

- Fig. 15. A diagrammatic enlargement of the edge of the disk, principally to show how the cilia (b) arise from the furrow (b^3), and also the relation of the peristome (d^1) to the furrow. The outer (p) and inner (p^1) walls are represented in their relative proportions.
- Fig. 16. A portion of the adherent apparatus, from a dead animal, to show the wrinkling of the striated membrane (l^1) and the overlapped, apparently forked, coarser striæ (l^2). The latter are seen through the thickness of the membrane, the finer striæ being omitted. The hooks (h) and radii (i) lie on the side next the eye. 950 diam.
- Fig. 17. A basal view of the adherent apparatus, velum, and a part of the posterior row of cilia. The hooks (h) with their crests (k) lie nearest the observer, and partially covering the striated membrane (l^1 to l^5). The radii (i, i^1) with their webs (i^3) fill up the central area. The posterior face of the striated membrane with its finer striæ is shown from l^4 to l^5 , and the anterior face of the same, as seen through its thickness, with its coarser striæ (l^2), between l^1 and l^4 . The distal edge (l^1) is crenated and thickened. The proximal edge (l^3) runs along the bases of the hooks. The velum (f^1, f^1) is attached by its proximal edge (f^2) close to the distal margin (l^1, l^4, l^5) of the striated membrane, and almost the same with, but just anterior to, the line of attachment of the cilia (g, g) of the basal crown. Between l^5 and f^2 the striæ of the membrane are omitted. 950 diam.
- Fig. 18. Two of the hooks and their corresponding radii, from the adherent apparatus of a dead specimen. The hook (h), its horizontal limb (h^3), the spur (h^2), and the crest (k) apparently form one solid piece. The radius (i) and the nail-shaped transverse piece (i^1, i^2) are united at the angle by a triangular web (i^3). The mechanical contrivance for the sliding of these pieces upon and between each other is too obvious to need any comment. 2400 diam.

Cambridge, Mass., October 1865.

XLV.—*Contributions to an Insect Fauna of the Amazons Valley*.
COLEOPTERA: LONGICORNES. By H. W. BATES, Esq.

[Continued from p. 373.]

Genus AMPHIONYCHA (Dej. Cat.), Thomson.

Thomson, Archiv. Entom. i. p. 311.

The numerous species which compose this genus agree in the possession of long filiform antennæ, with the joints more or less densely fringed with fine hairs, but never partially thickened, clothed, or tufted; the third joint is more or less disproportionately elongated. The body is variable in shape, but is generally elongated and linear, in some species greatly elongated, in others much shorter and oblong. All have well-developed lateral carinæ on the elytra; the apices of the latter are variable, being in some species broadly truncated and toothed, in others briefly truncated, and in some species rounded and entire.

1. *Amphionycha Diana*, Thomson.*Amphionycha Diana*, Thoms. Classif. des Cérambyc. p. 65.

A. elongata, postice paulo attenuata, castaneo-rufa, occipite fascia brevi et macula laterali, thorace vitta laterali et macula postica, elytris fascia communi subbasali maculisque utrinque tribus posterioribus cretaceo-albis; prothorace pectoreque lateribus cretaceo plagiatis; pedibus fulvo-testaceis; antennis ciliatis, articulo tertio modice elongato; elytris breviter truncatis. Long. $6\frac{1}{2}$ lin. ♀.

This very handsome species occurred only in the forests of the Tapajos. It is found also in the interior of French Guyana.

2. *Amphionycha seminigra*, n. sp.

A. elongata, parallelogrammica, ferrugineo-testacea; antennis, elytrorum dimidio postico, pedibus posticis, tarsis omnibus et abdomine nigris; thorace tuberoso; elytris late truncatis, angulis productis. Long. 5 lin.

Head coarsely punctured, testaceo-ferruginous. Antennæ longer than the body (♂?), finely fringed to the apex; joints all slender, third double the length of the fourth; black. Thorax with three large, smooth tubercles on the disk, and one on each side, red; margins marked with a few very large punctures. Elytra parallelogrammical, broadly truncated, with both angles of the truncature produced into sharp teeth; surface closely punctured, the punctures and also the lateral carina ceasing abruptly at three-fourths the length of the elytron; black, basal third rusty testaceous. Body beneath reddish testaceous; hind part of the breast dusky; abdomen black. Legs reddish testaceous; tarsi and the hind legs black.

S. Paulo, Upper Amazons.

3. *Amphionycha nigripennis*, n. sp.

A. elongata, parallelogrammica, ferruginea; elytris, tarsis apicibusque tibiarum nigris; thorace tuberoso; elytris late truncatis, angulis productis; antennis parce setosis. Long. $6\frac{1}{2}$ lin. ♀.

Head broad, muzzle dilated and having prominent angles, testaceous red, shining, and marked with a few shallow punctures. Antennæ shorter than the body, slender and tapering to the extremity, very sparingly setose; third joint nearly twice the length of the fourth; testaceous red. Thorax with a large elevated rounded tubercle on the disk, and a large obtuse one on each side, constricted near the anterior and posterior margins; bright testaceous red, marked with a very few shallow punctures. Scutellum bright testaceous red. Elytra parallelogrammical, broadly truncated at the apex, with both angles of the truncature produced and acute; surface closely punctured, the punctures as well as the lateral carinæ ceasing abruptly before the apex;

deep black, suture near the scutellum red. Body beneath and legs testaceous red; apical part of the abdomen, tarsi, and apices of the tibiae black.

Ega.

4. *Amphionycha miniacea*, n. sp.

A. elongata, parallelogrammica, glabra, rufa; elytris nigris, medio castaneo-rufis, utrinque maculis quatuor suturaque rufis; antennis nigris, articulis tertio quartoque rufis; thorace postice paulo dilatato; elytris truncatis, angulis externis valde productis, internis dentatis. Long. $4\frac{1}{2}$ – $5\frac{1}{2}$ lin. ♂ ♀.

Head bright red, marked with large, distinct, scattered punctures. Antennae a little longer than the body in the ♂, shorter in the ♀, sparingly setose, black; third, fourth, and sometimes also the fifth, joints reddish testaceous; third joint one-fourth longer than the fourth. Thorax marked with very large scattered punctures, red; sides behind the middle dilated. Elytra parallelogrammical, depressed above; apex broadly truncated, with the external angle of the truncature much elongated, and the sutural angle produced into a point; surface closely punctured, dark red on the disk, shining black on the sides, glabrous, each elytron with four elongate patches, and a streak down the middle part of the suture, of dense bright-red tomentum (pallid in dried examples); one spot is near the scutellum, another underneath the shoulder, a third a little before, and a fourth a little after the middle. Body beneath and legs red.

I took numerous specimens of this beautiful species on the leaves of a tree in the forest at Obydos, Lower Amazons. In life the red colour is of a clear vermilion hue.

5. *Amphionycha megalopoides*, n. sp.

A. brevis, oblonga, flavo-testacea; capite lato, fronte nigra, bipennicillata, occipite nigro, bifasciato; thorace postice transverse sulcato; elytris singulis maculis duabus nigris; antennis rufo-testaceis, articulo quarto flavo, articulis 5^o–11^m fuscis. Long. $4\frac{1}{2}$ lin. ♂.

Head broad, pale testaceous, clothed with fine pubescence and long pale hairs; face much narrowed below the eyes; forehead, near each eye, furnished with a cluster of long, black hairs; occiput with a black vitta behind each eye. Antennae a little longer than the body, fringed with long scant hairs; third joint nearly twice the length of the fourth; basal joints reddish testaceous; fourth joint yellow, the rest dark brown. Thorax widened behind, and marked with a transverse sulcus near the hind margin; pale testaceous, opaque. Scutellum dusky. Elytra short and broad, oblong, slightly narrowed behind, apex rounded; lateral carina thick and flexuous; surface punctured towards the

base; disk with two slightly raised lines, pale yellowish testaceous, clothed with fine silky tomentum; a triangular spot over the shoulder and a round one near the suture, towards the apex, black. Body beneath and legs testaceous; breast with a black belt.

Santarem. Resembles in form and colouring certain species of *Megalopus* (family Phytophaga).

6. *Amphionycha Sapphira*, n. sp.

A. elongata, angustata, postice sensim attenuata; nigra, fronte, vitta coronali, vittis lateralibus thoracis lineisque quatuor elytrorum cæruleis; his disco bicostatis, apice sinuato-truncatis, basi macula magna aurantiaca; antennis corpore longioribus, robustis, filiformibus, nigris, dense ciliatis. Long. $5\frac{1}{2}$ lin. ♂.

Head a little broader than the thorax, deeply impressed on the crown, clothed with pale-blue tomentum; occiput coarsely punctured, black, naked except on the pale-blue tomentose vittæ. Antennæ one-fourth longer than the body, stout, filiform, black, densely fringed to the apex; third joint elongated. Thorax elongated, cylindrical, uneven, broadest in the middle, black, coarsely punctured; sides each with a broad vitta of clear light blue, the black parts naked. Scutellum black. Elytra narrow, elongated, tapering from base to apex, the latter briefly sinuate-truncate, with both angles produced and acute; disk coarsely punctured, except near the apex and along the two slightly raised lines; lateral carina straight; colour blue black, shining, with the suture, a line along the disk, and lateral margins pale blue; a rounded orange-coloured spot at the base of each elytron. Body beneath and legs clothed with fine blue-grey pubescence.

I met with one example only of this remarkable species, at Ega, on the Upper Amazons, on a leaf.

7. *Amphionycha cephalotes*, Pascoe.

Amphionycha cephalotes, Pascoe, Trans. Ent. Soc. n. s. vol. iv. p. 250.

A. modice elongata, linearis, rufescens; elytris lateribus fuscis, apice suturaque antice cinereo sericeis; capite lato, convexo; thorace postice strangulato; elytris linearibus, supra planis, punctato-striatis, apice rotundatis; antennis corpore paulo longioribus, longe ciliatis, nigris, articulis tribus vel quatuor terminalibus flavis; tibiis extus fuscis. Long. 4 lin.

Found at Ega, Upper Amazons, and on the banks of the Tapajos, on foliage.

8. *Amphionycha megacephala*, n. sp.

A. linearis; capite valde convexo, nigro, polito; antennis nigris;

thorace nigro, lateribus vitta castanea testaceo plagiata, marginis postici lineola et scutello albis; elytris supra planis, crebre punctatis (apice excepto), basi fulvo-brunneis, medio nigris, apice cinereo-sericeis. Long. $4\frac{1}{2}$ lin.

Head large and convex both above and in front; mandibles large, strongly curved; glossy black, lower part of the face greyish tomentose; cheeks with a small white spot under each eye. Antennæ a little longer than the body, filiform, finely fringed, black; third joint about twice the length of the fourth. Thorax cylindrical, uneven, marked above with a few large punctures, black, sides each with a broad tawny-chestnut stripe, in which is a paler spot; anterior margin with two small spots; hind margin in the middle with a short white line. Scutellum white. Elytra linear, apex rounded; surface plane, closely punctured (except near the apex); colour tawny brown near the base, black across the middle, ashy tomentose towards the apex, the colours not sharply defined. Body beneath black; breast and base of abdomen glossy tawny red; sides of the mesosternum with a white spot. Legs black.

Ega. There is another species of large-headed *Amphionycha* found on the Isthmus of Panamá, in which this part assumes still larger proportions*.

9. *Amphionycha concinna*, White.

Phæbe concinna, White, Proc. Zool. Soc. 1856, p. 408.

A. linearis, capite lato, albo, fronte bicorni; thorace postice angustato, convexo, albo, supra plaga magna postica colore lavandulæ, disco maculis tribus lævibus nigris; elytris linearibus, apice truncatis (angulis externis productis acutis), colore lavandulæ, apice fascia lata cretaceo-alba fusco bimaculata; corpore subtus cretaceo-albo, sternis fuscis; abdomine, pedibus et antennis rufo-testaceis, his longe ciliatis, corpore duplo longioribus. Long. $5\frac{1}{2}$ –6 lin. ♂. Ega, Upper Amazons.

10. *Amphionycha bicornis*, Oliv.

Saperda bicornis, Olivier, Entom. t. iv. 68. 27, pl. 4. f. 46.

A. linearis, cretaceo-alba; thorace maculis octo, elytris singulis apice maculis tribus, griseis; abdomine, antennis pedibusque rufo-

* *Amphionycha capito*. Robusta, linearis, nigra, nitida; thorace flavo, macula discoidali nigra. Caput magnum, convexum, corpore latius, nigrum, grosse punctatum. Antennæ corpore longiores, nigræ, ciliatæ, articulis sex terminalibus flavis. Thorax capite angustior, postice paulo constrictus, tomento flavo dense vestitus, macula quadrata discoidali nigra. Elytra breviora, linearia, supra plana, punctata, apices versus lævia, nigra, nitida, apice macula cinerea tomentosa. Corpus subtus et pedes nigra, femoribus anticis et intermediis flavis. Long. $4\frac{1}{2}$ lin. ♂. Hab. in Panamá.

testaceis; capite lato, fronte bicorni; antennis corpore duplo longioribus, longe ciliatis. Long. 5 lin. ♂.

Forests of the Tapajos.

11. *Amphionycha testacea*, n. sp.

A. cylindrica, setosa, testacea, pube fulvescente sericea induta, thoracis marginibus pallidioribus; elytris disco abdomineque basi fuscescentibus; antennis tenuiter longe ciliatis, nigris, articulo basali (apice excepto) rufo, articulis quarto et quinto (apicibus exceptis) flavis; thorace antice angustato. Long. $3\frac{1}{2}$ lin.

Head small, pale testaceous, crown darker; face convex, prominent; upper and lower lobes of the eyes connected by a very slender thread. Antennæ a little longer than the body, furnished with a scanty fringe of long straight hairs; basal joint red, except at the apex, which, together with the second and third joints, is deep black; third joint about one-third longer than the fourth, the latter (except the apex) and the basal half of the fifth pale yellow, the rest black. Thorax narrowed in front, and broadest in the middle; surface (except the disk) marked with large punctures, reddish testaceous, anterior and lateral borders paler. Elytra very briefly truncated at the apex; lateral carinæ vanishing considerably before the apex; surface punctured in lines, clothed with pale silky pubescence, brown testaceous, paler anteriorly. Body beneath and legs testaceous yellow, basal three-fourths of the abdomen blackish brown.

Ega.

12. *Amphionycha roseicollis*, n. sp.

A. brevior, linearis, nigra, subsericea; fronte, antennis (apice exceptis), corpore subtus, et pedibus flavo-testaceis; abdomine apice nigro; thorace (basi excepta) læte roseo, elytrorum lateribus et apicibus rufo-testaceis; unguiculis simplicibus. Long. $3\frac{1}{2}$ lin. ♂.

Head as broad as the elytra; face yellow and densely pubescent; vertex black, naked, coarsely punctured. Antennæ one-third longer than the body, furnished with a scanty fringe of straight hairs, yellowish testaceous, sixth to eleventh joints dusky; basal joint subclavate; third joint about one-fourth longer than the fourth. Thorax with an obtuse prominence in the middle on each side, and narrowed behind; surface pale, and clothed with silky pink pubescence, hind border black, coarsely punctured, lateral prominences pale. Elytra linear, sinuate-truncate at the apex, with both angles prominent; lateral carina obsolete before reaching the apex, and accompanied in that part by a lower carina, parallel to it but not reaching the middle of the elytra; surface punctured, black, with changeable greyish pubescence; lateral margins reddish; apex testaceous.

Body beneath and legs yellowish testaceous ; apex of the abdomen blackish.

Ega ; one example. The claws in this species are simple : it ought therefore to rank amongst the group Saperdinæ, if the evidence were complete that this is not a sexual character in this instance. As only one example exists of the species, its true position cannot at present be decided.

Group *Phytæciinæ*.

Genus *ERANA*, nov. gen.

Body cylindrical. Head rounded, scarcely depressed between the eyes, the latter with the upper and lower lobes connected. Antennæ moderately elongated, filiform, setose, and beneath ciliated ; third joint much longer than the fourth, the remaining joints gradually diminishing in length. Thorax short, cylindrical. Elytra cylindrical, obtuse at the apex, and rounded at the sides, the discal portion not being separated from the lateral by an elevated line. Legs somewhat short, tarsal claws bifid.

I have adopted this genus from the collection of Mr. Alexander Fry, to whom is due the credit of having first detected its distinctness from *Amphionycha* and *Hemilophus*. It embraces numerous tropical American species, including *Saperda triangularis* (Germar), *S. læta* (Newman), and others.

Erana cincticornis, n. sp.

E. cylindrica, nigra, pilosa, fronte et vitta laterali thoracis albo sericeis ; antennis nigris, articulis tertio et quarto basi dense setosis, quinto et quarto apice albis ; elytris apice conjunctim rotundatis, angulis suturalibus spinosis. Long. $3\frac{1}{2}$ –4 lin.

Head convex above ; front and cheeks clothed with silky whitish pubescence ; vertex naked, black, coarsely punctured. Antennæ a little longer than the body, ciliated (except near the apex), black, the fifth and apical half of the fourth joints white ; the third and basal half of the fourth joints appear to be thicker than the rest of the antennæ, owing to their dense clothing of short hairs. Thorax transversely depressed near the apex ; surface clothed with very long and fine but erect hairs, centre part black ; sides each with a pale vitta, emitting a short branch in the middle. Elytra cylindrical, apex rounded, with the sutural angles each armed with a short spine ; surface clothed with erect hairs which are longest near the base, thickly punctured, dull black. Body beneath black, thinly clothed with grey pile ; sides of breast and abdomen pale. Legs yellowish ; tarsi and apices of tibiæ black.

Ega and S. Paulo, Upper Amazons.

Group *Saperdinæ*.Genus *AMILLARUS*, Thomson.

Thomson, Archives Entom. i. p. 312.

In this very distinct genus of *Saperdinæ* the body is elongate linear, and, in the males, narrowed behind. The eyes are hemispheric, with a narrow angular emargination for the reception of the antennæ, the latter being greatly elongated (twice the length of the body), with very long and gradually thickened basal joint. The legs are moderately elongated, together with the tarsi. But the most characteristic peculiarity of structure is the form of the claw-joint of the tarsi and of the claws. In both sexes the claw-joint is longer than the second and third joints taken together; but in the males it is also rather abruptly dilated and thickened beneath from a short distance beyond the base. The claws are nearly straight, compressed, and scarcely divergent.

Amillarus mutabilis, n. sp.

A. elongatus, linearis, breviter parce setosus, fulvo-rufus, pectore medio et abdomine plumbeo-nigris, antennarum articulo basali nigro; tarsis tibiisque posticis fuscis; maris elytrorum parte postica, fœminæ elytris totis plumbeo-nigris. Long. 4-6 lin. ♂ ♀.

Head tawny red, vertex marked with a few shallow punctures and a smooth central line. Antennæ with a scanty fringe of short stiff hairs, reddish; basal joint and tips of other joints black. Thorax narrower than the head, broadest in the middle, constricted behind, marked with a few shallow punctures, tawny red. Scutellum reddish. Elytra tapering in the male, nearly linear in the female; apex obliquely truncated, with the outer angles dentate; surface smoothly punctured, partly in lines; colour in the males tawny red, with the posterior part more or less black, with pale silky pile; in the females wholly black, with pale silky pile. Body beneath tawny red; centre of breast and abdomen almost entirely black, with silvery silky pile. Legs tawny red, tarsi and posterior tibiæ dusky.

Abundant at Santarem on the leaves of shrubs, borders of woods. The species seems to differ from the New Granada form which has been described by M. Thomson under the name of *A. apicalis*.

ADDENDA.

The following species were accidentally omitted in treating of the genera to which they belong:—

Subtribe ACANTHOCINITÆ.

Group *Acanthoderinæ*.

Genus OREODERA.

13. *Oreodera (Anoreina) biannulata*, n. sp.

O. oblongo-ovata, convexa, fulvo-brunnea; thorace lateribus tumidis obtusis; elytris apice singulatim rotundatis, supra tenuiter punctatis fulvo-brunneo et fuliginoso variegatis, lateribus apud medium macula fulvo-brunnea annulo cinereo-albo circumcincta; antennis setosis, fuscis, articulis basi testaceis. Long. $2\frac{3}{4}$ lin.

Head clothed with tawny-brown tomentum, impressed between the antennæ; eyes distant on the vertex. Antennæ longer than the body, clothed beneath with numerous stiff hairs; basal joint reddish, the rest dark brown, with bases of joints pale testaceous. Thorax short, transverse, nearly as broad in the middle as the base of the elytra; sides tumid, obtuse; surface clothed with a mixture of tawny-brown and dark-brown tomentum. Elytra oblong, narrowed towards the apex, at the latter singly rounded; surface convex, free from tubercles, finely punctured and clothed with a mixture of dark-brown and tawny-brown pile, in which are two short, zigzag, blue-grey fasciæ, one before, the other after the middle; each side in the middle with a tawny spot encircled by a whitish ring. Body beneath ashy tawny. Legs blackish, short, stout; femora clavate.

S. Paulo, Upper Amazons.

Group *Leiopodinæ*.

Genus LEPTURGES.

25. *Lepturges ovalis*, n. sp.

L. ovalis, paulo convexus, griseo-brunneus; elytris crebre punctatis, griseo lineatis, apice oblique sinuato truncatis, angulis productis; femoribus valde clavatis. Long. $2\frac{1}{2}$ – $3\frac{1}{2}$ lin.

Head clothed with dingy tawny-brown pubescence. Antennæ dull red, sparingly clothed with short bristles. Thorax widening from the front towards the base; lateral spines short, acute, and situated very near the hind angles; disk with a transverse depression near the hind margin; colour brown, clothed with dingy-grey pubescence. Elytra oval, slightly convex; apex obliquely sinuate-truncate, both angles produced, sutural one very slightly; surface rather closely and coarsely punctured, light brown; each elytron with about eight narrow lines of grey pubescence, interrupted in some places. Body beneath and legs brownish red; femora abruptly clavate.

Santarem. The species will come next to *L. griseostriatus*; *Ann. & Mag. N. Hist.* Ser. 3. Vol. xvii.

but it is shorter and more oval and convex than any other *Lepturges* hitherto described.

26. *Lepturges scutellatus*, n. sp.

L. subovatus, paulo convexus; thorace fusco-nigro, griseo vario, spinis lateralibus validis, rectis, paulo ante basin sitis; elytris ovatis, apice breviter oblique truncatis, fulvo-brunneis, nigro maculatis, macula magna basali communi fusco-nigra fulvo-cinereo marginata. Long. $2\frac{3}{4}$ lin.

Head clothed with tawny-brown pubescence; epistome and labrum testaceous; palpi black. Antennæ reddish, tips of joints dusky. Thorax widened and rounded from the fore to the hind part; lateral spines stout and uncurved, placed a short distance from the hind angles, and the thorax greatly narrowed behind them; surface blackish, varied with silky grey marks. Elytra ovate, slightly convex, narrowed near the apex, and briefly and obliquely truncated; surface punctured, tawny brown, varied with blackish spots of various sizes, and having over the scutellar region a large black triangular spot broadly margined with tawny ashy. Body beneath dusky tawny, clothed with fine ashy pile. Legs dull red; thighs dusky and distinctly clavate.

S. Paulo, Upper Amazons. The place of this species will be in the second division of the genus, near *L. dorcadioides*.

Genus SPORETUS.

3. *Sporetus decipiens*, n. sp.

S. elongatus, *Colobothea* speciei simillimus, setosus, olivaceo-niger; capite cinereo trivittato; thorace vitta lata laterali cinerea, medio nigro lineolata; elytris thorace basi duplo latioribus, elongatis, sinuato-truncatis, maculis cinereis in lineas transversas flexuosas irregulariter ordinatis, apice albo marginatis. Long. $4\frac{3}{4}$ lin. ♂.

Head narrow, black; forehead with three ashy stripes, besides a streak underneath each eye; vertex with an ashy central line, and a broad lateral stripe, the latter continuous with both the lateral stripe of the forehead and the cheek stripe. Antennæ black, fourth joint ringed with ashy. Thorax very slightly widened from the front to beyond the middle, armed at that point with a minute tubercle, and then narrowed again to the base; surface black, sides each with a broad ashy stripe, in the centre of which is a short black line. Elytra twice the width of the thorax at its base, elongated, narrowed near the apex, the latter broadly sinuate-truncate (angles not produced); surface punctured, olivaceous black, marked with a number of small dingy-ashy spots, most of which are confluent, and tend to form three transverse flexuous lines. Body beneath plumbeous black;

sides, from the prothorax to the apex of the abdomen, ashy. Legs black, basal joint of tarsi grey.

♂. Apical ventral segment truncated, sharply notched in the middle; dorsal segment slightly emarginated in the middle.

Pará. The species resembles greatly in form and coloration certain species of *Colobothoa*. The absence of a lateral carina to the elytra readily distinguishes it from that genus.

Eutrypanus Colobothoides, White (Cat. Long. Col. Brit. Mus. ii. p. 372), belongs also to our genus *Sporetus*.

XLVI.—*Note on the Identity of certain Species of Diurnal Lepidoptera.* By ARTHUR GARDINER BUTLER, F.Z.S.

FOR the information contained in the present paper I am indebted to M. Victor von Bönninghausen, who visited the British Museum a few days ago for the purpose of seeing the collections. This gentleman has resided for some years at Rio Janeiro, where he has been engaged in studying the transformations of Lepidoptera.

Whilst looking through the collection of Diurnal Lepidoptera, M. Bönninghausen pointed out several apparently good and distinct species as opposite sexes of the same insect; and, upon examination, I find the one form to be represented by males only, and the other by females.

There can be no doubt of the possible identity of apparently distinct species, as many curious instances of dissimilarity in the sexes of Diurnal Lepidoptera are already well known; yet men are generally slow to believe what they have not personally proved; and thus in many instances the opposite sexes of a species have been kept apart until the continued assertions of eye-witnesses, or perhaps the arrival of an hermaphrodite specimen, have at length removed all doubt of their identity.

The following insects have been bred by M. Bönninghausen, and are said by him to be sexes:—

♂. *Papilio torquatus*, Cramer, Pap. t. 177. f. A. B. (1776).

♀. *Papilio Polybius*, Swainson, Zool. Ill. ser. 1. t. 137 (1821).

Bred from larvæ, and taken in copulâ.

♂. *Papilio torquatinus*, Esper, Aust. Schmett. t. 45. f. 2 (1785–98).

♀. *Papilio Argentus*, Martyn, Psyche, pl. 14. f. 34 (1797).

Bred from ova found on orange-trees.

In Mr. G. R. Gray's 'Catalogue of Lepidoptera,' pt. 1. p. 40, *Papilio Lysithous* is placed as the male of *P. Argentus*. We do not, however, possess this insect; but, judging by the figure, I should myself imagine it to be a variety of *P. Argentus*. The



Bates, Henry Walter. 1866. "XLV. Contributions to an Insect Fauna of the Amazons Valley. Coleoptera : Longicornes." *The Annals and magazine of natural history; zoology, botany, and geology* 17, 425–435.

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