THE PHILADELPHIA MUSEUMS

SCIENTIFIC BULLETIN No. 1.

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With Descriptions of New Forms

By EDWARD D. COPE

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A Posthumous Paper Edited by J. Percy Moore

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On a Collection of Batrachia and Reptilia from New Granada.

By E. D. COPE.

The collection which furnishes the basis of the investigation presented in the following pages was made in Colombia, near Bogota, for the World's Exposition of Chicago, where it was exhibited in the department of New Granada. The number of species is fifty-four, of which nine are new to science. I have not been able to ascertain the exact localities at which the specimens were obtained, but most of them, it is believed, were found in the neighborhood of Bogota. Some of them, as, for instance, the *Crocodilus americanus*, were not found in that neighborhood.

The collection embraces a number of species which are very rare in collections.

BATRACHIA.

URODELA.

ŒDIPUS ADSPERSUS Peters. One specimen, No. 79.

SALIENTIA.

BUFO GRANULOSUS Spix. One specimen, No. 74.

HYLA VILSONIANA sp. nov. Plate I, Figure 1.

Web of anterior foot insignificant; that of posterior foot excluding last two phalanges of fourth toe, and only reaching distal half of antepenultimate, thus about two-thirds complete. Vomerine teeth in two transverse series between the choanæ, which are equal in size to the ostia pharyngea. Tongue round, feebly emarginate, and considerably free posteriorly and laterally. Heel of extended hind limb reaching middle of eye. Tympanic disc generally obscure, but where visible, exhibiting a diameter of half of the eye fissure. Head short, muzzle not

prominent, a little longer than eye. Canthus rostralis obtuse, slightly concave; nostrils subterminal. Discs of manus one-half the diameter of the tympanic disc; those of the posterior foot smaller. Skin of upper surfaces smooth; a fold from orbit over tympanum to humerus.

Measurements.	Mm.
Length of head and body	40
Length to posterior border of membranum tympani (axial)	10
Length of fore leg	20
" " " foot	11.5
" " hind leg	60
" " " foot	27

Color in spirits dull light purple to lead-color; probably green in life. Inferior surfaces pale, gular region dusky. In some specimens a dusky line extends from the nostril to the middle of the side, and a few dusky spots are below it, posterior to the axilla. In one individual the stripe extends nearly to the groin and is separated from the darker shade of the back by a pale band. Posterior face of femur either unicolor, or marked by a few dusky reticulations.

This species belongs to the same group as the *H. labialis* Pet. and *H. depressiceps* Blgr. of the same region. From the former it differs, among other points, in the shorter web of the posterior digits and the shorter hind legs. The characters are uniform in these respects in eight specimens of the *H. vilsoniana*. *H. depressiceps* differs from the latter in the "very distinct tympanum," the "toes three-fourths webbed," and very much in the coloration, according to Boulenger.

I have dedicated this plant-loving species to my friend, Professor William P. Wilson, Professor of Vegetable Physiology in the University of Pennsylvania, and Director of the Philadelphia Commercial Museum.

Eight specimens, Nos. 75, 76 and 78.

HYLODES BOGOTENSIS Peters. Three specimens, No. 80.

The form of the tongue varies in these specimens from nearly discoid to an elongate oval. In the specimen with the

narrowest tongue the sides are paler than the median dorsal region, which is divided by a light vertebral line. The top of the muzzle is pale anterior to the orbits. The other two specimens are dark brown above, but in one of them the dorsal region is darker than the sides and is divided by a darker vertebral line.

PROSTHERAPSIS SUBPUNCTATUS sp. nov. Plate I, Figure 2.

Muzzle rounded, not projecting, loral region vertical, canthus rostralis distinct. Muzzle 1.5 to 1.2 as long as diameter of eye; nostril nearer to the extremity than to the eye. Eyelid wider than interorbital space. Tympanic disc distinct, two-thirds diameter of eye. Hind leg extended reaches the posterior border of the orbit with the heel. Digital dilations small; two small metatarsal tubercles; first finger equal to second. Tongue oval. Skin everywhere smooth.

Measurements.	Mm.
Length of head and body	43
" " " to posterior edge tympanum	7
" " fore leg	13
" " " foot	6
" " hind leg	31
" " " foot	16

Color above brownish gray to dark brown, separated by a pale border from a deep brown lateral band which extends from the end of the muzzle to the groin, and which widens on the side. Inferior aspect of thighs, and sides, and sometimes also middle of abdomen, spotted with brown. Posterior face of thighs obscurely marbled. Upper lip white, generally brown spotted and bordered. In the paler specimens the back and top of head are brown spotted, and there is sometimes a pale vertebral stripe. Legs and feet light below, darker spotted brown above.

Eight specimens, No. 77.

CÆCILIA GRACILIS Shaw. One specimen, No. 71.

Length 1,300 mm.; a well-developed intromittent organ.

LACERTILIA.

POLYCHRUS MARMORATUS Linn. One specimen, No. 11.

NOROPS AURATUS Daud. One specimen, No. —.

ANOLIS SULCIFRONS sp. nov. Plate II, Figure 1.

This species agrees in most respects with the *A. pentaprion* Cope. That is in the carination and crest of the tail, in the proportions and surfaces of the scales of the head and body, in the rather short limbs, in the large fan and in the coloration. It differs in the following features: The supraorbital ridges are elevated, so that the frontal region is grooved, and not flat; their posterior extremities are connected by a transverse ridge, so that the parietal plane makes an angle with the frontal. The occipital (properly parietal) plate is transversely divided; and there are six or seven rows of loral scales instead of three. The head is conspicuously smaller, and especially narrower, its width being three-quarters of the length of the tibia, while the two measurements are equal in the *A. pentaprion.*

Measurements.	Mm.
Length of head and body	64
" " " to auricular meatus	16
" " fore leg	26
" " " foot	9
" " hind leg	38
" " " foot	18
Width of head at auricular meatus	9.5

One specimen, No. 6.

ANOLIS FRENATUS sp. nov. Plate II, Figure 2.

Tail cylindric, scales equal, keeled, a little larger than dorsals. Dorsal scales small, thick, keeled; laterals a little smaller; ventrals thickened, smooth, equal to dorsals. Head elongate, 1.5 as wide as long to occiput; the length of the tibia reaching from end of muzzle to half way between orbit and auricular meatus. Latter rather small, subhorizontal. Front without ridges, slightly concave; supraorbital borders elevated, occipital region a triangular depression. Scales of head rather small, thickened or weakly keeled. Supraorbital scales enlarged,

especially anteriorly, separated by three rows of scales. Supraoculars mostly small, but five or six larger are keeled and are separated by a row of scales from supraorbitals. Twelve rows of scales at widest part of front; three canthal scales, and six rows of loral scales. Occipital not larger than surrounding scales, smaller than auricular meatus. The extended hind leg reaches to the middle of the orbit. Fan large, extending on thorax to between shoulders. Digital expansions well developed, twenty-five lamellæ on penultimate joint of fourth posterior toe. Postanal plates present in male.

Measurements.	Mm.
Length of head and body (tail injured)	135
" " " to occiput	32
" " " " angle of mandible	36
Width of head at angle of mandible	22
Length of fore limb	54
" " " foot	23.5
" " hind limb	98
" " " foot	47

The color is brown, changeable into bright green when the skin is stretched. A wide blackish band extends from one orbit to the other, passing over the nape posterior to the line of the auricular meatus. A large triangular blackish spot above each humerus meets its mate of the opposite side on the middle line, and joins the postorbital band by its inferior anterior angle. Upper lip pale, which color continues as a stripe to above ear. Belly uniform green; tail below brown.

This, the largest continental South American species, belongs to the group of *A. squamulatus* Pet., *A. latifrons* Berth., and a new species which I now describe as *A. purpurescens.**

*ANOLIS PURPURESCENS sp. nov.

Tail cylindric, covered with rather small flat equal keeled scales. Dorsal and lateral scales sub-equal, small, convex, two medium rows at one point a little larger and keeled obtusely. Ventral scales twice as large as dorsals, smooth. Head 1.5 as long (to occiput) as wide, without frontal ridges, and concave medially anterior to the orbits. Frontal bone concave; parietal ridges converging posteriorly. Tibia equaling length from end of muzzle to auricular meatus; the latter

In its keeled and non-imbricate dorsal scales it approaches the *A. squamulatus,* but it differs in many details of squamation. Thus the latter has sixteen rows of scales on the front, nine rows of loreal scales, six rows between supraorbitals, which latter are not enlarged; lateral scales minutely granular, and ventrals

about equal to occipital scale. Canthus rostralis well-defined, with seven scales larger than those adjacent. Fourteen rows of scales on widest part of muzzle at base; supraorbitals enlarged, transverse, not continuing on muzzle, separated from each other by two rows of flat scales, and from the occipital by four (or three) rows. Seven or eight rows of loral scales, the superior row the largest. Enlarged supraoculars in about three longitudinal rows, diminishing in size externally; the inner row of four scales all weakly keeled.

Fourteen scales in a presubocular series; superior labials twelve; eleven inferior labials. The infralabial scales are all small and are keeled. Fan large, extending much posterior to line of axillæ. Extended hind leg reaches to front of orbit. Twenty-one lamellæ under penultimate phalanx of fourth posterior digit. Postanal scuta present.

Measurements.	Mm.
Length of head and body	78
" " " to occiput	21
Width of head at occiput	13
Length of fore leg	36
" " " foot	12
" " hind leg	64
" " " foot	26

Color above purple or violet, below white (in spirits). Numerous small oval darker spots are arranged in longitudinal lines on the back and sides, becoming rounder on the latter, and grouped into transverse agglomerations, producing the effect of bands, which are directed a little backwards as well as downwards. Limbs and tail light purple, with wide dark purple cross bands. Head lighter, spotted with purple above and on the sides. Except some faint traces, the inferior surfaces are unspotted.

This handsome species resembles those above mentioned, which form the *A. laticeps* group, which are from the Colombian district of South America, and are the largest species of the continent. In the *A. laticeps* Berth. the scales are all equal. In *A. squamulatus.* Pet. there are five or six rows between the supraorbitals, which are not enlarged, and the lateral scales are minutely granular, the occipital scale is minute, and the supraocular scales are scarcely enlarged (Peters). The *A. frenatus,* above described, has much smaller supraorbitals, less numerous frontals, smaller ventrals and a shorter tibia, besides very different coloration.

The only specimen of the *A. purpurescens* which I have seen is No. 4321 of the collection of the United States National Museum, and was collected by Arthur Schott, of the Miehler surveying expedition on the Truando River, New Granada. It is enumerated as *Anolis* ? ? *reticulatus* Gray, in my Report on the Reptilia collected by that expedition in the Proceedings of the Philadelphia Academy, 1862, p. 356.

much larger than dorsals. The coloration is also quite different. The difference from *A. purpurescens* will be pointed out under that species.

I took a single specimen from the œsophagus of a *Herpetodryas carinatus* (No. 61). It is in perfect condition, except that more than half of the tail is broken off.

XIPHOCERCUS HETERODERMUS Dum., three specimens, Nos. 6, 7 and 61.

THECODACTYLUS RAPICAUDUS Hout., four specimens, No. 2.

AMEIVA SURINAMENSIS Laur., No. 12.

CNEMIDOPHORUS MINIMUS Laur., two specimens, Nos. 4 and 50.

CNEMIDOPHORUS LEMNISCATUS Daud., four specimens, No. 4a.

OREOSAURUS STRIATUS Peters.

ANADIA BOGOTENSIS Peters, nine specimens.

HETERODONIUM BICOLOR gen. et sp. nov., Plate III.

Char. gen.—Frontonasal plate separating nasals; prefrontal and frontoparietal plates absent; nostril in suture between nasal and first lateral plates; no interparietal plate. Limbs rudimental, two pairs; digits 4-1, the anterior clawed. No femoral pores.

This genus differs from *Sesquipes,* since the latter has digits 4-2; in the allied genus *Microdactylus* they are 3-3.

I have pointed out the penial characters of this genus in the "Proceedings of the Philadelphia Academy of Natural Sciences," 1896, p. 466. A welt bounds the sulcus spermaticus on each side. The space between these is marked by a few feeble cross folds, and the borders support a single series of closely placed recurved spines.

Char. specif. Scales in annuli of twenty-eight scales, which are angular at the extremities and alternate with those of the adjacent annuli. Labials 5-6; temporals 2-2-2. Three large preanal plates longer than wide. Tail long, obtuse; hind legs minute. Anterior digits short, subequal. Brown above, separated abruptly on each side from the darker brown of the sides and lower surfaces. Chin and throat yellowish. Scales of upper surface each with a bluish spot.

Measurements.	Mm.
Total length	130
Length of head and body	78
" " fore limb	3
" " hind limb	1.3
Width of head posteriorly	5

This is one of those interesting forms allied to *Cophias,* which exhibit degeneracy of feet and limbs in varying degrees. This genus is interesting as displaying greater persistence of the fore limbs as compared with the posterior, which are reduced to mere buds. In *Ophiognomon* Cope, the hind limbs are similarly reduced, while in *Propus* Cope they have disappeared; but in both genera the fore limbs are more reduced and there is no frontonasal plate.

Two specimens, No. 10.

TRETIOSCINCUS BIFASCIATUS Dum., two specimens, No. —.

MABUIA AGILIS Raddi, three specimens, No. —.

AMPHISBÆNA FULIGINOSA Linn., two specimens, No. 13.

SERPENTES.

EPANODONTA.

HELMINTHOPHIS ANOPS sp. nov. Plate IV, Figure 1.

Rostral wide, not half as wide as head, broadly in contact with the rather narrow transverse frontal. Three superior labials, the first largest, the second and third higher than long. Eye invisible. Five scales border the prefrontal and first labial between the frontal and second labial, and seven scales separate the first median scale from the third labial. Twenty-six rows of scales. Tail as long as, or a little longer than, wide.

Color dark brown, the scales of the dorsal half of the body with a darker centre. Head yellow; tail and anal region uniform with the body.

Total length, 372 mm.; tail, 6 mm.

This species has a tendency to subdivision of scales. In one

of the two specimens the frontal is divided into two regular scales, and in another the lower extremity of the first labial is cut off on one side.

Two specimens, No. 14.

CATODONTA.

GLAUCONIA MACROLEPIS Peters. One specimen, No. 15.
GLAUCONIA ALBIFRONS Wagl. One specimen, 15a.

COLUBROIDEA.

PEROPODA.

EPICRATES CENCHRIS Linn. One specimen, No. 57.

AGLYPHODONTA.

LIOPHIS BIMACULATUS sp. nov. Plate IV, Figure 2.

Tail entering total length 4.5 times. Head distinct; diameter of eye half or a little more than half the length of the muzzle. Rostral plate not prominent, twice as wide as high, visible from above. Internasals as long as broad, and nearly as long as prefrontals. Frontal nearly as wide as long, equal to length in front of it, and equal to length of parietals. Loral higher than long; oculars 2-2; temporals 1-2 or 1-1-2. Superior labials eight, fourth and fifth entering orbit. Four inferior labials in contact with pregenials, which are equal in length to the postgenials. Scales in seventeen rows. Gastrosteges 173-4; anal 1-1; urosteges 65-70. Total length 660 mm.; tail 142 mm.

General color above olivaceous, basal sutures of scales black. On the third row on each side the black gradually covers the entire scale, forming a black stripe on the posterior two-thirds of the length, which extends to the end of the tail. A similar extension of the basal black occurs on the sixth row on each side, but does not form a completed stripe anterior to the tail, where they soon fuse into a single median stripe. A large black spot on each side of the nape extending to the angle of the mouth, and a number of more obscure spots succeeding it for a short distance on each side, which gradually disappear. An indistinct

dark line through eye; no spots on parietal plates. Belly white tessellated with black, the black often covering entire gastrosteges. Throat, lips and inferior side of tail unspotted.

Five specimens, Nos. 29 and 42.

This species is evidently near to the *L. fraseri*, which inhabits Ecuador. The differences may be seen in the following characters, which I derive from Boulenger: The oculars are 1-2; five labials are in contact with the anterior genial, which is shorter than the postgenial. Frontal nearly twice as long as broad. No nuchal or lateral spots. "Lower parts white with scattered small black spots." There is some variation in some of the specimens. In the smallest two there is but one preocular on each side, and on one side of each there are five labials in contact with the pregenials. As compared with *L. tæniurus*, which belongs to the same group, the oculars are 1-2; there are only 53-7 urosteges; there is a black nuchal collar, and the tail is black below.

LIOPHIS ALBIVENTRIS Jan.

Tail five and a half times in total length. Head distinct. Muzzle not projecting; the rostral plate twice as wide as high and visible from above. Internasal plates wider than long, a little shorter than prefrontals. Frontal nearly as wide as long, a little exceeding muzzle and a little shorter than parietals. Loral deeper than long. Oculars 1-2, temporals 1-2. Superior labials eight, fourth and fifth entering orbit. Five inferior labials in contact with pregenials, which equal the postgenials. Scales in seventeen rows. Gastrosteges 133; anal 1-1; urosteges 56. Total length 184 mm.; tail 34 mm.

Head olivaceous above, followed by a wide black half collar which extends for four scales posterior to the occipital, and to below the line of the canthus oris on each side. Ground color above anteriorly, light brown, which is crossed by two or three transverse black bars. These break up into spots which form six rows, of which the four median are brown and more or less connected, enclosing lighter brown interspaces. The external lateral spots are more distinct, are black and are continued to the base of the tail at intervals of three and four scales. On the

tail they fuse into a lateral stripe. No dorsal stripes. Lips and inferior surfaces unspotted.

Three specimens, No. 47. These are young, and I describe them to indicate their color difference from the typical *L. albiventris,* with which they agree in scutal characters. The *L. alticolis* Cope (*Ophromorphus*) is regarded by Boulenger as identical with the *L. albiventris.* Of the propriety of this I have some doubt, as the muzzle is more elongate in the former, the internasal plates being very nearly as long as broad. The gastrosteges are more numerous than the highest given by Boulenger. They are 161; urosteges, 64; the number in the *L. albiventris* ranges, according to Boulenger, from 138 to 158. The small specimens here described might elongate the muzzle and internasal plates at maturity, so as to be similar to those of the *L. albiventris,* but such a change as is necessary to become identical with the *L. alticolis* is not probable.

ATRACTUS BADIUS Boie. Ten specimens.

Nine of these (Nos. 20 and 58) agree in coloration. They are blackish brown, with light transverse bars, which do not cross the median dorsal region. A pale band posterior to orbit. One of these has the inferior postocular aborted, and in another there are only two superior labials posterior to the orbit on both sides, making but six labials in all. In one specimen (No. 20a) the color is light brown, with several rows of ill-defined rounded darker brown spots. A blackish line follows the extremities of the gastrosteges on each side. Belly black spotted. Size larger than that of the other specimens.

ACANTHOPHALLUS COLUBRINUS Gthr. One specimen, No. 57.

LEPTOGNATHUS TRISERIATAS sp. nov. Plate IV, Figure 3.

Scales in fifteen rows, those of the dorsal series nearly twice as wide as long; those of the row adjacent to it on each side smaller, but larger than the other scales. Rostral plate higher than wide; internasal suture about one-third the prefrontal. Frontal plate as wide as long; its anterior suture transverse, and longer than the supraocular. Parietals longer than frontal. Nasal large; loral deeper than long, bounding the orbit below

and separated from the supraocular by a preocular which does not reach the frontal. Postoculars two; temporals 2-3. Superior labials nine, fifth and sixth bounding orbit; all higher than long, except the eighth and ninth; the ninth the longest. Inferior labials twelve, first two pairs mutually in contact behind the symphyseal. Genials three pairs, the anterior a little longer than wide.

Gastrosteges 176; anal entire; urosteges 82.

Ground color very light (? yellowish) brown, or white (? yellow in life), crossed by black yellow-edged annuli, which are interrupted on the belly, and sometimes broken and alternating on the median dorsal line. The annuli extend over six rows of scales, and are about as wide as their interspaces. Their white (? yellow) borders are one scale wide. No alternating spots. Belly with a few longitudinal spots on or near the middle line. Head uniformly black, with a transverse half collar of small yellow spots extending over the nape from the angle of the mouth of one side to the other.

Total length (No. 1), 307 mm.; of tail, 72 mm.; (No. 2), 315 mm.; 77 mm.

This handsome species is in its compressed body and very distinct head typical of the genus. Technically it approaches the *L. brevifasies* Cope, but it is probably more nearly allied to the *L. variegata* D. & B. In the latter there is no preocular plate; the rostral plate is much broader; the third superior labial enters the eye, showing that disposition of those plates is different throughout, and there are only two pairs of genials, both broader than long. The coloration is quite different. I have not this species before me, and derive the above characters from Boulenger.

Two specimens, No. 46.

LEPTOGNATHUS CATESBYI Sentz. One specimen, No. 43.

PETALOGNATHUS NEBULATA Linn. Five specimens, Nos. 28, 50 and 60.

DRYMOBIUS BIVITTATUS D. & B. Three specimens, Nos. 17, 45 and 49.

DRYMOBIUS BODDAERTII Sentz, subsp. RAPPII Gthr.

One specimen with three rows of black alternating quadrate spots on a yellowish ground; No. 69.

DRYMOBIUS BODDAERTII Sentz, subsp. BODDAERTII. Five specimens, Nos. 26, 27, 60, 23 and 42.

SPILOTES PULLATUS Linn.

One specimen with eighteen rows of scales on the body for a short distance.

HERPETODYAS CARINATUS Linn. One specimen, No. 16.

This snake had partially swallowed an adult Anolis (*A. frenatus* Cope supra).

LEPTOPHIS OCCIDENTALIS Gthr. Four specimens, No. 42.

NINIA ATRATA ATRATA Hallow. One specimen, No. 19.

OPISTHOGLYPHA.

ERYTHROLAMPRUS ÆSCULAPII Linn. Thirteen specimens, Nos. 3, 33, 37, 38, 67 and 99.

No. 3 has the rings on the posterior part of the body arranged in threes, which is very unusual in this species.

OXYRHOPUS CLŒLIA Daud. Six specimens, No. 32.

OXYRHOPUS PETOLARIUS Linn. Four specimens. Nos. 39, 40 and 56.

SCYTALE NEUVIDII D. & B. Two specimens, Nos. 32 and 51.

RHINOSTOMA GUIANENSE Trosch. One specimen, No. 16.

TANTILLA LONGIFRONTALE Boul. (Homalocranium.) Two specimens, Nos. 18 and 21.

STENORHINA DEGENHARDTII Berth. Six specimens, Nos. 24, 25 and 70.

SIBON ALBOFUSCUM Lacép. Fourteen specimens, Nos. 44, 48 and 50.

HIMANTODES PLATYCEPHALUS sp. nov. Plate IV, Figure 4.

I have given a synopsis of the species of this genus *Himan-*

todes in "The American Naturalist" for 1894, p. 614. Additional material enables me to extend this as follows:

I. SCALES IN FIFTEEN ROWS.

Frontal twice as long as wide; temporals 1–2–3; labials eight; vertebrals enlarged, truncate; genials equal; spotted above, below speckled . . . . . *H. lentiferus* Cope.

II. SCALES IN SEVENTEEN ROWS.

a Frontal plate twice as long as wide; eight upper labials; genials subequal; spots above indistinct; below speckled, with medium stripe . . . . . *H. inornatus* Blgr.

aa Frontal plate not twice as long as wide; lateral border exceeding anterior.

β Vertebrals enlarged and truncate.

Pregenials twice as long as postgenials, joining only four labials; seventh superior labial longer than high; temporals 2–3; scales of eighth row equal to those of first; belly speckled. *H. hemigenius** Cope.

Pregenials equal postgenials, joining five labials; eighth and first row of scales equal; seventh superior labial higher than long; dorsal spots approximate; temporals 2–3; belly with three series of spots . . . . . *H. stratissimus* Cope.

Pregenials equal postgenials, joining usually five labials; eighth row smaller than first, seventh superior labial higher than long; temporals 1 or 2–2; below speckled . . . . . *H. cenchoa* Linn.

Pregenials equal or shorter than postgenials, as in *H. cenchoa*, but temporals 2-3; ground color very pale; spots black, reaching belly; yellow bordered; belly speckled . . . . *H. leucomelas* Cope.

ββ Vertebral scales not enlarged, or if a little enlarged, not truncate.

*HIMANTODES HEMIGENIUS Cope.

Scales in seventeen rows, those of the vertebral row wider than long, truncate; those of the eighth row equal those of the first. Head oval, muzzle short, equal diameter of eye. Frontal plate two-thirds as wide as long, anterior suture shorter than supraocular. Common suture of parietals a little shorter than frontal plate. Superior labials eight, fourth and fifth bounding orbit, seventh like eighth, longer than high. Loral higher than long; oculars 1-2 (upper end of preocular on one side cut off); temporals 2-3. Postgenials half as long as pregenials; the latter in contact with only four inferior labials. Gastrosteges, 246; urosteges, 146.

Eight upper labials, seventh higher than long; fourth and fifth entering orbit; temporals 1–2; genials subequal; brown with darker brown spots; below speckled . . . . . *H. gemmistratus* Cope.

As the last; third, fourth and fifth labials in orbit; very pale, with large black, yellow-edged dorsal spots extending to belly; belly white . . . . . *H. tenuissimus* Cope.

aa Anterior border of frontal plate longer than lateral borders.

Seven superior labials, sixth longer than high; temporals 3–3; genials subequal; muzzle very short; spots larger; belly with a medium stripe of speckles . . . . . *H. platycephalus* Cope.

The detailed characters of the *H. platycephalus* are as follows: Scales in seventeen rows, those of the vertebral row much enlarged, truncate; the eighth row smaller than the first. Head very wide; muzzle short, not longer than the diameter of the eye measured along the median scutal suture. Frontal plate one-fourth longer than wide, anterior suture one-third longer than supraocular suture. Superior labials seven; third and fourth bounding orbit, sixth and seventh longer than high. Loral higher than long; oculars 1-2. Temporals 3-3-4. Occipitals a little longer than frontal on median suture, the external borders regularly convex. Postgenials equal or exceeding pregenials. Body compressed. Gastrosteges 228; urosteges 124. Total length, 360 mm.; tail, 92 mm.

The ground color is a very pale brown. This is crossed by numerous transverse dark brown, light-edged spots, which are approximated on the median line, and diverge as they narrow downwards. These extend to the gastrosteges except on the posterior third of the body, where the separated apices form a series of small lateral spots. Here and there is a small alternating

Color above light brown, below straw-color. Closely placed brown spots extend to the gastrosteges in front, and have their lateral angles cut off as lateral spots posterior to the middle. The centres of the dorsal spots are paler than their borders. Centres of cephalic plates brown. Inferior surfaces irregularly speckled with brown; no stripes; throat and lips unspotted.

The very short postgenial plates with the low seventh superior labial, and only four inferior labials joining the pregenials distinguish this species from the *H. cenchoa;* although the last character is sometimes found in that species. Santa Clara, Costa Rica. Sen. Alfaro. Mus. nac. de Costa Rica, No. 92.

spot near the gastrosteges. Belly speckled with dark brown; a median stripe of speckles. Labials unspotted. Top of head brown, with a pale Y on parietals, a cross on frontal, and transverse pale borders to the frontal, prefrontal and internasals. One specimen, No. 44a.

HIMANTODES CENCHOA Linn. Six specimens, of which all but one have a single preocular plate. In the other the superior part of this plate is separated from the remainder by a suture. In all there are two temporals of the first row. In both these characters these specimens differ from my specimens from Ecuador and Peru east of the Andes, and agree with the *H. semifasciatus* of Central America. They have the broad vertebral scuta of the true *H. cenchoa*. I incline to leave the Columbian specimens with the *H. cenchoa,* and to regard their characters as requiring that the *H. semifasciatus* be regarded as a subspecies of the same.

OXYBELIS ARGENTEUS Daud. One specimen, No. 31.

OXYBELIS ACUMINATUS Wied. One specimen, No. 30.

PROTEROGLYPHA.

ELAPS MIPARTITUS D. & B. Fifteen specimens, Nos. 36, 51, 52, 53 and 55. The anterior temporal is not especially narrow in any of the specimens, and the gastrosteges reach as high a number as 305; urosteges 25. The light annuli vary from 51 to 71.

ELAPS FULVIUS Linn. Five specimens, Nos. 11, 24, 33, 35 and 37. A variety in which the black of the head extends to the extremity of the parietal plates, and there are from sixteen to twenty-five black annuli on the body. These are not yellow-edged, and are separated by red interspaces much wider than themselves, in which all the scales are black-tipped. This group includes the var. H. of Boulenger, whose only specimen is stated to come from Yucatan, and to have nineteen black rings.

SOLENOGLYPHA.

LACHESIS LANCEOLATUS Lacép. Eighteen specimens. Nos. 32, 42, 61, 63, 64, 65 and 66.

RECAPITULATION.

	Total Species.	New.
Batrachia:		
Urodela	1	0
Salientia	5	2
Reptilia:		
Loricata	1	0
Sauria	15	3
Serpentes	32	4
	54	9

CATALOGUE OF A COLLECTION OF REPTILIA FROM ARGENTINA.

By E. D. Cope.

OPHIDIA. 25 species.

Boidæ.

Eunectes notæus Cope, Anaconda ; 3 skins.

Colubridæ.

Rhadinæa occipitalis Jan.
" *obtusa* Cope.
Aporophis dilepis Cope.
" *flavifrenatus* Cope.
" *anomalus* Gthr.
Xenodon almadensis Wagl.
" *poecilogyrus doliatus* Wied.
" " *cobella* Linn.
" *rhabdocephalus* Wied.
Lystrophis dorbignyi D. & B.
" *pulcher* Jan.
Helicops lepeieurii D. & B.
Dymobius bifossatus Raddi.
Leptophis ahætulla Linn. marginata, Cope.
Leptognathus mikanii Schleg.

Dipsadidæ.

Philodryas olfersii Licht.
" *schottii* Schl.
Thamnodynastes nattereri Mikam.
Oxyrhopus petolarius Linn.
" *rhombifer* D. & B.
" *immaculatus* D & B.

ELAPIDÆ.

Elaps surinamensis Cuv.

CROTALIDÆ.

Bothrops alternatus D. & B.
Crotalus terrificus Lau

LACERTILIA. 5 species.

IGUANIDÆ.

Polychrus angustirostris Wagl.

ANGUIDÆ.

Opheodes striatus Spix.

TEIDÆ.

Tupinambis teguex n Linn.
Teius teyou Daud.

SCINCIDÆ.

Mabuia dorsivittata Cope.

CROCODILIA. 2 species.

CROCODILIDÆ.

Jacare latirostris Wagl.
" *sclerops* Wagl.

Total, 32 species.

NOTE.

EUNECTES NOTÆUS Cope. Proceeds, Academy Nat. Sci., Phila., 1862. p. 69. Plate I, Figure 3.

Since my description of the Southern anaconda, thirty-three years ago, it has remained unnoticed by authors, until in the addenda of the last volume of the catalogue of the species of snakes in the British Museum it is mentioned. Previously but one species of Eunectes, the common anaconda, *E. murinus* L., had been admitted. The localities from which the specimens of this species in the British Museum were obtained, are all, according to the catalogue, from the Guianas, Brazil and northeastern Peru. The four specimens of the *E. notæus* which have thus far come under my observation are from the drainage region of the Paraguay River, as is also the single one referred to in the addenda of the British Museum Catalogue.

The characters which I pointed out as distinguishing the Paraguayan from the Northern anaconda I find to hold good. The circle of plates surrounding the eye rest immediately on the labial plates, there being no intervening row as in *E. murinus*, except that on one side of one specimen two narrow scales intervene, but do not continue so as to complete the separation. The anterior labial plates are not so elevated

as in the *E. murinus*, the head, in fact, being more depressed. The scales are not so numerous. Boulenger gives (l. c.) fifty-seven to sixty-three rows in the *E. murinus*. The type specimen of the *E. notœus* has forty-five rows; one of the Argentine skins has forty-five rows and two others have forty-eight.

The coloration is distinct. Thus there is a black band from the eye to the angle of the mouth, and the top of the head is lead-color, with a dark border in the *E. murinus*, In *E. notaeus*, besides the black band from the eye, there are three similar ones on the top of the head; two superciliary, which meet on the muzzle, and one median. The dorsal spots are more numerous and are closer together in the *E. notaeus*. In two of the skins I count fifty-three and sixty spots, respectively, of which the anterior are confluent into a median stripe. In an *E. murinus*, which I owe to the Zoölogical Society of Philadelphia, there are only forty-seven spots, and these are well separated, especially anteriorly. There are two rows of eye-like spots on each side in *E. notaeus* for most of the length, or until their superior borders become confluent into two longitudinal stripes on each side, which extend to the head. In the *E. murinus* there are two rows of such spots on the posterior part of the body only, and the single row does not become confluent into a stripe anteriorly. There are two rows of small broken black spots below these in both species. In a word, the color difference between the two species consists in the fact that the spots are more numerous in the Southern species and become confluent into stripes anteriorly, which they do not in the Northern species, where they become smaller and tend to disappear. The ground color in the Paraguayan species is brown, in the *E. murinus* it is lead-color.

The largest skin of the *E. notœus* measures 2,519 mm., of which the tail is 324 mm.

EXPLANATION OF PLATES.

PLATE I.

Figure 1. *Hyla vilsoniana* sp. nov., 1a, dorsal view; 1b, ventral view showing also tongue and palatal characters; 1c, side view of head. All natural size.

Figure 2. *Prostherapsis subpunctatus* sp. nov., 2a, dorsal view; 2b, ventral view showing also tongue and palatal characters; 2c, side view of head. All natural size.

Figure 3. *Eunectes notœus* Cope. 3a, b and c, respectively, lateral, dorsal and ventral views of head. From a dried skin; the chin shields shrivelled and difficult to observe. One-half natural size.

PLATE II.

Figure 1. *Anolis sulcifrons* sp. nov., 1a, side view of head and gular fan; 1b, dorsal, and 1c, ventral views of head; 1d, ventral view of hind leg and region of vent; 1e, section of tail showing scales from dorsal to ventral surface. All × 1½.

Figure 2. *Anolis frenatus* sp. nov., 2a to 2c, respectively, are views corresponding to those shown in Figure 1. All natural size.

PLATE III.

All figures. *Heterodonium bicolor* gen. et. sp. nov., 1, entire animal from above × 1⅞; 2, 3 and 4, respectively dorsal, ventral and lateral views of head × 3½; 5, ventral view of fore leg × 7; 6 and 7, ventral views of thoracic and anal regions × 3½; 8, section of side of body showing squamation.

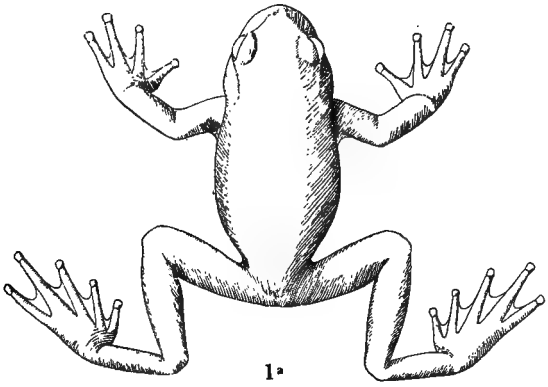
PLATE IV.

Figure 1. *Helminthophis anops* sp. nov., 1a, b, c and d, respectively, dorsal, lateral, ventral and front views of head; 1e, ventral region; 1f, lateral scales. All × 4.

Figure 2. *Liophis bimaculatus* sp. nov., 2a, b and c, respectively, dorsal, ventral and lateral views of head; 2d, anal region; 2e, lateral view of section of body. All × 1⅓.

Figure 3. *Leptognathus triseriatus* sp. nov., 3a, b, c and d, respectively, dorsal, ventral, lateral and front views of head; 3e, anal region; 3f, section of side of body. All × 2.

Figure 4. *Himantodes platycephalus* sp. nov., 4a, dorsal, and 4b, lateral views of head; 4c, anal region; 4d, section showing squamation of side of body. All × 2⅔.



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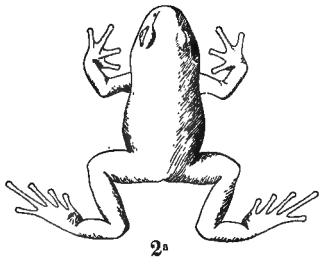
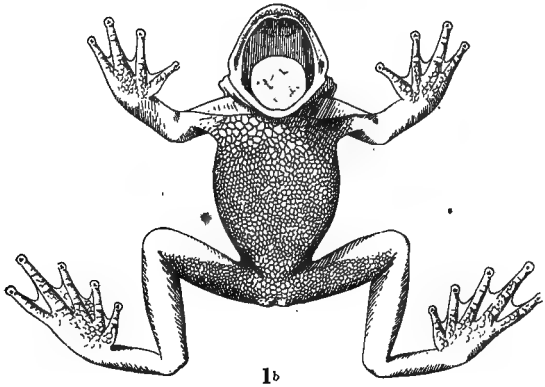


2a

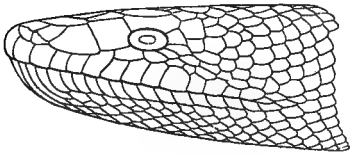
1c

2c



1b

2b



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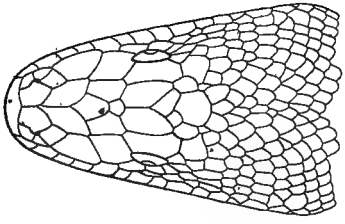

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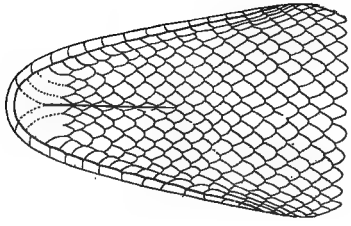
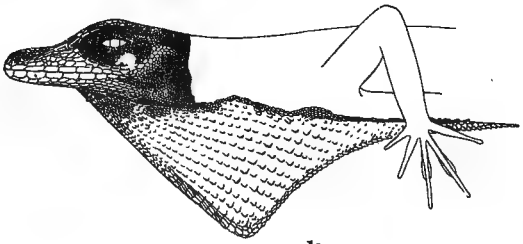


3c

subpunctatus. Eunectes notæus.



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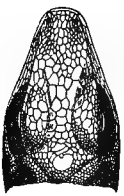

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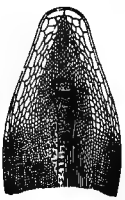

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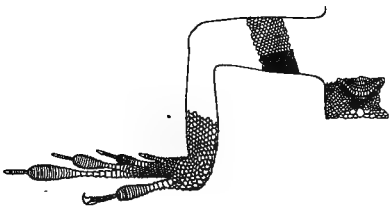

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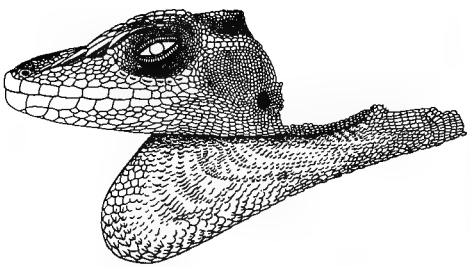
1e



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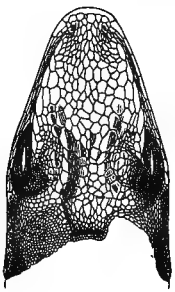

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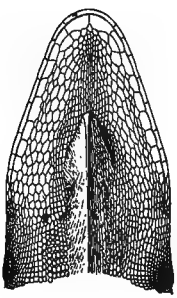

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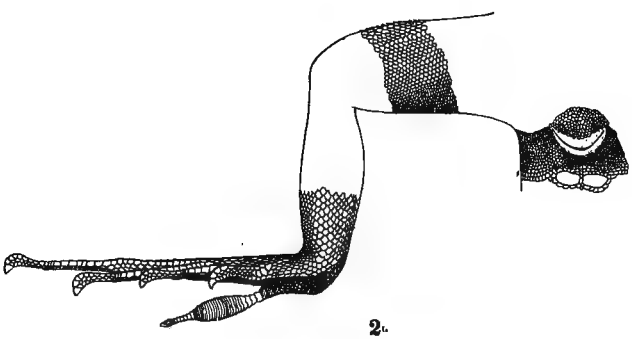
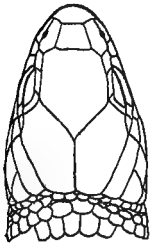


2c

2e

Anolis sulcifrons. Anolis frenatus.



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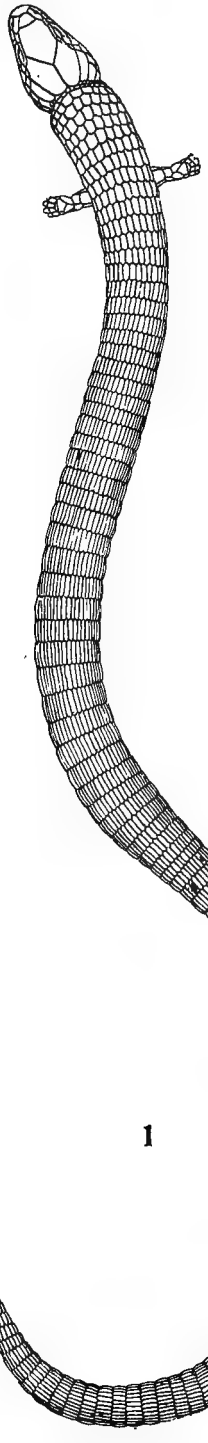

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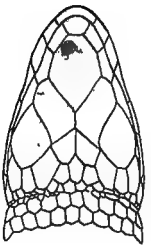

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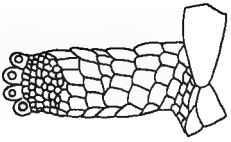

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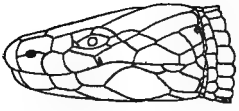

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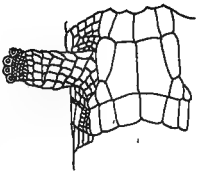

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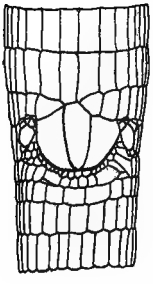

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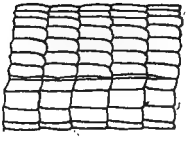

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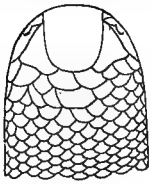
Heterodonium bicolor.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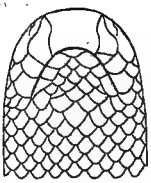
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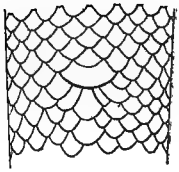
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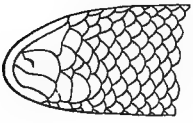
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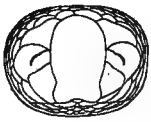
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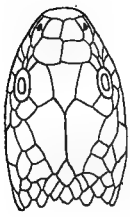
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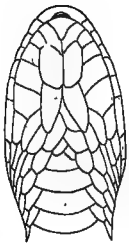
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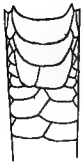
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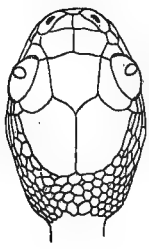
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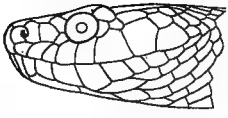
4c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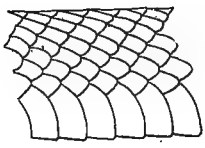
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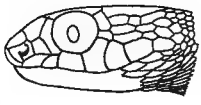
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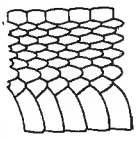
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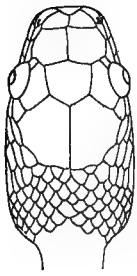
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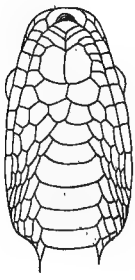
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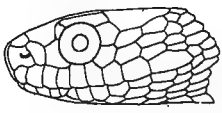
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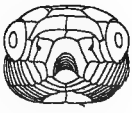
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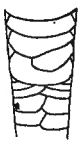
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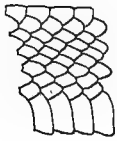
3f

Leptognathus triseriatus. Himantodes platycephalus.
Helminthophis anops. Liophis bimaculatus.

The Philadelphia Commercial Museum

PHILADELPHIA, PA., U. S. A.

A NATIONAL INSTITUTION FOR THE ADVANCEMENT OF INTERNATIONAL TRADE AND COMMERCE; ITS SPECIAL EFFORTS ARE DIRECTED TOWARDS THE ENCOURAGEMENT AND DEVELOPMENT OF THE EXPORT TRADE OF THE UNITED STATES.

In order to make the results of its efforts available, the Philadelphia Commercial Museum conducts its work under these Departments:

COLLECTIONS OF RAW PRODUCTS from every country in the world, which tell at a glance what is produced, and what each country has to offer in the way of trade.

MANUFACTURED ARTICLES made in the great manufacturing countries of Europe and sold in every part of the world.

If a merchant wishes to inform himself on the trade of any country he will find in its special department samples of wood, ores, hides, wools, fibres, cottons, gums, etc.

The collections of raw products are made practically useful by scientific and technical laboratories, where complete tests are made with special reference to the industrial value of any given product.

At frequent intervals scientific bulletins are issued, covering the results of explorations and investigations into the realms of natural philosophy in all its branches

Having shown the producing capacity of any given country, the Commercial Museum shows also the consuming capacity by the collections of the manufactured goods that are most salable. These are actual samples of what is in the market. Textiles, hardware, clothing, household goods, cutlery, provisions—everything that is imported—are represented in these sample collections. With each sample is full information as to place of manufacture, price, terms of sale, distribution, etc.

BUREAU OF INFORMATION.

To the general business community the resources of the Museum are made available by the Bureau of Information. This Bureau is actively reporting trade conditions existing in other countries to representative manufacturers and merchants in every part of the United States.

Special communications acquaint members with new enterprises and trade opportunities in foreign markets which may merit their prompt attention.

Lists of prominent importers and merchants in all foreign countries are supplied in the form of address cards contained in index cabinets.

Information is supplied concerning the financial standing of foreign business houses.

Special advice is given as to the most desirable points for the location of foreign agencies; houses or individuals who may be best fitted to act as agents, and methods by which any line may be most successfully introduced and maintained in each foreign market.

Producers in foreign countries are put in communication with manufacturers in the United States who desire to purchase their raw products.

Importers and merchants in foreign countries are put in communication with manufacturers in the United States who make the goods which find a market abroad, or for which a market may be created

The Philadelphia Commercial Museum is officially connected with every prominent commercial organization in the United States, and with over two hundred trade organizations in foreign countries.

It has over 20,000 regular correspondents among foreign business firms, and incidental correspondence with over 60,000 others. Regular correspondence is maintained between the entire Consular service of the United States and the Bureau of Information, and many Consuls of other countries are heard from at frequent intervals.

The Philadelphia Commercial Museum is maintained by appropriations made by the city of Philadelphia and membership fees from manufacturing firms and others interested in foreign commerce. It is one of the group of Museums, Pedagogical, Ethnological, Archæological, Natural History, General and Commercial included under the corporate title, Philadelphia Museums.

The government is under a Board of Trustees, including State and Municipal officers and private citizens, twenty-two in number.

The standing and reputation of the institution are made unassailable in that it does not enter into actual trade of any kind and is in no way affiliated with any political organization.

Address all communications to

W. P. WILSON, Director