunct der beiden ersten Brachialreihen mehr peripherwärts liegt. Viguier hat das Skelett von *Nidorellia* nicht genauer untersucht und keine Abbildung davon gegeben. Er macht jedoch mehr nach äusseren Anhaltspuncten auf die Uebereinstimmung derselben mit *Culcita* aufmerksam, und wir werden sehen, dass sie nicht bloss für die Bauchseite sondern auch für die Rückenseite zutrifft. Charakteristisch für *Nidorellia* ist, dass die Mundwinkelplatte das

hintere Ende der Kiefer kaum überlagert und dadurch nur sehr wenig in den Mundwinkel hineintritt. An einer wahrscheinlich noch unbeschriebenen Species von Puntas Arenas (W. Ecuador), welche sich von *Nidorellia armata* vor Allem dadurch unterscheidet, dass die lophialen, apicalen, und sonstigen grossen Platten des Rückens der langen Dornen gänzlich entbehren und statt dessen Gruppen viel kleinerer und kleiner dornartiger Tuberkel tragen, entsprechen den Discoidalplatten der Ventralseite nicht drei sondern vier Adambulacralia, ein Zeichen, dass der Zahl derselben keine all zu grosse Bedeutung für die Unterscheidung der Genera beigelegt werden darf. Bemerkenswerth ist schliesslich, dass auch bei *Nidorellia* an Stelle der einen Mundwinkelplatte gelegentlich zwei vorkommen.

Viguier übergeht in seinem »Squelette des Stellérides" die von uns als Discoidalplatten bezeichneten Tafeln fast mit Stillschweigen, den Raum aber, welchen sie einnehmen, nennt er »aire interbrachiale." Als »Systèmes interbrachiaux" bezeichnet er die Summe von Kalkkörpern, welche je einen der 5 interradialen Septenpfeiler zusammensetzen. Diese interradialen Pfeiler sind jeder in ein mächtiges, fächerförmiges, häutiges Septum eingelagert und verbinden, indem sie die Leibeshöhle durchsetzen, das Skelett der Bauchseite mit dem der Rückenseite. Sie schliessen sich ventral an die Oralia und die Mundwinkelplatte an. Die grossen Hautseegel oder Septen, in welchen sie eingebettet sind, inseriren ventral in der ganzen Interradiallinie der Scheibe, d. h. von der Mundwinkelplatte bis an den

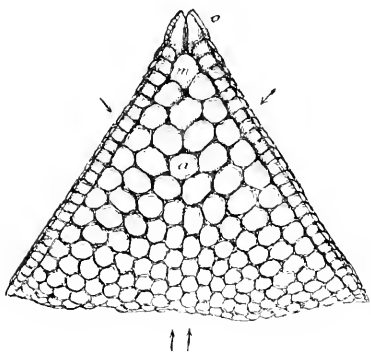


Fig. 2. Ventralskelett von *Culcita schmideliana* Retz. nach einem jüngeren Exemplare des Göttinger Museums.
*o.* Orale; *m.* Mundwinkelplatte; *a.* Armwinkelplatte. Die Pfeile bezeichnen die Lage der ersten Armplattenreihen.

Winkel der ersten Brachialplattenreihen. Die Leibeshöhle durchsetzend, verbreitern sie sich derart, dass ihre dorsale Insertion etwa mal so breit ist als die ventrale, wobei ihr peripherer schneidender Rand schön eingebuchtet ist und ein grosses ovales Foramen begrenzt, durch welches, die, durch die Septen getrennten, fünf, Kammern der Leibeshöhle untereinander communiciren. Viguier macht mit Recht darauf aufmerksam, dass bei *Culcita*, wo die »Systèmes interbrachiaux" keine feste Mauer bilden, sondern nur ein aus verschiedenen Knochenstücken zusammengefügtes verticales Band, durch dies Verhalten ein ausgiebige Beweglichkeit des Rückens gegen die Bauchseite ermöglicht sei.

Eine genauere Untersuchung der Septenpfeiler liess mein Material leider nicht zu. An seinem dorsalen Ende aber besteht er — so viel liess sich an unserm Exemplare immerhin feststellen, aus einer Anzahl sehr kräftiger Kalkkörper, während umgekehrt seine ventrale Insertion mittelst zahlreicher äusserst kleiner Stückchen geschieht. Das Studium des häutigen Septums gestattete ein gut erhaltenes aufgesägtes Exemplar von *C. novae guineae* M. T. im Stuttgarter Museum. Bei diesem ist die Erstreckung der dorsalen Ansetzung des Septenpfeilers auf das centrale Drittel des häutigen Septums beschränkt, während sie an unserm Stücke von *Culcita schmideliana* bis an die dorsale Grenze der Marginalia reicht und im ganzen 25 mm. Ausdehnung hat.

Kehren wir nunmehr zu den ventralen Platten zurück, so bleiben uns diejenigen Reihen zur Besprechung, die ich als ventrale Brachialia auffasse. Dadurch, dass sie zwischen Adambulacralia und Marginalplatten in grosserer Menge eingeschaltet wurden und zwar in einer Zahl, die am Ursprung der Arme am grössten ist, nach den Enden der Arme zu aber allmälig abnimmt, kann man sich, aus der ursprünglichen Sternform, die Scheibenform einer *Culcita* und *Nidorellia* entstanden denken, und es ist, wie ich glaube, sehr wichtig diese Platten nicht mit

unsern Discoidalplatten d. h. den Platten des Viguier'schen »aire interbrachiale" zusammenzuwerfen, wie es bisher geschehen ist. Die erste Brachialplattenreihe entspringt bei *C. schmideliana* vom 7ten und 8ten Adambulacrale; sie verläuft in schräger Richtung mit ihren ersten drei Platten zum Interradius, trifft hier mit der dritten Platte der correspondirenden Reihe der benachbarten Ambulacralrinne zusammen und verläuft nun parallel mit dieser und dicht neben ihr zur ersten Marginalplatte. Ihr Verlauf beschreibt mithin einen stumpfen Winkel, der jedoch zu einem leichten Bogen abgerundet ist. Die folgenden Reihen, deren Plattenzahl allmälig, d. h. nie mehr als um eine, abnimmt, verlaufen der ersten parallel. Im ganzen zähle ich an unserer Culcita 17 solcher Reihen; die letzte davon entspricht der 33sten Adambulacralplatte. Sie sowohl, wie die drei vorhergehenden, sind jedoch, da sie jede nur aus einer einfachen kleinen Platte bestehen, streng genommen nicht mehr Reihen zu nennen. Ein jeder der ersten zehn Reihen entsprechen ungefähr zwei Adambulacralia, deren Zugehörigkeit, obwohl manchmal mit äusserster Regelmässigkeit erhalten, durch Wachsthumsverschiebung etwas verdeckt sein kann. Den folgenden Reihen entspricht je eine Adambulacralplatte. Am marginalen Ende aber entspricht anfangs je zwei Brachial-Reihen eine Randplatte, mit der 4ten, 5ten und 6ten Randplatte sind je drei Reihen verbunden, mit den nächsten zwei und schliesslich eine. Die vier ersten Platten dieser Reihen nehmen an Grösse gegen das Rinnenende zu ab, die mehr marginal gelegenen folgenden Platten der Reihen sind von gleichmässigerer Grösse. Nehmen wir ausschliesslich die vier ersten Brachialreihen, so finden wir, dass in jeder von ihnen die zweite Platte die grösste ist, von ihr aus aber die Grösse bis zur vierten sehr schnell, von dieser jedoch bis zur Randplatte wenig oder garnicht abnimmt. Ueberblicken wir dass ganze Ventralfeld, incl. Discoidalplatten, so bemerken wir eine Grössenzunahme der Platten gegen die Mundwinkel zu. Die Form der

Brachialplatten ist selbst an dem jungen Exemplare, bei welchem die unversehrte granulirte Bauchseite eine scharf conturirte, sechseckige Felderung zeigt, durchaus abgerundet, in den grösseren Platten mehr oval, in den kleineren, marginaler gelegenen, mehr rund; nur die an die Adambulacralia stossenden Tafeln, welche mehr oder minder quadratisch sind, machen davon eine Ausnahme. Ebenso verhalten sich die grösseren Exemplare, und nirgends berühren sich die Platten mit ihren Kanten, so dass von einer Täfelung, wie sie Viguier abbildet (s. Fig. 1), nicht die geringste Spur vorhanden ist. Die von diesem Autor gegebene Abbildung, welche Nichts von der von mir beschriebenen Regelmässigkeit der Reihen zeigt, vielmehr eine besonders in der Randgegend ganz planlose dichte Pflasterung scharfeckiger Tafeln, erfüllt mich mit einigem Misstrauen. Dass das von mir beschriebene Verhalten mindestens das normale ist, bestätigen auch die de Loriol'schen Figuren, an welchen wenigstens die Reihenbildung sehr deutlich hervortritt. Dass die Tafeln in unserm Sinne als Reihen zusammengehören und nicht als Reihen, die parallel zur Ambulacral Rinne stehen, wie sie vielfach aufgefasst wurden, erhellt auch daraus, dass die in einer Reihe stehenden Tafeln sich mit ihren Wurzeln dachziegelartig überlagern. Sehr deutlich ist das an einem Exempl. von *C. plana* zu sehen. Die auf der Ventralfläche als Platten erscheinenden Skelettstücke haben nämlich, wie übrigens bekannt ist, durchaus nicht diese Form, sondern besitzen vielmehr eine ganz bedeutende Erstreckung in die Tiefe. Die auf der Ventralfläche zu Tage liegende Seite ist nur die Endfläche eines, bei mittelgrossen Exemplaren etwa 8 mm. langen, vierseitigen Cubus. *C. plana* unterscheidet sich darin von *C. schmideliana*, dass ihre erste Brachialreihe nur 6 oder 7 Platten enthält gegen 10 bis 11 bei der andern Art. Auch ist die Form derselben mehr durchgehends oval. Die Menge kleiner rundlicher Platten, welche bei *C. schmideliana* in der Marginalgegend liegen, fehlt hier. Auch bei *C. grex*

scheint die Plattenzahl der Reihen geringer zu sein als bei letzterer Art, und ihre Form ist eine viel gestrecktere als bei den zwei andern Species. Von einer Täfelung im Sinne Viguier's ist auch bei ihr keine Rede, vielmehr auch äusserlich zu bemerken, dass sich die ventralen Skelettstücke mit ihren Wurzeln dachziegelartig überlagern. Nur an einem der fünf Ventralfelder des Original Exemplars in Leyden ist die Regelmässigkeit der Lage in den ersten Reihen ein wenig gestört.

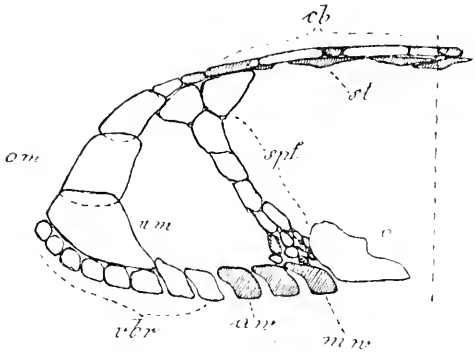


Fig. 3. Schematisirter Interradialschnitt durch das Skelett von *Culcita schmideliana* Retz. *cb.* Dorsale Connectivbalken; *st.* Sternplatten; *om.* Obere Marginalplatte; *um.* Untere Marginalplatte; *vbr.* Ventrale Brachialia; *aw.* Armwinkelplatte, *mw.* Mundwinkelplatte; *o.* Orale; *spf.* Septalpfeiler.

Die Marginalplatten sind nur am jugendlichen Exemplaren äusserlich erkennbar, an erwachsenen dagegen verborgen, obwohl man bisweilen an trocknen stark geschrumpften Stücken ihre Lage selbst ohne Abtragung der äusserlichen Granulation wahrnimmt. An dem von mir benutzten Exemplare des Göttinger Museums ist übrigens die dicke äusserst schwer zu entfernende dorsale Haut so durchsichtig geworden, dass man die Randtafeln durchschimmern sieht. Sie erscheinen auf diese Art als ansehnliche Platten und zwar bei *C. schmideliana* die oberen bedeutend grösser als die unteren (s. fig. 3). Die sechs ersten Platten der oberen Reihe sind 11 mm. hohe und 2 mm. breite Tafeln, die in Zwischenräumen von etwa ebenfalls 2 mm. nebeneinander stehen. Ihre Stellung ist eine etwas zum Interradius geneigte, sodass die erste eines jeden Armes mit der ersten des anstossenden Armes nach dem ventralen Rande zu convergirt.

Die sechs ersten Platten sind ungefähr gleich an Grösse, und zwar liegt die sechste parallel mit dem aufsteigenden Ende der Ambulacralrinne. Auf sie folgen aber noch zwei bis vier weitere Platten, die an Grösse plötzlich abnehmen. Die unteren Randplatten, so wie sie uns äusserlich entgegentreten, sind beträchtlich kleiner und haben eine viel schrägere Stellung. Die ersten Fünf sind etwa 5—6 mm. hoch und von derselben Dicke wie die dorsalen. Sie stehen derart, dass ihr oberes Ende einem Zwischenraum der oberen Marginalplatten entspricht. Bis zu dem Punkte, wo sich die Ambulacralrinne plötzlich aufwärts wendet, halten sie in ihrer Zahl mit der oberen Reihe Schritt; von hierab aber nimmt ihre Zahl plötzlich beträchtlich zu, wobei sich ihre Grösse sehr schnell vermindert. Den vier letzten, oberen Marginalplatten entsprechen dergestalt zehn untere. An einer freigelegten Stelle unsres jungen Exemplares von *C. schmideliana* ist das Verhältniss ebenso; es entsprechen hier den fünf letzteren oberen Randplatten (die letzte davon ist nadelknopfgross) ebenfalls 10 untere. Die Gesammtzahl der unteren Platten betrug, wo ich sie zählen konnte, an dem grösseren 17, an dem kleineren Exemplare 15 für den Arm. Sowohl die 3—4 letzteren oberen, wie die ihnen entsprechenden 10—11 letzten unteren Platten, liegen mit ihren Rändern dicht aneinander, wobei die Form der sehr kleinen letzten unteren Platten ein scharf conturirt viereckige ist. Ebenso wenig nun wie die schöne Täfelung der Ventralseite aus flachen Platten besteht, so haben auch die Marginalia ihre Hauptausdehung vertical zur Oberfläche. Sie wenden den letzteren nur ihre Schmalseite zu und stellen sich einzeln betrachtet als grosse flache Tafeln dar. Ein nur sehr kleines Stück tritt namentlich von den unteren Randplatten zu Tage (s. Fig 3). Viguier hebt ganz richtig hervor, dass sie mit einem grossen Theile von den ventralen Platten überlagert werden. Innerhalb dieses Bezirkes sind die Brachialia bedeutend flacher als die übrigen Ossicula der Bauchseite. Was Viguier über die Zahl der Marginalplatten von *C. schmi-*

*deliana* angiebt, stimmt mit unseren Befunden sehr wenig. Er zählt »d'un sommet à l'autre" 16 dorsale und 22 ventrale Platten, was für den Arm oben nur 8, unten nur 11 geben würde. Von den übrigen Arten konnte ich nur *C. plana* in die Untersuchung ziehen. Bei ihr sind die nach aussen liegenden Flächen der unteren Marginalplatten etwa ebenso gross wie die der oberen. Die Zahlenverhältnisse konnte ich leider nur für die oberen feststellen, deren jeder Arm 8 besitzt.

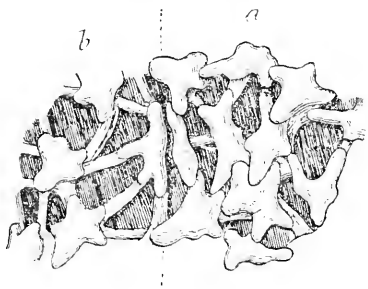


Fig. 4. Stück aus dem dorsalen Skelett von *Culcita schmideliana* Retz. von der Unterseite.
*a*. Centrale Region; *b*. Periphere Region.

Das dorsale Skelett zeigt, von der Oberseite betrachtet, ein Netzwerk von Balken. Diese bilden Gruppen von meist fünfen oder sechsen und strahlen von gemeinsamen Mittelpunkten aus. Unter einem jeden dieser Vereinigungspunkte liegt eine ansehnliche, unregelmässig sternförmige Platte, deren Strahlen in der Richtung der Balken und damit genau unter diesen verlaufen, so dass sie von oben betrachtet nicht zu sehen sind. Umsomehr treten sie hervor, wenn man das dorsale Skelett von der Unterseite betrachtet (s. Fig. 4) und Viguier's Angabe ist daher auch hier irrthümlich, wenn er sagt: »La face dorsale a son squelette composé comme chez *l'Anthenea*, de gros ossicules arrondis réunies par des pièces connectives en forme de batonnets." Auch seine Figur l. c. Pl. XII Fig. 5, giebt in sofern einen falschen Begriff von dem Rückenskelett als die Connectivbalken überall gleich lang gezeichnet sind. In dem centralen Rückenfelde, welches durch eine gedachte Linie begrenzt wird, welche die centralen Enden der dorsalen Ansätze der Septenpfleiler mit einander verbindet, ragen nämlich die Balken nicht über die Enden der Sternplatten hinaus, sodass letztere sich

gegenseitig berühren, ausserhalb aber des Central- oder Apicalfeldes liegen die Sternplatten weit aus einander und werden nur durch die hier viel längeren Connectivstücke verbunden. Das aus Sternplatten und Balken gebildete Netzwerk, tritt übrigens nicht bis dicht an die Marginalia, und der Raum zwischen ihm und den letzteren wird ausgefüllt durch Platten, welche bei unserem Exemplare fasst einer dritten Marginalplattenreihe gleichen; dieselben haben namentlich gegen das Ende der Ambulacralrinne zu auch die Form der oberen Randplatten; sie entsprechen diesen auch annähernd in der Zahl und bilden, was ihre Stellung betrifft, nicht selten die directe Fortsetzung derselben. Sie sind mehr noch als diese schräg zum Interradius gestellt, und da dies Verhalten sich steigert, je näher die Platten der Ambulacralrinne liegen, so ist ihre Lage oberhalb des Rinnenendes eine zum Radius vollkommen quere. Diese Tafeln sind wahrscheinlich als dorsale Brachialia aufzufassen. Den lophialen Tafeln andrer Gattungen entsprechend, haben wir schliesslich noch einer geringen Zahl von Tafeln zu gedenken, die genau radial, also in der dorsalen Verlängerung der Ambulacralrinne gelegen sind. Es sind schmale, quer zum Radius verlängerte, vertical stehende Tafeln, die in geringer Entfernung vom Ende der Rinne in die Sternform übergehen. Der dorsale Ansatzpunkt der Septenpfeiler (»Systèmes interbrachiaux" Viguier) erstreckt sich von der dorsalen Grenze der oberen Marginalplatten 25 mm. centralwärts, nimmt also die Hälfte der Strecke zwischen diesen und dem Centrum ein. Von Interesse ist, dass sich *Culcita* der nahe verwanten Gattung *Nidorellia* auch durch die beiden gemeinsame Sternform der dorsalen Platten nähert. Bei dieser besteht das dorsale Skelett ausschliesslich aus zahlreichen Sternplatten, die sich mit ihren Spitzen berühren und überlagern. Die Balken fehlen hier gänzlich.

Bezüglich der Ambulacralia und Adambulacralia, sowie der Oralia und des Odontophors, kann ich die Viguier'schen Angaben bestätigen.

Fassen wir nochmal kurz die Ergebnisse über das Culcita-Skelett zusammen, so haben wir für die Bauchseite die strenge Unterscheidung von Brachialplattenreihen und Discoidalplatten befürwortet und deren äusserst regelmässige Anordnung dargethan, für die Rückenseite eine centrale und eine periphere Region unterschieden und die eigenthümlichen Sternplatten kennen gelernt, welche in ersterer sich untereinander berühren, in letzterer durch die Vermittlung von besonderen Balken mit einander in Verbindung treten. Die Sternplattenregion stösst aber nicht, wie es bei *Nidorellia* der Fall ist, direct an die oberen Marginalplatten, sondern ist von diesen durch eine besondere Reihe vertical stehender grosser Platten getrennt.

Zum Schlusse möchte ich alle Denen herzlich danken, die mich mit Material unterstützten; vor Allem Herrn Geheimrath Ehlers, der mir freundlicher Weise die Praeparation einiger Stücke des Göttinger Sammlung gestattete, sodann den Directoren der Museen von Berlin, Bremen, Hamburg, Lübeck, Stuttgart, Utrecht. Für die Anfertigung von 3 Figuren bin ich Herrn Martin Schmidt, Assistent am geologischen Institute hierselbst, verpflichtet.

## Litteratur.

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9. Brugières. *Tableau encyclopédique et méthodique contenant l'Helminthologie ou les vers infusoires* etc. Pl. 97 fig. 3, 98 fig. 3, 99 fig. 1. Paris, 1791.

Text hierzu, 1791, von Brugières begonnen, von Seite 83 ab, 1824, von Bory de St. Vincent unter Mitwirkung von Lamouroux fortgesetzt. Der Textband enthält nur die Erklärung obiger Tafeln (Asterias discoidea Lam.).

C. schmideliana Retz.

10. Cuvier, G. *Le Règne animal*, édit. accompagnée de Planches gravées par une réunion de disciples de Cuvier. Paris, 1836—46. (Zoophytes) p. 16; pl. 1.

C. schmideliana Retz.

11. Desjardins, J. *Note sur l'Astérie discoïde* (*Asterias discoidea*) *et l'Astérie miliaire* (*Asterias laevigata*) *de Lamarck*, in: Ann. Sc. Natur. T. 20, Paris, 1830, p. 177.

C. schmideliana Retz.

12. Döderlein, L. *Echinodermen von Ceylon*, in: Zool. Jahrb. Abthlg. für Systematik, Bd. III, Jena, 1889, p. 827.

C. schmideliana Retz.
C. coriacea M. T.

13. Dujardin und Hupé. *Histoire Naturelle des Zoophytes Echinodermes*, in: Suites à Buffon, Paris, 1862, p. 370.

Die bei Müller-Troschel aufgeführten Arten.

14. Gray, J. E. *A Synopsis of the Genera and Species of the Class Hypostomata* (*Asterias* Linnaeus), in: Ann. Mag. N. H. Vol. VI, 1841, pp. 276, 278.

C. schmideliana Retz.
Randasia luzonica, n. sp.

15. —— *Description of some new Genera and Species of Asteriadae*, in: Proc. Zool. Soc. Part XV, 1847, p. 74.

C. schmideliana Retz.

C. pentangularis, n. sp.
Randasia granulata, n. sp.
Randasia spinulosa, n. sp.

16. —— *Synopsis of the Species of Starfish in the British Museum*, London, 1867, p. 5.
Die obigen Arten und Randasia luzonica Gray.

17. Hickson, S. J. *A Naturalist in North Celebes*, London, 1889, p. 131.
C. sp.

18. Ives, J. E. *Catalogue of the Asteroidea and Ophiuridea in the Collection of the Academy of Natural Science at Philadelphia*, in: Proc. Acad. Nat. Sc. Philadelphia, 1889, p. 173.
C. schmideliana Ret..

19. Lamarck, de *Animaux sans vertèbres*, Paris, 1815, tom. II, p. 554, N°. 7, und 2e éd. tom. III, p. 240, Paris, 1840. (*Asterias discoidea* Lam.).
C. schmideliana Retz.

20. Lamouroux. »*Astérie discoïde*", in: Encyclopédie Méthodique, Paris, 1824, Histoire naturelle des Zoophytes ou Animaux Rayonnés, T. II, p. 116.
C. schmideliana Retz.

21. Loriol, P. de *Catalogue raisonné des Echinodermes, recueillis par* M. V. de Robillard *à l'île Maurice*, II *Stellérides*, in: Mém. Soc. Phys. Genève, tom. XXIX, Part. I, Genève, 1884—85, p. 64.
C. schmideliana Retz.

22. Ludwig, H. *Ueber den primären Steinkanal der Crinoiden, nebst vergleichend anatomischen Bemerkungen über die Echinodermen überhaupt*, in:

Zeitschr. wiss. Zool. XXXIV, 1880. p. 324.
Dorsale Musculatur von Culcita.

23. Martens, Ed. von — *Ostasiasitische Echinodermen*, in: Arch. f. Naturgeschichte, Bd. 43, 1866, p. 71.
C. schmideliana Retz.

24. —— — *Echinodermen*, in: Cl. von der Decken's Reise in Ost Africa, 1867, p. 130.
C. schmideliana Retz.
C. coricea M. T.
C. Novae Guineae M. T.

25. Michelin, H. — *Zoophytes Echinodermes et Stellérides*, in: Guérin Méneville »Essai d'une faune de l'Ile Maurice", publié avec les matériaux et les notes laissés par Julien Desjardins. Mag. Zool. 2e Série, année 7, 1845, p. 22.
C. schmideliana Retz.

26. Möbius, K. — *Beiträge zur Meeresfauna der Insel Mauritius und der Seychellen*, Berlin, 1880, p. 50.
C. schmideliana Retz.

27. Müller und Troschel. — *System der Asteriden*, Braunschweig, 1842, p. 37.
C. schmideliana Retz.
C. novae guineae, n. sp.
C. coriacea, n. sp.
C. grex, n. sp.

28. Perrier, Edm. — *Recherches sur les Pédicellaires et les Ambulacres*, in: Ann. Sc. Nat. Série 5, Zoologie, Vol. XII, Paris, 1869, p. 197, pl. 18.
C. schmideliana Retz.
C. grex M. T.
C. novae guineae M. T.
C. arenosa, n. sp.

C. pulverulenta (Val. MS.), n. sp. (später eingezogen).

29. —— *Révision de la collection de Stellérides du Muséum d'Hist. Nat. de Paris*, in: Arch. de Zool. expér. T. V, Paris, 1876, p. 73.

Die unter N°. 27 aufgeführten Arten, mit Ausnahme von C. pulverulenta Perr., die zu C. novae guineae gezogen wird, und mit Zusatz von C. pentangularis Gray. Als Appendix: Randasia spinulosa und Randasia granulata Gray.

30. —— *Géographie des Astérides*, in: Nouv. Arch. Mus. d'Hist. Nat. Paris, 2e Sér. T. I, 1878, p. 53, p. 81, etc.

Die Arten von N°. 27 ohne C. pulverulenta.

Ferner: C. pentangularis Gray.
C. coriacea M. T.
C. veneris Perr.
C. areolata Perr. (nicht beschrieben!).

31. —— *Les Stellérides de l'Ile Saint Paul*, in: Arch. Zool. expér. T. VIII, Paris, 1880, p. 47.

*C. veneris*, n. sp.

32. —— *Stellérides des Dragages du Blake*, in: Nouv. Arch. Mus. d'Hist. Nat. 2e Série, T. VI, 1883, Paris, p. 165.

Systematische Stellung des Genus.

33. Peters, W. *Seesterne von Mossambique*, in: Bericht über die Verhandlungen der Preuss. Acad. d. Wiss. 1852, p. 178.

C. schmideliana Retz.
C. coriacea M. T.

34. Retzius. *Diss. sist. species Asteriarum cognitas.* Lund, 1805.

C. schmideliana, n. sp.

35. Schmidel, C. Chr. *Beschreibung eines Seesternes mit rosenförmigen Verzierungen*, in: Der Naturforscher. 16tes Stück, p. 1, Taf. I. Halle, 1781.
C. schmideliana Retz.

36. Sladen, W. P. *Report on the Asteroidea collected during the Voyage of H. M. S. Challenger, during the years* 1873—76, in: The Voyage of H. M. S. Challenger, Zoology, Vol. XXX, 1889, p. 351, p. 764.
C. schmideliana Retz.
C. pentangularis Gray.
C. coriacea M. T.
C. novae guineae M. T.
C. grex M. T.
C. arenosa Perr.
C. veneris Perr.
C. acutispinosa Bell.

37. Studer, Th. *Verzeichniss der während der Reise S. M. S. Gazelle um die Erde*, 1874—76, *gesammelten Asteriden und Euryaliden*, in: Abthlg. d. K. Acad. Wiss. Berlin, 1884, p. 37.
C. schmideliana Retz.
C. coriacea M. T.
C. novae guineae M. T.

38. Viguier. *Anatomie comparée du Squelette des Stellérides*, in: Arch. Zool. expér. T. VII, p. 189, Paris, 1878.
C. schmideliana Retz.

Göttingen, 18 Februar 1892.

# NOTE XX.

## ON SEMNOPITHECUS PYRRHUS HORSFIELD

BY

**Dr. F. A. JENTINK.**

January 1892.

(Plates 3 and 4).

Specimens belonging to this species are very rare in Zoological collections, the only specimens to be found in Musea are, as far as I am aware, the type-specimens in the British Museum from Horsfield's collections from Java, and a nearly adult male in the Leyden Museum collected in 1860 by Professor de Vriese, with the exact locality, district Batou, Passarouan-residence, East-Java.

In his well known »Simiae" Schlegel observed that *S. pyrrhus* is distinguished from *S. maurus*: »parce qu'il garde, »pendant toute son existence, la teinte d'un roux-rouge »propre au très jeune âge, teinte qui change, dans le »*S. maurus*, de très bonne heure, au noir; puis qu'il a »les ongles d'un jaune blanchâtre et non pas bruns."

Professor Hubrecht on his journey in the Malayan Archipelago had the good luck to come across several specimens of this species and has brought home skins of an adult, of a half-grown and of a young individual, besides skeletons. They have been collected close to the locality where Professor de Vriese procured the above mentioned specimen, namely in the Bezoeki-residence, between Djember and Poeger.

I have nothing to add to Schlegel's description of the color of the specimens, old and young presenting the typical red, somewhat lighter however because they have been preserved in spirits. According to the value ascribed

to the red color of the animal the different authors have followed Horsfield and accepted the distinction of *S. pyrrhus* from *S. maurus*, like J. E. Gray, 1843 (List of the specimens of Mammalia, a. s. o. p. 3) and Schlegel, 1876 (Catalogue, Simiae, p. 56), or classed it as a variety of *S. maurus*, like J. E. Gray, 1870 (Catalogue of Monkeys, Lemurs, a. s. o. p. 15), J. Anderson, 1878 (Anatomical and Zoological researches, a. s. o. p. 28) and 1881 (Catalogue of Mammalia in the Indian Museum, part I, p. 47), but nobody ever has tried to compare the skulls of *S. maurus* and *S. pyrrhus* and, in my view, this would have been the finishing stroke.

I now possess a rich material to study the skulls and to compare the bony parts, viz: four skulls belonging to individuals of different age and two skeletons of *S. pyrrhus* and a large lot of skeletons and skulls of *S. maurus*. In comparing the skull of an adult male of *S. pyrrhus* with that of an adult male of *S. maurus* (plates 3 and 4) it appears at a glance that the former is much more prognath, resulting from the greater development of all the teeth and of the mandibles: the canines are of a much larger size and the molars are stouter and stronger: very surprising is the different form of the anterior part of the lower mandibles, high and more or less as it were truncated in *S. pyrrhus*, lower and sloping in *S. maurus*. Among others there is to observe a very striking difference in the extent of the bony palate, being in *S. maurus* much smaller than in *S. pyrrhus* (plates 3 and 4, figs. 1 and 3) and less protruded backward.

| | *S. pyrrhus.* | *S. maurus.* |
|---|---|---|
| | Mm. | Mm. |
| Length of upper molar series . . | 29 . . . | 27 |
| » » lower » » . . . | 36 . . . | 33 |
| Greatest dimension of lower jaw . | 74 . . . | 70 |
| Length of bony palate . . . . | 39 . . . | 32,5 |

Skeleton with 12 dorsal-, 7 lumbar-, 3 sacral- and 27 caudal vertebrae.

In conclusion *S. pyrrhus* and *S. maurus* are two well-defined species, differing — although their covering in young state bears about the same reddish color — by the color of the fur and by their bony parts; moreover there is a peculiar difference in their characters: Horsfield already stated that the *Lutung* (*S. pyrrhus*) is a favourite among the natives; whenever an individual is obtained, care is taken to domesticate it, and it is treated with kindness and attention; the *Budeng* (*S. maurus*) on the contrary, is neglected and despised and it requires much patience in any degree to improve the natural sullenness of its temper; in confinement it remains during many months grave and morose, and as it contributes nothing to the amusement of the natives, it is rarely found in the villages or about the dwellings. This does not arise (said Horsfield) from any aversion on the part of the Javanese to the monkey race: the most common species of the Island, the *Cercocebus Aygula* of Geoffroy, the Egret Monkey of Pennant (*Cercocebus cynamolgos*) is very generally domesticated, and a favourite custom of the natives is to associate it with the horse. In every stable, from that of a Prince to that of a Mantry, or chief of a village, one of these Monkeys is found; but I never observed the *Budeng* thus distinguished.

# NOTE XXI.

## PITHECHIR MELANURUS S. MÜLLER

BY

**Dr. F. A. JENTINK.**

February 1892.

(Plates 3 and 4).

Mr. J. D. Pasteur, well-known to the readers of our »Notes" (cf. Notes from the Leyden Museum, 1890, p. 209), having removed from Padang Sidempoean (Sumatra) to Batavia (Java), wrote to me to send him over a colored drawing of *P. melanurus*, for in the possession of it he dared say that he could procure specimens, if the species truly was to be found on the Goenong Gedeh. After having received the desired drawing he had neither rest nor repose until he had kept his word. And indeed on December 3, 1891 I received a postcard d. d. November 3, with the good news, that in his possession were two living adult specimens, ♂ and ♀, the latter with a half grown young, captured on the northern slope of the Goenong Gedeh and that he intended to send them over preserved in spirits as soon as possible.

Dr. Sclater was kind enough to communicate Pasteur's discovery to the members of the Zoological Society in the meeting of January 5.

A couple of days afterward I received a letter in which Mr. Pasteur gave an account of the troubles he had to overcome before he got the said specimens, the way how they have been captured and their behavior in confinement.

I think it to be full of interest to naturalists if I hereafter give a translation of a part of the named letter,

this at the same time will show to our zealous and disinterested correspondent how highly we esteem and appreciate his observations.

Pasteur related as follows: »Although Mount Salak, as »nearer to Batavia, offered a much better field to an en»tomologist, I chose the »Kampong" Toegoe (1300 meters »above the level of the sea) for my entomological excur»sions, solely to investigate after *Pithechir melanurus*. Toe»goe is the most remote spot on the slope of the Gedeh »where I could rather easily come with a little cart. And »so I travelled every sunday or every fortnight 174 kilo»meters — 120 K. M. by railroad and 54 K. M. by cart »with three horses — to spend at Toegoe four or five »hours with my favorite occupation. Having your colored »drawing always with me I showed it again and again to »numerous natives, giving them rixdollars and instructions. »In short, I saw the first specimen of this interesting »species on October 31. It was half past eight in the »evening and quite dark. Dozing I sat down in my little »cart slowly pulled by the panting horses along the steep »slope of the mountain, as I heared a native crying: »*toewan, saja dapet itoe tikoes*"! (Sir, I have captured the »rat!) and at the same time he in triumph showed to me »in the light of the lantern one of the iron rat-traps, »which I had given him, wherein I saw the large white »bellied red rat frightened climbing round about! — My »native hunters, having a longing for the promised pre»mium, rambling day after day along the steep uncultivated slopes of the Gedeh, believed a certain day to »remark the red rat running upon a branch of a high »*rasamala* [1]) - tree and saw it disappear in what seemed to »be a large nest. One of them mounted on the tree, but »it was an impossibility to reach the nest: so they resolved to destroy the nest with a long stick by which the »frightened animals would be forced to drop down. And

1) *Liquidambar altingia.*

»this perfectly succeeded; for two adult specimens, ♂ and »♀ with a half grown young came down happily unhurt »and were captured. Six days afterwards I came to Toe»goe and found them living and feeding with fruits of »the earth, especially fruits of the sole like *oebi* [1]) and »*katèla* [2]). I had no opportunity to make out if they too »are insectivorous, and as yet believe — like my hunters »do — that they have a vegetable diet. The young spe»cimen always uninterrupted was suckling and concealed »its head continually under the abdomen of the mother; »in the same position it did sleep and was carried along »by the mother. In two iron rat-traps I brought them »over to Batavia, where however their appetite diminish»ed partly by the very high temperature (85°—90° F.), »partly because I could not procure the small and delicate »granular *oebi* from Toegoe: the coarse *katèla* from Bata»via however they consumed with taste, so *kelimoen* (cu»cumbers) too and fruits like *pisang* [3]) and *manggistan* [4]), »but fresh carrots they did not touch. As a rule they »passed the day sleeping, in the evening they grew rest»less and in the morning nearly always the food had dis»appeared, so that the conclusion is permitted that they »are nocturnal animals.

»The iris is as black as jet; the feet and fingers, as »far as they are thinly haired or not haired at all, are »of a flesh-color like indeed in the existing colored draw»ing; the callosities on the soles of the feet are white »as chalk, the soles however have a somewhat reddish »flesh-color tinge."

So far the interesting notices made by Mr. Pasteur, by which we now may state that we know more about the biology of this very rare red rat than we ever heared about hundreds other mammals since long represented in every

1) Genus *Dioscorea*.
2) *Batatas edulis*.
3) *Musa*-species.
4) *Garcinia mangostana*.

Museum, so that we congratulate Mr. Pasteur with the splendid work he has done.

The color of the fur a. s. o. I described in »Notes from the Leyden Museum, 1890, p. 227"; I only have to add that the red color has not the yellow tinge like in Cuvier's figure, but is of a beautiful chestnut tinged red; the hairs of the belly are pure white in the young specimen (slightly tinged with reddish in the adult individuals) like in the old Java-specimen in our Museum; the tail is very hairy towards its root for about 25 Millimeters: for the rest it *looks* smooth like a snake's skin: the scales (8 to 10 pro Centimeter) are very dark brown colored, so that the specific title *melanurus* has »raison d'être" and my hypothesis (l. c. p. 227) that in our old dried Museum-specimens the tail had been decolored, was quite right; there are very short dark colored hairs — very difficultly conspicuous without the aid of a lens — regularly spread between these scales (plate 3, fig. 8): the midmost is slightly longer than the two others, the latter reaching about halfway the height of a scale; towards its tip the tail is about without hairs, the scales of that part are very small and few in number and bear a much lighter brownish white color; the extreme point of the tail is destitute of hairs, very smooth and purslain white.

Whiskers black throughout, much longer than the head, very numerous; the longest measure about 63 Millimeters.

The strongly rounded oval ears are sparingly clothed with short hairs; upper margin fringed with rather long hairs.

Size and shape of hands and feet will be clear from the drawings (plate 3, fig. 5 and plate 4, fig. 6), the nails are short, well arched and very acutely pointed, brownish white; the nail of the rudimentary thumb of the hand is very small and obtuse like that of the thumb of the hind foot, which nail is however stronger.

The female has four strongly (their young was suckling) developed inguinal nipples. The clitoris is extraordinarily

large: in the adult female it measures 11,5 Millimeters (exactly the size and shape of the penis of the adult male) so that I at first mistook the young individual for a male, as this suckling young has a clitoris measuring 6 Millimeters: the four small nipples are clearly visible.

Some measurements (in Millimeters) of the ♂, ♀ and young ♀ preserved in spirits:

| | ♂ | ♀ | young ♀ |
|---|---|---|---|
| Length of head and body . | 180 | 200 | 130 |
| Nose to eye . . . . . | 21 | 22 | 16 |
| Eye to ear . . . . . | 14 | 16 | 10 |
| Ear . . . . . | 15,5 × 14,5 | 17 × 15 | 14 × 14 |
| Length of tail . . . . . | 193 | 210 | 128 |
| » » fore foot with claw. | 16 | 17 | 15 |
| » » hind foot . . . . | 31 | 32 | 26 |

The skull and teeth agree with the figures published in N. L. M. 1890, plate 9, figs. 1—4, so that it appears that I was correct when I referred these skulls to our old stuffed specimens of *Pithechir melanurus* (l. c. p. 226).

The palate-ridges (plate 4, fig. 7) bear some interest as they widely differ from those on the palate of the greatest part of the other *Muridae* known to me.

The skeleton presents 13 costales, 6 lumbares, 4 sacrales and 37 caudales.

# NOTE XXII.

## ON ORTHRAGORISCUS NASUS, RANZANI.

BY

**Dr. Th. W. van LIDTH de JEUDE.**

(Plate 5).

In volume XII of this periodical I described a large specimen of *Orthragoriscus* captured on our coast at Ameland in Dec. 1889, and called attention to the differences in the various descriptions to be found of this species of fishes. In the end of November of last year another specimen was washed ashore at Callantsoog on our coast and was, trough the kindness of Dr. P. P. C. Hoek director of the Zoölogical Station at Nieuwediep, presented to the Leyden Museum. Though a large one this specimen is not so gigantic as our former one. The dimensions are as follows:

Distance from tip of snout to extremity of tail. M 1.23
Distance from root of dorsal fin to root of anal fin, measured at their anterior side . . . . M 0.76
Distance from root of dorsal fin to root of anal fin, measured at their posterior side. . . . M 0.64
Distance from top of dorsal fin to top of anal fin. M 1.62
Distance between tip of snout and anterior side of the root of dorsal fin. . . . . M 0.77
Distance between tip of snout and anterior side of the root of anal fin . . . . . M 0.87
Distance from tip of upper jaw to anterior side of the root of pectoral fin . . . . . M 0.40
Distance from tip of snout to anterior side of the root of pectoral fin . . . . . M 0.43
Distance between tip of upper jaw to centre of the eye . . . . . M 0.19⁵
Distance between tip of snout to centre of the eye. M 0.22⁵

Our specimen is a male and weighed about 90 Kg.

In two points this Orthragoriscus differs from that captured at Ameland viz. 1°. in having a prominent snout or proboscis, wanting in the other specimen; 2°. in the nature of the band between body and caudal fin.

The proboscis protuding above the mouth ends in a strongly developed osseus tubercle and passes into a very decided swell on either side over the eye; just over and a little behind the eye this swell is most prominent, further on it decreases and entirely loses itself a little before the pectoral fin.

In this way is formed at the back, as it were a crest, extending from just before and over the eye as far as the root of the dorsal fin. Behind the pectoral fin are seen parallel longitudinal folds, the most marked ones pretty near in the middle, running straight on in the direction of the eye. On the animal being skinned, these folds were found to be local swellings of the skin.

As to the band between body and caudal fin, so clearly visible in our Ameland specimen, it is almost invisible in the smaller one from Calantsoog and might even be overlooked. There are no deep grooves to be seen and the skin of the band is all over set with the little pricks caused by the dermal ossifications.

In having a snout, and longitudinal folds behind the pectoral fin as well as in presenting the slight band between body and caudal fin our specimen quite agrees with Harting's *Orthragoriscus ozodura* and Steenstrup's *Mola nasus*. On the score of these characteristics, more fully developed in Note 32 volume XII, I think it better to separate this species from the *Ortragoriscus mola* L., of which our Ameland specimen may be regarded as a representative, and call it *Orthragoriscus nasus* after Ranzani's description of *Diplanchias nasus*.

Our specimen is of a brownish colour, overlaid with a silvery tinge, particularly at the lower parts, and was covered all over with round and elliptical bright spots.

The figure added to this note was made after a photogram taken by Dr. Hoek's care, and may give a sufficient clear idea of the exterior of our fish, expecially of the snout; moreover our specimen is carefully stuffed and preserved in the collections of our Museum.

†

## JAN PIETER VAN WICKEVOORT CROMMELIN.

On October 20th last died at Haarlem the Dutch Ornithologist Dr. juris Jan Pieter van Wickevoort Crommelin at the age of nearly 61 years.

His love for the birds of his country dated from his early boyhood, but the interest in regular ornithological studies was awakened in him by the well-known Zoologist Temminck, an old friend of his father, during the years he passed as a *studiosus juris* at the Leyden University. Encouraged by Temminck, who introduced him to the Leyden Museum, Crommelin decided, after having taken his degree of Doctor of Laws in 1852, to devote a whole year exclusively to the study of zoology under the able direction of Professor van der Hoeven.

Being independent as regards pecuniary matters, he felt no inclination to enter either the career of a lawyer or a politician, and could therefore the more easily devote his time to collecting and studying the birds of his country. His collection increased very rapidly, and with an extraordinary zeal and perseverance he has, during nearly forty years, brought it to such a standard that it may unhesitatingly be said to contain almost all the species of birds hitherto observed in the Netherlands. Most of the species are represented by large series of very carefully selected, and splendidly stuffed and preserved specimens. In this collection of about 2000 specimens a large number of very rare species are represented. Amongst these the attention of

Ornithologists may be called to the following:

*Milvus migrans* (Bodd.).

*Turdus obscurus* Gm. juv.; Oct. 27th 1843, near Haarlem.

*Anthus richardi* Vieill. ♂ juv.; Oct. 24th 1890, The Hague.

*Loxia bifasciata* (Brehm), two males; North Holland.

*Ardea ralloides* Scop. adult; July 1830, Schollevaers Eiland.

*Ibis falcinellus* (L.), ♀ jun.; Oct. 30th 1873, Overijsel.

*Otis tarda* L. male; March 7th 1855, Dordrecht.

*Otis tetrax* L. two females, shot on December 28th 1853 in Gelderland, and January 28th near Alkmaar.

*Rallus parvus* Scop. ♂ juv.; September 9th 1872, Overijsel.

*Numenius tenuirostris* (Vieill.), male; December 5th 1856, near Haarlem.

*Fuligula rufina* (Pall.), five specimens from the Naarder Meer near Amsterdam.

Moreover, as hardly need to be said, his collection contains whole series of *Ampelis garrula*, *Nucifraga caryocatactes*, *Syrrhaptes paradoxus* and others, all obtained during their respective invasions in the Netherlands.

A complete list contains ample informations about each of the specimens obtained. His collection has furnished a great number of facts mentioned in »Bouwstoffen voor eene Fauna van Nederland", and many valuable contributions from his hand are contained in the »Archives Néerlandaises" and in »Nederlandsch Tijdschrift voor de Dierkunde", while many of his most interesting observations have been recorded by Dr. Herman Albarda in his annual reports (Ornithologisch Jaarverslag) which are published in »Tijdschrift der Dierkundige Vereeniging".

Crommelin was much interested in the occurrence of hybrids, especially among Ducks, and several very interesting cases of interbreeding were treated of by him in the above mentioned periodicals.

The value of all that has been done by this zealous Ornithologist will, however, be enhanced when we consider that, already during his academical studies, he suffered much from a disease of his eyes, which rapidly became worse,

until, at the end of a few years, it resulted in total blindness.

With the aid of an able and trustworthy servant, who, though ignorant of foreign languages, had to read to him the ornithological publications in the different languages, and to assist him in his work, he was able to help himself even in the most intricate ornithological questions, and acquired in course of time a wonderful aptitude for recognizing his birds by feeling especially the bill and feet. It was very seldom that the slightest aberration escaped him, either in coloration or form.

Crommelin was not only a thorough student of the birds of his own country, but of general European Ornithology as well. He was, moreover, a man whose knowledge was built on a very broad base. Being very well acquainted with foreign languages, he showed a lively interest in Botany and other branches of Natural Science. His blindness he bore patiently, and his modesty and amiability in conversation with others were highly esteemed by all who were fortunate enough to belong among the number of his acquaintances.

That his modest work was duly appreciated by his Dutch fellow Zoologists, is clearly proved in a necrology from the pen of his friend Dr. Herman W. de Graaf, published lately in »Tijdschrift der Dierkundige Vereeniging", 1891, p. 81.

According to his wish, the whole collection of the able Ornithologist was, after his death, presented to the National Museum at Leyden, where it will find its place in a special gallery as the stock of a separate collection representing the Ornis of the Netherlands, and be a worthy monument to a worthy Dutch Naturalist.

Leyden Museum, January 1892.

J. Büttikofer.

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# NOTE XXIII.

## ON A CHESTNUT- AND BLACK WEAVER FINCH FROM SUMATRA

BY

**J. BÜTTIKOFER.**

While occupied with a revision of the genus *Munia* in the Leyden Museum, I met with two specimens of black-headed chestnut-brown specimens from Sumatra. One of them is said to be a male, the other a female, and both are making the impression of adult birds. Both specimens, as far as I am aware the first ones of this group ever recorded from Sumatra, are the representatives of *Munia atricapilla* (Vieill.) from the Indian Continent and Malacca but may be easily distinguished from the latter and also from the Bornean birds by the abdomen, vent and under tail-coverts being maroon-brown instead of black. In the female some of the feathers on these parts are tipped with sooty brown. Another distinguishing character is the straw-yellow tinge of the central pair of tail-feathers and the tips of the longest upper tail-coverts. Besides these two specimens our collections contain another brown-bellied specimen from Canton (China) which only differs from those from Sumatra in having no straw-yellow on the tail. This specimen showing evident marks of its having been kept in captivity, it is not out of doubt whether it is of real Chinese origin or not.

It would be worth the trouble to make out with the aid of numerous specimens, if in the Sumatran representatives of this group this peculiar character is constant, as in this case they would belong to Edwards' „Chinese sparrow" = *Amadina sinensis* Gray (see Sharpe, Cat. B. Br. Mus. XIII, p. 334, footnote).

Leyden Museum, April 1892.

# NOTE XXIV.

## OBSERVATIONS SUR LES STENOPHIDA LINEARIS, PASC. ET OXYOPISTHEN SUTURALE, ROEL. (STENOPHIDA TRILINEATA, AURIV.)

PAR

**W. ROELOFS.**

Lors de ma notice sur les genres du groupe des *Oxyopisthen* [1]) je ne connaissais le genre *Stenophida* et son espece typique, *S. linearis* Pasc., que par la courte description qu'en donne l'auteur [2]).

Cette espèce était restée également inconnue à Mr. Aurivillius lors de ses travaux sur ces insectes [3]).

Or, Mr. Neervoort van de Poll a trouvé tout récemment, parmi les insectes non déterminés de sa collection, l'espèce en question, ce qui m'a permis de l'examiner et de le comparer à mon *Oxyopisthen suturale (Stenophida (?) trilineata* Auriv.).

La description donnée par Mr. Pascoe avait fait supposer à Mr. Aurivillius que son *trilineata* pourrait peut-être faire partie du genre *Stenophida* Pasc., tout en ajoutant qu'un examen ultérieur indiquerait peut-être des caractères qui forceraient de séparer génériquement ces insectes.

Après avoir étudié l'espèce de Mr. Pascoe, je ne doute pas qu'il en soit ainsi. — Ce qui frappe surtout dans *S. linearis*, est l'étroitesse de l'insecte, tandis que *O. suturale* Roel. se distingue des espèces voisines par sa forme plus large et ovale. J'ai donné le nom de *Platyopisthen*

1) Notes Leyd. Mus. XIV (1892), p. 33.
2) Journ. Linn. Soc. Lond. XIX (1886), p. 336.
3) Öfvers. af Kongl. Vetensk.-Akad. Förhandl. 1891, n° 6.

au genre dont *Oxyopisthen suturale* Roel. (*Stenophida* (?) *trilineata* Auriv.) devient l'espèce typique. Pour bien indiquer la différence des deux genres entre eux et les genres du même groupe, on peut établir leurs caractères comme suit:

*Stenophida* Pascoe.

Corps linéaire, assez convexe.

Rostre plus gros à la base que dans le reste de son étendue, un peu étranglé à son origine.

Antennes plus sensiblement coudées que dans les genres du groupe des *Oxyopisthen*, assez grosses en proportion de leur longueur; scape atteignant tout au plus le bord antérieur du prothorax, plus court que le funicule; premier article de celui-ci un peu plus long que les suivants, massue assez forte, triangulaire.

Yeux séparés en dessous.

Prothorax environ d'un tiers plus long que large, sa base un peu avancée au dessus de l'écusson, parallèle sur les côtés.

Ecusson linéaire.

Elytres de la longueur du prothorax, pas plus larges que lui.

Pygidium déclive suivant une ligne courbe.

Deuxième segment de l'abdomen séparé du premier par une suture superficielle, plus long que les deux suivants réunis; les sutures de ces derniers très profondes.

Jambes fortement mucronées.

Dernier article des tarses long, ses crochets divariqués.

Vestiture écailleuse, consistant en écailles piliformes assez grandes.

*Platyopisthen* Roelofs.

Ovale-allongé, peu convexe.

Rostre à peine grossi à la base.

Scape des antennes un peu élargi en massue à son extrémité, aussi long que le funicule, dépassant le bord antérieur du prothorax; deuxième article du funicule plus long que le premier.

Yeux à peine séparés en dessous.

Prothorax en cône tronqué, fortement bisinué à sa base.

Ecusson cordiforme.

Elytres de la largeur du prothorax à leur base, se rétrécissant graduellement vers le bout.

Pygidium faiblement déclive, peu convexe, triangulaire, tronqué chez le ♂, prolongé en pointe, un peu relevée, chez la ♀.

Jambes armées d'un mucro très robuste.

Dernier article des tarses long, ses crochets séparés; l'avant dernier article à peine échancré.

Deuxième segment de l'abdomen aussi long que les deux suivants réunis.

Vestiture consistant en une pilosité extrêmement fine [1]).

Je pense que ce genre est plus voisin des autres genres du groupe des *Oxyopisthen*, que *Stenophida*.

Pour ce qui concerne l'espèce typique de ce dernier genre, *S. linearis* Pasc., j'observe que chez l'individu que j'ai sous les yeux, les côtés du métasternum sont garnies d'écailles assez grosses, blanchâtres, qui s'étendent sur le premier segment de l'abdomen; le pygidium en est garni en dessus et son extrémité en dessous. Dans la description de Mr. Pascoe, je lis seulement „at the sides pitchy". L'individu que Mr. Pascoe avait sous les yeux était probablement un peu usé.

L'individu de la collection Neervoort van de Poll provient de Mr. Raffray et est originaire de Momboia, près de Zanzibar.

Cette provenance, très éloignée de celle des genres du groupe des *Oxyopisthen*, rend la proximité systématique du genre et de ces derniers encore peu probable [2]).

La Haye, Mars 1892.

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1) La nature de la vestiture des espèces dont il est question ici, est tout à fait différente; elle est dans bien des cas très caractéristique des genres.

2) Mr. Pascoe compare le facies de *S. linearis* à celui des espèces du genre *Periphemus*. J'ai vu depuis ma notice une espèce de ce dernier genre, probablement *P. retrorsus* Pasc., qui ressemble en effet beaucoup au *Stenophida linearis*.

# NOTE XXV.

## DESCRIPTION D'UN NOUVEAU GENRE ET D'UNE NOUVELLE ESPÈCE DE CURCULIONIDES DE LA TRIBU DES ULOMASCIDES

PAR

**W. ROELOFS.**

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*Büttikoferia*, n. g.

Corps déprimé, allongé.

Rostre et tête fortement déprimés, subhorizontaux; le premier droit, continu avec la tête, un peu concave en dessus, légèrement rétréci en avant et déclive à l'extrémité; scrobes entières, très larges et profondes, dirigées sous les yeux et continuant derrière eux, visibles d'en haut vers l'extrémité du rostre par la saillie de leur lèvre inférieure. Le rostre est légèrement échancré en arc sous la bouche. Les mandibules assez grandes et arquées.

Antennes insérées près de l'extrémité du rostre, assez longues et grêles, leur scape couvrant les yeux; funicule de sept articles, le premier un peu plus gros et plus long que le 2e, les suivants graduellement plus courts et un peu plus gros, le 7e de nouveau un peu plus long; massue articulée, allongée.

Tête fortement et subitement rétrécie derrière les yeux qui sont ovales, saillants et granulés.

Prothorax en carré transversal, coupé aux angles.

Ecusson irrégulièrement ovale, transversal.

Elytres à peine plus larges que le prothorax, leurs épaules arrondies, du double plus longues que larges, presque parallèles sur les côtés, arrondies au bout.

Métasternum fortement déprimé en arrière, avec une ligne imprimée dans la dépression.

Premier segment de l'abdomen de la même longueur que les deux suivants, et séparé du 2e par une suture droite.

Hanches distantes, surtout les deux paires postérieures; cuisses un peu en massue, les antérieures plus grosses et courbées sur leur tranche supérieure, toutes latéralement comprimées, tranchantes en dessous, anguleusement dentées vers l'extrémité, évasées de la dent jusqu'au bout; jambes inermes, comprimées. Les deux premiers articles des tarses très petits, le 3e grand, divisé en deux lobes étroits, oblongs, et spongieux en dessous; le 4e article grand, ses crochets robustes, fortement divariqués.

Saillie de l'abdomen faiblement anguleuse.

*Büttikoferia liberiensis*, n. sp.

Long. 11 millim. — D'un brun marron plus foncé sur les élytres, luisant en dessous.

Rostre couvert d'une ponctuation striolée et garni d'une pilosité courte, fine, jaunâtre; le bout du rostre est un peu noirâtre; les mandibules noires. Les côtés du rostre sont limités par une carène partant de dessus des yeux et graduellement moins élevée vers l'extrémité; la bouche est entourée de cils jaunes. La tête présente une dépression entre les yeux. Les antennes sont garnies d'une pubescence jaunâtre, plus longue sur le funicule, la massue est couverte d'une pubescence courte jaunâtre.

Prothorax très peu convexe, presque parallèle sur les côtés, ses angles coupés, les bords du disque un peu relevés, celui de la base un peu saillant aux extrémités. Le prothorax est légèrement échancré en avant et faiblement bisinué à la base; ces deux extrémités sont noirâtres; il est couvert d'une ponctuation serrée, confluente sur les côtés, et d'une fine pubescence, peu apparente; il est un peu déprimé aux angles antérieurs. L'écusson est garni d'une pubescence pareille à celle du prothorax.

Elytres isolément arrondies à la base, garnies de stries de points, les intervalles des stries sont finement ridés. A la base, vers le 5e intervalle, se voit une élévation peu marquée; le bout des élytres est arrondi.

Le dessous du rostre est luisant et présente à la base, un espace triangulaire, nettement limité, garni d'une pubescence courte, jaune, très serrée, offrant l'apparence d'un coussinet. Dessous luisant, garni comme les pattes d'une pubescence fine, jaunâtre. Le dernier segment plus densément garni de poils.

Un individu du Musée de Leyde, provenant du voyage de M. M. Büttikofer et Stampfli à Libéria.

Par la comparaison de ma description de mon genre *Büttikoferia*, avec les descriptions du genre *Ulomascus*, par Mr. Fairmaire (Ann. de la Soc. Ent. de France, 2e série, Tome VI, 1848, p. 173 et suivants, avec figure) et par Lacordaire (Genera des Coléoptères, Tome VII, p. 185) on verra que les caractères que je donne au genre nouveau, diffèrent à peine de celles que les deux auteurs donnent au genre *Ulomascus*; ces différences m'ont paru cependant assez grandes pour séparer génériquement *Ulomascus caviventris* Fairm. de ma nouvelle espèce. Le faciès des deux insectes diffère du reste sensiblement à juger d'après la figure de Mr. Fairmaire. Chez la nouvelle espèce le rostre est plus long, le cou de la tête plus étroit, la forme du prothorax et des élytres est différente. Autant que j'ai pu juger de la construction de la bouche, elle est échancrée en dessous, comme celle de *Ulomascus* décrite par Lacordaire, et les mandibules sont arquées. Lorsqu'on aura trouvé de nouveaux individus de ces insectes, on découvrira peut-être des sexes différents et, s'il en existe, d'autres espèces; leur examen fera mieux connaître l'analogie des deux espèces, remarquables par leur forme aberrante.

La Haye, Avril 1892.

# NOTE XXVI.

## THE SPECIES OF LUCANOID COLEOPTERA HITHERTO KNOWN AS INHABITING THE ISLAND OF JAVA

ENUMERATED BY

**C. RITSEMA Cz.**

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### **Hexarthrius** Hope.

**Buqueti** Hope. — Various localities, in Mus. Leyd.
**rhinoceros** Oliv. — Without more definite locality, in Mus. Leyd.

### **Cladognathus** Burm.

**giraffa** Fabr. — Various localities, in Mus. Leyd.

### **Metopodontus** Hope.

**cinnamomeus** Guér. — Various localities, in Mus. Leyd.
**Mohnikei** Parry. — Mt. Ardjoeno, in Mus. Leyd.
**occipitalis** Hope. — Various localities, in Mus. Leyd.
**sericeus** Westw. — *Conf.* Trans. Ent. Soc. Lond. IV, p. 274.

### **Prosopocoelus** Hope.

**elegantulus** Albers. — Mt. Tengger, teste Albers: Deuts. Ent. Zeits. 1891, p. 76.
**Pasteuri** Rits. — Mt. Poentjak, in Mus. Leyd.
**Rosenbergii** Voll. — Buitenzorg, in Mus. Leyd. [1])
**tarsalis** Rits. — Magelang, in Mus. Leyd.

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1) I am informed by Mr. J. D. Pasteur that a male and a female of this species have been captured by him on Mt. Poentjak, on the frontier between the districts of Buitenzorg and Preanger.

## Cyclommatus Parry.

**faunicolor** Hope. — *Conf.* Trans. Ent. Soc. Lond. IV, p. 273.
**Frey-Gessneri** Rits. — Mt. Poentjak, in Mus. Leyd.

## Odontolabis Hope.

**bellicosus** Casteln. — Various localities, in Mus. Leyd.

## Chalcodes Westw.

**aeratus** Hope. — Mt. Ardjoeno, teste Gestro: Ann. Mus. Civ. Genova, XVI, 1881, p. 313.

## Neolucanus Thoms.

**laticollis** Thunb. — Various localities, in Mus. Leyd.

## Eurytrachelus Thoms.

**bucephalus** Perty (= *bubalus* Perty). — Various localities, in Mus. Leyd.
**eurycephalus** Burm. (= *Candezei* Parry = *Lansbergei* Gestro = *Vollenhovii* Albers). — Various localities, in Mus. Leyd.
**gypaëtus** Casteln. (= *saiga* Burm. nec Oliv.). — Various localities, in Mus. Leyd.

## Dorcus Mc. Leay.

**Parryi** Thoms. — Mt. Poentjak, in Mus. Leyd.

## Hemisodorcus Thoms.

**passaloides** Hope. — Without more definite locality, in Mus. Leyd.

## Gnaphaloryx Burm.

**opacus** Burm. (nec = *taurus* Fabr.). — Mt. Poentjak, in Mus. Leyd.
**squalidus** Hope. — Mt. Poentjak, in Mus. Leyd.

## Aegus Mc. Leay.

**acuminatus** Fabr. — Various localities, in Mus. Leyd.

**impressicollis** Parry. — Tjibodas, teste Gestro: Ann. Mus. Civ. Genova, XVI, 1881, p. 332.

species? (an *lunatus* Weber). — Tjibodas, teste Gestro: Ann. Mus. Civ. Genova, XVI, 1881, p. 332.

### **Figulus** Mc. Leay.

**marginalis** Rits. — Without more definite locality, in Mus. Leyd.

**subcastaneus** Westw. — Without more definite locality, in Mus. Leyd.

### **Cardanus** Westw.

**sulcatus** Westw. — Without more definite locality, in Mus. Leyd.

In the above list 29 Javanese species are enumerated, whereas 26 species are recorded as such by Dr. Gestro in his tabular view of the geographical distribution of the Lucanidae in the Eastern Archipelago (Ann. Mus. Civ. Genova, XVI, 1881). Of two of these latter this habitat is, however, very doubtful:

*Cyclommatus Dehaani* Westw. (= *affinis* Parry), a species known as inhabiting Borneo and Sumatra, but noticed from Java by Parry (Cat. Lucan. 1st Ed. 1864, p. 84, 2nd Ed. 1870, p. 109 and 3rd Ed. 1875, p. 12), by the Authors of the Munich Catalogue (vol. III, 1868, p. 953) and by Gestro (Ann. Mus. Civ. Genova, XVI, 1881, tab. view). — There are two male specimens of this species in the Leyden Museum labelled »Bandong (Sijthoff)", but I have good reasons to believe this indication to be erroneous, as well as that of a male specimen of the Bornean *Cyclommatus tarandus* Thunb. from the same consignment.

*Eurytrachelus Titan* Boisd., a species known from Celebes, Borneo, Sumatra and Nias, but recorded from Java in the Munich Catalogue (vol. III, p. 958) and by Dr. Gestro (*l. c.*).

*Metopodontus castaneus* Hope is likewise recorded from Java in the Munich Catalogue (vol. III, p. 950), but this is a continental species (conf. Parry's Cat. Lucan. 2nd Ed. p. 108, and 3rd Ed. p. 10).

Finally, Dr. Fr. Leuthner in his »Monograph of the Odontolabini" (pp. 459 and 460) mentions with doubt as Javanese species:

*Odontolabis Vollenhovii* Parry, from West Java (a telodont ♂ in coll. Oberthür, olim Lansberge) and

*Odontolabis Ludekingii* Voll., from Bandong, Sijthoff (a telodont (?) ♂ in Mus. Leyd.), whereas

*Odontolabis siva* Hope, of which specimens said to be from Java occur in the Leyden Museum under the name of *O. carinatus* Linn., is, without hesitation, rejected by him as a native of this island (*l. c.* p. 438).

Leyden Museum, February 1892.

# NOTE XXVII.

## ADDITIONS AND CORRECTIONS TO THE LIST OF SUMATRAN LUCANIDAE [1])

BY

**C. RITSEMA Cz.**

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ADDITIONS.

### Metopodontus Hope.

spec. nov. (an *suturalis* Oliv.). — Mountains between Palembang and Bencoolen, teste Neerv. v. d. Poll: Nederl. Tijdschr. v. Ent. XXXIV, 1891, p. cxx.

### Prosopocoelus Hope.

**zebra** Oliv. — Mountains between Palembang and Bencoolen, teste Neerv. v. d. Poll: Nederl. Tijdschr. v. Ent. XXXIV, 1891, p. cxix.

### Cyclommatus Parry.

**Pasteuri** Rits. — Padang Sidempoean, in Mus. Leyd.

### Aegotypus Parry.

? **trilobatus** Parry ♀. — Mountains between Palembang and Bencoolen, teste Neerv. v. d. Poll: Nederl. Tijdschr. v. Ent. XXXIV, 1891, p. cxx.

### Aegus Mc. Leay.

**Curtisi** Waterh. — teste Waterhouse, Ann. and Mag. Nat. Hist. (6) V, 1890, p. 36.

**impressicollis** Parry. — Deli, teste Neerv. v. d. Poll: Nederl. Tijdschr. v. Ent. XXXIV, 1891, p. cxx.

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1) See: Notes Leyd. Mus. XI, 1889, p. 233.

## Corrections.

*Cyclommatus faunicolor* Westw. of the above cited List is not this species, but *Cyclommatus Dehaani* Westw. (= *affinis* Parry), originally described from Borneo.

*Lucanus elaphus* Herbst is not = *Eurytrachelus purpurascens* Voll., but = *Eurytrachelus saiga* Oliv. (= *concolor* Blanch.) from the Moluccas.

In consequence of the above Additions the number of Sumatran Lucanidae amounts from 45 to 51 species.

From the neighbouring island of Nias the following 8 species are known as yet:

*Metopodontus occipitalis* Hope, *Cyclommatus Maitlandi* Parry, *Cyclommatus canaliculatus* Rits., *Odontolabis gracilis* Kaup, *Odontolabis inaequalis* Kaup, *Eurytrachelus Titan* Boisd., *Eurytrachelus purpurascens* Voll. and *Gnaphaloryx taurus* Fabr.

Leyden Museum, February 1892.

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# NOTE XXVIII.

## LAND- AND FRESHWATER SHELLS COLLECTED BY Dr. H. TEN KATE IN SOEMBA, TIMOR AND OTHER EAST-INDIAN ISLANDS

DESCRIBED BY

**M. M. SCHEPMAN.**

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(Plate 6).

The shells collected by Dr. ten Kate, are from localities which were still very imperfectly or not at all explored. To the latter category belongs the isle of Soemba, which has furnished a few very fine and interesting new species. Other species, though known to science, are remarkable for the novelty of their localities or because the habitat was not yet ascertained.

Considering that Dr. ten Kate travelled in behalf of the Dutch Geographical Society and that his chief occupations consisted of geographical and ethnological investigations, the number of species presented to the Leyden Museum must be called important. With respect to the literature, I must remark, that I have usually cited: for the Land-shells, the second volume of the Zoological Series of »Die preussische Expedition nach Ost-Asien", by Prof. Ed. von Martens, Berlin, 1867, and for the Melanidae and Neritinae, the monographs of these genera published by Dr. Brot and by Prof. von Martens in the second edition of Martini Chemnitz' »Systematisches Conchylien-Cabinet"; these works give a full account of the synonyms.

For a few species which remained doubtful, I have to acknowledge the kind assistance of Prof. von Martens, while Dr. Brot was so kind as to determine the Melaniae or to verify my determinations.

1. *Nanina cidaris* Lamarck.

Martens, Ostas. Landschn. p. 203.

Locality: Amarassi, Timor.

A few juvenile specimens, the sculpture of which is rather coarse, and consists of spiral striae and oblique rugosities.

2. *Nanina rareguttata* Mousson, var. *venusta* Beck.

Martens, Ostas. Landschn. p. 205; Taf. 9, fig. 5, 6.

Locality: Adonara.

This variety was formerly known from Flores, and was recently found also on Solor near Menanga (Martens: Zoologische Ergebnisse einer Reise nach Niederländisch Ost-Indien durch Prof. Max Weber; Mollusca, p. 228); it is new for Adonara.

3. *Nanina inquinata* v. d. Busch.

Martens, Ostas. Landschn. p. 207.

Locality: Amarassi, Timor.

The only specimen is more depressed than the figure given by Philippi (Abbildungen und Beschreibungen neuer Conchylien, I, p. 10, *Helix*, Taf. I, fig. 4). I should call the sculpture obliquely rugose, instead of »minutissime granulata"; the spots on the last whorl are transparent, calling in mind those of *N. rareguttata*. Prof. v. Martens, who determined this species, writes that though it was recorded from Java, this locality has little importance, as in former times every shell from the East-Indies was ascribed to that isle.

### 4. *Nanina baliensis* Mousson.

Martens, Ostas. Landschn. p. 207. — Mousson, Journ. Conch. 1857, p. 155; pl. VI, fig. 6.

Localities: Massoe, central S. E. Soemba, one fine specimen; near Waingapoe, one rather bad specimen; from the coast of Taimanoek, N. Soemba, and from a brook between Pensadoe Kopol and 'N datas, bleached specimens (subfossil?).

I sent the fresh specimen from the first-mentioned locality to Prof. v. Martens, having no specimens of the typical *N. baliensis* for comparison, the shape being more depressed than in the figures given by von Martens and Mousson.

Prof. v. Martens writes: »sehr ähnlich *N. baliensis* Mouss.; ich habe Exemplare von Mousson, von denen eines oder zwei eine beinahe ebenso gedrückte letzte Windung haben, und die Färbung der Schnecke ist fast in der Mitte zwischen der ächten *baliensis* und var. *Waandersiana*". — As all the specimens have the same depressed form I name them:

var. *soembaensis*.

Shell more depressed than the type, especially the last whorl; colour purplish, last whorl with fragments of a yellowish epidermis, suture margined with opaque white, last whorl nearly angular.

Diam. maj. 33, min. 29, alt. 25 mill.

Compared with the figure of *N. baliensis* of Mousson, l. c., the last whorl is more depressed and the colour paler, approaching that of *N. Waandersiana* (l. c. fig. 1), which has however two brown bands, with an intermediate white one; the specimen of Massoe has a very narrow white band at the periphery, that of Waingapoe shows only the sutural line, if wetted; the other specimens are too much faded to recognize the colours.

5. *Nanina Stuartiae* Sowerby.

Martens, Ostas. Landschn. p. 208.

Localities: Lahoeroe and Fialarang, central Timor.

Two specimens belong to the typical form, as they agree sufficiently with the measurements given by von Martens; another full-grown specimen and a younger one belong to a more depressed form. The typical specimens are richly banded, like fig. 462 of Reeve's Conchologia Iconica (*Helix*); two juvenile specimens seem to belong to the type; the smallest has a conspicuous angle at the periphery.

The depressed specimens differ from the type in having less bands, especially the full-grown one, which has only a narrow band at the suture, a broader one at the periphery and three fainter ones towards the umbilicus; the measurements of this specimen are:

Diam. maj. $43^1/_2$, min. 37, alt. 28, ap. lat. 23, alt. 22 mill.

The locality of *Nanina Stuartiae*, which remained doubtful (cf. v. Martens in his recent publication on the Mollusca collected by Prof. Weber, l. c. p. 227), has now been established.

6. *Nanina cochlostyloides*, n. sp.

Shell slightly umbilicated, globosely conical, obtuse at the apex, thin, whorls $5^1/_2$, the upper ones rather flat, the penultimate and ultimate inflated, rather smooth, with faint spiral striae, upper whorls pale yellowish or greenish, last whorl much dilated with a slight depression near the suture, which is consequently superficial at the upper whorls and deep at the lower ones, the last whorl is orange, yellow or green, dull, obliquely striated, slightly descending near the aperture, with a rounded angle near the suture and one towards the base, which is rather flat and has near the umbilicus, a small shining space; aperture rounded-rhomboid, lip rather thin, slightly thickened internally, columella obliquely descending, slightly reflected, interior of the aperture bright orange, citron yellow or white.

Diam. maj. 34, min. 30½, alt. 28 mill.

Localities: Ka-Tokawai, East Soemba, many specimens; Massoe, central S. E. Soemba, one broken specimen; seashore of Melolo, one empty specimen, and a subfossil one from a brook between Pensadoe Kopol and 'Ndatas.

This species is remarkable for its shape and colouring, which call in mind some species of *Cochlostyla*, the upper whorls presenting in both respects a strong contrast with the last whorl. The following varieties in colour may be distinguished:

1. Upper whorls pale green, with the last whorl more or less distinctly orange, interior of aperture bright orange.
2. Like the preceding, but upper whorls yellowish.
3. Upper whorls pale green, last whorl yellowish, interior of aperture citron yellow.
4. Like the preceding, but upper whorls pale yellowish.
5. » N°. 3 but interior of aperture white.
6. » » 5 » upper whorls whitish.
7. Upper whorls pale green, last whorl bright green, with darker streaks, bluish towards the aperture, interior of aperture white.

This species seems to be allied to *Nanina bimaensis* Mouss. and *N. halata* Mouss., but the apex is more obtuse than in those species, as figured in »Mousson, Mollusken von Java", plate 21, figs. 1 and 2, the last-named variety resembling *N. halata* in colour; the chief difference may be the biangular character of the last whorl, and the resulting contrast with the upper whorls.

The specimens vary slightly in shape and size.

### 7. *Helix argillacea* Fer.

Martens, Ostas. Landschn. p. 273.

Localities: Lamakera, Solor. — Lahoeroe, Fialarang and Amarassi, central Timor; Koepang, Timor; Neklioe, North west Coast of Timor. — Ka-Tokawai, East Soemba; Waingapoe, Massoe, seacoast of Melolo, Soemba. — Subfossil

from hills and from the rivershore near Waingapoe, mixed with sea-shells, and from a brook between Pensadoe Kopol and 'N datas, Soemba.

From each of the above mentioned localities one or two specimens are collected; they vary much in size, the largest diameter being from 16 to 27 mill.

8. *Helix solorensis* v. Martens.

Martens, Ostas. Landschn. p. 277; Taf. 17, fig. 3.

Locality: Lamakera, Solor.

The specimens have a largest diameter from 16 to 17 millim. and are therefore slightly smaller than the smallest specimens recorded by von Martens. They vary much in the number of the spiral bands.

9. *Helix supracostulata*, n. sp.
(Plate 6, fig. 1).

Shell globosely depressed, with a covered umbilicus, only perceptible as a very narrow slit, solid, upper part distinctly plicately ribbed, base rather smooth; whitish, with a rather broad dark brown band at the periphery and a narrow one near the sutures, besides a number of paler bands above and below, varying much in the individuals; apex obtusely convex; whorls $4^1/_2$, slightly convex, last whorl descending abruptly in front. Aperture oblique, rounded; lip slightly expanded, thickened, white; columellar margin covering nearly completely the umbilicus, with a toothlike projection, outer margin near the peripherical band with a second very faint tooth, margins approximating, united by a thin callosity.

Diam. maj. $14^1/_2$, min. $12^1/_2$, alt. 11 mill.
» » 14, » 12, » 10 »
» » 13, » $10^1/_2$, » 9 »
» » 12, » 11, » $9^1/_2$ »

Localities: Ka-Tokawai, East Soemba, and »Soemba", without more definite locality.

This species approaches *Helix solorensis*, but the latter is larger, more umbilicated, nearly smooth and without teeth in the aperture; it resembles very much *H. Reinga* Gray (Reeve, Conch. Icon. fig. 772), but the aperture is rounded and not triangularly lunar. The sculpture in *H. Reinga* is called obliquely striated and no mention is made of a second tooth on the outer lip.

The specimens vary in shape and size and in the number of the bands, which in some specimens are nearly limited to the sutural and peripherical ones; in other specimens the whole shell is banded.

10. *Amphidromus latestrigatus*, n. sp.

Shell sinistral, ovately-conical, nearly smooth, perforated, apical whorl blackish-brown, next whorl rose-colour, the following whorls are white, then pale yellow, last whorl darker yellow, total number of whorls about $6^1/_2$; they are slightly convex, the four last with broad brown flames, which on the last whorl become greenish gray and are often confluent towards the base, sutures with a narrow white margin, accompanied by a blackish one (wanting in one specimen); aperture ovately oblong, angular above, rounded beneath, occupying less than half the length of the shell, bluish white interiorly; lip moderately expanded; columella nearly straight, like the lip dark rose-coloured, margins connected by a thin callosity of the same colour. Alt. $36^1/_2$, diam. maj. 21, ap. alt. incl. perist. $18^1/_2$ mill.
» 37, » » 19, » » » » 17 »

Localities: Massoe, central South East Soemba; near Waingapoe, Soemba.

This species differs from all the allied ones, by the broad flames and the fine rose-colour of the aperture; this last peculiarity is also found in *A. suspectus* Martens, *A. Annae* Martens and in the next species, but they differ in so many other respects, that they may be easily recognized.

The measurements taken from specimens from Massoe,

show that they vary in form. In nearly all the specimens the flames of the upper whorls are traversed by a narrow zone of the ground-colour; the yellow colour of the last whorl is more or less bright.

A juvenile specimen from Massoe has the space near the umbilicus rose-colour, with two brown spiral bands, beneath the periphery. This and two adult specimens from the same locality, are in the finest condition, the other are more or less bleached.

### 11. *Amphidromus reflexilabris*, n. sp.

Shell sinistral, elongately conical, slightly striated, imperforated, varying much in colour, yellow with green streaks, pale or orange yellow, with the upper whorls yellowish or brown, apex yellow or black brown, upper whorls nearly always with brown flames or blotches, lower whorls commonly with a white zone beneath the sutures; whorls 6, slightly convex; aperture elongately-ovate, angular above, angularly rounded and slightly effused beneath, occupying with the peristome about half the length of the shell, interior white; lip strongly reflected, so as to reach and even partly to cover the backside of the shell and forming a canal having the appearance of a very thick peristome; columella thickened, like the lip of a pale rose-colour, margins connected by a thin callosity. Alt. 39½, diam. maj. 18½, ap. alt. incl. perist. 29½ mill.

» 42, » » 21, » » » » 21 »

» 50, » » 23½, » » » » 27 »

Locality: Amarassi, Timor.

This species varies very much in size and colour, no two specimens being alike; the largest (somewhat bleached) one is totally yellow excepted the peristome, the smallest is yellowish orange, with white sutural zone, a dark apex and a few faint brown blotches ranged in two rows on the upper whorls; a third full-grown specimen and a juvenile one are yellow with more or less green, disposed in

streaks on the last whorl, and have a white sutural zone; the full-grown specimen has a yellowish apex and two rows of brown blotches on the next whorls, which cease abruptly on the penultimate whorl; the younger specimen has a dark apex and dark flames, of which only a few are divided by a narrow white spiral zone; the penultimate whorl is partly brown-shaded. This species shows affinities to many other species of the East-Indian Archipelago, the upper whorls of some specimens recall in mind *A. contrarius* Müll., the green whorl resembles some varieties of *A. furcillatus*. They differ from every known species by the uncommon development of the peristome, which is most characteristic and suffices to recognize the species at first sight.

12. *Amphidromus contrarius* Müller.

Martens, Ostas. Landschn. p. 363; Taf. 20, fig. 7[a], 7[b], 7[c].
Localities: Koepang and Amarassi, Timor.

One full-grown and one juvenile specimen from Koepang, belong to the variety figured by von Martens at fig. 7[c]. The only specimen from Amarassi is dark towards the aperture, which is not completely developed and has a purple brown margin.

13. ? *Amphidromus suspectus* v. Martens.

Martens, Ostas. Landschn. p. 362; Taf. 21, fig. 8.
Locality: Soemba.

Only one juvenile specimen has been collected; the third whorl shows faint traces of dark blotches. Prof. v. Martens writes that it differs from his specimens by the vivid citron-yellow colour, and the distinctly limited dark rosy spot near the umbilicus, which characters call in mind *A. laevus* Müll., where the rosy spot extends however to the black band. As all the specimens of *A. laevus* I compared, have more or less distinct bands on the upper

whorls, if there is any painting at all, and the specimen from Soemba has faint blotches like some specimens of *A. contrarius* Müll., and as, according to an information formerly received from v. Martens, this occurs also with *A. suspectus*, I have thought it best to give this only specimen this name, till more and full-grown specimens are obtained.

### 14. *Limnaea javanica* v. Hasselt.

Martens, Conchologische Mittheilungen, Band I, p. 87.

Locality: Waingapoe, N. Soemba.

One rather small specimen seems to belong to the typical form.

### var. *porrecta* v. Martens.

Martens, l. c. p. 89; Taf. 16, fig. 9, 10.

Locality: Amarassi, Timor.

One fine specimen, slightly less elongated than the figure given by v. Martens, and a worn one, besides a small specimen in alcohol.

### 15. *Limnaea perlevis* Conrad.

Conrad, Proceedings Acad. Nat. Sciences Philadelphia, Vol. 5, p. 11.

Localities: Lakes of Soesoek and Ainiba, central Timor.

Several specimens from the above mentioned localities. Edgar A. Smith (Freshwater shells of Australia; Journ. Linn. Soc. Vol. 16, p. 271) and Tapparone Canefri (Fauna Malac. della Nuova Guinea, p. 244) take *L. perlevis* as a synonym of *Lessoni* Desh. (Magasin de Zoologie, Vol. I, 1831, Moll. p. 16; pl. 16); this figure is more globose; according to the description the shell has »la couleur et la transparence de la corne blonde qui serait légèrement teintée de vert".

Prof. von Martens, who compared the shells with those of the Museum in Berlin, says that the specimens resemble

more *L. perlevis*, that both may be however varieties of one species. The specimens are much smaller than the figure of *Lessoni* Desh. and of *Strangei* Ph. which should also be a synonym, and may be not full-grown; so I give them the name applied by Prof. v. Martens.

16. *Physa moluccensis* Lesson.

Martens, Ueber die Ostasiatische Limnaeaceen; Malak. Blätter, 1867, p. 211 (*Physa moluccensis*, p. 218).

Localities: Freshwater lakes ~~near~~ Soesoek and Ainiba, central Timor.

The specimens are slightly more inflated than a specimen from Delhi, Timor, collected by Prof. v. Martens and kindly sent me for comparison; for the rest they agree sufficiently.

17. *Cerithidea ornata* A. Adams.

Reeve, Conchologia Iconica, sp. 22.

Locality: Rivers of North West Soemba.

18. *Melania punctata* Lamarck.

Brot, Mon. *Melania*, in Martini Chemnitz, Syst. Conch. Cabinet, II$^{e}$ Ausg. p. 168; Taf. 20, fig. 4, 4$^{a}$.

Locality: Koepang, Timor.

Numerous specimens are collected at the just named locality; they are all covered with a very thick incrustation. They vary in sculpture and painting, some specimens being almost without brown spots or streaks, while others are richly ornamented. Many have rather distinct spiral striae and a few have also small ribs on the upper whorls; though this does not agree with the description, Dr. Brot, after examination, left them with the more typical specimens.

19. *Melania clavus* Lamarck.

Brot, Mon. *Melania*, l. c. p. 175; Taf. 21, fig. 17.

Locality: Hills near Waingapoe, Soemba; one subfossil specimen.

20. *Melania ten Katei*, n. sp.
(Plate 6, fig. 2).

Shell subulately-turreted, solid, grayish or yellowish horn-colour, often with purple-brown blotches above and below the suture, apex in the adult slightly decollated; whorls 7 or 8, slightly convex, almost smooth, or upper whorls covered with spiral striae, which occupy only the lower part of the lower whorls and the central part of the last whorl.

The upper whorls form a regular cone; last whorl inflated and with an obtuse angle a little below the suture, base eventually with a few very faint striae. Aperture ovately oblong, slightly angular above, rounded beneath; lip simple, slightly sinuous; columella slightly curved.

Alt. 32, diam. maj. 13, apert. alt. $11\frac{3}{4}$, lat. 6 mill.
» 26, » » 10, » » 9, » 5 »

Localities: Waingapoe; Massoe; a brook near Lentang, N. Soemba; Isle Groot Bastaard.

The specimens from the last-named locality are more yellowish and smaller than those of Soemba, the spire is less eroded and the last whorl less inflated; they are probably young shells. Those of Soemba seem to be allied to *M. moesta* Hinds, but the whorls are not so high and are more inflated; the angle is scarcely perceptible at the peristome. *M. sobria* has small ribs on the upper whorls, *M. costellaris* on the contrary is plicated on the lower whorls.

The measurements are taken from the largest specimen, the only one found near Massoe, without epidermis, and from a fresh specimen from Lentang.

21. *Melania* spec.

Localities: Rivers of N. W. Soemba, Isle Groot Bastaard.

The specimens have the appearance of being young, they resemble in sculpture some of the foregoing varieties, but the striae are less distant from each other; they have brown flames and are faintly banded about the periphery, with a darker band near the base of the last whorl.

### 22. *Melania turriculus* Lea.

Brot, Mon. *Melania*, l. c. p. 239; Taf. 25, fig. 7, 7a.

Locality: Isle Groot Bastaard, near the northern coast of Flores.

Besides by the sculpture described by Dr. Brot, the specimens are covered with microscopical spiral striae.

### 23. *Melania* spec.

Localities: Massoe, Waingapoe, hills and rivershores near Waingapoe, mixed with sea-shells (subfossil), Soemba.

Dr. Brot did not know this species, but thought that more material ought to be compared before it could be described as new or regarded as a variety of any described species. The shell resembles *M. turriculus* Lea in sculpture, but it is rather different in form.

### 24. *Melania scabra* Müller.

Brot, Mon. *Melania*, l. c. p. 266; Taf. 27, fig. 14, 15.

Localities: Rivers of N. W. Soemba; Massoe, central S. E. Soemba; Waingapoe; hills and rivershores near Waingapoe, Soemba, mixed with sea-shells (subfossil).

The specimens belong to a much elongated variety; those of the last named localities have no spines on the last whorls.

### 25. *Melania armillata* Lea.

Brot, Mon. *Melania*, l. c. p. 309; Taf. 32, fig. 5.

Localities: Hills and rivershores near Waingapoe, Soemba, mixed with sea-shells (subfossil).

26. *Melania lateritia* Lea.

Brot, Mon. *Melania*, l. c. p. 319; Taf. 33, fig. 1.

Localities: Massoe; rivers of N. W. Soemba; hills and rivershores near Waingapoe (subfossil).

The specimens from N. W. Soemba and some of the subfossil ones are more elongated than the figures of Brot. They differ however from the next species by the stronger granules.

27. *Melania Mauiensis* Lea.

Brot, Mon. *Melania*, l. c. p. 322; Taf. 33, fig. 7, 8.

Localities: Karita river, Melolo, Massoe, Waingapoe, hills and rivershores near Waingapoe, Soemba.

Slightly varying in being more ore less elongated and more or less distinctly sculptured.

The specimens from the last-named locality are subfossil.

28. *Truncatella valida* Pfeiffer.

Martens, Ostas. Landschn. p. 162.

Locality: Baä, Rotti.

The specimens are smaller than those described by Dr. Pfeiffer (Monographia Auriculaceorum, p. 184), the largest being only 9 mill., like those collected by Prof. v. Martens. Several specimens, though full-grown, are still slightly smaller.

29. *Cyclotus soembaensis*, n. sp.
(Plate 6, fig. 3).

Shell globosely depressed, thick, moderately umbilicated, rather smooth, with short radiating striae near the suture, which become very faint towards the periphery; whitish, with red-brown meshes and fulminating streaks, leaving on the largest part of the shell only small oval spots of white, and forming large blotches near the suture; apex horn-colour; spire moderately elevated; whorls about 5,

very convex; sutures slightly margined, deep; last whorl rounded, slightly ascending and enlarged towards the aperture. Aperture nearly perpendicular, circular, peristome thick, double; upper part of the exterior margin angular. Interior of the aperture with a callosity for the operculum.

Diam. maj. 20, min. 16, alt. 17 mill., apert. $9^3/_4$ mill.

Locality: near Waingapoe at the Makwai river, Soemba.

This species, which belongs to the subgenus *Pseudocyclophorus*, I sent to Prof. v. Martens, who declared it to be new, resembling *C. guttatus* Pfr. in painting, but much less depressed, and allied in form to *C. amboinensis*, which is much smaller and has the last whorl descending. *C. politus* Sow., which recently is recorded from Flores by v. Martens, is much more globose.

### 30. *Helicina exserta* v. Martens.

Martens, in Zool. Ergebnisse einer Reise in Niederl. Ost-Indien durch Dr. M. Weber: Mollusca, p. 220; Taf. 12, fig. 16—19.

Locality: Baä, Rotti.

The only specimen, which is relatively higher than those described l. c., I sent for comparison to the author, who writes, that on account of the prominent keel, it should be considered as *H. exserta*, and not as *H. oxytropis* Gray.

The measurements of these allied species are:

*Hel. oxytropis*: diam. maj. 9, alt. 6—7 mill.
» » : » » 8, » 5 »
*Helic. exserta*, from Saleyer: diam. maj. $10^1/_2$, alt. 6 mill.
» » , » Rotti: » » $8^1/_2$, » $5^3/_4$ »

### 31. *Helicina sculpta* v. Martens, var. *minor* v. Martens.

Martens, Ostas. Landschn. p. 167; Taf. 4, fig. 17.

Locality: Baä, Rotti.

The lirae are rather distinct, one specimen has at least five lirae above the keel.

32. *Neritina variegata* Lesson.

Martens, Monogr. *Neritina,* in Martini Chemnitz, Syst. Conch. Cab. IIe Ausgabe, p. 78; Taf. 10, fig. 11—17.

Locality: Koepang, Timor.

The specimens have only a faint indication of the orange spot near the columella.

33. *Neritina turrita* Chemnitz, var. *strigillata* Lamarck.

Martens, Monogr. *Neritina*, l. c. p. 105; Taf. 11, fig. 18, 19.

Locality: Soemba.

34. *Neritina squarrosa* Recluz.

Martens, Monogr. *Neritina*, l. c. p. 162; Taf. 16, fig. 13—18.

Locality: Koepang, Timor.

The specimens of this species and of *N. variegata* are covered with a thick incrustation, so that they cannot be recognized before cleaning.

This and the preceding species of *Neritina* were not recorded by Prof. v. Martens from the mentioned localities.

Rhoon near Rotterdam, February 1892.

# NOTE XXIX.

## CONTRIBUTIONS TO THE KNOWLEDGE OF THE FAMILY BRENTHIDÆ

BY

**Dr. A. SENNA.**

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### VIII [1]).

Enumeration of the species known as yet from Java.

In the following paper I intend to give descriptions of several new species, which Mr. Ritsema, very kindly, sent to me for examination and description, from the collections of the Leyden Museum. These species [2]) have been for the greater part presented by Mr. J. D. Pasteur and, though few in number, they are of great interest and add considerably to our knowledge of the Brenthid-fauna of western Java where they were collected. At the same time I shall add the names of those species already described but not yet known as living in Java, and finally the names of the species indicated by authors from this island, so as to bring at once under the eye all that is at present known about Javanese Brenthidæ.

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1) See for the 1st to 5th Contributions: Bullettino d. Soc. Entom. Italiana, Anno XXI, pp. 33—38 and 101—109; for the 6th: Notes from the Leyden Museum, Vol. XIII, pp. 161—166, and for the 7th: Annali del Mus. civ di Stor. Nat. di Genova, Ser. 2a, Vol. XII, pp. 429—494. 1892.

2) They are signed with an asterisk.

## Subfam. TRACHELIZINÆ.

### Gen. *Cerobates* Schönherr.

1. *C. tristriatus* Lund, Skrivt. af naturhist. selskab. V, 2, p. 66. 1802.

Appears to be generally distributed in the Indian- and Indo-Malayan subregions. Mr. Fea, the well-known naturalist and traveler of the Genoa Museum, has collected it recently in Burmah and Karennee, at elevations varying from 900 to 1100 meters. — Several specimens from Java in my collection.

2. *C. sexsulcatus* Motschulsky, Etud. entomol. VII, p. 95. 1858.

This species occurs in Ceylon, India, Burmah and the Sunda Islands. — It was found by Mr. Fea in Karennee at a height of 900—1100 meters. — I have examples from Java.

Var. *glaberrima* Senna, Ann. Mus. Civ. Genova, Ser. 2ª, Vol. XII, p. 450. 1892.

This variety has the posterior angles of the head more rounded and the elytra very glossy and shining at the sides. Specimens from Burmah, Karennee and Tenasserim in the Genoa Museum; from Java and Gilolo in my collection.

### Gen. *Trachelizus* Schönherr.

3. *T. bisulcatus* Lund, Skrivt. af naturhist. selskab. V, 2, p. 6. 1802.

This species is very common and generally distributed through India, Tenasserim, Karennee, Burmah, China, Japan, the Sunda Islands, the Malayan subregion and Australia.

4. *T. puncticollis* Bohem., in Schönh. Genera et Spec. Curcul. V, p. 494. 1840.

It is indicated from and apparently confined to Java, but it is not contained in the present collection.

5. ***T.*** *scrobicollis* Gylh., in Schönh. Genera et Spec. Curcul. I, p. 331, and V, p. 494. 1840.

This species has been recorded from Java and Borneo; I possess a specimen from Sumatra.

*6. ***T.*** *insularis*, nov. spec.

*Elongatus, ferrugineo-rufus, nitidus: capite supra canaliculato, fere bilobato, basi in medio inciso et utrinque calloso, lateribus bituberculato, parce squamoso; rostro sulcato, apici dilatato; antennarum articulis apicalibus majoribus; thorace sulcato undique punctato, punctis squamosis; elytris sulcato-punctatis, subparallelis, declivitati apicali margine explanato, apici rotundatis.*

Long. $9^1/_2$—13 mm.; lat. max. prothor. $1^1/_2$—$2^1/_3$mm.

Ferruginous-reddish, shining: the elytra a little paler, the rostrum at the apex, the antennæ, the two protuberances in the middle of the head, anterior and posterior margin of the prothorax, sutural line, basal portion of the thighs, the knees and the tarsi darker or blackish. The head in the ♂ is broader than long, narrower in front than behind, notched and scaled at the base, with two callosities in the middle and two protuberances on each side at the hinder angles; furrowed above, the sides of the channel very convex, elevated, scarcely punctured, shining. Eyes slightly prominent, brownish. Rostrum elongate, furrowed from the base up to the apex, about as long as $3^1/_2$ the head; the basal portion a little shorter than the apical one, conical, slightly broader and elevated where it receives the antennæ; the anterior part narrow at the base and widened at the apex: beneath the rostrum at the base glabrous, shining; between the antennæ and in the apical part with a carina and the lateral margin slightly elevated. In the female the head is similarly shaped and scattered with scales; the rostrum at the base is shorter but broader and slightly furrowed, beyond the antennæ filiform with a distinct furrow in the middle. Antennæ short, equal in length to the rostrum, a little thickened towards the extremity: the 1st joint stout, clavate, as long as the 2nd,

3rd and 4th taken together; the 2nd curved externally, the 3rd narrow at the base, the 4th—8th joints transverse and slightly differing from one another in length; 9th and 10th scarcely longer, the apical one is pointed at the tip.

Prothorax oblong, equal in length to the antennæ, at the apical margin slightly narrower than at the base where it is limited by an elevated and sinuate border; behind the middle broader and moderately curved at the lateral margins, with a furrow above and scaled punctures; the punctures are posteriorly more numerous and wanting towards the apex at the sides. In the female the prothorax is broader and more robust than in the male.

The elytra are as long as twice the prothorax and of the same broadness; they have the base notched, the humeral angles rounded and scarcely callous, the sides subparallel, the apical declivity and the apex with explanate and moderately upturned edge (in the ♀ simply explanate): above uniformly and deeply sulcato-punctate; the 1st furrow near the suture narrower and superficially punctured; the interstices raised, the sutural line of a darker color than the rest.

The under surface of the body reddish and shining; metasternum furrowed, with distinct punctures only at the sides, the central part and the two basal segments of the abdomen very finely punctured, the 1st slightly excavated; the apical margin of the 2nd, 3rd and 4th segment with a transverse row of punctures and sometimes scaled; the apical segment is punctured. Legs regular and of the same color as the body.

This species belongs to the group of *T. scrobicollis* Gylh. and *T. puncticollis* Boh. which have the prothorax punctured and furrowed, but it is easily distinguished especially by the head and elytra which are of a different shape.

*Hab.* Java. — A single female collected by Dr. S. Müller (Leyden Museum) and a male in my collection. — I have also another male and two females from Penang.

* 7. ***T.*** *modestus*, nov. spec.

*Præcedenti affinis sed differt (♂) colore obscuriore, antennis robustioribus, rostro base trisulcato, squamoso; capite similiter conformato at sulco profundiore et supra magis bilobato, evidenter punctato; prothorace magis punctato; punctis squamosis; elytris sulcato-punctatis, sulcis latioribus, punctis squamulis ferentibus, apici margine minus explanato: ♀ capite brevi, magis punctato et sulcato, rostro post antennas non canaliculato; elytris apici brevi margine terminatis.*

Long. 6—8 mm.; lat. max. prothor. $1^3/_4$—2 mm.

Allied to the foregoing species but certainly distinct. — Chestnut-reddish, the elytra brown-reddish with the sutural line darker in the basal half and two blackish spots behind the middle. The antennæ are more robust, the three apical joints broader. Rostrum at the base trisulcate, and furrowed also at the sides, scattered with minute scales; the median furrow does not extend to the apex which is finely punctured; beneath the rostrum has a carina along the middle and the lateral margins are raised: in the female the apical portion is filiform, more slender, not furrowed. The head is similarly shaped as in *T. insularis* but above it is punctured, distinctly bilobed and deeply furrowed; the furrow scaled like the basal and lateral notches; the notch in the middle is broader. The prothorax has the punctures at the sides more numerous than in *T. insularis*. The elytra are sulcato-punctate, the furrows broader and the interstices more raised, the suture is broad, the first furrow narrow and impunctate, the apex with the edge less explanate. Body beneath and legs as in the foregoing species, but the 2nd abdominal segment slightly depressed.

*Hab.* Java. — A male and a female collected by Dr. S. Müller (Leyden Museum).

* 8. ***T.*** *mœstus*, nov. spec.

*Parum elongatus, nigro-brunneus, elytris minus saturatis. Caput supra punctatum, bilobatum, medio sulcatum et basi bituberculatum, lateribus tuberculis 2 instructum; an-*

*tennæ modice clavatæ, articulis apicalibus majoribus, perfoliatis; rostrum basi canaliculatum, post antennas (♀) filiforme; prothoracæ pone medium ampliatus et rotundatus, supra punctatus et sulcatus; elytra subparallela, declivitati apicali attenuata, apici obtuse rotundata, sutura leviter incisa, in dorso profunde sulcato-punctata, interstitiis elevatis.*

Long. 11 mm.; lat. max. prothor. 2 mm. ♀.

Certainly of the same group as the foregoing species, but easily distinguished by some characters and by its different facies. Antennæ distinctly thicker at the extremity; the joints similar in shape to those of the other Trachelizus here described. The head deeply separate by the neck, twice broader than long, furrowed above and bilobed, notched at the base but not scaled, scattered with punctures, with the front depressed. The rostrum sulcate at the base, filiform beyond the antennæ. Prothorax as long as the rostrum, much narrower anteriorly than at the base, behind the middle broader and rounded, above strongly furrowed and punctured. Elytra about as long as twice the prothorax and of the same broadness, notched at the base, parallel at the sides, with the shoulders callous and the apical edge scarcely prominent and turned upward; above deeply sulcato-punctate, the furrows broad; the first furrow near the suture narrower and impunctate, the interstices narrow and raised, the 2nd more elevated at the apical declivity than the others. Metasternum sulcate in the middle; the abdomen as in the foregoing species. Legs regular and robust.

*Hab.* Eastern Java. — A single female captured on Mt. Ardjuno by Mr. Hekmeyer (Leyden Museum).

### Gen. ***Miolispa*** Pascoe.

Sectio 1ª. Prothorax non sulcatus, impunctatus.

* 9. ***M.*** *suturalis* Pascoe, Journal of Entomology, Vol. I, p. 393. 1862.

Of this species I possess in my collection two specimens

from Java where it appears to be uncommon. I several times have had specimens from Amboina, Batchian, Halmaheira and Penang. The rufous or fulvous yellow color varies in intensity, being in some specimens paler, in others cinnamon rufous or dark rufous: the sutural region is sometimes glossy black.

*10. ***M.*** *javanica*, nov. spec.

*Elongata, robusta, capite, rostro (apice excepto), antennis elytrorum apice, pedibusque rufo-brunneis; prothorace castaneo-piceo vel brunneo-castaneo plus minusve saturato, elytris piceis vel piceo-castaneis, vitta suturali pone medium interrupta lineolisque flavo-ferrugineis. Caput oblongum, basi emarginatum et in medio incisum; rostrum breve, modice sulcatum, apici divisum; prothorax levis, nitidissimus; elytra medio ampliata, apici truncata, sulcato-punctata, interstitiis angustis, elevatis.*

Long. 8—12 mm.; lat. prothor. $1^1/_3$—2 mm.; lat. elytr. med. $1^1/_2$—$2^1/_2$ mm. ♂, ♀.

The head is longer than broad, convex above, shining, without punctures and furrow; the front with a very minute ditch, the base is emarginate, scarcely narrower, notched in the middle; the sides slightly curved, the hinder angles subacute: beneath shining with scattered punctures hardly perceptible: in the female the head is similarly shaped but nearly square. Rostrum robust, as long as $1^1/_3$ the head, moderately curved, the basal portion shorter than the apical one, subcylindrical and excavated at the sides, furrowed above, but the furrow not touching the base; between the antennæ scarcely elevated, beyond them the rostrum is a little narrower and furrowed in the 1st half, towards the apex widened and at the extremity divided in the middle: the mandibles are exserted, including an empty space: in the female the basal portion is shorter than the head and elevated near the antennæ, the apical part is filiform and slightly furrowed in the basal half. Antennae clavate, about as long as twice the head: the 1st joint robust, clavate, longer than the 2nd and

3rd taken together; the remainder (the apical one excepted) differing but little in length from one another, the 2nd curved externally, the 3rd obconic, the 4th and 5th moniliform, the others almost obconic; the apical joints more robust and perfoliate, the 9th and 10th rounded, the 11th less long than the two preceding ones and acuminate at the tip; the apical joints are hairy and pubescent, the others simply hairy.

The prothorax is as long as $1^1/_2$ the head, ovate, narrower anteriorly than at the base where it has an elevate margin, impunctate above, without any furrow and very shining.

The elytra are scarcely longer than twice the prothorax; the base is emarginate, the shoulders raised and angulate, the sides moderately curved and broader than the thorax, the apex almost truncate with the hinder angles rounded; above sulcato-punctate; the punctures contiguous, the 1st furrow impunctate, the interstices narrow and raised, the 2nd broader with an interrupted yellow line.

Body beneath pitchy-brown, metasternum furrowed at the apex and scattered with very minute punctures, the basal segments of the abdomen not furrowed, the apical margin and the other segments with a transversal row of punctures. Legs robust, unarmed; femora and tibiæ broad; tarsi of the same length and pubescent.

The color in this species varies in intensity. The head, rostrum, antennæ and legs are reddish brown; the apical margin of the rostrum, the median and basal portion of the thighs, and the knees are darker, but sometimes the head too is duskish: the prothorax is uniformly chestnut-pitchy or with the basal and apical margin brown-reddish: the elytra are piceous or pitchy-chestnut, except the apical declivity this being reddish-brown, more or less infuscate; a sutural black spot is sometimes perceptible behind the middle: the yellow line of the 2nd interstice is interrupted or not and frequently only infuscate behind the middle; in some specimens two short lines are also visible at the base and

two others before the middle, and finally, the portion along the suture and the 2nd interstice is sometimes fulvous or ferruginous.

*Hab.* Western Java. — Several specimens, males and a female, collected by Mr. J. D. Pasteur (Leyden Museum).

Sectio 2ª. Prothorax non sulcatus vel obsoletissime canaliculatus, crebre punctatus.

* 11. ***M.*** *metallica*, nov. spec.

*Capite æneo, basi subtruncato, in medio profunde inciso, supra crebre punctato, lateribus bituberculato; rostro cylindrico basi vix incrassato, parce canaliculato, brunneo vel brunneo-æneo, apici ampliato, punctulato; antennis validis, clavatis, articulo apicali longiore; prothorace æneo, pone medium rotundato, creberrime punctato; elytris brunneo-ferrugineis vel brunneo-æneis, apice rufo, linea flava pone medium interrupta; in dorso sulcato-punctatis, humeris rotundatis et paullatim elevatis, lateribus modice ampliatis, apici emarginatis angulisque externis rotundatis.*

Long. 8—12$^1/_2$ mm.; lat. prothor. 1$^1/_3$—2 mm.; lat. elytr. med. 1$^1/_2$—2$^1/_3$ mm.

Head a little longer than broad, parallel at the sides, distinctly notched at the base, with 2 minute tubercles on each side at the hinder angles, above moderately convex, densely punctate, sometimes with an obsolete furrow; the sides shining, rarely punctured; beneath scattered with very fine punctures and sometimes slightly furrowed in the middle. Rostrum scarcely as long as twice the head; the basal part shorter than the apical one and hardly thicker, slightly trisulcate, excavated at the sides, slightly raised at the antennæ; the anterior portion widened at the apex and punctured, furrowed above and excavate at the sides in the 1st half; beneath keeled in the middle: in the female the head is as long as broad; the basal portion of the rostrum shorter than the head, the apical part longer, filiform and hardly curved upward; beneath the rostrum

is keeled at the base and between the antennæ. The latter are clavate, shorter than the head and rostrum together: the basal joint stout, as long as the 2nd and 3rd taken together, the 2nd and the 3rd as in the foregoing species, the 4th—8th transverse, of the same length but very slightly differing in broadness; the apical joints hairy, longer, more perfoliate, the 9th and 10th transverse, the 11th conical and as long as the two preceding ones: in the female the last joint is shorter.

Prothorax longer than broad, almost as long as the rostrum, subovate, narrower anteriorly than at the base, behind the middle broader and rounded, the base with an elevate margin; above deeply punctate and sometimes with a very obsolete furrow; the sides towards the apex almost impunctate, shining; at the base scattered with remote punctures.

The elytra are as long as the thorax, head and rostrum taken together; the base is a little emarginate and of the width of the thorax, the shoulders are rounded and slightly raised, the sides broader than the base, the apex emarginate with the outer angles rounded; above sulcato-punctate, the interstices raised, callous at the base; the 2nd broader, more raised at the apical declivity and with a yellow line interrupted behind the middle; the 1st furrow is impunctate.

The undersurface of the body very shining; the apical portion of the metasternum and the basal segments of the abdomen slightly excavate in the middle and punctured, in the female without any furrow; the last segment finely punctate. Legs stout, scattered with minute punctures; anterior coxæ contiguous, femora clubshaped, tibiæ almost straight, tarsi robust and subequal.

This species varies also in coloration: the rostrum is reddish brown, more or less infuscate, in some specimens the apical portion is slightly metallic; the antennæ and the neck are red-brown, the last joints sometimes duskish; the head and thorax are, for the greater part, cupreous

and very shining at the sides, except the posterior margin which is reddish brown; in some individuals the metallic tint is wanting and the thorax is dark brown or brown-red; the elytra have the apex rufous or brown-red, above they are pitchy brown, more or less cupreous, rarely bluish, sometimes brown-red or chestnut ferruginous; in the specimens of the last color the suture and the lateral margins are darker and behind the middle near the suture a duskish spot is visible. In the individuals here described only the 2nd interstice has a yellow line. Body beneath brown-red, more or less infuscate and cupreous, rarely with a metallic bluish color. Coxæ, basal portion of femora, tibiæ and tarsi red-brown; the club of the thighs darker and sometimes slightly metallic.

*Hab.* Western Java. — Several specimens, males and females, collected by Mr. J. D. Pasteur (Leyden Museum); Borneo (Genoa Museum).

Sectio 3ª. Prothorax distincte canaliculatus vel sulcatus, crebre punctatus.

*12. ***M.*** *nupta*, nov. spec.

♂. *Capite, prothorace, antennis, pedibusque castaneo-rufis vel rubro-brunneis; elytris nigris, apice (sutura excepta) et fascia media a basi usque ad declivitatem apicalem ferrugineis. Caput quadratum, basi incisum et lateribus bituberculatum, supra canaliculatum ac punctatum; rostrum basi trisulcatum, lateribus excavatum, post antennas canaliculatum; antennæ articulis apicalibus longioribus et majoribus; prothorax brevis, crebre rugoso-punctatus, in dorso canaliculatus, canali longitudinali integro; elytra profunde sulcato-punctata, apici emarginata, angulis externis rotundatis.* — ♀. *Capite, rostro, antennis, pedibusque rubro-brunneis; elytris nigris in singulo fascia dorsali a basi usque ad medium, macula pone medium et apice (sutura excepta) ferrugineis; præterea differt a mare capite et rostro basi brevioribus, parte apicali longiore, filiformi; antennarum articulo apicali minus elongato.*

Long. 7—11 mm.; lat. prothor. $1^1/_3$—2 mm.

This species is remarkable by the elytra differently spotted according to the sex, and it is allied (judging from description) to *M. ceylonica* Desbroch. [1]). In both the sexes the head, rostrum, antennæ, prothorax and legs are chestnut-rufous or brown-red and the elytra black; in the male each elytron has a longitudinal large ferruginous or yellow-ferruginous band, taking its rise from the base, finishing before the apical declivity and not touching the lateral margin, nor the suture; moreover the apex and the apical declivity (except the suture) are of the same color: sometimes the band is not interrupted, but simply narrower at the apical declivity. In the female each elytron has a basal band interrupted towards the middle and at the apical declivity; but, like in the male, sometimes the band is simply narrower in the two indicate parts.

Head in male square, furrowed and punctate above, notched at the base with two minute tubercles at the hinder angles: in the female it is shorter, but similarly shaped. Rostrum in ♂ as long as $2^1/_2$ the head and moderately curved; the basal portion shorter than the apical one and hardly thicker, with three furrows above and an excavation at the sides, the central furrow is a little narrower than the lateral ones; widened and rounded at the insertion of the antennæ: the apical part is furrowed at the base, hardly enlarged at the extremity and punctured: in the female the basal portion of the rostrum is equal in length to the head and conical, beyond the antennæ filiform and moderately curved, furrowed at the base, as long as $1^1/_2$ the head and basal portion together: beneath the rostrum in both sexes is as in *M. metallica*. Antennæ almost of the same length as the rostrum and head taken together, similarly shaped as in the preceding species, but the joints less robust, the apical ones narrower, the 9th

1) Desbrochers des Loges, Description de Curculionides et de Brenthides inédits du Musée Indien de Calcutta, in: Journ. Asiat. Soc. Bengal, Vol. 59, part 2, p. 223. 1890.

and 10th almost rounded: the 11th joint in the female is shorter.

Prothorax longer than broad and as long as the rostrum, narrower anteriorly than at the base, enlarged behind the middle and rounded, with a raised margin at the base; rugoso-punctate above and furrowed, the punctures are less numerous above and wanting at the sides towards the apex; the furrow extending up to the apex and impunctate. In several specimens, ♂ and ♀, the prothorax is chestnut in the middle, with the basal margin and a ring towards the apex reddish; the apical extremity is duskish.

Elytra as long as the thorax, head and rostrum together: the base is truncate, the shoulders are rounded, the sides subparallel, the apex emarginate and the outer angles rounded; above sulcato-punctate, the punctures regular and deeper in some individuals; the 1st furrow narrower than the others and impunctate, the interstices moderately raised.

Body beneath chestnut-red, more or less infuscate and distinctly punctured; the punctures more numerous at the sides: metasternum furrowed, the basal segments of the abdomen hardly depressed in the middle. Anterior coxæ contiguous, legs somewhat stout, femora clubshaped and punctured, tibiæ sinuate inwardly and punctured, tarsi as in *M. metallica*.

*Hab.* Western Java. — Thirteen males and ten females collected by Mr. J. D. Pasteur; a ♂ by S. Müller (Leyden Museum).

*13. ***M.*** *exarata* (Dejean) Desbrochers des Loges, Journ. Asiat. Soc. Bengal, Vol. 59, part 2, p. 223. 1890.

This species is indicated in Dejean's Catalogue as *Ceocephalus exaratus* Dej. from Java, but was not described: only recently Mr. Desbrochers des Loges has referred it to *Miolispa* (fide Power) and characterized it briefly. I ascribe to this species five individuals from the Leyden Museum and several others from the Genoa Museum, originating from the above named island, and I believe it

useful to give here a complete description, because Mr. Desbrochers does not speak of some of its characters.

Head nearly square, slightly narrower at the apex, with the base emarginate, the hinder angles subacute, channeled above and punctate, sometimes the furrow obsolete or wanting, the sides with a few hairs: beneath it is deeply punctured. Rostrum short, the basal portion as long as the head, furrowed above and excavate at the sides: the apical part of the same length or hardly longer, briefly or not furrowed and almost not enlarged at the apex. Antennæ moderately long and equal in length to the thorax and head taken together: the 1st joint is clavate and longer than the 2nd and 3rd together; the 2nd subquadrate, the 3rd obconic, the remainder transverse and equal; the three apical joints perfoliate, as long as the preceding ones taken together (except the basal joint); the 9th and 10th subcylindrical, the 11th of the same length as the 9th and 10th taken together and obtusely acuminate at the tip. Neck robust, deeply separated from the head.

Prothorax as long as the head and rostrum united, narrower at the apex, enlarged towards the middle and subparallel at the sides; the base has a raised margin; above it is channeled and rugoso-punctate.

Elytra of the same length as the thorax, head and rostrum together, with the base slightly emarginate, the shoulders rounded, the sides subparallel, the apical declivity narrower, the apex emarginate and the outer angles rounded; above deeply sulcato-punctate, the punctures regular, the interstices narrower and raised, the 1st and 2nd furrow from the suture impunctate.

Metasternum and the two basal abdominal segments punctured and excavate in the middle; the sides of the body, except those of the apical segments, are clothed with a band of very minute and densely set yellowish or whitish scales. Legs moderately robust, scattered with a few hairs.

The color of the head, rostrum, antennæ, prothorax and legs is red-brown or chestnut; the thorax and the median portion of the thighs are always darker than the rest; the elytra are black or duskish with a ferruginous or yellow-ferruginous band along the middle of each elytron from the base to the apex.

Length 8—11 mm.; broadn. of the prothor. $1^1/_2$—2 mm.

*Hab.* Western Java. — Five individuals obtained by Mr. J. D. Pasteur (Leyden Museum); Tjibodas (Java), several specimens collected by Mr. Beccari (Genoa Museum); New Guinea (Desbrochers' collection).

*14. ***M.*** *conformis*, nov. spec.

*Robusta*, *capite*, *rostro*, *antennis pedibusque brunneo-rufis*, *prothorace obscuriore*, *elytrorum sutura*, *margine laterali*, *maculisque duobus prope suturam pone medium obscuris*, *ceterum brunneo-ferrugineis. Caput subquadratum*, *punctatum*, *supra convexum in medio impressum unde fere bilobatum; rostrum breve*, *profunde sulcatum; antennæ ut in specie præcedente; prothorax canaliculatus*, *creberrime rugoso-punctatus; elytra profunde sulcato-punctata*, *interstitiis angustis*, *elevatis.*

Long. 10 mm.; lat. prothor. 2 mm.

Allied to *M. exarata* but easily distinguished by the different punctation of the prothorax and elytra and by the body beneath being not scaled at the sides. Head almost bilobed above, punctate, slightly impressed in the middle; rostrum furrowed up to the apex, the margin of the furrow raised, the apical extremity hardly a little enlarged. Antennæ as in *M. exarata*; prothorax with the furrow narrower and obsolete towards the apex, above deeply rugoso-punctate. Elytra strongly sulcato-punctate, the interstices raised, narrower; the 1st furrow near the suture only impunctate. Metasternum and basal segments of the abdomen slightly excavated in the middle, scattered with punctures at the sides, but wanting the scaled band.

*Hab.* Western Java. — A single male specimen taken by Mr. J. D. Pasteur (Leyden Museum).

## Subfam. AMORPHOCEPHALINÆ.

### Gen. ***Amorphocephalus*** Schönherr.

* 15. ***A.*** *lævis* Power, Annales de la Société Entom. de France, 5e Sér. Vol. VIII, p. 486. 1878.

Mr. Power has indicated this species from India, Mr. J. D. Pasteur captured a male specimen in Western Java, and recently a specimen has been collected by Mr. Fea in Karennee.

The coloration of the body is variable being more or less dark: sometimes superficial punctures are visible in the furrows on the elytra.

## Subfam. ARRHENODINÆ.

### Gen. ***Prophthalmus*** Lacordaire.

* 16. ***P.*** *versicolor* Senna, Annali del Museo Civico di Storia Naturale di Genova, Ser. 2a, Vol. XII, p. 466. 1892.

I refer to this species two females captured in Western Java by Mr. J. D. Pasteur. The types are in the Genoa Museum and were taken by Mr. Fea in Karennee. This species varies in general color, in maculation of the elytra and in having sometimes the 1st furrow near the suture punctured.

17. ***P.*** *longirostris* Gylh., in Schönh. Genera et Spec. Curcul. I, p. 323. 1840.

Occurs, but not frequently, in Java; it is more common in other Sunda Islands. I have it from Celebes and Perak.

18. ***P.*** *tridentatus* Lund, Skrivt. af naturhist. selskab. V, 2, p. 91. 1802.

This species, indicated from Java in Sturm's Catologue with the name of *P. macrocephalus*, lives also in the Moluccas. I have specimens from Borneo where it is abundant.

19. ***P.*** *pugnator* Power, Annales de la Soc. Ent. de France, 5e Sér. Vol. VIII, Bull. p. 44. 1878.

This species is unknown to me, but seems to be not rare in Java, because Mr. Power, in describing it, mentions several collections which contain it from this island.

### Gen. ***Baryrrhynchus*** Lacordaire.

20. ***B.*** *latirostris* Gylh., in Schönh., Genera et Spec. Curcul. I, p. 323. 1840.

Common in Java and in Borneo.

21. ***B.*** *dehiscens* Gylh., in Schönh., l. c. p. 324.

This species is very abundant in Borneo, but occurs also in Java. I have a few examples of it.

### Gen. ***Agriorrhynchus*** Power.

22. ***A.*** *Borrei* Power, Petites Nouvelles Entomolog. II, p. 241. 1878.

The habitat given for this insect is Java, and from this island the specimens of several collections originate; but it is not a local species, Mr. Fea having taken it at Thagatá in Tenasserim, and the Marquis Doria at Sarawak (Borneo).

### Gen. ***Orychodes*** Pascoe.

23. ***O.*** *cynnamomi* Herbst, Füssl. Arch. IV, p. 76. 1783.

A widely spread species in the Indo-Malayan subregion, probably not extending northward of Malacca, nor southward of Celebes. I have several individuals from Java, Borneo, Sumatra and Menado.

* 24. ***O.*** *piliferus*, nov. spec.

♂. *Capite brevi, basi subtruncato, postice mutico, castaneo-rubro; rostro brevi, basi incrassato, profundeque sulcato, ante antennas cylindrico, supra lateribus denticulatis, rubro-brunneo; antennis rubris, articulo apicali duobus præcedentibus æquante; prothorace ovato, castaneo-piceo, nitidissimo; elytris rubro-brunneis, humeris rotundatis et breviter callosis, lateribus subrectis, apici emarginatis, in dorso convexis,*

*fortiter punctato-sulcatis, interstitiis convexis, elevatis, lineis punctis ferrugineis ornatis.*

Long. 15 mm.; lat. prothor. $2^2/_3$ mm.

Of the same group as *O. lineolatus* Kirsch and *Ritsemæ* Senna and allied to *O. insignis* Lewis but certainly distinct. The head is short and small comparably to the size of this species, the base is subtruncate and deeply separate from the neck, the hinder angles a little prominent but not spined, above with an obsolete channel in the middle and a few punctures. The basal portion of the rostrum is longer than the head and stoutish, deeply furrowed above and almost bilobed to the insertion of the antennæ; the apical part $1^1/_2$ as long as the base, cylindrical, the extreme margin is almost of the same broadness as the rest; smooth above, scattered with very minute tubercles and with a row of teeth at the sides: beneath the rostrum is depressed at the apex and scarcely keeled between the antennæ. These are as long the thorax, the head and the basal portion of the rostrum together; the 1st joint is clavate, equal in length to the 2nd and 3rd united; the 2nd curved externally at the base, the 3rd and 4th a little narrower at the base, the remainder almost cylindrical and equal in length, the apical obtusely pointed at the tip and as long as the two preceding ones: the joints are moderately perfoliate and hairy.

Prothorax ovate, curved at the sides, narrower anteriorly than at the base, where it is termined by a large collar transversely furrowed; convex above, very shining, without any furrow or punctures, but with a median notch at the base.

Elytra almost as long as twice the prothorax, with the base subtruncate, the shoulders slightly callous, the sides hardly broader than the base, the apex emarginate and a little explanate, the outer angles rounded; deeply punctato-sulcate above, the 1st furrow near the suture obsolete punctate, the interstices convex, raised, slightly curved at the base. The 2nd interstice from the suture has four

yellow-ferruginous lines (at the base, before and behind the middle and at the apical declivity), the 3rd has two lines (before and behind the middle), the 4th and 5th a singly line behind the middle; these lines before and behind the middle form two spots: the 7th and 8th interstices have a line before the middle, the 8th also another at the apical declivity. The elytra have a few very long and fine whitish hairs at the sides.

Body beneath shining, the basal margin of the prosternum impressed; metasternum finely punctured with a ditch at the apex, the two basal abdominal segments excavated in the middle and scattered with minute punctures, the apical segments pubescent laterally. Anterior coxæ not contiguous, legs robust, femora clubshaped and spined, anterior tibiæ broader in the middle, tarsi long, the 1st joint elongate, the 3rd broad and deeply divided, beneath pubescent.

*Hab.* Western Java. — A single male specimen in the Leyden Museum, captured by Prof. A. A. W. Hubrecht at Telaga bodas, a crater near Garoet.

## Subfam. EUTRACHELINÆ.

### Gen. ***Eutrachelus*** Latreille.

*25. ***E.*** *Temmincki* Latreille, in Cuvier, Règne animal, p. 389. 1825.

This species, the giant of the family, seems to be a peculiar form of Java and Sumatra. It is not rare and varies in the dimensions and in having the elytral spots more or less evident.

## Subfam. CEOCEPHALINÆ.

### Gen. ***Hormocerus*** Schönherr.

26. ***H.*** *reticulatus* Lund, Skrivt. af naturhist. selskab. V, 2, p. 81. 1802.

The most common species of the genus and generally distributed throughout the Indo-Chinese, Indo-Malayan and Austro-Malayan subregions.

27. ***H.*** *scrobicollis* Bohem., in Schönh., Genera et Spec. Curcul. VIII, 2, p. 373. 1844.

I have in my collection a specimen labelled «Java», but it is not without doubt that I include it in this list. This species was described from the Phillippine Islands.

28. ***H.*** *amœnus* Perroud, Ann. Soc. Linnéenne de Lyon, p. 423. 1853.

29. ***H.*** *Dehaani* Gylh., in Schönh., Genera et Spec. Curcul. I, p. 360. 1840.

30. ***H.*** *javanicus* Perroud, l. c. p. 415.

31. ***H.*** *rufovittatus* Perroud, l. c. p. 419.

I have not seen the last four species which have been indicated from Java.

## Gen. ***Schizotrachelus*** Lacordaire.

*32. ***S.*** *brevicaudatus* Lacord., Genera des Coléoptères, VII, p. 455, n°. 2. 1866.

Of this species Mr. J. D. Pasteur has taken five individuals varying in size and one also in the color. They correspond with Lacordaire's description.

*33. ***S.*** *consobrinus* Lacord., l. c. p. 456.

The four specimens, obtained in Western Java by Mr. J. D. Pasteur and referred by me to this species, differ from Lacordaire's description in having the prothorax without punctures at the sides and the elytra hardly perceptibly punctured and not »*parum profunde punctato-striatis*" as says Lacordaire. In the present state of our knowledge it seems to me that these differences do not oblige of establishing a new species or variety, because the species of this genus hitherto described show a considerable variation in size, color, punctuation of the thorax and elytra, and, sometimes, transitional forms between the different species.

## Subfam. ITHYSTENINÆ.

### Gen. ***Cediocera*** Pascoe.

*34. ***C.*** *tristis*, nov. spec.

*Anguste elongata, capite, rostro, antennis pedibusque brunneo-rufis; prothorace plerumque magis saturato vel nigro-fusco, interdum pruinoso; elytris nigro-fuscis, apice et appendiculis apicalibus brunneo-rufis; abdomine punctato et parce squamoso, segmento primo in medio in maré piloso.*

♂. Long. 11—18 mm. et ultra (elytr. caud. excl.); lat. prothor. 1½—2 mm.; ♀, long. 11—19 mm. (elytr. caud. excl.); lat. prothor. 1½—2⅓ mm.

Closely allied to *C. longicornis* Pasc. but distinguished by the different color, by the head being beneath evidently punctured, and by the other characters above mentioned. Head long, narrower at the base, notched and tuberculate, deeply separated from the neck; above with a longitudinal groove and moderately convex towards the front. Rostrum with a shallow groove extending almost up to the apex: the basal part as long as twice the head and gradually narrower towards the antennæ, at the insertion of these a little widened, rounded and raised; the apical part very short, slightly broader, emarginate at the apex; beneath the portion of the rostrum towards the antennæ has a keel in the middle, the rest and the head are scattered with punctures. In the female the head is shorter than in the male, broader, with the base strongly notched; the basal part of the rostrum is longer than the head and excavated, the apical portion equal in length to the head and filiform: beneath the head and the base of the rostrum are punctured, the apical part glossy. Antennæ filiform, with the 1st joint stouter than the others and clavate, the 2nd to 8th cylindrical, of equal length, with the apex a little broader; the apical joints longer, the 11th is the longest and obtusely acuminate at the tip. In the female the antennæ are shorter than in the male, the three apical joints

equal in length to the preceding ones, with the exception of the basal joint.

Prothorax elongate, narrower anteriorly and a little broader behind the middle, channeled above and punctured, the punctures more numerous towards the base and sometimes scaled.

Elytra as long as the thorax, head and basal portion of the rostrum taken together, with the base emarginate, the shoulders a little raised, the sides narrower in the middle, the apex truncate and the outer angles terminating in a slender tail, which is provided at the tip with a few hairs; above punctato-striate, the apical declivity with a raised interstice: in the female the elytra are only spined at the apex.

Body beneath in ♂ shining, piceous; metasternum convex, scattered with scaled punctures, more numerous at the sides: the two basal segments of the abdomen with similar punctures: the 1st with a hairy space in the middle, the 2nd scarcely depressed and scaled at the apical margin, the other segments are scaled and punctured: in the ♀ the metasternum and the abdomen are convex, shining, and covered with punctures and with a few scales. Legs as in *C. longicornis*.

A very polymorphous species: the length of the antennæ and of the tails is much variable; some specimens have the antennæ extending to the apex of the abdomen and the tails longer than $^2/_3$ of the length of the elytra or as long as these; in others the antennæ and the tails are more or less short and in some males the apex of the elytra is only spined.

*Hab.* Western Java. — Several specimens, ♂ and ♀ (Leyden Museum), obtained from Mr. J. D. Pasteur and a ♂ in my collection labelled »*Heteroplites*, espèce inédite de Lacordaire"; Sumatra (the longest specimens I have seen), collected by Dr. Elio Modigliani (Genoa Museum); Perak, some individuals in my collection; Sarawak (Borneo), a male captured by Marquis Doria (Genoa Museum).

Observation. This species is labelled in some collections with the names of *Heteroplites unicolor* Power and *Diurus unicolor* Chevrolat, and it is the same insect which Lacordaire in his »Genera des Coléoptères" (Vol. VII, p. 471) says to be an undescribed species of *Heteroplites* from Java, as I find on the label of a specimen in my collection. This author in the above-named work writes: »J'en connais trois" (species of *Heteroplites*) »dont une seule (*H. erythroderes* Westw.), originaire des îles Philippines, est décrite en ce moment. Les deux autres sont de Java ou des Moluques"; and in the second note, speaking of the tails of the elytra, he adds: »l'une des deux espèces inédites les a aussi longues et aussi grêles que le *Diurus*"; and truly, in some specimens of *Cediocera tristis* the tails are very long, as long as the elytra. *C. longicornis* Pasc. too has long tails, but this species is not from Java and seems to be a local form from the Andaman islands. Thus I state that my *C. tristis* is the species of *Heteroplites* mentioned but not described by Lacordaire. According to Lacordaire's description of *Heteroplites*, no doubt *Cediocera tristis* must be included in that genus, as well as *C. longicornis* Pasc., which is a very closely allied species. Nevertheless I refer the new species to the genus *Cediocera* because it corresponds perfectly with the generic description given by Pascoe, and I consider it to be a distinct genus because the characters of *Heteroplites* ought to be modified for the reception of some new species which, within a short time, will be described by me; but at the time *Cediocera* was established it was a doubtful genus, as Mr. Pascoe, in describing it in the Annals and Magazine of Natural History, 1887, p. 20, compared it with *Diurus* and indicated its differential characters, without saying, however, by what characters the new genus differs from *Heteroplites*. The differences between *Diurus* and *Heteroplites* are the same as those between *Cediocera* and *Diurus*, and I failed to find the distinctive characters by which *Cediocera* was differentiated from *Heteroplites* in the sense of Lacordaire.

Gen. ***Diurus*** Pascoe.

35. ***D.*** *antennatus* Ritsema, Notes from the Leyden Museum, Vol. IV, p. 214. 1882.

I have not seen this species; the type is a male in the Leyden Museum.

36. ***D.*** *forcipatus* Westwood, The Cabinet of Orient. Entom. p. 31. 1848.

This species occurs also in Borneo where it has been collected by Marquis Doria.

37. ***D.*** *furcillatus* Gylh., in Schönh., Genera et Spec. Curcul. I, p. 359. 1840.

This species inhabits Java and the other Sunda islands.

NOTE. In this list the whole number of Javanese species of Brenthidae, known to me at this moment, amounts to 37, belonging to 13 genera. The examination of these genera and species is instructive and gives the opportunity to make some general remarks.

Amongst the 9 families living in the Oriental Region, 6 are represented in Java, and of these that of the *Trachelizinæ* is the richest, containing 14 species; then follow the *Arrhenodinæ*, *Ceocephalinæ*, *Ithysteninæ*, *Eutrachelinæ* and *Amorphocephalinæ*. Very interesting is the want of the *Taphroderinæ*, *Ephebocerinæ* and *Belophorinæ* in this island.

The genus *Cyphagogus* f. i., of which the species are so numerous, extends in the Austro-Malayan, Indo-Chinese and Indo-Malayan subregions (Borneo) and has also a representative in Japan: the genus *Zemioses* inhabits Japan, Karennee, New-Guinea; these two genera seem not to be represented in Java.

The absence of *Jonthocerus* amongst the *Ephebocerinæ* and of *Ectocemus* amongst the *Belophorinæ* is also remarkable. The first mentioned genus is widely distributed and has been collected also in Sumatra and Borneo (Sarawak); the second extends to New-Guinea, Australia, Borneo, Sumatra, Malacca, Karennee and the Philippine Islands.

Amongst the genera belonging to the fauna of Java, we find that there are:

3 genera (*Cerobates*, *Trachelizus*, *Amorphocephalus*) of wide distribution in the Oriental region and inhabiting also other zoogeographical regions.

7 genera (*Miolispa*, *Prophthalmus*, *Baryrrhynchus*, *Orychodes*, *Hormocerus*, *Schizotrachelus*, *Diurus*) particularly distributed in the Indo-Malayan and Austro-Malayan subregions, some of them extending, however, also in other subregions.

2 genera (*Agriorrhynchus* and *Cediocera*) confined to the Indo-Malayan and Indo-Chinese subregions.

1 genus (*Eutrachelus*) peculiar to the Indo-Malayan subregion.

In examining the list of the species we see that there are [1]):

4 species of wide geographical distribution, viz.: *Cerobates tristriatus*, *C. sexsulcatus*, *Trachelizus bisulcatus*, *Hormocerus reticulatus*.

5 species represented in the Indo-Malayan and Austro-Malayan subregions, viz.: *Miolispa suturalis* (also Penang), *M. exarata*, *Prophthalmus longirostris*, *P. tridentatus*, *Orychodes cinnamomi*.

4 species extended in the Indo-Malayan and Indo-Chinese subregions, viz.: *Trachelizus insularis*, *Amorphocephalus lævis* (also in India), *Prophthalmus versicolor*, *Agriorrhynchus Borrei*.

8 species confined to the Indo-Malayan subregion, viz.: *Trachelizus scrobicollis*, *Miolispa metallica*, *Baryrrhynchus latirostris*, *B. dehiscens*, *Eutrachelus Temmincki*, *Cediocera tristis*, *Diurus forcipatus*, *D. furcillatus*.

15 species up to this date peculiar to Java, viz.: *Trachelizus puncticollis*, *T. modestus*, *T. mœstus*, *Miolispa javanica*, *M. nupta*, *M. conformis*, *Prophthalmus pugnator*, *Ory-*

1) *Hormocerus scrobicollis* is not taken into consideration, its presence in Java being doubtful.

*chodes piliferus*, *Hormocerus amœnus*, *H. Dehaani*, *H. javanicus*, *H. rufovittatus*, *Schizotrachelus brevicaudatus*, *S. consobrinus*, *Diurus antennatus*.

The number of the species characteristic at present of Java is very remarkable as is shown by the list, but I have no doubt that when it will be possible to explore diligently the Sunda islands, we shall find, if not the majority, certainly several of these species extended to them; on the other hand it seems that some species, inhabiting Borneo and Sumatra and collected also in other countries, are wanting in Java.

Firenze, R. Instituto di Studi Superiori.
Museo di Zoologia e Anatomia comparata degli Invertebrati, March 1892.

# NOTE XXX.

## TROIS ESPÈCES NOUVELLES D'HELMIDES DES ILES DE LA SONDE

DÉCRITES PAR

**A. GROUVELLE.**

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*Macronychus minusculus*, n. sp.

*Elongatus, subconvexus, nitidus; capite prothoraceque nigricantibus; elytris castaneis, antennis pedibusque dilutioribus; prothorace parce punctato, antice angustato, lateribus rotundatis; elytris subparallelis, prothorace vix latioribus, ad apicem conjunctim rotundatis, punctato-striatis, intervallis punctis latioribus, lateribus carinatis. Antennae* 8*-articulatae,* 1—3 *subelongatis, latioribus,* 4—7 *brevibus, compressis,* 8 *elongato-ovato.* — Long. 1 mill.

Allongé, subparallèle, un peu convexe, brillant. Antennes testacées, courtes, formées de 8 articles; les trois premiers un peu allongés, faiblement dilatés en angle en dedans; les quatre suivants moins larges, serrés, le dernier formant une massue ovoïde allongée. Tête et prothorax noirâtres, marge antérieure du dernier plus claire. Prothorax éparsement ponctué, très rétréci en avant, marges latérales arrondies, marge antérieure arquée en avant, formant avec les bords latéraux des angles à peine sensibles. Ecusson triangulaire. Elytres brun clair, un peu plus de deux fois plus longs que larges, un peu plus larges que le prothorax, acuminés ensemble au sommet; épaules obtuses, peu marquées; stries ponctuées, fines, peu distinctes sur le

disque, points espacés, intervalles beaucoup plus larges que les points. Pattes plus claires que les élytres.

*Hab.* Sumatra. — Musée de Leyde et coll. Grouvelle.

Nous rapportons cette espèce au genre *Macronychus* Müll., bien que la partie centrale de son antenne ait quatre articles au lieu de trois; la partie basilaire et la massue ont la même conformation que chez le *Macronychus quadrituberculatus* Müll.

*Stenelmis Bosschae*, n. sp.

*Oblonga, subparallela; capite prothoraceque opacis, ochraceis; elytris nitidis, testaceis, ante apicem fusco-maculatis; prothorace elytris angustiore, latitudine paulo longiore, antice vix attenuato, in longitudinem sulcato, sulco antice abbreviato, utrinque postice carinato; elytris punctato-lineatis, punctis ad apicem attenuatis, 3° intervallo basin versus elevato, 6° carinato.* — Long. $1^3/_4$ mill.

Oblong, subparallèle. Tête et prothorax couverts d'une pubescence feutrée jaune un peu rougeâtre. Elytres très finement pubescents, testacés, légèrement enfumés sur la suture un peu avant le sommet. Antennes et pattes d'un roux testacé. Prothorax un peu plus long que large à la base, rétréci vers le sommet; sur le disque un sillon longitudinal attenué en avant, de chaque côté, vers la marge latérale, une courte carène basilaire et dans l'angle du sillon médian et de la base une impression ponctiforme. Ecusson ovale. Elytres plus larges que le prothorax, parallèles, ponctués en lignes; 3me intervalle légèrement relevé surtout vers la base, 6me caréné.

*Hab.* Bornéo occ.: Sambas (Dr. Bosscha). — Musée de Leyde.

*Stenelmis sulcata*, n. sp.

*Elongata, parallela; capite prothoraceque nigricantibus; elytris obscure castaneis, basin versus dilutioribus; fronte in longitudinem sulcata, utrinque impressa; prothorace elongato,*

*antice transversim constricto, postice utrinque oblique impresso; elytris ad apicem conjunctim acuminatis, punctato-lineatis, intervallis linearum angustis.* — Long. $2^1/_4$ mill.

Allongé, parallèle. Tête et prothorax noirâtres; elytres bruns, plus clairs à la base; pattes foncées, base des tibias et tarses plus clairs; antennes rougeâtres. Tête avec une impression longitudinale sur le front et une impression ponctiforme à la base de chaque antenne. Prothorax plus long que large, presque parallèle, sillonné transversalement vers le tiers antérieur, impressionné obliquement de chaque côté vers le premier tiers à partir de la base; impressions convergentes vers la base et aboutissant à une petite carène longitudinale; de chaque côté de cette carène, dans l'angle formé avec la base, un point enfoncé. Ecusson ovale. Elytres plus larges à la base que le prothorax, parallèles, acuminés ensemble au sommet, ponctués en lignes; points gros, atténués vers le sommet, serrés, intervalles des lignes plus étroits que les points; intervalles 2 et 3 costiformes, les deux premiers seulement à la base, le dernier presque jusqu'au sommet.

*Hab.* Sumatra. — Musée de Leyde et coll. Grouvelle.

Nous réunissons dans le tableau suivant les espèces de *Stenelmis* des Indes orientales qui nous sont connues. Il faudrait ajouter à ces espèces les *S. ceylonica* Mots., *exarata* Mots. et *binervosa* Reitt. dont nous ne connaissons que les descriptions.

1. Elytres acuminés séparément au sommet *bicolor* Reitt.
   » » ensemble au sommet. 2.
2. Prothorax avec un sillon transversal vers le tiers antérieur . . . . . *sulcata* Grouv.
   Prothorax sans sillon transversal vers le tiers antérieur . . . . . 3.
3. Prothorax sans sillon longitudinal sur le disque . . . . . *Ritsemae* Reitt.
   Prothorax avec un sillon longitudinal sur le disque . . . . . 4.

4. Pubescence feutrée du prothorax rougeâtre . . . . . *semirubra* Reitt.
   Pubescence feutrée du prothorax non rougeâtre ou nulle . . . . . 5.
5. Pubescence feutrée des élytres grise . . *orientalis* Fairm.
   » » » » nulle . 6.
6. Noirâtre avec les carènes testacées . . *picta* Reitt.
   Elytres testacés, avec une tache noirâtre avant le sommet; carènes bien marquées . . . . . *Bosschae* Grouv.

Paris, Mars 1892.

# NOTE XXXI.

## PROSOPOCOELUS TARSALIS, A NEW LUCANID

DESCRIBED BY

**C. RITSEMA Cz.**

Mr. W. Albarda has presented to the Leyden Museum a male specimen (forma major) of an interesting *Prosopocoelus*-species from central Java, captured by Mr. Roldanus at Magelang (Kadoe Residency), which no doubt is still undescribed. It seems to be allied to *Prosopocoelus cilipes* Thoms., from Assam, a species which is unknown to me, but which is said to be likewise distinguished by its slender and elongate tarsi and by the crenulate lateral margins of its prothorax.

Length without mandibles 23 mm., that of the mandibles 8 mm.; breadth at the shoulders 8 mm. — Above dark chestnut-brown, brighter on the elytra and legs, the tarsi and body underneath blackish.

The head opaque, large, longer than the prothorax but narrower, flattened and slightly sloping towards the front margin, deeply emarginate between the outer margins of the mandibles, the bottom of the emargination faintly bisinuate; between the eyes and the front angles of the prothorax the head is slightly swollen; the ocular canthus, of which the outer margin is straight and has a slightly oblique direction, reaches the middle of the eye; the surface of the head is covered with an extremely fine and dense punctuation intermixed with large punctures on the depressed portion and on the sides (even on the canthus).

The mandibles are slightly and regularly curved inwards; their dentition is irregular: a blunt ante-basal tooth which in the right mandible is placed closer to the base than in the left one, and between this tooth and the forked apex five irregularly arranged blunt teeth are present. The mandibles are glossy, with the exception, however, of the basal portion which is opaque; they are covered with an ex-

tremely fine and dense sculpturing intermixed with punctures which become larger towards the base; the outer upper margin is slightly raised at the apical portion.

The prothorax is strongly transverse, considerably broader on its anterior half than the head, narrowed in an ?-like curved line towards the base; basal angles acute and slightly directed forward; the base itself margined and sinuate; the sides margined and minutely serrate; the front margin strongly bisinuate and margined laterally, its lateral angles protruding and rounded; above subnitid along the middle, opaque at the sides in consequence of a very fine and dense granulation; an almost invisible central groove is accompanied on each side, a little before the middle, by a punctiform impression. The scutellum is broadly heartshaped and shows a few large punctures at the base.

The elytra are subnitid, extremely closely punctured, the punctures more distant on the sutural interstice and somewhat larger at the base which is toothed at the shoulders and nearly straight.

The intercoxal part of the prosternum is slightly prolonged beyond the coxae, perpendicularly truncated behind with rounded angle. The under surface of the head and prothorax opaque with a few punctures; the sides of the metasternum densely punctured and thinly covered with soft ferruginous hairs, its central portion impunctate but provided with an impressed line; the abdomen subnitid.

The anterior tibiae straight, armed on the outer edge with five acute teeth which become larger towards the apical fork; they are fringed on the inner edge with ferruginous hairs; the four posterior tibiae are provided with rows of ferruginous hairs; the intermediate ones show on the outside, a little beyond the middle, a small tooth which is almost imperceptible on that of the right side; the posterior tibiae are unarmed; the tarsi are very slender and elongate, longer than the tibiae and fringed beneath with long golden yellow hairs.

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# NOTE XXXII.

## ON A COLLECTION OF BIRDS FROM THE ISLANDS OF FLORES, SUMBA AND ROTTI

BY

**J. BÜTTIKOFER.**

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Dr. H. ten Kate, to whom we are already indepted for previous zoological collections made on his recent travels through the Flores- and Timor-group of Islands [1]), sent, in September and November last, a number of birds from Flores, Sumba (Sandelwood) and Rotti, the latter being a small island near the western end of Timor. Unfortunately the birds, a great number of which were preserved in alcohol, are all destitute of any annotations as to date and color of soft and naked parts, but the localities being very interesting, I venture to give a list of the birds collected on the different islands.

### A. Birds from Flores and the neighboring Islands of Groot Bastaard and Adonara.

1. *Spizaëtus limnaëtus* (Horsf.).

*Spizaëtus cirratus* (part.) Schl. Mus. P.-B., Revue Accip. p. 52.

One specimen, with the exception of back, wings and tail entirely white. Collected at Sika, south-east coast of Flores.

1) See my note in N. L. M. XIII, p. 210 (1891).

2. *Chalcococcyx malayanus* (Raffl.).

An adult specimen from Sika (Flores).

3. *Sauropatis chloris* (Bodd.).

*Dacelo chloris* Schl. Mus. P.-B., Revue Alcedines, p. 32.

An adult bird from Groot Bastaard, a small island situated off the north-east coast of Flores, and a somewhat younger specimen from the island of Adonara on the east coast of Flores.

4. *Collocalia esculenta* (L.).

An adult bird from the island of Samao. The two nestlings, mentioned in N. L. M. 1891, p. 210, also belong to this species.

5. *Pachycephala fulvotincta* Wall.

An adult male from Adonara.

6. *Cinnyris pectoralis* (Horsf.).

An adult male from Groot Bastaard.

7. *Anthothreptes malaccensis* (Scop.).

Two adult males from Sika, and one from Adonara.

8. *Tropidorhynchus neglectus* Bütt.

A half-grown specimen from Sika, without any knob at the base of the bill, and the legs pale flesh-color. Plumage as in the adult bird.

9. *Gracula venerata* Bp.

Three adult specimens from Koting (Flores).

10. *Oriolus broderipi* Bp.

Two adult males from Koting (Flores).

11. *Parus cinereus* Bonn. & Vieill.

An adult specimen from Sika (Flores).

12. *Acanthiza tenkatei*, n. sp.

General color above pale olive-brown, some of the feathers of the crown tipped with pale fulvous, lesser wing-coverts like the back, median and greater coverts dusky brown, edged with the color of the back; quills dusky brown, the primaries narrowly edged on the outer web with whity brown, the secondaries with edges of pale olive, especially the innermost, which are, moreover, waved with dusky cross-bars when seen under a certain light. A patch of long, silky white feathers on each side of the rump, the latter and the upper tail-coverts tinged with rufous, the tail-feathers ashy brown on the basal, black on the terminal half, except the gray tip which has a large white spot on the inner web. The whole tail waved with dark cross-bars when seen under certain lights. Lower surface, including the cheeks, under wing-coverts, inner edge of the secondaries ashy white, more silky white on abdomen and under tail-coverts, thighs white, intermixed with brown feathers, especially on the outside, bill and feet blackish brown. Tarsus plain, with only one scale near the root of the toes.

Wing 5 cm., tail (incomplete) 3,6, culmen 0,9, tarsus 1,5.

*Hab.* Flores.

The described specimen is, unfortunately, the only representative of this species and at the same time of a genus which hitherto was only known from Australia. Its nearest ally seems to me to be *A. uropygialis* Gould, a species which is not represented in the Leyden Museum, but which has the base of the tail-feathers tawny rufous instead of ashy brown. I have much pleasure in naming this new species after its discoverer, Dr. H. ten Kate.

13. *Munia propinqua* (Sharpe).

*Uroloncha propinqua* Sharpe, Cat. Birds Br. Mus. Vol. XIII, p. 368.

An adult bird from Sika (Flores). Dr. Sharpe, in his above cited Catalogue, remarks that the specimens from Flores differ from the widely spread *M. molucca* by the want of the black barrings on the sides of the breast, which parts thus form an indistinct white collar, to which I may add that it is only the anterior part of the sides of breast which is left entirely white. The Celebes birds are said to be intermediate, i. e. less barred than those from the Moluccas, but more than the Flores birds, and are mentioned under the head of *M. propinqua*. The present specimen, as well as a Flores specimen in the Museum collection, really show the characteristics pointed to by Dr. Sharpe, characters still more pronounced in our two adult specimens from Sumbawa and another from Timor. All our eight adult Celebes specimens (only North Celebes) and those from Sula seem to me to stand nearer the Moluccan than the Flores and Timor birds, some specimens from Amboina and another from Ceram being as white on the sides of chest as those from Celebes, while none of the latter is as white as the Flores birds. It may be that this is not the case with birds from South Celebes, but all our specimens from the North will certainly be better enlisted with *M. molucca*.

**B.** Birds from the Island of Sumba or Sandelwood.

As far as I am aware, Dr. ten Kate is the first who sent zoological collections from this in a certain sense out-of-the-way island. The 32 species of Sumba birds we received, prove the identity of the ornis of Sumba with that of Flores.

1. *Astur torquatus* (Temm.).

*Nisus torquatus* Schl. Mus. P.-B., Revue Accip. p. 91.

An adult bird of small size, probably a male, with a very broad rufous collar on the hind neck.

2. *Milvus affinis* Gould.

*Milvus migrans* (part.) Schl. Mus. P.-B., Revue Accip. p. 126.

Two adult specimens.

3. *Sauropatis chloris* (Bodd.).

Two specimens.

4. *Pitta concinna* Gould.

An adult specimen.

5. *Oriolus broderipi* Bp.

Five specimens.

6. *Mirafra parva* Swinh.

Three specimens. They are only distinguished from the very closely allied Australian form *M. horsfieldi* Gould by the darker color of the upper surface, i. e. the head, hind neck and back, while in size they are equal to the five specimens representing the former species in our collection.

7. *Anthus rufulus* Vieill.

*Anthus medius* Wall. P. Z. S. 1863, p. 488.

Three specimens.

8. *Acrocephalus australis* Gould.

One specimen.

9. *Cisticola cisticola* (Temm.).

Three specimens.

10. *Pratincola caprata* (L.).

An adult male.

11. *Myiagra rufigula* Wall.

Two specimens.

12. *Terpsiphone affinis* (Blyth).

Four adult males with the tail-feathers entirely white and also the quills, the latter with the exception of the tips, which are black.

13. *Alseonax latirostris* (Gray).

One specimen, the first instance, I believe, of the occurrence of this species as far east as the Flores-group of Islands.

14. *Culicicapa ceylonensis* (Swains.).

One specimen, probably not fully adult, having some yellow feathers on the gray throat. For the first time recorded from the Flores-group of Islands.

15. *Artamus leucogaster* (Valenc.).

Three specimens.

16. *Artamides floris* Sharpe.

A nestling in very interesting plumage, each feather on head, back, upper wing-coverts, throat and chest being broadly tipped with white, and having before the white tips a subterminal spot of black, giving the bird the appearance of being banded across with white and black. All the quills are broadly tipped and edged with white of a fulvous tinge, the tail-feathers with pure white. The rump is nearly pure white, with but few indications of dark cross-bars; breast, abdomen and under tail-coverts pure white. A broad stripe below the eye, extending from the base of the upper mandible to the ear-coverts, black, very broad at base, feet and claws yellowish white.

17. *Lalage timoriensis* (S. Müll.).

Two adult males, a female and a young bird.

18. *Dissemurus platurus* (Vieill.).

An adult bird, wanting the elongated tail-feathers.

19. *Tropidorhynchus neglectus* Bütt.

Two adult specimens, both fully agreeing with the types from Sumbawa and Flores, described in N. L. M. 1891, p. 213.

20. *Zosterops aureifrons* Wall.

One specimen.

21. *Dicaeum wilhelminae*, n. sp.

This species, of which the present collection contains only an adult male, is very closely allied to *D. sanghirense* Salvad., from which it differs, however, by its larger size.

Adult male: Whole upper surface, including the sides of the head, cheeks, ear-coverts, sides of neck, lesser and median wing-coverts, upper tail-coverts and tail steel-blue with a faint purplish gloss; quills black, perceptibly glossed with green, the secondaries and greater wing-coverts edged with glossy blue. Under wing-coverts pure white, the inner edge of the quills dingy white. Chin white, the rest, throat and chest scarlet. This scarlet patch is edged below with glossy bluish black; a stripe of the same color, not well defined, runs down the centre of the breast and is flanked on both sides by dingy white, which latter color occupies abdomen, vent and under tail-coverts; sides of body dark ashy gray; bill and feet black.

Wing 54 cm., tail 26, culmen 10, tarsus 13.

*Hab.* Sumba.

I am much pleased to name this species after her Majesty our youthful Queen Wilhelmina, who, on her recent visit to the Leyden Museum, graciously agreed to accept this dedication.

22. *Stigmatops ocularis* (Gould).

*Meliphaga* (*Ptilotis*) *limbata* S. Müll. Verh. Nat. Gesch. Land- en Volkenk. p. 162.

*Stigmatops ocularis* Salvad. Orn. Pap. II, p. 323.

*Glycyphila ocularis* (part.) Gadow, Cat. Birds Brit. Mus. Vol. IX, p. 213.

*Ptilotis limbata* Gadow, Cat. Birds Brit. Mus. Vol. IX, p. 236; pl. VII, fig. 2; — Bütt. N. L. M. 1891, p. 214.

Two specimens, one of which is a young bird, having chin, cheeks and a moustachial streak yellow instead of ashy gray.

Count Salvadori (op. cit. p. 324) has already pointed to the identity of S. Müller's *Meliphaga limbata* with *Stigmatops ocularis* (Gould), and a careful comparison of our eleven typical specimens of *S. limbata* with four *S. ocularis* from Australia and two from Aru convinced me that the first are not specifically distinct from the second, though Dr. Gadow even placed them in different genera. One might say that, as a rule, the throat in the specimens from Australia is ashy brown, while it is more ashy gray in the Timor specimens. There are, however, amongst the first, some specimens with the throat as gray as in Timor birds, and I am not able to find, either in coloration or in size, any difference, important enough to separate them even subspecifically. Dr. Gadow mentions as *P. limbata* specimens from Bali, Lombok, Flores and Timor, but he does not say which of these islands is the habitat of the bird figured on his plate VII. The adult specimen of our Sumba birds is very pale yellowish white on breast, abdomen and under tail-coverts and differs in this way considerably from our Timor birds as well as from those from Aru and Australia, while it agrees very well with Dr. Gadow's plate. Although I have no specimens from Flores, Lombok or Bali with which to compare those from Sumba, I feel much disposed to believe that the birds from all the islands west of Timor show the same peculiarities as our adult Sumba bird, and that, consequently, the bird figured by Dr. Gadow on plate VII, fig. 2, is not a Timor bird. The white, yellow-tinged breast, abdomen and under tail-coverts would, if my supposition be correct, be the distinguishing characters of a new species,

having as habitat the Islands of Bali, Lombok, Flores and Sumba, and most probably Sumbawa, although there are no specimens of *Stigmatops* stated from this latter island as yet.

23. *Cinnyris pectoralis* (Horsf.).

Two unsexed, probably young birds, which are in some way different from all the numerous specimens representing this species in the Leyden Museum. They differ from the females and young birds in having the upper surface dull olive-green, without the yellowish tinge which characterizes the latter, while the lower surface does not show the rich yellow, being more greenish yellow than the latter. Moreover the head and neck are grayish olive, chin and throat olive-green. Wings and tail are as in *C. pectoralis*, the first however rather short, measuring only 4,8 cm., while the bill is rather longer than in most of our specimens from other localities, as it measures 2 cm.

24. *Anthothreptes malaccensis* (Scop.).

An adult female.

25. *Calornis minor* (Bp.).

An adult specimen, probably a female, on account of its crown being tinged with a purplish gloss.

26. *Munia quinticolor* (Vieill.).

Five full-grown young birds, different in color from the adult *M. quinticolor*, I consider to belong to this species, their measurements, as well as the size and form of the bill being precisely the same. The color of these five specimens is brown on the whole upper surface, and pale fulvous on the lower, this latter color being more strongly developed on the chest. The cheeks are marked with very narrow pale shaft-streaks.

27. *Munia nisoria* (Temm.).

Three adult birds and five young specimens, some of the latter in more or less advanced transitional stage of plumage. All these specimens differ somewhat from the true *M. nisoria* from Java, being sensibly smaller than the average size of the latter, and having the bill also smaller. In the coloration they approach very much the species *M. topela* in being less dark brown above than the Javanese birds, in having the upper tail-coverts and the middle tail-feathers tinged with green, and the feathers on the chest more minutely barred than *M. nisoria*.

Wing 4,8 cm., tail 3,2, tarsus 1,3.

The *Munia*-group which is characterized by a brown throat and dark brown-and-white ocellations on breast and flanks, consists of a few very closely allied species, the young specimens of which do not differ from each other at all. In his Catalogue of the British Museum, Vol. XIII, Dr. Sharpe recognizes only one species of this group: *Munia punctulata* from British India, including Ceylon, and extending eastward to Assam and Cachar, and the subspecies *M. subundulata* from the above mentioned region eastward to Cochin China, *M. topela* from Southern China, Formosa and Hainan, *M. nisoria* from the Malayan Peninsula and Java, and *M. cabanisi* from the island of Luzon.

Of these forms *M. subundulata* is hardly worth recognizing and might be united with *M. topela*.

*Munia punctulata* (L.), of which our collection contains five specimens, may easily be distinguished from all the allied forms by the fulvous tinge of the upper tail-coverts and central tail-feathers, which color is strongly yielding to golden yellow. The general color on the upper surface is brown, with a rufous tinge, the latter color prevailing on the front. Sides of face deep chestnut brown, getting paler towards the sides of neck and very sharply defined towards the chest. The rump is strongly barred with dark olive-brown, and the lower surface, with the exception

of the uniform white centre of the body, strongly mottled with large white spots, forming well-distinguished, broad cross-bars on some feathers of the flanks. *M. topela* Swinhoe, with which I should propose to unite *M. subundulata* Godwin-Austen, is easily distinguished from *M. punctulata* by the much paler, more olive-brown tinge of the upper surface, by the very indistinct dark barring of the rump, the pale olive-green instead of fulvous upper tail-coverts and middle tail-feathers, by the want of the brown on forehead and sides of the face, the lesser extent of the brown color on the throat, and by the less large and less rounded white markings on breast and flanks, while the brown markings on both these latter parts are paler brown. The number of our Museum specimens, which I range in this subspecies, is 13, most of which are from Formosa, while a few are from Moulmein, Cochin China and China (*M. subundulata*).

The Javanese specimens, all belonging to *M. nisoria* (Temm.), agree with *M. punctulata* in the brown color of the upper surface, the dark double barring of the rump and the large white ocellations on breast and flanks, but differ from it in the larger extent of the brown on the throat, which reaches partly down upon the chest, not ending as abruptly as in the former species. The most distinctive character, however, is the color of the upper tail-coverts and the innermost tail-feathers, which is ashy gray with a very faint tinge of olive. This species is represented by twelve specimens from Java.

*M. cabanisi* Sharpe, from Luzon, is not represented in our collection, but there are six adult specimens from the island of Bourbon. The bird is found in a wild state on that island, but is said to have been introduced and is mentioned as *M. punctulata* by Hartlaub (die Vögel Madagascars, p. 403), while Sharpe states, in his Catalogue, the occurrence of *M. nisoria* on the island of Mauritius. Our specimens from Bourbon agree entirely with *M. nisoria* from Java, with the exception of the upper tail-coverts and centre tail-

feathers, which are not ashy gray, but sensibly tinged with pale olive-green, in which character they agree with *M. topela*. They are, however, undoubtedly to be united with *M. nisoria*.

To *M. nisoria* also belong an adult and a young bird from the lake of Toba, Central Sumatra, collected by Dr. B. Hagen, though they seem to be in some way intermediate between it and *M. punctulata*, having the brown on the throat not extending as far down on the chest as in the Javanese bird. The immature specimens, mentioned by me in N. L. M. 1887, p. 71, with a query under the name of *M. punctularia*, will certainly also belong to *M. nisoria*, since Count Salvadori, Ann. Mus. Civ. Genova, 1892, p. 31, refers the specimens from West Sumatra to this species.

28. *Sporaeginthus flavidiventris* (Wall.).

Three young specimens.

29. *Megapodius duperreyi* Less.

*Megapodius reinwardti* Wall. P. Z. S. 1863, p. 487.

An adult specimen.

30. *Charadrius geoffroyi* Wagl.

An adult specimen.

31. *Numenius variegatus* (Scop.).

An adult specimen.

32. *Tringa minuta* Leisler.

Two specimens.

### C. Birds from the Island of Rotti.

1. *Oreicola melanoleuca* (Vieill.).

An adult female.

2. *Rhipidura tenkatei*, n. sp.

Closely allied to *R. buruensis*, but differs principally in having the abdomen paler and the outer tail-feathers broadly tipped with white.

General color above dark slaty gray, somewhat tinged with olive-brown, crown and sides of the head much darker, a concealed patch of silky white feathers above the eye, wing-coverts like the back, the greater ones and the primary coverts tipped with dirty white, probably indicating a certain stage of immaturity, quills sooty brown, the secondaries on the outside very narrowly fringed and more broadly tipped with brownish white, upper tail-coverts glossy brownish black like the crown; tail black, the terminal third (2,3 cm.) of the outermost pair of tail-feathers pure white, which color occupies also the outer web and the shaft nearly up to the base, the second pair with an oval white terminal spot of the length of 1,5 cm., leaving, on the outer web, a black edge nearly reaching down to the tip, third pair with a wedge-shaped, narrow white spot at the tip, three innermost pairs uniform brownish black. Chin, throat and chest dark ashy gray, the first minutely, the two latter largely spotted with white on the centre of the feather, as is the case in *R. buruensis*; breast, abdomen and flanks very pale fulvous, under tail-coverts almost pure white, under wing-coverts dark ashy, broadly tipped with the color of the breast, inner edge of quills pale ashy, bill and feet black.

Wing 7,6 cm., central tail-feathers 8, outermost 7, culmen 1,6, tarsus 1,6.

*Hab.* Rotti. One specimen.

3. *Dicaeum mackloti* Müll. & Schl.

A young bird, probably a female, showing on the lesser wing-coverts some glossy feathers of the plumage of the adult stage; rump and upper tail-coverts lively

orange-red instead of scarlet, probably from the influence of the alcohol in which it was preserved. Underneath uniform ashy white.

4. *Glareola grallaria* Temm.

An adult specimen.

5. *Himantopus leucocephalus* Gould.

Two specimens.

Leyden Museum, May 1892.

**NB.** Cf. NOTE XXXVII. The birds of Sumba by A. B. Meyer.

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# NOTE XXXIII.

## DEUX NOUVEAUX GENRES ET DEUX NOUVELLES ESPÈCES DU GROUPE DES RHYNCHOPHORIDES

DÉCRITS PAR

**W. ROELOFS.**

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*Iphthimorhinus*, n. g.

Corps oblong, épais, élytres subparallèles.

Rostre très robuste, gibbeux, fortement arqué, plus haut que large et quadrangulaire dans sa majeure partie, aminci et aplati vers l'extrémité, un peu déprimé et sans échancrure au dessus de la bouche. Mandibules triangulaires, à pointe obtuse et présentant une dent peu saillante sur leur tranche intérieure. Les fissures à côté du pédoncule peu larges et peu profondes. Scrobes rapprochés de la base, fovéiformes.

Antennes assez longues, scape dépassant beaucoup le bord antérieur du prothorax, presque du double plus long que le funicule; les articles du dernier décroissant graduellement, le premier turbiné, les cinq suivants peu à peu plus globuleux et transversaux, présentant un étranglement annulaire à leur bout, le sixième sensiblement plus gros; la massue triangulaire, sa partie spongieuse pas saillante. Tête globuleuse; yeux très finement granulés [1]).

Prothorax aussi long que large, peu convexe, arrondi

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1) Il est impossible de voir, jusqu'à quel point les yeux sont rapprochés en dessous, par la rétraction de la tête dans le prothorax.

sur les côtés, assez brusquement rétréci et muni d'un profond sillon circulaire en avant, bisinué à la base.

Ecusson en triangle arrondi, déprimé au milieu.

Elytres d'un tiers plus longues que larges, leurs épaules obtuses, leurs côtés presque parallèles, leur extrémité isolément arrondie.

Pattes robustes, cuisses fortes, ainsi que les jambes un peu comprimées, les jambes mucronées au bout; deux premiers articles des tarses petits; le premier un peu allongé et creusé en dessous; le troisième grand et largement cordiforme, tous les articles spongieux en dessous.

Pygidium déclive, en triangle arrondi, convexe, légèrement échancré à l'extrémité.

Prosternum court, avec deux lobes rapprochés, courts, gros, et saillants derrière les hanches antérieures, couvrant moins le mésosternum que chez *Rhynchophorus*.

Saillie intercoxale de l'abdomen droite; deuxième segment abdominal plus grand que les deux suivants, séparé du premier par une suture droite.

### *Iphthimorhinus australasiae*, n. sp.

Long. 34 millim. rostr. excl. — D'un rouge-brun velouté avec des taches noires en dessus, noir varié de rouge-brun en dessous et sur les pattes. Antennes noires.

Rostre nettement séparé de la tête, muni d'une impression large et longitudinale, partant de la base, graduellement effacée en avant. Funicule et massue des antennes avec quelques poils courts et bruns. Tête ponctuée derrière les yeux et plus fortement sur l'arrière du vertex.

Prothorax avec son bord antérieur étranglé noir, un trait court, peu marqué, au milieu du disque, une tache triangulaire à la base, à la place de son sinus, et une tache transversale, allongée, au dessus des hanches antérieures, de la même couleur. Ecusson noir.

Elytres avec six stries imponctuées entières, trois stries

sur leurs côtés n'atteignent pas la base; les intervalles des stries larges. Une tache noire se trouve au milieu du quatrième intervalle, la suture est un peu noirâtre, ainsi que l'extrémité.

Le pygidium est rougeâtre à la base, noir sur le reste, vaguement ponctué et parait, vu dans un certain jour, couvert d'une efflorescense grisâtre.

Le prosternum, le métasternum en dessous et le premier segment de l'abdomen au milieu, sont rouges; cette couleur s'étend un peu plus sur le second segment, le reste du corps est noir. Le prosternum est assez finement ponctué en dessous et sur les côtés. Le mésosternum, d'un noir luisant, porte sur l'épisternum quelques points gros et distants. Le métasternum et les deux premiers segments de l'abdomen sont couverts d'une grosse ponctuation, devenant plus fine sur les côtés du premier segment et sur le reste de l'abdomen, où les points ont chacun un petit poil brunâtre. Le corps, vu dans un certain jour, offre une apparence grisâtre, analogue à celle du pygidium.

Les pattes sont rouges à l'exception de l'extrémité des cuisses qui est noire. Les tarses sont noirâtres. Les pattes vaguement ponctuées; la tranche intérieure des jambes est munie d'une rangée de poils bruns, très courts.

Un individu du Musée de Leide, originaire de Queensland et présenté par Mr. Ploos van Amstel. Deux individus de la collection Neervoort van de Poll, du même pays.

L'anatomie d'un de ces deux derniers exemplaires a démontré que cette forme est celle du sexe féminin.

Cette grande et belle espèce rentre dans un genre nouveau et bien caractérisé dans le même groupe que *Rhynchophorus* Herbst. Comme dans ce dernier genre, les mandibules n'ont point de lobe recourbé en dehors. Le rostre, d'une grosseur remarquable et fortement courbé, la massue des antennes qui n'est pas sécuriforme mais triangulaire, le prosternum autrement formé, joint aux autres caractères énumérés dans la formule du genre, le distinguent bien des genres voisins.

*Abrachius*, n. g.

♂. Ovale-allongé.

Rostre moins long que le prothorax, robuste, légèrement arqué, très peu grossi à la base, un peu élargi vers l'insertion des antennes, creusé en dessous; sa partie creusée graduellement rétrécie en forme de rainure vers la base. Mandibules larges à leur base, courbées en dedans et en bas, sans lobe extérieur. Scrobes en fossette un peu allongée.

Antennes insérées vers le tiers basilaire du rostre; leur scape dépassant le bord antérieur du prothorax, un peu plus long que le funicule, celui-ci de six articles, les deux premiers les plus longs, le deuxième plus long que le premier, les suivants transversaux et graduellement plus larges, massue triangulaire, sa partie spongieuse assez saillante.

Prothorax peu convexe, aussi long que large à la base qui est un peu avancée au milieu, légèrement sinuée et oblique à côté. Les côtés du prothorax se rétrécissent faiblement jusque près du bord antérieur, qui est tubuleux comme dans le genre *Rhynchophorus*.

Ecusson en triangle arrondi au bout.

Elytres de la largeur du prothorax à leur base, leurs épaules effacées, s'arrondissant un peu sur les côtés, sans se rétrécir en arrière, isolément arrondies à l'extrémité.

Pygidium en triangle arrondi, un peu déprimé.

Prosternum avec deux petits lobes aplatis, rapprochés, derrière les hanches antérieures.

Saillie de l'abdomen droite. Le mucro des jambes peu développé. Articles des tarses spongieux en dessous, le premier de longueur médiocre, le dernier triangulaire.

♀. Rostre aussi long que le prothorax, plus largement et profondément creusé en dessous que celui du mâle, le pédoncule se relie à une faible carène médiane, les bords sont un peu crénélés et s'abaissent vers la bouche, leur extrémité est courbée en bas. Les fissures à côté du pédoncule sont plus longues que chez le mâle. Le prothorax

et l'écusson plus longs, le pygidium plus convexe et la dépression du métasternum et des premiers segments de l'abdomen plus forte.

*Abrachius insularis*, n. sp.

♂, 14 millim.; ♀, 16 millim. rostr. excl. — D'un noir lavé de rouge-pourpre foncé, luisant en dessous et sur les pattes, noir et rouge-pourpre foncé velouté en dessus.

Rostre noir-rougeâtre, rugueusement ponctué à la base, plus finement vers le bout, avec une impression allongée entre les yeux. Antennes noires, funicule et massue avec quelques poils jaunâtres. Tête rouge, finement ponctuée sur le vertex.

Prothorax rouge-pourpre velouté, sa partie étranglée antérieure noire. Cette même couleur couvre le prosternum et s'étend en tache transversale au dessus des hanches antérieures. Les côtés du prosternum sont obsolètement ponctuées. Ecusson noir, déprimé au milieu.

Elytres noires à la base et en arrière, rouges-pourpre au milieu, cette couleur en s'étendant sur leurs côtés remonte un peu vers le devant. Une substance, difficile à définir, de couleur brune, garnit leur extrémité et s'élargit sur l'angle extérieur. Les élytres ont des stries imponctuées, larges et profondes à la base, graduellement plus fines en arrière, leurs intervalles sont larges et plans; les six stries intérieures de chaque élytre sont plus larges que les stries latérales; vers le huitième intervalle se voit sur l'épaule un espace un peu saillant et luisant.

Le pygidium est rouge à la base et garni chez le mâle de la même façon que l'extrémité des élytres; il porte quelques poils bruns au bout.

Dessous ponctué, le milieu du métasternum lisse. La couleur noire, lavée de rouge-pourpre, est la couleur générale du dessous et des pattes; le métasternum est plus rouge au milieu, ses côtés sont d'un noir mat. Les trois

derniers segments de l'abdomen sont garnis vers leur extrémité à la façon du bout des élytres. Cette vestiture est presque absente chez le mâle. Chez celui-ci les pattes sont peu densément garnies de poils jaunâtres sur leur tranche intérieure.

Le genre est voisin de *Rhynchophorus*, mais s'en distingue surtout par la forme du rostre, plus robuste et gardant presque la même grosseur partout. La forme générale de l'insecte est plus régulièrement ovale et moins rétrécie en arrière.

L'espèce habite les îles Arou. — Un individu du Musée de Leide est un ♂ qui provient des voyages du Baron von Rosenberg; un autre, de la collection Neervoort van de Poll, est une ♀ et étiquetté: »Aru-Ins., Urejuning, C. Ribbe, 1884."

La Haye, Avril 1892.

# NOTE XXXIV.

## THREE NEW SPECIES OF THE LONGICORN GENUS PACHYTERIA

DESCRIBED BY

**C. RITSEMA Cz.**

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*Pachyteria Pasteuri*, n. sp. ♂.

Resembling *Pachyteria Lambii* Pasc. from Penang or from the coast opposite the island, judging from the description and figure [1]), but in the new species the colors are darker and the punctuation of the bright colored basal half of the elytra is less dense.

Length from the front margin of the inter-antennary ridge to the apex of the elytra 24 mm., breadth at the shoulders 8 mm. — Nearly glabrous, subnitid. The head and the pronotum very dark reddish brown, brighter however on the face and on the base of the mandibles; the four basal joints of the antennae, as well as the extreme base of the 5th joint, black, the 3rd and the 4th joint covered with a black velvety pubescence; the 5th and succeeding joints pale ochreous. — The scutellum blackish brown. — The basal half of the elytra reddish ochraceous [2]) with two dark longitudinal lines, indicating the costae; the apical half black with faint metallic tinges

1) Proceed. Zool. Soc. London, 1866, p. 519; pl. 43, fig. 6.

2) This color is slightly continued backwards along the suture.

and covered with a short black pubescence. — Body underneath and legs black, with blue and violet tinges; the anterior tibiae covered on the inside and the anterior tarsi covered above with an ochraceous pubescence.

The head is strongly but not densely punctured with the exception of the pubescent inter-antennary ridge which has a very fine and dense punctuation; a narrow and deep groove runs from the base of the clypeus up to the vertex where it ends in a smooth space; the sides of the mandibles have a few fine punctures near the base. The antennae are rather short and stout, reaching slightly beyond the middle of the black apical half of the elytra; the scape is densely punctured, and provided on the frontside with a shallow longitudinal groove; the 3rd joint nearly as long as the 4th and 5th taken together, the following slightly decreasing in length, the apical one, however, somewhat longer than the penultimate.

The raised disk of the pronotum is covered with rather regular and partly confluent transverse wrinkles which on the basal half are interrupted in the middle by a smooth space; the interspaces between the wrinkles are provided with large punctures; the anterior constricted portion is followed in the middle by a broad and smooth semilunar impression; the middle of the sides is armed with a strong toothlike angle which is smooth. The scutellum is of a regular triangular shape with very acute apex; it is impressed along the middle and covered with distinct punctures.

The elytra taper gradually from a little beyond the shoulders; the apices are narrowly and separately rounded and consequently dehiscent; the ochraceous basal half is not closely covered with large punctures which bear a short uncolored hair; on the black colored apical half the punctuation is fine and dense and covered with a short black pubescence.

The under surface of the head and prothorax is transversely wrinkled; the meso- and metasternum are very

finely and densely punctured on the sides, but towards the middle (which shows an impressed longitudinal line) the punctures become larger and wider apart; the intercoxal part of the pro- and mesosternum is formed as in the majority of the species (no tubercle with V-shaped recess); the abdomen is finely and distantly punctured; the 5th ventral segment faintly emarginate, with broadly rounded hind angles; the legs are strongly punctured, and the posterior femora reach beyond the apices of the elytra.

*Hab.* Nias Island. — A single specimen, presented to the Leyden Museum by Mr. J. D. Pasteur to whom the species is dedicated.

*Pachyteria lugubris*, n. sp. ♂.

Easily distinguished by its dark coloration being entirely greenish- or bluish black, with the intermediate antennal joints partly brownish yellow and the elytra provided, a little beyond the middle, with a narrow transverse band of pale yellowish hairs; the prothorax is not at all armed at the sides.

Length from the anterior margin of the inter-antennary ridge to the apex of the elytra 32 mm., breadth at the shoulders 9¼ mm. — Above opaque and of a greenish black color, the legs subnitid and, as well as the metasternum, dark blue with faint green tinges; sparsely covered with extremely short black hairs which, however, are closely set on the inter-antennary ridge, on the front- and basal margin and the disk of the pronotum, on the scutellum and across the middle of the elytra giving these parts a velvety appearance. In the velvety streak of the elytra, a little beyond their middle, a very narrow sinuate band of pale yellowish hairs is present, which touches neither the suture nor the lateral margins. The apical half of the 3rd antennal joint, the entire 4th, 5th and 6th, as well as an apical spot on the inner side of the 7th joint

brownish yellow, partly (from abrasion?) covered with short black hairs; the anterior tibiae covered on the inside with an ochreous pubescence, the coxae, the mesosternum, the hind margin of the metasternum and that of the ventral segments with a dense silvery pile.

The head is rugosely sculptured on the vertex and behind the eyes, but these rugose regions are separated by a smooth, sparsely punctured space; the space between the under margin of the eyes and the base of the mandibles smooth, sparsely punctured; the inter-antennary ridge is densely covered with a fine sculpturing and with short black hairs, and is separated from the clypeus by a smooth space with raised lateral margins and divided by an impressed line which extends down to the base of the clypeus; the clypeus itself is convex in a transverse direction, rather densely covered with punctures on its basal half, the punctures decreasing in number and size towards the contracted front portion which is impunctate and of a bright chestnut color; the labrum is short, strongly transverse and finely punctured; the sides of the mandibles are strongly punctured on their basal half, very finely on the apical one. The antennae are proportionately short, reaching hardly to the elytral band, and considerably thickened in the middle; the scape is rather short, toothed at the apex, strongly and densely punctured and with a shallow roundish impression at the base in front; the 3rd joint is slightly curved and becomes gradually thicker towards the end, it is not quite so long as the 4th and 5th taken together, the 4th—7th subequal, the following joints slightly decreasing in length, but the apical joint again somewhat longer.

The prothorax large; the sides without any trace of spine or tooth, slightly converging towards the front margin, much more broadly rounded towards the base than anteriorly; the front- and basal margin bisinuate; the disk flat, scabrous, bordered anteriorly, at some distance from the front margin, by a transverse line which is en-

larged and impunctate in the middle, at the sides by an oblique line which is deeply impressed in the middle, and at the base by a smooth transverse line; moreover a trace of a central longitudinal line may be observed. The under surface of the prothorax is finely, evenly and very densely punctured, forming a dull lustreless surface which, at the sides, extends up to the oblique line of demarkation of the disk, but leaving free the contracted front portion which is finely wrinkled, and the intercoxal part which is covered with a silvery pile. The scutellum is rather broad, the sides slightly converging, suddenly narrowed a little before the end.

The elytra are gradually narrowing towards the apices which are conjointly rounded; their surface is scabrous, but the sculpturing becomes finer and finer towards the end; traces of longitudinal costae are present at the base.

The intercoxal part of the prosternum is rounded, convex along the middle and has slightly raised edges, that of the mesosternum is angularly impressed anteriorly, shallowly grooved along the middle and broadly notched behind. The metasternum is distantly covered with large and with small punctures and has an impressed line along the middle. The legs are punctured, the posterior ones more strongly than the others. The abdomen without distinct punctures; the 5th ventral segment broadly and deeply emarginate, the 6th broadly but less deeply. The apical dorsal segment is triangular, and minutely notched at the tip; it is punctured but has a smooth line along the middle.

*Hab.* Nias Island. — A single specimen, presented to the Leyden Museum by Mr. J. D. Pasteur.

N. B. This is the third *Pachyteria*-species known from Nias; the first species described from that island is *Pachyteria niassensis* Gahan (Notes from the Leyden Museum, Vol. XII, 1890, p. 161).

*Pachyteria borneoensis*, n. sp. ♂.

No doubt this species is closely allied to *Pachyteria insignita* Pasc. from Penang or from the coast opposite the island [1]), but differs from it in the distribution of the colors on the elytra and antennae, whereas nothing is said in the description about the particular sculpturing of the prosternum which I observe in the specimen before me.

Length from the anterior margin of the inter-antennary ridge to the apex of the elytra 36 mm., breadth at the shoulders 11 mm. — Above subopaque, covered with minute hairs which are of the same color as the derm whereon they occur; beneath subnitid, the coxae, sides of meso- and metasternum and hind margin of the three basal ventral segments covered with a glithering greyish pile; the bands on the ventral segments strongly narrowed or interrupted in the middle. — The head, prothorax and scutellum black, the former however with the exception of the luteous labrum, mandibles [2]), palpi and upper margin of the antennary tubers; the six basal joints of the antennae luteous, the remaining five black, the 7th however brown on the inside; the smaller basal half of the elytra luteous, the larger apical half black with a green tinge; underneath black with metallic blue tinges on the metasternum and abdomen; the legs luteous with the coxae partly and the larger apical half of the posterior femora (with the exception of the extreme apex) black, the intermediate femora with an infuscate spot on the hinder surface of the swollen portion.

The head rugosely punctured on the vertex and behind the eyes, the cheeks with a few large punctures, the sides of the mandibles finely punctate; the inter-antennary ridge divided by a narrow but deep groove, very finely punctured above, irregularly punctured in front, the large

1) Proceed. Zool. Soc. London, 1866, p. 520.

2) The tips of the mandibles are dusky.

punctures confluent in a longitudinal direction; the clypeus rather distantly punctured; the labrum large, deeply emarginate anteriorly, finely and sparingly punctured. The antennae slender, the scape short, rather strongly but not densely punctured, sharply spined at the top and provided, inwardly from the spine, with an infuscate round spot; the 3rd joint not quite so long as the 4th and 5th together, the 4th—6th equal in length to one another, the remainder slightly decreasing in length, the apical joint, however, decidedly longer than the penultimate one.

The prothorax broad, its sides rounded anteriorly and strongly angulated behind the middle; the angle terminating in an acute point; the raised disk finely rugose, densely covered with a velvety black pubescence, with a smooth space at the middle of the base, the upper surface of the lateral angles smooth, almost impunctate; the contracted anterior- and basal portion irregularly wrinkled and punctate. The under surface of the prothorax is very densely and evenly punctured, forming a dull lustreless surface which is also to be seen from above between the front margin and the tip of the lateral angles; the contracted front portion is transversely wrinkled, the intercoxal part sparsely punctured. The scutellum triangular, slightly longer than broad at the base, densely covered with a black pubescence.

The elytra slightly narrowing towards the apices which are emarginate; they are densely covered with punctures which decrease in size towards the end, and show each three slightly raised smoother costae.

The metasternum and abdomen have large punctures irregularly scattered over the surface, and along the middle of the former a fine raised line is present. The 5th ventral segment is broadly and deeply emarginate behind; the 6th segment, which is narrower and in the middle impunctate, faintly emarginate. The femora are strongly punctured, the tibiae much more finely so. The intercoxal

part of the pro- and mesosternum without tubercle and V-shaped recess.

*Hab.* Sagoo near Sarawak (Borneo). — A single specimen in the collection of Mr. René Oberthür.

Leyden Museum, March 1892.

Postscript. A new species of the allied genus *Zonopterus* has been recently described by Mr. A. F. Nonfried, viz. *Zonopterus Redemanni* Nonfr., from Ceylon. (Deutsche Entomologische Zeitschrift, Jahrg. 1891, 2tes Heft [1]), S. 274).

1) Published in March 1892.

# NOTE XXXV.

## TWO NEW SPECIES OF THE LONGICORN GENUS GLENEA

DESCRIBED BY

**C. RITSEMA Cz.**

*Glenea florensis*, n. sp. ♂ and ♀.

Length of the ♂ 22 mm., breadth at the shoulders 6,5 mm.; length of the ♀ 27 mm., breadth at the shoulders 8,5 mm. — Black, covered with a black velvety pubescence, and provided with markings of short white hairs.

The head with a faint purplish hue and provided with two white stripes on the face, bordering the inner orbits and joining the anterior basal angle of the mandibles; with a white transverse band behind the base of the eyes and with two closely approximated stripes on the vertex, running from between the antennary tubers to the front margin of the thorax and being suddenly constricted in the middle [1]). The head is sparsely and irregularly covered with large and deep punctures. The antennae are covered with a dense whitish pile and the derm of the three basal joints is dark purplish black.

The prothorax is much narrower than the base of the elytra, subcylindrical, slightly narrowing in straight lines to the front and showing a purplish hue; its upper surface is not very closely covered with large and deep punctures and provided with three longitudinal white stripes, viz. a narrow median one (interrupted in the middle) and

1) In the male specimen the stripes on the vertex are obsolete.

two broader lateral ones; just above the coxae another broad white stripe, continuous with the postocular stripe of the head, is present. The scutellum is somewhat elongate triangular with curvilinear sides and densely covered with a white pubescence.

The elytra, which are much broader at the base than the thorax, taper in straight lines from the angular shoulders to the end which is truncate and provided with four spines of which the external ones are slightly larger than those at the suture; the front margin of the shoulders is straight and slightly directed backwards. The disk of the elytra is densely covered with large and deep punctures which, however, become evanescent towards the end; on the deflexed sides the punctures are arranged in rows. The disk of the elytra is provided with the following white markings: a sutural stripe on the apical half common to both elytra and divided by the suture; four elongate ovate spots on the middle of the basal half (two spots on each elytron) of which the two innermost are placed nearer to the base than the two outermost; a more or less square spot just before the middle of each elytron touching neither the suture nor the lateral carina; an elongate ovate spot on the middle of the apical half closely approximated to the lateral carina, and finally a spot on the extreme apex of each elytron.

The sterna, abdomen and legs have vived purplish and blue tinges; the sterna are white on the sides; the abdomen has four rows of white spots (in the ♂ the two rows on each side are united along the hind margin of the segments), and the legs, especially the tibiae and the tarsi, are covered with a greyish pile.

*Hab.* The island of Flores. — A male and a female in the collection of Mr. René Oberthür.

*Glenea Oberthüri*, n. sp. ♀.

Length 25 mm., breadth at the shoulders 7 mm. — Metallic bluish green, subnitid, provided with stripes and

spots of a dense white pubescence, the head bronze green, the legs reddish brown, the anterior and intermediate tibiae and tarsi black.

The head sparsely punctured, the punctures large and deep; with two white stripes on the face bordering the inner orbits and joining the base of the mandibles, a white spot behind the lower lobe of the eyes, and four white stripes on the vertex: two in the middle closely approximate, beginning in front of the antennary tubers and slightly diverging posteriorly, and two laterally behind the insertion of the antennae. The three basal joints of the antennae bluish black and subnitid, the remainder dull black, with a greyish lustre in certain lights especially along the under surface.

The prothorax is much narrower than the base of the elytra, slightly broader in front than at the base, with a deep furrow at the sides near to and parallel with the base and another shallower and narrower one closely approximate to the front margin; its upper surface irregularly covered with large and deep punctures, and with a short basal median keel showing an impressed line; the disk is provided on each side with a longitudinal white vitta and with two white spots on the middle-line, one (the largest) touching the front-, the other (bilobed) touching the basal-margin; just above the anterior and intermediate coxae another white band is present. The scutellum is broad, broadly rounded at the tip and covered with a dense white pubescence.

The elytra, which are much broader at the base than the thorax, taper slightly backwards in straight lines and are flattened on the sutural region; the basal margin is straight, the shoulders are angular and have a small knob on the tip; the apices are emarginate, sharply spined externally, the sutural angle narrowly rounded; the disk of the elytra is densely covered with large and deep punctures, which however become evanescent towards the end; along the deflexed portion the punctures are placed in two

regular rows, but along the middle of the disk they are more irregular, and these two regions are separated from each other by a slightly raised smooth keel; on the deflexed sides the punctures are likewise arranged in rows. Each elytron is provided with five large white spots arranged in the following manner: a large roundish spot quite at the middle of the length; between this spot and the base two similar spots of which the basal one (not touching however the basal margin) is slightly elongate; these three spots are placed midway between the suture and the carina bordering the deflexed side; an ante-apical oblique spot, and between this latter and the central spot, but more outwardly and touching the carina, an ovate spot which is prolonged forward into a stripe covering the innermost row of punctures as far as the front margin of the second spot; white hairs are also present between the carinae of the deflexed side.

The sides of the metasternum and of the abdomen are covered with a dense white pubescence, and the anterior and intermediate tibiae, as well as the tarsi of the three pairs of legs, with a greyish pile.

*Hab.* East Java: Mount Ardjoeno. — A single female specimen in the collection of Mr. René Oberthür.

Leyden Museum, June 1892.

# NOTE XXXVI.

# CARCINOLOGICAL STUDIES IN THE LEYDEN MUSEUM

BY

**Dr. J. G. de MAN.**

N°. 6. [1])

(Plates 7—10).

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LIST OF SPECIES.

Xantho lividus *Lam.*
» Reynaudii *M. E.*
Eurycarcinus orientalis *A. M. E.*
Pilumnopeus crassimanus *A. M. E.*
Heteropanope tridentata *Maitland.*
Geotelphusa picta *v. Mart.*
» transversa *v. Mart.*
Geotelphusa loxophthalma, n. sp.
Sesarma Eydouxi *M. E.*
» recta *Randall.*
» angustipes *Dana.*
» elongata *A. M. E.*
» curaçaoensis, n. sp.
Caridina japonica, n. sp.
Hippolyte ponapensis *Ortmann.*

## 1. *Xantho lividus* Lam.

*Xantho lividus*, H. Milne Edwards, Histoire Nat. des Crustacés, T. I, p. 393.

The cephalothorax of this rare species that occurs on the shores of Mauritius, is rather much enlarged and its lateral margins are armed with four teeth behind the external orbital angles which are not at all prominent. The first tooth is the largest, has the form of a bluntly rounded lobe and projects far beyond the external orbital angles;

1) See for N°. 1 and 2: Vol. III, p. 121 and p. 245; for N°. 3: Vol. V, p. 150; for N°. 4: Vol. XII, p. 49, and for N°. 5: Vol. XIII, p. 1.

the second is somewhat smaller, and the third and fourth are the smallest, much narrower, and therefore appear more dentiform. The ambulatory legs are densely provided with long hairs. I examined this species in the Museum of Paris.

### 2. *Xantho Reynaudii* M. E.

*Xantho Reynaudii*, Milne Edwards, l. c. T. I, p. 392.

I examined in Paris a specimen of this *Xantho*, which was collected in China. The cephalothorax is rather little enlarged and the front is narrow. The measurements are the following:

| | | |
|---|---|---|
| Greatest width of the cephalothorax (i. e. the distance between the last antero-lateral teeth). | 59½ | mm. |
| Length of the cephalothorax, the front included | 44 | » |
| Distance between the external orbital angles. | 25 | » |
| Breadth of the front . . . . . | 15 | » |

### 3. *Eurycarcinus orientalis* A. M. E.

*Eurycarcinus orientalis*, A. Milne Edwards, Descriptions de quelques espèces nouvelles de Crustacés brachyures, in: Annales Soc. Entomol. de France, T. VII, 1867, p. 277.

In my »Report on the Crustacea of the Mergui Archipelago" (Journal of the Linnean Society of London, Vol. XXII, 1888, p. 43), I have made the supposition that *Eurycarcinus integrifrons* de Man, of which the habitat is unknown, might prove to be identical with *Euryc. orientalis* A. M. E., a species from Bombay. An exact examination of the typical specimen in Paris taught me, however, that these two species are indeed distinct. The cephalothorax of *Euryc. orientalis* is comparatively somewhat more enlarged, as may be seen by comparing the dimensions of the two species. The front of *Euryc. orientalis* is not straight, as in *Euryc. integrifrons*, but presents a rather broad, triangular emargination in the middle.

In *Euryc. integrifrons* the two anterior lobes of the lateral margins of the cephalothorax have the same size, but in the Bombay species the second antero-lateral lobe is a little longer than the first.

The measurements of a male type-specimen of *Eurycarcinus orientalis* from Bombay are the following:

| | | |
|---|---|---|
| Breadth of the cephalothorax | $26^2/_3$ | mm. |
| Length » » » | 16 | » |
| Distance between the external orbital angles | $13^2/_3$ | » |

The cephalothorax of a male individual of *Eurycarcinus integrifrons* de Man, however, is 20 mm. broad and 14 mm. long (confer: Notes from the Leyden Museum, 1879, Vol. I, p. 56).

### 4. *Pilumnopeus crassimanus* A. M. E.

*Pilumnopeus crassimanus*, A. Milne Edwards, Descriptions de quelques espèces nouvelles de Crustacés brachyures, in: Annales Soc. Entom. de France, T. VII, 1867, p. 278.

It appears to me highly probable that this species is identical with *Heteropanope serratifrons* Kinahan (confer: de Man, in: Notes from the Leyden Museum, Vol. XII, 1890, p. 56; pl. 3, fig. 2). The typical specimen of *Pilumnopeus crassimanus* from Port Western, that I examined in Paris, presents the following measurements:

| | | |
|---|---|---|
| Greatest width of the cephalothorax | 25 | mm. |
| Length of the cephalothorax, without the frontal lobes | 17 | » |
| Length of the cephalothorax, with the frontal lobes | $17^1/_2$ | » |
| Distance between the internal orbital angles | $8^1/_2$ | » |
| Length of the larger chela, fingers included | $19^1/_2$ | » |
| Length of the palm | 12 | » |
| Height of the palm near the articulation with the fingers | $11^3/_4$ | » |

I must remark that the number 25 (greatest width) is

perhaps not quite exact and may be a little too high. The distance between the internal orbital angles is just half as long as the length of the cephalothorax, quite as in *Heterop. serratifrons*, and as regards the other proportions, both species likewise agree with one another.

### 5. *Heteropanope tridentata* Maitland.

(Fig. 1).

*Pilumnus tridentatus*, Maitland, Naamlijst van Nederlandsche Schaaldieren, in: Tijdschrift der Nederlandsche Dierkundige Vereeniging, Deel I, 1873, p. 232. — Hoek, Iets over *Pilumnus tridentatus* Maitland, in: Tijdschrift der Nederlandsche Dierkundige Vereeniging, Deel II, 1876, p. 243: pl. XIV, fig. 12—16.

*Heteropanope tridentata*, de Man, in: Zoolog. Jahrbücher von J. W. Spengel, Bd. IV, 1889, S. 422.

This interesting species, hitherto only known from Holland, was first distinguished and shortly described by Maitland. It is found in the Zuiderzee, not only on its shores, but also near the island of Urk, further in the IJ near Amsterdam and in the Hollandsch Diep. It occurs however not only in seawater, but also in brackish and even in fresh water. Maitland indeed observed these crabs in a freshwater ditch near Haarlem and Hoek found them in the river Amstel and even near the village of Uithoorn at a distance of five hours from Amsterdam and from the seashore. Some time ago Mr. Maitland was so kind as to procure me some specimens of this species, twelve males of somewhat different size and a young female without eggs: according to him the female individuals would be much less frequent than the males, but Dr. Hoek observed quite the contrary and I received from him an ova-bearing female, found near Urk in August 1890, at a depth of 14 feet.

This species now ought to be referred to the genus *Heteropanope*, as it was characterized by me in my »Report on the Crustacea of the Mergui Archipelago" (Jour-

nal of the Linnean Society of London, Vol. XXII, 1888, p. 52), and it appears most closely allied to *Heteropanope indica* de Man, that inhabits the Mergui Archipelago.

As regards indeed the general form of the cephalothorax, of the chelipedes and of the ambulatory legs, both species no doubt present a striking resemblance with one another and it is only by a close examination that the slight differences can be observed. As in the Mergui species, the cephalothorax is broadest at the third antero-lateral teeth; the proportion of the width of the cephalothorax to the length is nearly quite the same in both species. The upper surface, rather depressed in *Heterop. indica*, appears to be slightly convex in the Dutch species and distinctly declivous towards the front and the lateral margins. The transverse groove, separating the cardiac region from the mesogastric area, is rather deep and the two grooves which border the latter anteriorly and converge towards the very slight frontal furrow, are also quite distinct, but the other interregional grooves are faintly marked. The posterior branchial regions are somewhat rugose and the anterior half of the upper surface is marked, like in *Heterop. indica*, with some transverse, minutely granulated, pubescent, elevated lines, five on each side, which, however, present a different arrangement in both species. The epigastric lobes, lying immediately behind the frontal margin, and each of which in the Mergui species bears a transverse line, appear smooth in *Heterop. tridentata*. In both species each protogastric lobe is marked with two transverse lines; in *Heterop. indica* these ridges are placed nearly in the same transverse line near one another, but in *Heterop. tridentata* they are placed behind one another, and the anterior is somewhat shorter than the posterior; in some individuals these two lines are divided into smaller ones. The mesogastric area presents on each side a transverse line, but in *Heterop. indica* this region is smooth. The fourth or last antero-lateral tooth is slightly

carinate above; this short crest, running obliquely backwards and being likewise pubescent, is the fourth of the five elevated lines that are seen on each half of the upper surface of the cephalothorax. The fifth, finally, is the longest and proceeds almost transversely; it occurs between the fourth line and the posterior border of each protogastric lobe. In *Heterop. indica* before this fifth line, moreover a much shorter one is found near the third antero-lateral tooth, but this shorter line is completely wanting in Maitland's species. The upper surface of the anterior half of the cephalothorax before and between the described transverse lines is quite smooth.

The front is a little less broad in this species in proportion to the width of the cephalothorax than in *Heterop. indica*, its breadth being not quite one third of the width of the carapace; it is nearly as prominent and presents the same form, but each lobe is somewhat less distinctly emarginate towards its external angle. Immediately behind the granulated margin of the front and parallel with it, a granulated crest occurs, likewise divided into two halves by a median triangular incision, so that the front may be described as bimarginate, which seems to be also the case in *Heterop. indica* according to my description. The orbits have quite the same form and the same fissures on their finely granulated margins as those of *Heterop. indica*, namely two on the outer half of the upper margin and one small triangular incision on the finely granulated inferior margin near the little prominent external orbital angles. The inner angle of the under margin projects, as in *Heterop. indica*, as a rather obtuse tooth a little beyond the inner angle of the upper margin.

The antero-lateral margins are armed with four prominent teeth, including the external orbital angles; these teeth present just the same form and the same proportions as those of *Heterop. indica*, so that the description of the latter is wholly applicable to Maitland's species. The inflected sides of the cephalothorax are finely granular and

hairy, but are not provided with a tubercular eminence or tooth as in some other species of this genus. The short and quadrate basal joint of the external antennae reaches to the front. The epistome is smooth and the endostome distinctly ridged on each side. The abdomen of the male seems to be five-jointed, as the third, fourth and fifth segments are probably coalescent, but Hoek figures it (l. c.) as seven-jointed; the penultimate segment is distinctly broader than long. The sternum of the male is somewhat granulated on the anterior segment, near the abdomen, near the maxillipedes and near the basal joint of the chelipedes.

The chelipedes of the male are very unequal and in all the specimens before me the right is the larger. The upper margin seems to be unarmed at the distal end, but presents a strong, acute, somewhat curved tooth in the Mergui species. The under margin is obtusely rounded and the anterior somewhat hairy. The wrist is armed at the internal angle with a scarcely acute tooth and appears somewhat uneven and granular on the upper surface, especially that of the smaller chelipede. The hand of the larger chelipede (fig. 1b) is exactly as long or scarcely shorter than the breadth of the cephalothorax. The palm is about once and a half as long as the fingers, measured horizontally and but little longer than high. As in *Heterop. indica*, the outer surface of the palm is rather convex and quite smooth; the upper margin, which in the Mergui species was described by me as obtuse, appears remarkably flattened in *Heterop. tridentata* and is separated from the outer surface of the palm by a more or less distinct longitudinal crest, running parallel with the inner border of the upper margin. In some individuals this flattened upper margin, sometimes even slightly concave, appears minutely granular, especially along its borders, when seen under a lens. The convex inner surface of the palm is equally smooth. The fingers, which have pointed tips and leave, when closed, a small hiatus between them, are

distinctly compressed laterally, a character of which I made no mention in my description of *Heterop. indica*. The arcuate mobile finger appears slightly concave in a longitudinal direction on its outer as well as on its inner surface and is smooth everywhere except at the base of the upper margin that appears finely granular when seen under a lens; the inner margin is armed with seven or eight small teeth of somewhat unequal size. The index or immobile finger is also faintly longitudinally furrowed on its outer surface and its inner margin is also provided with several (seven or eight) teeth of unequal size.

The fingers of the smaller hand of the male (fig. 1c) are comparatively a little longer than those of the larger chela, being but little shorter than the palm, and they leave no hiatus between them when closed. For the rest this hand presents quite the same characters as the other, the outer surface of the palm being perfectly smooth and glabrous, the upper margin being flattened or even slightly concave longitudinally, separated from the outer surface by a longitudinal, more or less distinct crest or edge and appearing more or less distinctly granular when examined under a lens. The fingers are laterally compressed and faintly grooved longitudinally on their outer surface; the mobile finger is finely granulated nearly along its whole upper margin and armed with six or seven small teeth; the lower finger, finally, has ten or twelve small teeth. The smaller hand of *Heterop. indica*, however, was described by me as being covered with distinct granules and with sparsely distributed hairs on the outer surface of the palm.

In the single female specimen that I have before me, an ova-bearing individual, the cephalothorax is but $11^1/_2$ mm. broad. As in the males the right chelipede (fig. 1d) is a little larger than the left. The chelae resemble the smaller hand of the male, but they are somewhat granular. Both hands have the upper margin of the palm distinctly flattened and separated from the outer surface by a gra-

nulated edge. The outer surface of the palm is somewhat granular near the articulation with the wrist, especially that of the smaller hand, and in both hands the furrowed fingers are somewhat granulated at their base.

The ambulatory legs resemble those of the Mergui species, but the terminal joints are slightly longer than the propodites.

I give the measurements of four male specimens:

| | millimetres. | | | |
|---|---|---|---|---|
| | 1. | 2. | 3. | 4. |
| Length of the cephalothorax | $14\frac{1}{2}$ | $14\frac{1}{4}$ | $13\frac{1}{2}$ | $11\frac{3}{4}$ |
| Breadth of the cephalothorax (distance between the third antero-lateral teeth) | $19\frac{1}{2}$ | $19\frac{1}{3}$ | $18\frac{1}{2}$ | $15\frac{3}{4}$ |
| Distance between the internal orbital angles | 6 | $5\frac{1}{2}$ | $5\frac{1}{2}$ | $4\frac{3}{4}$ |
| Length of the larger hand (fingers included) | 16 | 19 | $15\frac{1}{2}$ | 15 |
| Length of the palm | $9\frac{1}{2}$ | $11\frac{1}{2}$ | 10 | 9 |
| Height of the palm near the articulation with the fingers | 8 | $9\frac{3}{4}$ | 8 | $7\frac{1}{4}$ |

*Heterop. Vauquelini* Aud., of which a male specimen from the Red Sea lies before me, may be distinguished from *Heterop. tridentata* by the following characters: the front is somewhat broader, the distance between the internal orbital angles being somewhat broader than a third of the width of the cephalothorax; it is rather deeply emarginate on each side of the small triangular median incision, and, consequently, the front consists of two prominent, broad and rounded internal and of two external lobes, the latter being much smaller, dentiform and projecting much less forward i. e. downward. The protogastric and mesogastric regions are not marked with transverse ridges, as in *Heterop. tridentata*, but they are smooth, and no granulated crests are seen in this species on the frontal lobes, immediately behind their anterior margin, so that in *Heterop. Vauquelini* the front does not appear bimarginate. The upper margin of the arm of the larger chelipede of the male terminates into an acute tooth. The upper margin of the palm of the larger chela of the male is simply obtuse, not flattened as in the dutch species;

the fingers of the larger hand, finally, are not compressed laterally and their outer surface appears rather convex.

A different species also is *Heteropanope serratifrons* Kinahan which is identical with *Pilumnopeus crassimanus* A. M. E. In this species, which inhabits the Pacific Ocean, the front is also a little broader than that of *Heteropanope tridentata*, and the second antero-lateral lobe of the cephalothorax is considerably l o n g e r than the first, whereas in the dutch species the first lobe appears still a little longer than the second. The upper margin of the arm of the larger chelipede of the male ends into an acute tooth, as in *Heterop. Vauquelini*, and the larger hand, finally, presents a somewhat different form (confer de Man, in: Notes from the Leyden Museum, Vol. XII, p. 56; pl. 3, fig. 2).

### 6. *Geotelphusa picta* v. Mart.

(Fig. 2).

*Telphusa picta*, von Martens, Ueber einige neue Crustaceen: in: Monatsberichte der kön. preuss. Akad. d. Wissenschaften zu Berlin, Nov. 1868, S. 611.

I refer to this species, which was first observed in the lake Bato, Isle of Luzon, Philippines, some specimens in the Leyden Museum, viz. two female individuals collected by Kuhl and van Hasselt in the island of Java, and seven specimens (3 ♂, 4 ♀) of somewhat smaller size, of which the locality is unknown. I at first believed them to represent a new species for which I proposed the name of *modesta*, but I sent a male specimen to Dr. Hilgendorf in Berlin, who thereupon informed me that in his opinion this species most probably ought to be referred to *Telphusa picta* v. Mart. [1]).

1) As the quoted description given by von Martens is not clear enough, Dr. Hilgendorf wrote me the following about it: »Länge des Cephalothorax nur 24 (statt 25) mm., Breite 32 mm. (statt 33); der Seitenrand ist vor und hinter

I sent to Dr. Hilgendorf a male, the cephalothorax of which is 37 mm. broad; the abdomen and the smaller hand of this specimen have been figured (fig. 2c and 2e); moreover I sent him a detached larger hand of a male, which has been figured in fig. 2d.

The cephalothorax (fig. 2), closely resembling that of *Telphusa Goudoti* A. M. E. from Madagascar, is rather much enlarged, the proportion of its breadth to the length (the abdomen excluded) being in the adult female from Java as 43 : 30, so that it is almost once and a half as broad as long. The upper surface of the rather thick cephalothorax is strongly convex longitudinally and also somewhat declivous towards the lateral margins. The cervical suture is represented by the usual H-like impression on the posterior half of the upper surface, that separates the gastric from the cardiac region and by two oblique longitudinal impressions on the anterior part, one on each side, separating the gastric from the anterior branchial regions; the last-named grooves are not continuous with and therefore do not pass into the median H-like impression, so that the cervical suture may be said to be interrupted on each side of the posterior half of the gastric region. At a short distance from and just above the insertion of the last pair of legs, a transverse, slightly arcuate impression is found on each side of the posterior part of the upper surface; these transverse grooves separate the intestinal from the posterior branchial regions. The interregional grooves are often less distinctly indicated and shallower in younger individuals. The branchial regions are much inflated,

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dem Zahne glatt (nur der Zahnkerb selbst und die Runzeln stören die Linie), von Martens sagt: „sehr fein gekerbt" (soll vielleicht der Zahnkerb sein). Drittletztes Abdominalsegment des Männchens ist kaum länger als breit (an der schmalsten Stelle 3 mm. breit, hinten und vorn $3\frac{1}{4}$; nirgends länger als $3\frac{1}{2}$). Die Scheeren sind bei ♂ und ♀ recht ungleich (Höhe ♀ 8 : $11\frac{1}{2}$, ♂ 6 : $9\frac{2}{4}$); klaffen beim (kleineren) Männchen schon. Am Carpus ist der hintere (nicht vordere) Zahn kleiner, also wie gewöhnlich bei *Telphusa*."

not only the anterior, but also the posterior, the latter being also convex. The postfrontal crest is as little developed as in *Telphusa Goudoti* and only represented by two slight and low elevations, situated behind the front and separated from one another, as usually, by the median frontal furrow; they are often slightly erose.

The front is very narrow, its anterior margin measuring in adult individuals only a fifth of the greatest width of the cephalothorax, in younger individuals it measures a fourth of it. As the cephalothorax is very convex from behind towards the front, this latter appears likewise much inclined. The anterior margin of the front appears slightly emarginate in the middle, when the cephalothoran is seen from above, but, in fact, the median part of the anterior margin is directed downwards and backwards, and united with the epistome. The anterior margin of the front forms with the upper margin of the orbits very obtuse, rounded angles (fig. 2[a]). The orbits are nearly circular, as they are very little broader than high; the anterior margin of the front is about once and a half as broad as the breadth of the orbits. The anterior frontal margin and the margins of the orbits, the upper as well as the lower, are perfectly smooth. The external angle of the orbits is obtuse, not at all prominent, and therefore not tooth-like; there is no hiatus or emargination between the external angle and the lower margin of the orbits, the lower margin passing continually, without any interruption, into the upper one at the external angle. The epibranchial tooth is small, obtuse and situated as far distant from the external orbital angle as in *Telphusa Goudoti*. The antero-lateral margins are slightly serrate and smooth, never crenulate; the postero-lateral, which are not concave, are covered with many oblique wrinkles passing forwards and downwards on to the inflected portion of the carapace. The upper surface of the cephalo-

thorax is perfectly smooth and has nowhere a trace of granulation; it is however minutely punctate, the punctulation of the intestinal region being often more crowded than that of the rest of the upper surface. The pterygostomian regions are a little rugose.

Dr. Hilgendorf believed that the posterior margin of the cephalothorax was somewhat less broad in our specimens than in *Telphusa picta*. He wrote me on this character the following: »Als Unterschied Ihres Exemplares gegenüber *picta* ist, ausser der Farbe (ich habe aber andere Exemplare von Luzon, die auch ungefleckt sind), die Schmalheit des Hinterrandes vom Cephalothorax bemerkenswerth; dieser (oder die gleichgrosse Breite des anliegenden Abdominalsegmentes) ist bei Ihrem Exemplare $2^1/_3$—$2^1/_2$ Mal in der Breite des Cephalothorax enthalten, bei *picta* (grosses ♀) kaum zweimal, bei dem Männchen allerdings $2^1/_3$ Mal. Wahrscheinlich ändert sich dies mit dem Alter, wie es bei der Verlängerung der Scheerenfinger sicher zu sein scheint. Danach würden die bei Ihrem Exemplare sehr langen Finger (fig. 2[d]) (Index fast genau = Unterrand der Hand, bei unserem, nur 22 mm. breiten, Männchen 8 : 12 mm.) noch keinen specifischen Unterschied bedingen."

The impressed line on the ischium-joint of the outer foot-jaws (fig. 2[b]) runs not far from the internal margin of the joint, and not in the middle of it; this joint is coarsely punctate, but the merus-joint is almost smooth. The abdomen of the male (fig. 2[c]) resembles in general form that of *Paratelphusa spinigera* Wood-Mas.; the penultimate joint is nearly as long as broad and its lateral margins are slightly concave, immediately behind the middle; the terminal joint is scarcely longer than broad at its base and rounded at the tip. The outer surface of sternum and abdomen is distinctly punctate.

The chelipedes of the male are very unequal. The arms do not project as much beyond the lateral margins of the cephalothorax as in *Telphusa Goudoti*; their upper and their anterior margins are granular and a few trans-

verse, minutely granulated lines are observed on their outer surface. The upper surface of the wrist is a little rugose towards the external and internal margins; the internal margin is armed with a strong acute tooth, below which there is a much smaller one. The larger hand (fig. 2d) closely resembles that of *Telphusa obesa* A. M. E., a species which inhabits Zanzibar and the opposite coast of Africa (Nouv. Archives du Muséum, tome IV, pl. 20, fig. 3). The outer surface of the palm appears minutely punctate, but for the rest quite smooth and shining to the naked eye; under a strong magnifying-glass an extremely fine and minute granulation is however observed, with which the palm is covered. The palm is almost as long as high at the base of the fingers; its upper margin is rounded and the under margin also rounded and convex. The fingers, that, measured horizontally, appear nearly once and a half as long as the palm, are widely gaping, almost as much as those of the larger hand of *Telphusa obesa*. Like the palm, they are minutely punctate, and being smooth to the naked eye, they in fact seem to be minutely granular, when examined under a strong magnifying-glass. The index, forming a concave line with the lower margin of the palm, presents a strong tooth at a short distance from its base, preceded by three very small ones; a smaller tooth stands on the middle of the finger and between this tooth and the tip still nine or ten very small teeth are observed. The strongly arcuate mobile finger is armed with a strong tooth a little before the middle, standing somewhat beyond the principal tooth of the index; a much smaller tooth is seen near the base, and between the tip of the finger and the strong tooth in the middle, still eleven or twelve very small teeth are observed.

The fingers of the smaller hand (fig. 2e), when closed, meet together along their whole length; they are also nearly once and a half as long as the palm. Both fingers are feebly toothed; on the lower about twenty small teeth

are found, two or three of which near the base are slightly larger than the others; the teeth of the upper finger are somewhat smaller than those of the index.

The hands of the female (fig. 2f) are likewise a little unequal and resemble the smaller hand of the male, their fingers meeting together along their whole length. In the larger hand the palm is almost as long as the fingers, but those of the smaller hand (fig. 2f) are distinctly longer than the palm; as regards their denticulation, the fingers nearly agree with those of the smaller hand of the male.

The ambulatory legs are similar to those of *Telphusa Goudoti*. Dr. Hilgendorf wrote me the following about the meropodite of the last pair: »Der Schenkel des letzten Fusspaares ist bei Ihrem Exemplare länger (= Stirn + 1 Orbita), bei unserem kürzer (kaum Stirn + $^1/_2$ Orbita), aber auch dieser Körpertheil könnte bei älteren Exemplaren mehr gestreckt sein."

Measurements of three specimens, the larger female being that of Java:

millimetres.

| | ♂ [1] | ♀ | ♀ |
|---|---|---|---|
| Length of the cephalothorax (abdomen excluded) | $26^1/_2$ | 30 | $19^2/_3$ |
| Distance between the external orbital angles | $21^1/_4$ | $23^1/_2$ | 17 |
| Greatest breadth of the cephalothorax. | $38^1/_4$ | $43^1/_4$ | $28^1/_2$ |
| Breadth of the anterior margin of the front. | $8^2/_3$ | $9^1/_3$ | 7 |
| Distance between the epibranchial tooth and the external orbital angle | $3^1/_3$ | 4 | $2^1/_2$ |
| Length of the larger hand | 35 | 29 | |
| Height » » » » | 17 | $11^3/_4$ | |

As I already observed, *Telphusa Goudoti* M. E. is most

1) The male measured had lost its larger hand; I give the dimensions of a larger hand found free in the bottle.

closely allied [1]). This species, however, which I examined in Paris, may be distinguished from *Telphusa picta* by the following characters. In *Telphusa Goudoti* the lower margin of the orbits is crenulate and separated from the external orbital angle by a hiatus or emargination. The orbits are less circular and comparatively a little broader.

The front is also a little broader. The impressed line on the ischium-joint of the external maxillipedes runs closer to the middle of the joint. The antero-lateral margins of the cephalothorax are a little longer and more prominent, the postero-lateral are slightly concave. The abdomen of the male has a somewhat different form. The larger hand of the male, finally, is also different, the fingers being much less gaping.

I add the measurements of two type-specimens of *Telphusa Goudoti*, preserved in the Paris Museum: millimetres.

| | ♂ | ♂ |
|---|---|---|
| Length of the cephalothorax. . . . . | $32^1/_2$ | $29^1/_4$ |
| Distance between the external orbital angles. | $30^1/_2$ | $27^1/_2$ |
| Greatest width of the cephalothorax . . . | 46 | $41^1/_2$ |
| Breadth of the front . . . . . | 10 | 9 |

*Geotelphusa transversa* v. Mart., identical with *Geotelphusa crassa* A. M. E., differs, according to a communication by Dr. Hilgendorf, by the following characters: the branchial regions are much more convex in *Geot. picta*, which is distinctly observed in a lateral view of the cephalothorax by the curvation of the antero-lateral margins. The median lobe of the epistome has a more triangular and not semicircular form. In the male the fingers are gaping, which is not the case in *Telphusa transversa*. The penultimate segment of the male abdomen is almost exactly quadrate. The impressed points on the cephalothorax are less deep and more distant from one another

1) *Telphusa Cumingii* Miers (Report on the Zoolog. Collections made in the indopacific Ocean during the Voyage of H. M. S. „Alert", 1884, p. 236) from the Philippines, is quite imperfectly characterized, so that it is impossible to recognize this species, which may be allied to *Geotelphusa picta*.

than those of *transversa*, and the median frontal furrow is more distinct.

*Telphusa angustifrons* A. M. E., inhabiting Cape York together with *Telphusa transversa*, is also closely allied. In *Telphusa angustifrons*, indeed, there is also no hiatus or emargination between the lower margin of the orbits and their external angle, and the impressed line on the ischium-joint of the outer foot-jaws is situated as close to the internal margin of the joint as in *Geotelphusa picta*, but *Telphusa angustifrons* may, at first sight, be recognized by its less enlarged cephalothorax. The measurements of a type-specimen of *Telphusa angustifrons* in the Paris Museum are the following:

| | ♀ |
|---|---|
| Length of the cephalothorax . . . . . | $16^1/_2$ mm. |
| Distance between the external orbital angles . | $13^2/_3$ » |
| Greatest width of the cephalothorax . . . . | $20^1/_2$ » |
| Breadth of the front . . . . . | $4^1/_2$ » |

### 7. *Geotelphusa transversa* v. Mart.

*Thelphusa transversa*, v. Martens, Ueber einige neue Crustaceen, in: Monatsbericht der kön. preuss. Akad. d. Wissenschaften zu Berlin, Nov. 1868, S. 609.

*Telphusa crassa*, A Milne Edwards, Nouvelles Archives du Muséum, T. V., p. 177, pl. IX, fig. 2 [1]).

I refer to this species two young specimens (♂, ♀) collected on the Fidji Islands and purchased from the Museum Godeffroy.

One of these specimens I sent to Dr. Hilgendorf, who kindly informed me that it agrees quite well with the type-specimen of *Telph. transversa*, but that the chelipedes

1) If these two species are really identical, the name given by von Martens should have the priority. For, though Milne Edwards' paper was presented to the „Société entomologique de France" in June 1868, the name *crassa* appears no sooner than in the Zoological Record for 1869, whereas *Telphusa transversa* is already recorded in that for 1868, and von Martens himself was at that time the recorder.

are still of equal size and that the cephalothorax is not yet as much convex.

The cephalothorax of *Geotelphusa crassa*, the type-specimens of which I examined in Paris, is in adult individuals about once and a half as broad as long, but in the younger it appears comparatively longer. The upper surface is a little convex from behind forwards, somewhat more in the adult than in the young, though not in such a degree as in *Geot. picta* v. Mart., and also somewhat convex transversely. The upper surface is punctate, but for the rest quite smooth; the points are somewhat coarser on the gastric region, finer and less numerous on the rest of the upper surface. The cervical suture, interrupted as in *Geot. picta* on each side of the posterior part of the gastric region, is rather shallow. The two slightly erose, postfrontal elevations, situated behind the front and separated from one another, as usually, by the median frontal furrow, are scarcely distinct; other traces of the postfrontal crest are completely wanting. The front, as far as it is visible when the carapace is looked at from above, is bordered anteriorly by a straight or a little concave, slightly cristate margin, which passes with very obtuse and rounded angles into the upper margin of the orbits; that slightly cristate margin forms the anterior margin of the front. The anterior part of the front, however, lying before the said margin, is deflexed downwards and backwards, and united with the epistome, as in the preceding species. The orbits are transverse and a little broader than long, the proportion of their breadth to their height being as $3 : 2^1/_3$. The anterior frontal margin and the upper margin of the orbits are perfectly smooth, but the arcuate lower margin, which passes directly into the upper without a hiatus or interruption at the external angle, appears very finely crenulate. The external angle of the orbits is little prominent, not tooth-like. The lateral margins of the cephalothorax are arcuate. The antero-lateral ones, being long and extending until a little before the

transverse gastrocardiac suture, are cristate and minutely denticulate; they present at some distance from the external angles of the orbits a very small epibranchial tooth, which is however often only indicated by a triangular and small incision of the margin. The antero-lateral regions of the upper surface of the carapace are perfectly smooth, presenting no wrinkles at all. The postero-lateral margins, straight or a little convex and scarcely longer than the antero-lateral ones, are covered with some rather long, oblique wrinkles, which, as ordinarily, pass forwards and downwards on the inflected portions of the carapace, and the pterygostomian regions are also wrinkled.

The impressed line on the punctate ischium-joint of the outer foot-jaws lies not far from the internal margin and not in the middle of the joint. Sternum and abdomen are very finely, and not closely punctate. The lateral margins of the abdomen of the male are a little concave. The penultimate joint is broader than long, and in the middle of its length it is just once and a half as broad as long; its lateral margins are very slightly concave. The terminal joint is somewhat shorter than the breadth of its posterior margin and nearly as long as the penultimate joint.

According to Milne Edwards' description, the anterior legs of the male should be unequal and strong; they are also unequal in the type-specimen of *transversa*. Unfortunately I have not noticed how they are in the adult male which I examined in Paris, but on the quoted figure in the »Nouvelles Archives" they appear rather feeble and equal. I think that it represents the female or that the figure is not correct. In our young male from Fidji they are still equal and feeble. The fingers, which are somewhat longer than the palm, meet almost completely together, when closed, and are in our specimen longitudinally grooved: two grooves are observed on the outer side of the mobile finger, one or two also on the index. The carpus, the upper surface of which is somewhat gra-

nular, is armed with a strong tooth at the inner angle, below which there is still a smaller one.

The ambulatory legs are rather short.

I give the measurements of two type-specimens of *Geot. crassa* A. M. E. from the Paris Museum, collected at Cape York, and of our two younger individuals from the Fidji Islands:

| | millimetres. | | | |
|---|---|---|---|---|
| | 1. | 2. | 3. | 4. |
| | ♂ [1] | ♀ | ♂ | ♀ |
| Length of the cephalothorax (abdomen excluded) . . . . . | 20 2/3 | 16 1/4 | 13 | 13 |
| Distance between the external orbital angles . . . . . | 17 2/3 | 14 1/4 | 11 | 11 1/4 |
| Greatest breadth of the cephalothorax . . . . . | 30 1/3 | 22 1/2 | 16 2/5 | 17 |
| Breadth of the anterior frontal margin . . . . . | 6 | 4 1/2 | 4 1/4 | 4 1/3 |

The differences between *Geot. transversa* and *Geot. picta* have already been enumerated by me on page 240. Finally may be added the following remarks on the original description of *Geot. transversa* by von Martens made by Dr. Hilgendorf after an examination of the type-specimen and which he afterwards communicated to me. The cephalothorax of the male is only 25 mm. long (not 26 mm.) and 31 1/2 mm. broad (instead of 32). Besides the punctulation of the carapace, Hilgendorf observes a very minute, somewhat irregular granulation. The frontal margin presents in the male specimen no trace of emargination. The external orbital angle may hardly be said to be dentiform. The lateral margins of the penultimate segment of the abdomen of the male are not quite parallel, though they are much less convergent than those of the other segments.

1) The cephalothorax of the male type from Cape York in the Paris Museum Collection is broken, so that the given measurements of the length and of the greatest width are probably not quite exact.

The larger hand of the male is $20^1/_2$ mm. long above, but 22 mm. below, the chela of the female 15 mm. above. Behind the third maxillipedes and close to them, the sternum presents a transverse groove.

Dr. Hilgendorf finally adds that in a younger male specimen from Port Mackay, only 20 mm. broad, the two anterior legs are still nearly equal and that the transverse groove on the sternum is still wanting.

8. *Geotelphusa loxophthalma*, n. sp. [1])

(Fig. 3).

One single male specimen, collected by Schwaner at the island of Borneo and presented to the Leyden Museum in 1846.

This interesting new species, which has no postfrontal ridge and which therefore ought to be referred to the subgenus *Geotelphusa*, may at first sight be recognized by the oblique direction of its small orbits, by the narrow front and by the enlarged carapace.

The cephalothorax is much enlarged and exactly once and a half as broad as long. It is somewhat convex from behind forwards, especially anteriorly, whereas it is more flattened posteriorly. As in *Geot. picta*, the cervical suture is interrupted on each side of the posterior part of the gastric region; the median H-like impression is rather shallow, but the oblique anterior furrows, separating the gastric from the anterior branchial regions, are deeper. A postfrontal crest may be considered to want in this species, for it is only represented by the two very low, somewhat erose elevations, which are situated behind the front and separated, as usually, from one another by the median frontal furrow. The front is very narrow and the orbits are small, so that the distance between the external orbital angles

1) λοξός, oblique.

is not quite half as long as the greatest width of the cephalothorax. The anterior margin of the front, measuring scarcely a fifth of the greatest breadth of the cephalothorax, forms very oblique, obtuse and rounded angles with the upper margin of the orbits; the anterior margin is, as in *Geot. picta*, deflexed downwards and backwards in the middle, uniting itself with the epistome.

Highly characteristic of this species are the orbits. In *Geot. picta*, like in most other species of *Telphusa*, the imaginary line uniting the external orbital angles with one another coincides with the anterior margin of the front, so that the orbits show a transverse direction, their external angle being placed at the same level as the anterior margin of the front. In *Geot. loxophthalma*, however, the orbits appear to be directed (fig. 3[a]) very obliquely and their external angles to be situated below the anterior frontal margin, when the carapace is looked at from the front, so that the imaginary line which unites the external orbital angles, does not coincide with, but lies below the anterior margin of the front. The orbits are small and longer than high, the proportion of their length to their height being as 5 : 3. The upper orbital margin is a little sinuous, the lower arcuate, and both pass directly into one another, without any interruption or hiatus, at the external angle, that is little prominent and not tooth-like. When the carapace is looked at from above, the external angles of the orbits appear however to project a little more forwards than the anterior margin of the front, which is not the case in *Geot. picta*. The anterior margin of the front and the margins of the orbits are quite smooth, not crenulate. At some distance from the external orbital angle, the antero-lateral margin of the cephalothorax presents a very small emargination, but an epibranchial tooth may not be said to exist. The strongly arcuate, antero-lateral margins of the cephalothorax are distinctly indicated, though they are not cristate;

they are a little erose, but not granulate or denticulate at all. The postero-lateral margins are slightly concave. The upper surface of the carapace is finely punctulate, somewhat coarser on the front and on the cardiac and intestinal regions. Near the postero-lateral margins many oblique wrinkles are observed, as usually, that pass forwards and downwards to the inflected portions of the cephalothorax; the latter are therefore covered with numerous oblique wrinkles and the pterygostomian regions are also a little rugose. The oblique wrinkles pass also in this species from the postero- to the antero-lateral margins (fig. 3) and, becoming gradually smaller and shorter, may be seen until near the external orbital angles; small punctulations are found in front of all these wrinkles, so that the upper surface of the cephalothorax appears also closer and more coarsely punctulate near the antero-lateral margins than on the gastric region.

The impressed line on the punctulate ischium-joint of the outer foot-jaws (fig. 3[b]) runs close to the internal margin of the joint and not in the middle of it.

The male abdomen (fig. 3[c]) somewhat resembles that of *Geot. picta*, but the penultimate joint is distinctly a little longer than broad at its anterior or posterior margin and it is somewhat constricted in the middle, so that the lateral margins are concave; the terminal joint is a little longer than the penultimate, once and a half as long as its posterior margin, the lateral margins are slightly concave and the tip is rounded. Sternum and abdomen are rather coarsely punctate.

The anterior legs of the male are unequal in form and size, the larger being found on the right side. The arms do not project as far beyond the lateral margins of the cephalothorax as those of *Geot. Goudoti*. The upper surface of the wrist, armed at its internal angle with a short, though acute tooth, is slightly rugose and erose. The larger hand (fig. 3[d]) is scarcely twice as long as high and the fingers are but little longer than the palm; the

latter is almost as long as high. Its outer surface and rounded upper and lower margins are very slightly rugose and erose and these small rugosities are even visible to the naked eye, especially towards the upper and lower margins and towards the articulation with the palm. The compressed fingers, leaving a small interspace between them, when closed, present a few longitudinal rows of small puncta on their outer surface and the latter appears even minutely granulate when examined under a strong magnifying-glass. The index presents fifteen or sixteen small teeth, of which two on the middle are a little larger, and similar teeth are observed on the mobile finger. The fingers of the smaller hand (fig. 3b), meeting together when closed, are about once and a half as long as the palm; as regards its denticulation and the structure of the outer surface, the smaller hand resembles the other.

The ambulatory legs are slender, especially the meropodites.

| Measurements: | ♂ | |
|---|---|---|
| Length of the cephalothorax (abdomen excluded) | 23 | mm. |
| Distance between the external orbital angles . | $16^2/_3$ | » |
| Greatest breadth of the cephalothorax. . . . | 35 | » |
| Breadth of the anterior frontal margin . . . | 7 | » |

### 9. *Sesarma Eydouxi* M. E.

*Sesarma Eydouxi*, Milne Edwards, in: Annales Sciences Naturelles, 3e Série, T. XX, 1853, p. 184.

I examined in Paris the type-specimen of this species, a male from Touranne, which presents the following measurements:

| | | |
|---|---|---|
| Distance between the external orbital angles . | $31^1/_4$ | mm. |
| Length of the cephalothorax. . . . . | $26^1/_4$ | » |
| Breadth of the upper margin of the front . . | $18^3/_4$ | » |
| Breadth of the posterior margin of the cephalothorax. . . . . | $13^1/_2$ | » |

Length of the meropodites of the last pair of legs . . . . . $16^1/_2$ mm.
Breadth of the meropodites of the last pair of legs . . . . . 9 »

The lateral margins of the cephalothorax converge slightly backwards. The chelipedes are provided with a finely denticulate ridge on the upper margin of the palm, the outer surface of which is smooth. The meropodites of the ambulatory legs are much enlarged and the propodites are scarcely shorter than the dactylopodites.

### 10. *Sesarma recta* Randall.
### (Fig. 4).

*Sesarma recta*, Randall, in: Journal of the Academy of Nat. Sciences of Philadelphia, Vol. VIII, Part 1, 1839, p. 123.

Seven specimens, three males and four females, two of which are provided with eggs, were collected in Surinam by Dr. H. ten Kate.

I refer them to *Ses. recta* Rand. — a species said to be found in Surinam — with some doubt however, because the literature on the other West-Indian Decapoda is only partly at my disposal.

This species belongs to that section of the genus, in which the lateral margins of the cephalothorax are entire, without an epibranchial tooth behind the external orbital angles and in which the hands of the male are not provided with pectinated ridges on the upper margin of the palm. It may at first sight be recognized by the singular enlargement of the mobile finger of the male at its base.

*Sesarma recta* presents a remarkable resemblance, as regards its general form and appearance, with *Ses. quadrata* Fabr. from which it differs at first sight by the absence of pectinated ridges on the hands of the male.

The cephalothorax has a quadrate form and appears but

slightly broader than long. The distance between the external orbital angles is however distinctly longer than the length of the cephalothorax, but, as the lateral margins are slightly convergent backwards, the cephalothorax appears nevertheless posteriorly almost as broad as it is long. The proportion of the distance between the external orbital angles and the length of the carapace of the largest individual (♂) is as 6 : 5, in *Ses. quadrata* Fabr. however as 4 : 3, so that *Ses. recta* appears still very slightly longer in proportion to the distance between the external orbital angles than the other species. The upper surface is slightly convex longitudinally and also somewhat declivous towards the lateral and posterior margins. The usual interregional grooves are very well indicated and rather deep in the adult male. The upper surface is marked anteriorly with numerous transverse rugosities and wrinkles that are pubescent for a part, whereas the cardiac and intestinal regions are rather coarsely punctate; the declivous lateral parts of the branchial regions, finally, are provided with the usual oblique and piliferous elevated lines.

The front is slightly broader in proportion to the distance between the external orbital angles than that of *Ses. quadrata* and vertically deflexed. The upper margin is divided into four obtuse lobes by the three usual grooves which are rather deep; the two internal lobes are slightly broader than the external; they are not prominent, so that the inferior margin of the front is entirely visible when the cephalothorax is looked at from above. This somewhat prominent inferior margin presents a rather broad, though shallow emargination in the middle, on each side of which it is very slightly sinuous; the front is somewhat granular between its two margins.

The lateral margins of the cephalothorax, which are not parallel but somewhat convergent backwards, are a little concave posteriorly; they are entire,

though I must remark that a slight trace of an epibranchial tooth is seen in the larger individuals a little behind the acute external orbital angles. The epistome is somewhat granular. The second joint of the outer foot-jaws is longitudinally furrowed in the middle and the third joint is oval. The lobe at the infero-internal angle of the orbits is small. The abdomen of the male (fig. 4[a]) resembles that of *Ses. intermedia* de Haan (Fauna japon. Pl. XVI, fig. 5); the terminal joint is short, being a little broader at its base than it is long; the penultimate segment is not quite three times as broad at its posterior margin as it is long and has convex rounded lateral margins; the following segments gradually decrease in length. The terminal segment of the abdomen of the female is profoundly pushed into the preceding. Sternum and abdomen are a little punctate, but for the rest quite smooth.

The anterior legs of the largest male individual are little more than once and a half as long as the cephalothorax. The anterior margin of the arm, the outer surface of which is transversely rugose, is granulated, but for the rest unarmed; the upper margin is also unarmed, but the granulated infero-external margin is notched before its distal end, so that it terminates into a tooth before that incision. The wrist, granular and rugose above, is unarmed at its internal angle. The hands (fig. 4[b], 4[c]) are stout, the fingers once and a half as long as the palm. The convex outer surface of the palm is finely granulated, the inner surface is also slightly granular, but bears no transverse crest or ridge of prominent granules; the upper surface of the palm is granular like the outer surface, but presents no pectinated ridges or crests. Highly characteristic are the fingers of the adult male. The mobile finger is namely extraordinarily enlarged along its proximal half, rather rapidly tapering about the middle towards the tip; the upper surface of the enlarged proximal part

is somewhat flattened and everywhere granulated, and the granulation continues till near the tip of the finger. The inner margin, which is somewhat hairy on the dilated proximal part, is armed with a small tooth a little beyond the middle, with a second somewhat smaller one immediately before the tip and with two or three very small ones between the two larger.

The lower finger has not the ordinary conical shape as in most other species of the genus, but is very high (broad), broader than the mobile finger. Its outer surface is smooth, but the under margin and the inner surface are somewhat granular; this finger is slightly compressed laterally. Its inner margin is armed in the middle with a conical tooth, which is scarcely greater than the opposite largest tooth of the mobile finger, with a smaller conical tooth immediately before the tip and with three still smaller ones between them, of which the middle is a little larger than the two others.

In young males, the cephalothorax of which is only 10 mm. long, the upper finger appears still hardly dilated and the index presents still the usual conical form. The interesting characters of the fingers of the adult male are also wanting in the female and the upper finger appears only a little granular at its base.

The ambulatory legs resemble those of *Ses. quadrata* Fabr. The meropodites are somewhat granular or transversely rugose on their outer surface, the upper margin of which ends into a sharp tooth while the under margin is entire, as usual. They are considerably enlarged, so that e. g. those of the antepenultimate pair are half as broad as long. The two following joints are also stout and by no means slender, so that e. g. the propodites of the antepenultimate pair are a little more than twice as long as broad. The dactylopodites of all the legs are a little shorter than the propodites. The three last joints are somewhat hairy along their margins.

Randall's description agrees very well with the foregoing, I must, however, observe that he describes the anterior frontal margin as »profoundly excavated", the anterior legs of the male as being »at least twice the length of the body" and that his specimen was $1^2/_{10}$ inches long, thus almost twice as large as our adult male. I suppose, however, that the two named differences are to be ascribed to the much smaller size of our specimens.

Measurements of the two largest individuals:

| | millimetres. | |
|---|---|---|
| | ♂ | ♀ |
| Distance between the external orbital angles | $19^1/_2$ | $17^1/_4$ |
| Length of the cephalothorax . . . . . | $16^1/_4$ | $14^3/_4$ |
| Breadth of the front . . . . . | 12 | $10^3/_4$ |
| Breadth of the posterior margin . . . . | $7^3/_4$ | 8. |

The two ova-bearing females are of a smaller size than the adult male, the cephalothorax of the larger one is 12 mm. long, that of the other only 10 mm.

## 11. *Sesarma angustipes* Dana.

(Fig. 5).

*Sesarma angustipes*, Dana, Unit. States Explor. Exped. Crustacea, p. 353, Pl. XXII, fig. 7. — Stimpson, Annals of the Lyceum of Natural History of New York, Vol. VII, 1862, p. 66. — Sidney J. Smith, Notes on American Crustacea, in: Trans. Connecticut Acad. Vol. II, 1870, p. 159.

*Sesarma Ricordi*, Milne Edwards, in: Annales Sciences Naturelles, T. XX, 1853, p. 183.

Two female specimens from St. Domingo.

These two specimens doubtless belong to *Sesarma Ricordi* M. E., as I found by comparing them in Paris with the original type-specimen, a male from the Antilles. I describe them, however, under the name of *Ses. angustipes*, because I believe that Dana's species is identical with *Ses. Ricordi*, as was already supposed by Stimpson. Dana figu-

red a male. I must, however, remark that in his figure the ambulatory legs appear comparatively a little less slender than in our individuals, which is especially the case with the propodites and dactylopodites.

I now describe the larger female (fig. 5). The cephalothorax appears nearly quadrate; it is, however, a little broader than long and even the distance between the external orbital angles surpasses somewhat the length. Dana's male specimen, being of a somewhat larger size, presents the same proportions. The upper surface is slightly convex, it appears smooth to the naked eye, but is minutely punctate when seen under a lens. In the younger individual it bears some small tufts of hair anteriorly and on the branchial regions. The ordinary interregional furrows are well marked and the branchial regions are obliquely plicate as usual. The front is nearly perpendicular. The upper margin is divided by a tolerably deep median groove and slight lateral ones into four lobules, the two internal of which are a little broader than the external; the former are almost smooth, but the external appear finely granulate, when seen under a lens. The lateral margins of the front are somewhat divergent, so that the inferior margin, which is almost four times as broad as the height of the front, appears a little broader than the superior. The lower margin shows a slightly sinuous edge, with a small, shallow sinus in the middle and a very slight one on each side. The front is somewhat granulate.

The branchial regions are slightly swollen. The almost parallel lateral margins of the cephalothorax are entire and rather sharp; the posterior margin finally is a little less broad than the front and exactly half as broad as the distance between the external orbital angles. The terminal segment of the female abdomen is almost entirely pushed into the preceding.

The anterior margin of the arm of the chelipedes is unarmed, but minutely granulated, like the two other margins. The finely granulated wrist presents an acute,

though unarmed inner angle. The fingers are distinctly longer than the palm. Both fingers and the palm are smooth externally, but the palm is somewhat granulate on the upper border and the mobile finger likewise at the base.

The ambulatory legs are long and slender, so that e. g. those of the penultimate pair are twice as long as the cephalothorax is broad. The meropodites, armed with an acute tooth at the distal end of their upper border, are three times as long as broad and somewhat transversely rugose on their outer surface. The slender propodites are still a little longer than the dactylopodites, that are also slender, slightly longitudinally sulcate, provided with some small tufts of hair and slightly curved towards the acute points. The propodites present also some small tufts of hair, but for the rest the ambulatory legs are nearly glabrous.

The measurements of these two specimens and of the male type-specimen of *Ses. Ricordi* in the Paris Museum are the following:

| | millimetres. | | |
|---|---|---|---|
| | 1 | 2 | 3 |
| | ♀ | ♀ | ♂ |
| Distance between the external orb. angles | 16 3/4 | 11 1/4 | 14 2/3 |
| Greatest width of the cephalothorax. . | 17 3/5 | 12 1/2 | |
| Length of the cephalothorax . . . . | 16 1/4 | 10 | 14 1/4 |
| Breadth of the superior border of the front | 9 | 6 | 7 3/4 |
| Breadth of the inferior margin of the front | 9 1/2 | 6 1/3 | 8 1/2 |
| Length of the penultimate pair of legs | 34 | 26 | |
| Length of the meropodites of the penultimate pair of legs. . . . . | 12 | 9 1/2 | 10 1/2 |
| Breadth of the meropodites of the penultimate pair of legs. . . . . | 3 3/4 | 3 1/4 | 3 4/5 |

N°. 3 is the male type-specimen of *Ses. Ricordi* M. E. in the Paris Museum.

I moreover examined in Paris the single type-specimen of *Ses. Guerini* M. E., a female of which the locality is unknown and it appears to me highly probable that this species is identical with *Ses. Ricordi* = *angustipes* Dana.

This type-specimen of *Ses. Guerini* is of a somewhat larger size than that of *Ricordi*; the branchial regions are a little more inflated, but this difference may perhaps be ascribed to the larger size.

The measurements of the type-specimen of *Ses. Guerini* are the following: ♀

| | |
|---|---|
| Distance between the external orbital angles . . | 20¼ mm. |
| Length of the cephalothorax . . . . . | 20 » |
| Breadth of the superior margin of the front . . | 11⅙ » |
| » » » inferior » » » » . . | 11¾ » |
| Length of the meropodites of the last pair of legs . | 10¾ » |
| Breadth » » » » » » » » » . | 4 » |
| Length » » » » » penultimate » . | 14 » |
| Breadth » » » » » » » . | 5 » |

## 12. *Sesarma elongata* A. M. E.

*Sesarma elongatum*, A. Milne Edwards, in: Nouvelles Archives du Muséum, T. V, Bulletin p. 30. — de Man, Uebersicht der indo-pacifischen Arten der Gattung *Sesarma*, in: Zoolog. Jahrbücher von J. W. Spengel, Bd. II, 1887, S. 645.

As far as I am aware, *Sesarma elongata*, which inhabits the western-coast of Madagascar, is only known by the short description given by A. Milne Edwards in 1869, so that the following remarks may be of some interest. I examined in Paris the original specimen, a male, which presents the following measurements:

| | |
|---|---|
| Distance between the external orbital angles . . | 33¼ mm. |
| Length of the cephalothorax . . . . . | 34½ » |
| Breadth of the front . . . . . | 19 » |
| Breadth of the posterior margin of the cephalothorax | 12¼ » |
| Length of the meropodites of the last pair of legs | 20½ » |
| Breadth » » » » » » » » » | 11½ » |

*Ses. elongata* belongs to those species of the genus, in which the lateral margins of the cephalothorax are entire and in which the chelipedes of the male have no oblique pectinated ridges on the upper margin of the palm. It dif-

fers from the other species of this section of the genus by the following characters. The cephalothorax is slightly longer than broad and its upper surface, on which the interregional grooves are distinctly indicated, is much flattened. The lateral margins are nearly parallel, though slightly concave in the middle. The front, that is almost perpendicular, is a little broader than half the distance between the external orbital angles; its upper margin is divided by rather deep grooves into four lobes, of which the internal ones are a little broader than the external, and its inferior margin is widely and profoundly emarginate in the middle. The posterior margin of the cephalothorax is narrow.

The arm of the chelipedes has a denticulate tooth on its anterior margin and the wrist is unarmed, having no tooth at its inner angle. The outer surface of the hands is finely granulate, the inner surface presents a transverse row of little prominent granules. The palm is provided with a finely pectinated longitudinal crest as in *Ses. taeniolata*, and, as in this species, the mobile finger is marked on its upper margin with a longitudinal row of forty small transverse ridges.

The meropodites of the ambulatory legs are much enlarged, the propodites elongate and the dactylopodites considerably shorter than the propodites.

### 13. *Sesarma curaçaoensis*, n. sp.

(Fig. 6).

The Leyden Collection contains one male specimen, found by Mr. Neervoort van de Poll on the island of Curaçao. I describe it as a new species, with some doubt however, not only because this specimen may be a young one, not yet presenting the characters of the adult, but also because only a part of the literature on West-Indian Decapoda is at my disposal.

*Ses. curaçaoensis*, indeed, belongs to those species of the

genus, in which the lateral margins of the cephalothorax are armed with an epibranchial tooth behind the external orbital angle and in which the hands of the male are not provided with pectinated ridges on the upper margin of the palm, to a section which is represented in the indopacific region by a number of species, whereas only two species of that section are known to me as inhabiting the American seas, viz. *Sesarma crassipes* Cano (1889) from Pernambuco and *Ses. sulcata* Smith (1870) from the western-coast of Nicaragua.

As in the last-named species, the cephalothorax is much broader than long, its greatest width (at the epibranchial teeth) being in proportion to the length as 5 : 4. The upper surface is somewhat convex longitudinally, and, as usual, declivous on the branchial regions. The interregional grooves are almost wanting, for only those bordering posteriorly the mesogastric and cardiac regions are represented by shallow depressions. The declivous branchial regions are traversed by the ordinary sharp, pubescent elevated lines, but for the rest the upper surface of the cephalothorax is smooth and even shining, though it appears distinctly punctate, even to the naked eye. Rather large impressed points indeed are found on the gastric and cardiac regions, especially on the protogastric lobes, but the whole upper surface appears moreover very finely punctate when seen under a magnifying glass and then also a few very small tufts of hairs are observed, distributed over the whole upper surface. The front is a little broader than half the width of the cephalothorax and very obliquely deflexed; the four postfrontal lobes, the internal of which are somewhat broader than the external, are very little prominent, so that the front is entirely visible when the cephalothorax is looked at from above; they are moreover only separated from one another by very slight grooves, of which the mesial frontal furrow is a little more distinct, bifurcating itself, as ordinarily, in order to border the anterior lobe of the mesogastric

area. The external frontal lobes are limited next the orbits also only by slight depressions. The inferior edge of the smooth, though minutely punctate front, is interrupted in the middle by a broad but shallow emargination.

The lateral margins of the cephalothorax are armed with a prominent epibranchial tooth behind the external orbital angle, and this tooth projects laterally a little more outward than the external angle of the orbit, so that the cephalothorax presents its greatest width at the epibranchial teeth. Behind the second antero-lateral i. e. the epibranchial tooth, which is a little longer than the first tooth formed by the outer angle of the orbits, still a very slight trace of a second epibranchial tooth is seen, and behind it the lateral margins appear somewhat concave. The posterior margin, finally, is just half as broad as the width of the cephalothorax.

The lobe at the infero-internal angle of the orbits is very small. The second joint of the external maxillipedes is longitudinally grooved and the third joint oval, scarcely longer than broad. Abdomen and sternum are smooth, sparsely punctate. The former (fig. 6[a]) is rather narrow; the terminal segment is exactly as long as its posterior margin is broad; the somewhat shorter, penultimate segment, the lateral margins of which are slightly convex, is just half as long as its posterior margin and the antepenultimate segment is scarcely shorter than the penultimate.

As regards the chelipedes of the male, I will remark that the outer surface of the arms is transversely rugose, that the upper margin is unarmed at its distal end and that the little prominent anterior margin, though somewhat granular, is also unarmed. The upper surface of the wrist is transversely rugose and unarmed at its internal angle. The fingers are scarcely longer than the palm. The convex outer surface of the palm is coarsely and irregularly punctate, but for the rest quite smooth, without a trace of granulation; its inner surface is somewhat granular near the articulation of the fingers,

the arcuate inner margin of the upper part of the palm finally, between the articulation of the mobile finger and that of the carpus, is formed by a crest of small granules (fig. 6b). The mobile finger is a little punctate at its base, for the rest quite smooth, and its upper margin presents a longitudinal row of seven or eight small acute teeth on its proximal half. The inner margin is armed with ten or twelve small teeth, of which one at the base, one in the middle and one at the end are a little larger. The index is conical, its outer surface convex and smooth, not at all punctate, like that of the mobile finger, and the under margin is also smooth; its inner margin is armed with several teeth of somewhat unequal size.

The ambulatory legs are stout. The meropodites are enlarged, so that e. g. those of the penultimate pair are only a little more than twice as long as broad (8¼ mm. long and 3½ mm. broad); these joints are transversely rugose on their outer surface, their upper margin ends into an acute tooth before the distal end and the lower margin is unarmed as usually. The propodites are also short, those of the penultimate pair e. g. are scarcely three times as long as broad and the dactylopodites of all the legs are a little shorter than the propodites. The three last joints are hairy on their margins.

| | |
|---|---|
| Distance between the external orbital angles . | 12¼ mm. |
| Greatest width of the cephalothorax . . . . | 12½ » |
| Length of the cephalothorax . . . . . | 10 » |
| Breadth of the front between the orbits . . | 7¼ » |

*Ses. sulcata* Smith is, indeed, closely allied to our species, but the interregional grooves, especially on the anterior part of the cephalothorax, are described as deep and well marked sulci, from which this species has doubtless received its name, so that I suppose it to be a different form, though it may be possible that the absence of grooves in our individual from Curaçao must be ascri-

bed to its small size, as the cephalothorax of *Ses. sulcata* attains to a breadth of 31 mm.

*Ses. crassipes* is probably likewise different, for the cephalothorax of this species seems to be a little less enlarged, the upper surface rugose, the frontal margin profoundly emarginate and the outer surface of the hands covered with very small scales („minutissime squame").

### 14. *Caridina japonica*, n. sp.
### (Figs. 7 and 8).

Six specimens from Kagar, Hayagana, Japan.

These specimens, which were kindly presented to me with some other species from Japan by Dr. J. Anderson, are nearly all of the same size and 32 or 33 mm. long from the tip of the rostrum to the end of the telson. It is to *Caridina Weberi* de Man, from Celebes and Flores, that this species is most closely allied. The rostrum is small and closely resembles that of *Car. Weberi*; it is somewhat directed downwards and scarcely reaches to the middle of the penultimate joint of the upper antennae, sometimes even only to the distal end of the first joint. The upper margin is straight or very slightly concave and the point of the rostrum very acute; both margins are dentate. The formulae of these teeth for the six specimens are the following: $\frac{2}{1}\frac{2}{8}$, $\frac{2}{1}\frac{1}{1}$, $\frac{1}{1}\frac{9}{3}$, $\frac{1}{1}\frac{7}{0}$, $\frac{1}{6}\frac{9}{}$, $\frac{1}{5}\frac{5}{}$. The number of teeth on the upper margin therefore varies from 15—22, those of the lower margin from 10—18, when the two last specimens are considered as making an exception. The teeth of the upper margin are comparatively a little smaller than those of *Car. Weberi* and generally decrease somewhat in size towards the tip; like in that species all the teeth are standing on the rostrum itself, none of them on the cephalothorax, and the foremost tooth stands at a small distance from the tip. The teeth of the lower margin are smaller than those of the upper and mostly increase slightly in length anteriorly.

The cephalothorax is armed, as usual, with an acute antennal tooth and the fronto-lateral angle is rounded. The telson, which is somewhat shorter than the uropoda, presents on its upper surface six or seven pairs of small spinules and some others are found on its posterior margin. The peduncle of the upper antennae is a little shorter than the antennal scales and reaches as far forward as the spine on the lateral margin of the latter; the second joint is a little longer than the third and a little shorter than the first. The lateral spine on the basal joint does not reach to its anterior margin and the spinule into which terminates the lateral margin of the basal joint, measures scarcely a fourth of the length of the second joint. The peduncle of the outer antennae reaches nearly to the distal end of the penultimate joint of the peduncle of the upper antennae. The outer foot-jaws scarcely reach as far forward as the antennal scales.

The anterior legs reach as far forward as the rostrum and fully resemble those of *Car. typus* M. E. The wrist, which is scarcely shorter than the merus, has the same form as in *Car. typus*; it is conical, deeply excavated at its distal extremity and here nearly as broad as it is long (fig. 7). The hand is a little longer than the carpus, and the fingers, hairy at the ends as usually, are slightly longer than the palm. The legs of the second pair (fig. 7[a]) are reaching to the middle of the terminal joint of the antennular peduncle. The carpus is twice as long as that of the first pair, slightly excavated at its distal end and about five times as long as it is broad at the distal end. The hand is almost as long as the wrist, and the fingers, hairy at their tips, are twice as long as the palm. The legs of the third pair extend a little beyond the antennal scales, the fourth reach beyond them with their dactylopodites and the fifth are scarcely shorter. The meropodites of the three posterior pairs of legs are armed with four (or five) small spinules. The dactylopodites of the third and fourth pair are similar to those of *Car. Weberi*; those

of the third pair measure almost a third, those of the fourth pair a fourth and those of the fifth pair a fifth of the length of their propodites. The dactylopodites of the third and fourth pair are armed along their inner margins with four or five spinules which gradually increase in length, those of the fifth pair, also agreeing with those of *Car. Weberi*, are provided along their inner margin with 50—60 spinules, the five or six foremost of which slightly become thicker and are a little more than three times as long as broad at their base. This japanese *Caridina* is, consequently, most closely allied to *Car. Weberi* (fig. 8 and 8[a]) and must, perhaps, even be regarded as a mere local variety of it, the principal difference being the more profoundly excavated carpus of the anterior legs.

*Car. denticulata* de Haan, however, that likewise inhabits Japan, is certainly a different species. The rostrum reaches to the end of the peduncle of the upper antennae, and the distal third of the upper margin is described as entire. De Haan says that the carpus of the anterior legs is similar to that of *Car. typus*, but in his figure the wrist of these legs appears longer and scarcely excavate, so that in my opinion this species presents a much greater resemblance to *Car. laevis* Heller from Java.

### 15. *Hippolyte ponapensis* Ortmann.

*Hippolyte ponapensis*, Ortmann, Die Decapoden-Krebse des Strassburger Museums, in: Zoolog. Jahrbücher, Abth. für System., Geogr. und Biologie der Thiere, Bd. V, 1890, S. 502; Taf. 36, fig. 20, 20*d*.

This species is certainly identical with *Hetairocaris orientalis* de Man (Notes from the Leyden Museum, Vol. XII, 1890, p. 122; pl. 6, fig. 16). Ortmann founded his species upon a male and a female from the Carolines, Ponapé: the two ova-bearing females described by me, were likewise collected at the isle of Ponapé. The paper in which I published my description, was issued at Leyden in April 1890, whereas Ortmann's paper was pu-

blished six months afterwards, namely in October. My description has therefore the priority. Ortmann's specimens, as well as those described by me, were purchased from the Museum Godeffroy.

Middelburg, May 1892.

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## EXPLANATION OF PLATE 7—10.

Fig. 1. *Heteropanope tridentata* Maitland, adult male, × 2; 1*a* abdomen of the male, × 2; 1*b* larger, 1*c* smaller chela of the male, × 2; 1*d* larger chela of an ova-bearing female specimen, the cephalothorax of which is 11½ mm. broad, × 2.

„ 2. *Geotelphusa picta* v. Martens, adult female specimen from Java, collected by Kuhl and van Hasselt, × 1½; 2*a* cephalothorax of this specimen looked at from the frontside, × 1½; 2*b* outer foot-jaw of the same, × 1½; 2*f* smaller i. e. right chela of this adult female specimen, × 1½; 2*c* abdomen of a male from unknown locality, the cephalothorax of which is 37 mm. broad, × 1½; 2*e* smaller chela of this male specimen, × 1½; 2*d* larger hand of an adult male of which the locality is unknown, × 1½.

„ 3. *Geotelphusa loxophthalma* de Man, adult male from Borneo, × 1½; 3*a* cephalothorax looked at from the frontside, × 2; 3*b* outer foot-jaw, × 2; 3*c* abdomen, × 2; 3*d* larger, 3*e* smaller chela of the male, × 1½.

„ 4. *Sesarma recta* Randall, adult male from Surinam, × 1½; 4*a* abdomen of the male, × 2; 4*b* hand of the male, × 3; 4*c* the same viewed at from above, showing the remarkable enlargement of the mobile finger, × 3; 4*d* hand of a female specimen from the same locality, the cephalothorax of which is 14¾ mm. long, × 2.

„ 5. *Sesarma angustipes* Dana, adult female from St. Domingo, × 1½.

„ 6. *Sesarma curaçaoensis* de Man, n. sp., male individual from Curaçao, × 2; 6*a* abdomen of this male, × 2; 6*b* hand of the same individual, × 4.

„ 7. *Caridina japonica* de Man, n. sp., carpus and hand of the first pair of legs, × 12; 7*a* carpus and hand of the second pair of legs, × 8.

„ 8. *Caridina Weberi* de Man, carpus and hand of the first pair of legs of a specimen from Koting, Flores, × 12; 8*a* carpus and hand of the second pair of legs of the same individual, × 8.

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# NOTE XXXVII.

## THE BIRDS OF SUMBA

BY

**A. B. MEYER.**

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In his article on the birds of Sumba (anteà pp. 196—204) Mr. Büttikofer has enumerated 32 species from this seldom visited island, but, in stating that Dr. ten Kate's collection was the first one from there, he has overlooked the fact, that I published in the year 1881, in the „Verhandlungen der k.k. zoologisch-botanischen Gesellschaft in Wien" pp. 759—767, a list of birds from Sumba, based upon materials received from Dr. Riedel, the well known and meritorious investigator and collector on the islands of the eastern half of the Indian Archipelago, in which list I already enumerated 40 species.

With the exception of 8, viz.:

| | |
|---|---|
| *Astur torquatus* (T.) | *Artamus leucogaster* (Val.) |
| *Sauropatis chloris* (Bodd.) | *Calornis minor* (Bp.) |
| *Oriolus broderipi* Bp. | *Megapodius duperreyi* Less. |
| *Terpsiphone affinis* (Blyth) | *Numenius variegatus* (Scop.), |

Mr. Büttikofer's and my lists contain different ones, and, thus, the number of species now known from Sumba is raised to 64, which is, no doubt, only a part of the avifauna of the island. Among these 64 species only 3 appear to be peculiar to Sumba, viz.:

*Ninox rudolfi* M.
*Graucalus sumbensis* M.
*Dicaeum wilhelminae* B.

I further described a subspecies of *Tanygnathus megalorhynchus* from there as *sumbensis*, but Count Salvadori, in his recently published Catalogue of the Psittaci (British Museum Catalogues, Vol. XX, p. 428, note, 1892) greatly doubts the correctness of the locality ascribed to these specimens and was not able to recognize the differences pointed out by myself. I do not see sufficient reason to doubt the habitat, moreover, all 4 specimens show the same discriminating characters, small though they may be; this question, however, can only be decided by further materials. Dr. ten Kate did not procure a single parrot, whereas I enumerated, besides the one just mentioned, 3 species, on one of which I take the opportunity of offering a few remarks.

It is that which I then called *Geoffroyus jukesii* Gr. (l. c. p. 762) and of which I said, that it also occurs on Timor and Flores. Later on, in 1884, I mentioned a specimen under the same specific designation from the island of Wetter (Sitzungsberichte der Gesellschaft Isis in Dresden, Abh. I, p. 15), calling attention, however, to differences of size. Both notes escaped Count Salvadori in his most excellent and useful catalogue (p. 402 sq.), where he distinguishes the following species:

*G. personatus* (Shaw) = *jukesi* (Gr.) from Timor, Samao, Wetter.
*G. floresianus* Salv. from Flores.
*G. sumbavensis* Salv. from Sumbawa.

Guided by Salvadori's descriptions, I went again over the 3 Sumba-specimens of the Dresden Museum and came to the result, that the Sumba-form cannot be relegated to any of these 3 species. While *G. floresianus* and *sumbavensis* agree with *G. rhodops* (Gr.) in their purer and darker green coloration, the Sumba-specimens belong to Salvadori's first group (p. 400); they have the yellowish green of *G. personatus* and its allies, but they cannot be designated as *personatus* on account of their larger size and the cap coming much lower down on the nape. I, therefore, propose to call the Sumba-form:

*Geoffroyus tjindanae*

after one of the indigenous names of the island of Sumba, viz. Tjindana. If Salvadori had not bestowed specific rank on *G. floresianus* and *sumbavensis*, I would have given only a subspecific one to the Sumba-form, but in accordance with those I call it simply *G. tjindanae*. Moreover it would not be quite easy to place the subspecific forms of these different islands in every case under the right species; there would arise difficulties and, instead of creating clearness, confusion would result.

The differences of size, compared with Salvadori's measurements in English inches (p. 403), are the following:
*G. personatus*: wing 5.6—5.8, tail 2.7—3, bill 0.8—0.9
*G. tjindanae*: „ 6.3—6.7, „ 3.5 , „ 1 —1.05.

The measurements of *G. tjindanae* in millimeters are:

| | ♂ | ♀ | juv. |
|---|---|---|---|
| total | 250—260 | 250 | 230—240 |
| wing | 168 | 171 | 160 |
| tail | 90 | 88—89 | 85 |
| tarsus | 13.5 | 13.5 | 13 |
| bill | 25 | 26 | 25 |

The future will prove, whether there are still other differences between these two forms; I have now before me only one specimen of *personatus* from Wetter to compare with 3 from Sumba.

I further wish to correct an error in my paper of 1881. On page 767 it should be

*Bubulcus coromandus* (Bodd.)

instead of *Herodias nigripes* (T.). — Finally the following remark:

In the memoir of 1884, quoted above („Isis" p. 19), I recurred to *Merops ornatus* Lath. from Sumba, calling attention to a difference between Sumba-specimens and

those from other localities, viz. the blue under the black band of the throat. Dr. ten Kate got no specimen of *Merops* on Sumba, and H. E. Dresser in his monograph of the *Meropidae* (1884—86), under the head of *M. ornatus*, does not mention the locality of Sumba at all, having missed both my notices. An unlucky star appears to shine over our knowledge of the avifauna of Sumba. Not only that the birds themselves are very insufficiently known up to the present, but the few notes which exist in literature, appear to have had the fate of partially escaping the eyes of such careful ornithologists as Büttikofer, Salvadori and Dresser, though I published my paper in a periodical, in which nearly all papers of the distinguished Austrian ornithologist von Pelzeln have appeared and which, therefore, cannot stand in a hidden corner of an ornithologist's library.

Royal Zoological Museum of Dresden,

June 3, 1892.

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# NOTE XXXVIII.

## EINE NEUE CALANDRIDEN-ART DER GATTUNG PARATASIS, CHEVR. AUS JAVA

VON

**Dr. K. M. HELLER.**

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*Paratasis viridiaenea*, n. sp. ♀.

*Elliptico-ovata, glabra supra planiuscula, capite, thorace pygidioque nigro; elytris viridiaeneis, singulo tenuiter quinquestriato; subtus rufo-ferruginea; tarsis, tibiis, coxis, trochanteribus, basi apiceque femorum et segmentis ventralibus apice, nigris; rostro arcuato thorace paulo breviore, ante basim paulo tumido, subtiliter punctulato; capite subtilissime punctato, inter oculos puncto intruso, oculis pone marginem inferiorem sulco arcuato; thorace medio lobo producto eoque utrinque sinuato, subtilissime et confertim punctato punctisque majoribus dispersis; antennis articulo primo funiculi obconico longiore, secundo breviore, quarto longitudine latiore.* — *Longit. (capite non computato)* 24 mm.

*Patria:* Insula Java orientalis, regio montana.

Schlanker als *P. rubiginea* Wied. und *elegans* Guér. Kopf, Fühler, Afterdecke, Hüften, Schenkelanhänge, ferner die Schenkel an der Wurzel und Spitze, die ganzen Schienen und Füsse, der Hinterrand des 2., 3., 4. und 5ten Bauchsegmentes, Vorderbrust zwischen den Vorderhüften und der Prosternalfortsatz schwarz. Flügeldecken und Schildchen metallisch grün, wenig glänzend. Unterseite und mitt-

lerer Theil der Schenkel bräunlich roth. Rüssel sanft gebogen, etwas seitlich zusammengedrückt, über der Einlenkungstelle der Fühler angeschwollen, kürzer als das Halsschild (kürzer als bei *P. elegans* Guér. ♀), genau so lang wie die Naht von der Spitze des Schildchens bis zur Flügeldeckenspitze gemessen, ziemlich dicht und fein punctirt, im ersten Drittel mit einer glatten Längslinie auf dem Firste. Schaft der Fühler halb so lang wie der Rüssel, zweites Glied der Geissel kürzer als das erste, das dritte so breit als lang, das vierte breiter als lang, 5. und 6. deutlich quer, die Keule wie bei *elegans* Guér. Kopf fein und ziemlich dicht punctirt, zwischen den Augen mit einem eingestochenem Punct, Unterrand der Augen durch einen deutlichen Zwischenraum getrennt, neben dem hinteren Theil des Unterrandes mit einer tiefen gebogenen Furche, die zwischen den Augen unterbrochen wird, hinter der Unterbrechungsstelle ebenfalls ein eingestochener Punct.

Prothorax vorne schmal abgeschnürt, sanft gewölbt, Mittellappen leicht niedergedrückt, die Seiten des Halsschildes nach vorne schwach convergirend, vor der Mitte zugerundet, Vorderrand leicht ausgerandet, überall äusserst dicht und sehr fein punctirt, ausserdem mit sehr zerstreuten feinen Puncten, Halsschildlappen in der Mitte mit schwach angedeutetem Längskiel. Vorderbrust ebenfalls mit doppelter Punctirung, die grösseren Puncte etwas körnig und eine schuppenartige kurze Borste tragend (letztere nur bei starker Vergrösserung deutlich erkennbar). Hinterleibsringe sparsamer, aber grösser als bei *elegans* Guér. punctirt.

Flügeldecken oben flachgedrückt, nach hinten zu schwach verjüngt, vor der Spitze leicht niedergedrückt, an den gerundeten Schultern am breitesten, Seitenrand hinter der Mitte leicht ausgebuchtet, Spitze der Decken in flachen Bogen abgerundet, Naht kaum verkürzt, Nahtwinkel etwas stumpfwinkelig (bei *elegans* scharf rechtwinkelig), jede Decke mit 5, vor der Spitze endigenden, vertieften Streifen, 3., 4. und 5. Streifen an der Basis erweitert und ver-

tieft, Zwischenräume ungleich breit, der 2te (respective 3te von der Naht ab) der breiteste, jedoch schmäler als 3. und 4. zusammengenommen, 5ter vor dem letzten Drittel der Flügeldecken verkürzt und hinten in einige gereihte Puncte aufgelöst. Ebenso im ersten Drittel der Decken zwischen Schulter und Seitenrand mit einer Punctreihe, sonst überall weitläufig und fein punctirt; Seitenrand der Decken, die Seiten des Analsegmentes, Pygidium an der Spitze, Unterseite der Mittel- und Hinterschenkel, Innenseite sämmtlicher Schienen und Vorderrand der Vorderbrust, so wie die Unterseite der Tarsen gelbbraun bewimpert.

Pygidium gröber als die Flügeldecken punctirt, jeder Punct mit einer kurzen steifen Borste, hinteres Drittel mit einem Mittelkiel.

Beine bei ähnlichem Bau wie *elegans* Guér. auffallend durch das 2te Fussglied verschieden, das im Gegensatz zu *elegans*, bei *viridiaenea* quer ist.

Länge vom Halsschildvorderrand bis Pygidiumspitze 24 mm., Länge des Rüssels 8.5, Länge des Halsschildes 9.5 mm., Breite der Flügeldecken an den Schultern 9.5 mm.

Nach Analogie mit anderen Arten dürfte das ♂ durch gröbere etwas körnige Punctirung des Rüssels, so wie durch eine gelbbraune Bürste vor der Rüsselspitze vom ♀ zu unterscheiden sein.

Das einzige Stück, ein ♀, dieser von allen Calandriden schon durch die Färbung verschiedenen und jedenfalls auch sehr seltenen Art, verdankt das Museum einer Schenkung des Herrn G. v. Bültzingslöwen aus dem Jahr 1884, es stammt, so wie alle anderen gleichzeitig dem Museum übergebenen Insecten aus den Gebirgen von Ost Java.

Die drei nun bekannten *Paratasis*-Arten lassen sich auf folgende Weise kurz unterscheiden:

*Halsschild* und Pygidium ganz schwarz, Flügeldecken metallisch grün . . . . . *viridiaenea*, n. sp. — Java.

*Halsschild* grösstentheils roth, nur der Hinterrand des Mittellappens, selten ein oder zwei Flecken auf der Scheibe und die Basis der Flügeldecken und die ganzen Schultern

schwarz. Mittellappen des Halsschildes kürzer als bei der folgenden Art, seine Seiten nicht ausgerandet

*rubiginea* Wied. (ex parte). — Bengalen, Cambodja.

*Halsschild* vorherrschend schwarz, nicht nur der Hinterrand des Mittellappens, sondern auch ein grosser die Scheibe einnehmender dreieckiger Fleck und beiderseits am Rande ein breites Band schwarz, Schultern roth, die schwarze Zeichnung der Flügeldecken durchwegs breiter als bei voriger Art. Mittellappen des Halsschildes beiderseits ausgerandet

*elegans* Guér. (*rubiginea* Wied. auct.). — Java, Borneo, Nias (Coll. Faust).

Anmerkung: Wiedemann's Beschreibung im Zoologischen Magazin, Altona 1819, p. 174 unter »25. *Calandra rubiginea*" betrifft zwei verschiedene Arten, wobei irrthümlicher Weise das ♂ für ein ♀ von *rubiginea* und umgekehrt das ♀ einer anderen Art für das ♂ von *rubiginea* gehalten wurde. Die lateinische Diagnose ist natürlich so abgefasst, dass sie auf beide Arten passt; nur die Fundortangabe Bengalia ist bestimmend, welche der beiden Arten den Namen *rubiginea* zu führen hat. Die Unterschiede, die Wiedemann bei seinen zwei Stücken für sexuelle hält, sind grösstentheils Speciescharaktere, da bei beiden Arten ♂ und ♀ untereinander sehr ähnlich und ersteres hauptsächlich nur durch eine rothgelbe Haarbürste vor der Rüsselspitze ausgezeichnet ist. (Cf. Notes from the Leyden Museum, XIII, 1891, p. 154, 2).

Königl. Zoolog. Museum zu Dresden,

8. Juni 1892.

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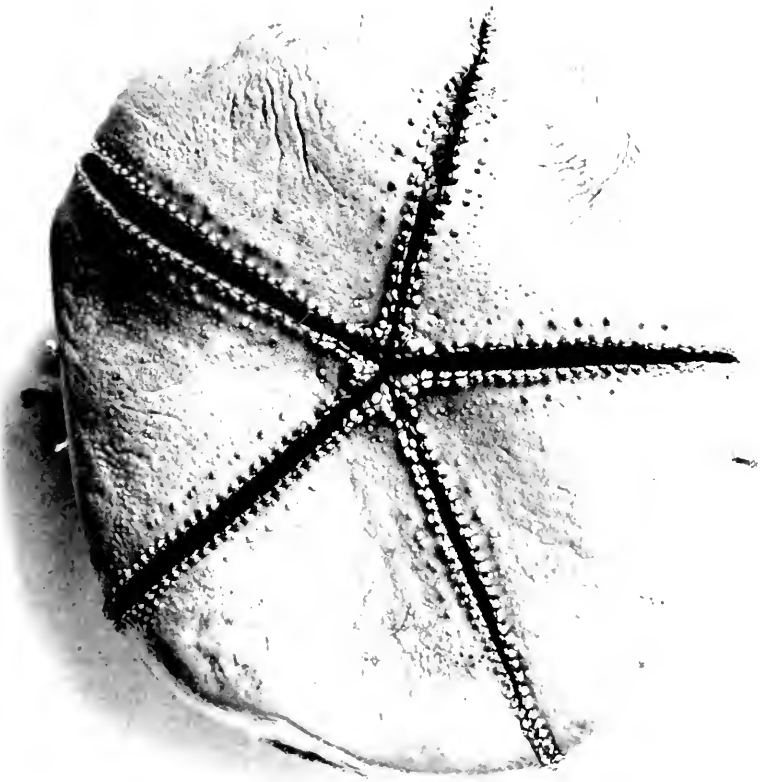
Culcita grex. M. T.



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Culcita grex. M. T.

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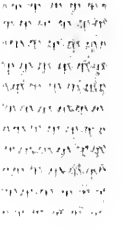

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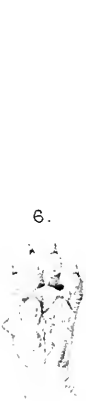


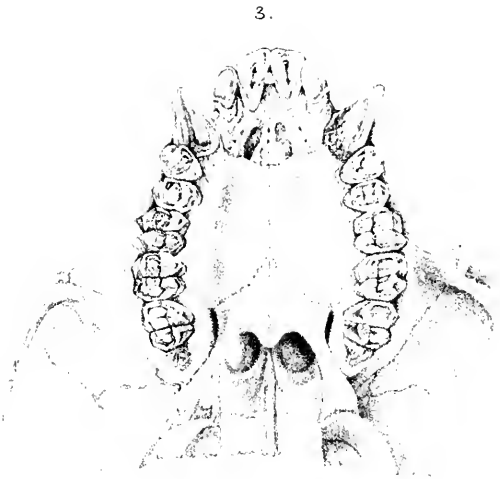






3, 4. Semnopithecus maurus *Schreb.*
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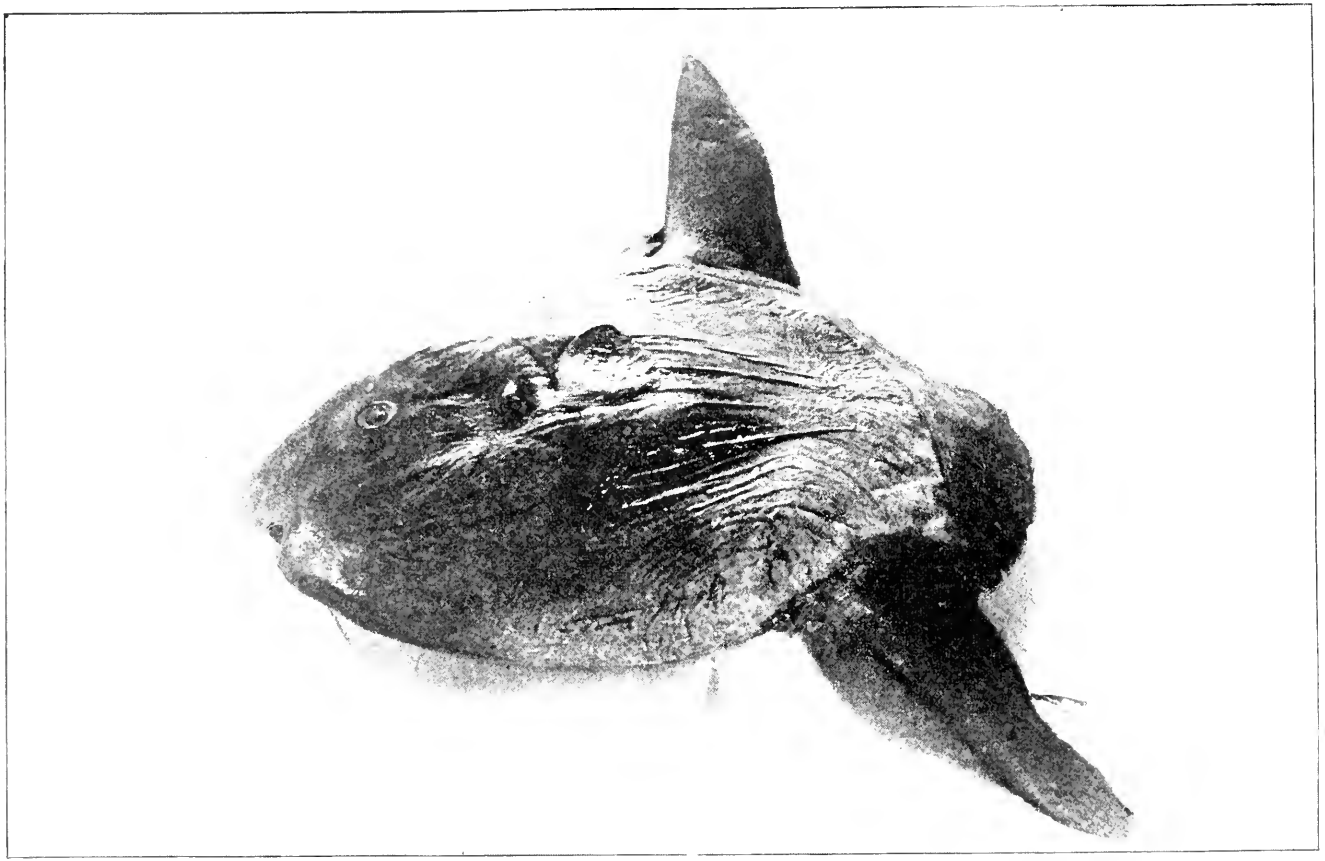

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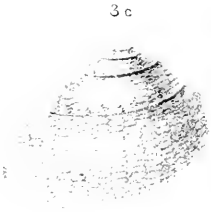


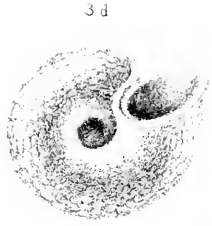





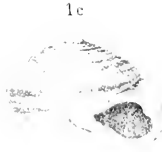


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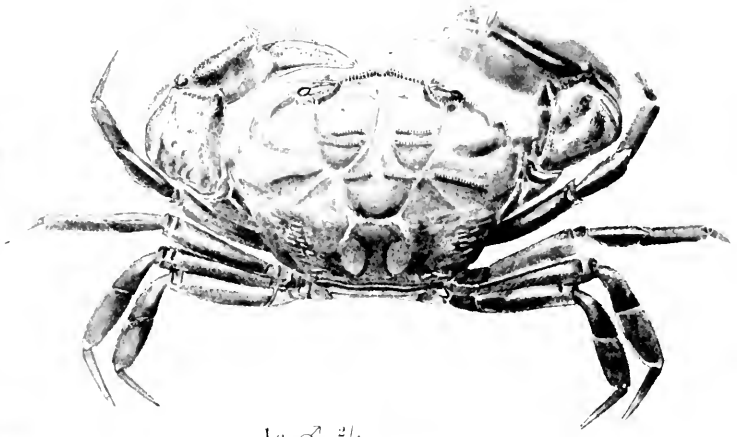
1 ♂ 2/1



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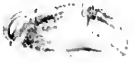

3 ♂ 3/2

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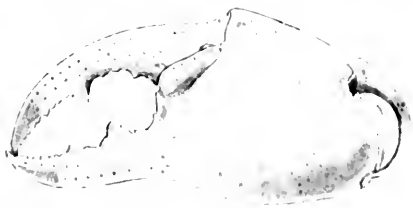

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Dr. J. G. DE MAN DEL

Lichtdruk van Emrik & Binger, Haarlem.

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Dr. J. G. DE MAN DEL. Lichtdruk van Emrik & Binger, Haarlem.

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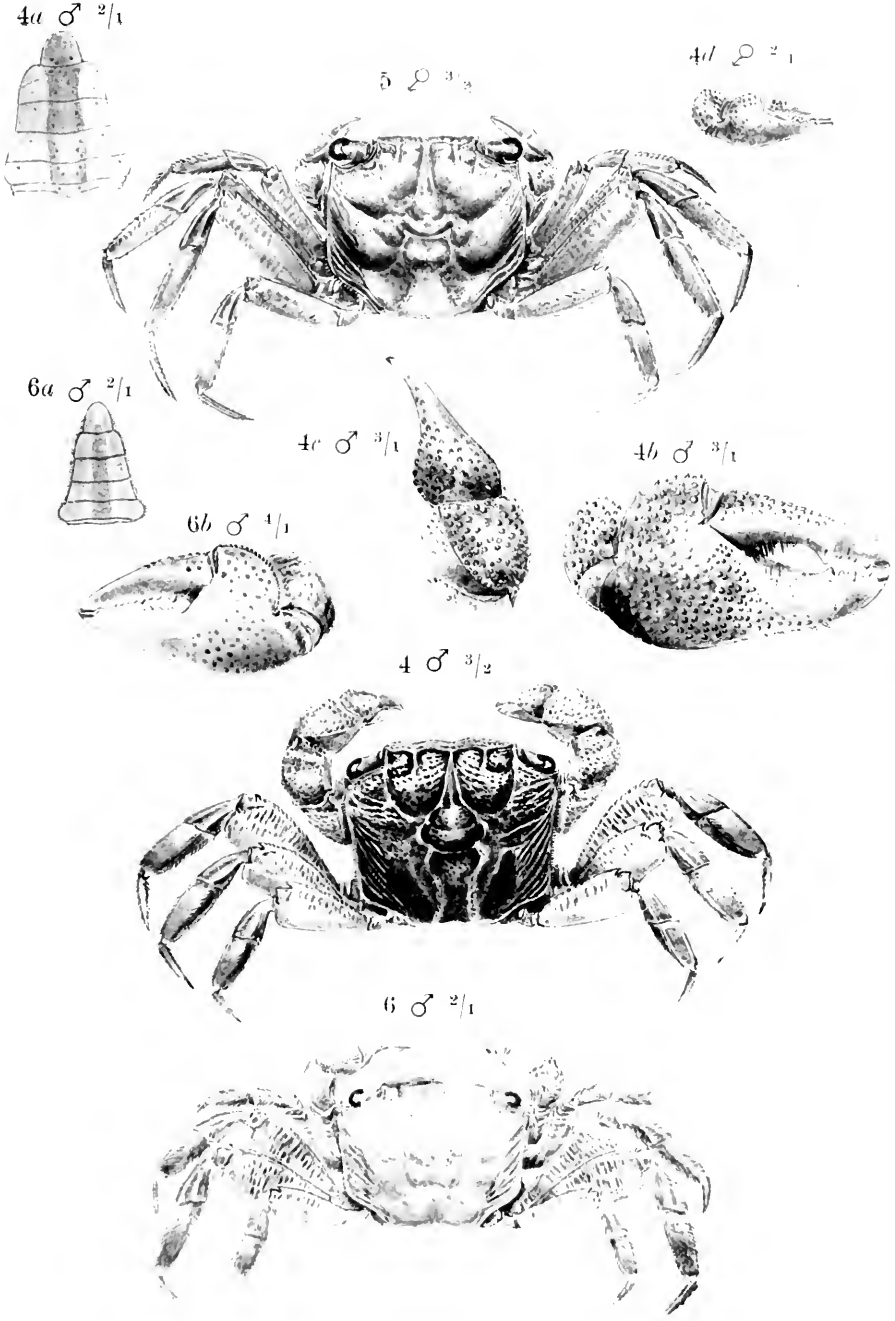


Dr. J. G. de Man del. Lichtdruk van Emrik & Binger, Haarlem.

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# NOTES



FROM THE

# LEYDEN MUSEUM

EDITED

BY

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

**VOL. XIV.**

N°. 1 en 2. Januari—April 1892.

LEYDEN
E. J. BRILL.

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