

ciem, gratiis mihi amicissime oblatis, animo grato sponte dediciavi.

H. angusto-cylindricus, niger, subnitidus et fere calvus. *Caput* sat dense et rugose punctatum; rostro brevi, in medio longitudinaliter carinato necnon ad apicem ipsum pilis pallidioribus obsito. *Prothorax* longiusculus, postice vix angustatus, paulo magis nitidus sed vix parcius leviusque punctulatus, punctis versus latera densioribus profundioribus et subconfluentibus, in disco linea lævi impunctata longitudinali instructus. *Elytra* paulo magis (præsertim postice) picescentia ac minus nitida, dense transversim rugulosa, sat profunde subpunctato- (fere subcrenato-) striata, interstitiis minutissime punctulatis, ad apicem integra sed ibidem parce et breviter pilosa. *Antennæ* rufo-piceæ (fere piceo-ferrugineæ), capitulo solido, obscuriore. *Pedes* piceo-nigri, tarsis pallidioribus; *tibiis* latis, compressis, extus fortiter spinoso-dentatis.

The present *Hylastes* seems to be closely related, at first sight, to the European *H. ater*, Payk., of which it may be regarded as the Canarian representative. It is certainly, however, distinct from that species, being smaller, and with the punctation much finer and closer; the longitudinal impunctate line on its prothorax is also more evident. Like the *H. ater*, however, it has the longitudinal keel down the middle of its rostrum well developed, and also two large deep impressions at the base of its antennæ. It appears to be distinct from all the cognate species, as yet described, from more northern latitudes.

It is found in the old Pinals of Teneriffe and Palma, and therefore at a high elevation above the sea. It appears to be confined exclusively to the rotten wood of the *Pinus canariensis*, where it may often be found in great numbers, beneath the loose bark, in company with the *Eremotes crassicornis*, Brullé, and a large (though hitherto unpublished) species of *Tomicus*. At the Agua Mansa, in Teneriffe, it occasionally abounds during the summer months.

Lisboa, 15 de Julho de 1861.

XXIII.—*Contributions to an Insect Fauna of the Amazon Valley.*

COLEOPTERA : LONGICORNES. By H. W. BATES, Esq.

[Continued from p. 152.]

Genus ACANTHODERES, Serv.

Serville, Ann. Soc. Ent. Fr. iv. 29.

Char. emend. Body oblong, more or less depressed, narrowed posteriorly. Head rather broad, muzzle transverse-quadrate, much depressed, its anterior angles distinct, front plane; antenniferous tubercles not prominent, consequently there is no con-

cavity between the antennæ: mouth projecting; mandibles long and flattened: eyes wide apart. Antennæ slightly hairy, never fringed beneath as in *Oreodera*; the basal joint always pyriform clavate, smooth, considerably shorter than the third. Thorax with a simple large conical tubercle on each side, generally ending in a spine. Femora strongly clavate; tarsi moderate, claw-joint short; fore tarsi in the ♂ broadly dilated and ciliated.

The above are the only characters that I find tolerably constant in the thirty-eight species which I have examined. The forms are very variable in most of the parts of structure from which generic characters are derivable, and exemplify well the difficulties which the Longicorn family offers to the classifier. No definition has yet been given founded on a large number of species. That of Leconte ("Attempt to classify, &c.," Journ. Ac. N. Sc. Philad. ii. n. s.) is probably the best; but, relating only to the two or three North American species, it is not applicable generally. The rounded outline of the anterior acetabula, which he gives as a character of the section to which *Acanthoderes* belongs, is very variable. In *A. varius*, the European species which may be considered typical of the genus, they are angulated; in other species the acetabular sutures are gaping along their whole length; in a few, however, they are closed. Although they differ in species otherwise closely allied, yet they are more constantly closed in those which approach *Steirastoma*. The head is generally plane in front, the muzzle prolonged considerably below the eyes, the lower lobe of the latter being very small; in some few species, however, the eyes are rather more voluminous below the antennæ, thus reducing the breadth of the forehead and the length of the muzzle. The palpi are always elongated, with the terminal joint obtusely pointed. The ligula has its sides dilated and rounded; the lobes, however, are widely divergent in some species (*A. thoracicus*), and nearly united to their tips in others (*A. bivitta*). The antennæ are very variable in length, thickness, and shape of the joints, being in some species no longer than the body, in others twice the length: the third joint is generally very long, and the fourth considerably longer than any of the following; sometimes the two are as long as the remaining taken together; both are generally filiform, with a longitudinal furrow above, but they are occasionally dilated and produced beneath at their apices, and in a few aberrant species furnished with tufts of hairs: the terminal joints are generally filiform, sometimes short, thickened, and ciliated in the ♂, and sometimes dilated and serriform in both sexes. The thorax has the lateral tubercles, in rare instances, very obtuse; the dorsal surface is uneven, sometimes tuberculated, occasionally furnished with three very prominent tubercles, but

generally tricostate. The elytra are generally trigonal, at times oblong, depressed or slightly convex, their surface sometimes even, but generally furnished with a ridge on each at the base, which often projects forwards, and in many species is prolonged posteriorly to the apex: the latter is generally briefly and obliquely truncated, but it is sometimes whole, and at other times largely truncated, with the external angles projecting into a tooth or spine. The pro- and mesosterna are moderately broad, but variable in this respect; the former never very narrow, the latter not contracted between the haunches nor extremely short, but always of a quadrangular shape. Both are plane on their surface in some species, but they are more generally tumid or tuberculated, ridged on the sides, and projecting: in a number of cases the mesosternum is projecting, whilst the prosternum is simple; in many species, however, both project and have their opposing faces steeply inclined. They vary greatly in species otherwise closely allied, although they are similarly constructed in all those species which approximate to *Steirastoma*. The tibiæ are, in one section of the genus, strongly dilated and compressed. The terminal ventral segment is sinuate-truncate in the ♂, and entire in the ♀.

The flattened shape of the muzzle distinguishes this genus from the preceding. There is no character to separate it from *Dryoctenes*, Serv. The shape of the sterna distinguishes it from *Polyrhaphis*. From *Steirastoma* it differs at once in the simple, conical, lateral thoracic tubercles; and from *Alphus* by the pyriform basal joint of the antennæ. I have incorporated with it the genus *Pteridotelus*, White,—with some hesitation, however, as I think *Pteridotelus* might probably form a natural group if the generic definition were modified so as to include all those species which have the terminal joints of the antennæ shortened and thickened in any degree, or thickened and ciliated in the ♂. The species on which it is founded (*Pteridotelus laticornis*) cannot be generically separated from *A. pupillatus*, Chevrolat, which, again, is closely allied to *A. spectabilis*, n. sp., and *A. pilicornis*, Chevr.*, all four most diversified in ornamentation of the antennæ, but agreeing in the thickening in some way or other of the terminal joints. These species have in common also rounded anterior acetabula, slender fore tibiæ, and steeply inclined sterna. As a genus, however, it would not be sharply limited from *Acanthoderes*: other species have the terminal antennal joints somewhat shortened and ciliated, without

* To these may probably be added *A. antennatus* of Guérin-Ménéville (Ins. Recueillis par Osculati, Verh. des Z. B. Verein in Wien, 1855, p. 599). *A. pupillatus* is from Venezuela, and *A. pilicornis* from Mexico; both are undescribed. *A. spectabilis* belongs to the Amazonian fauna.

agreeing with *Pteridotelus* in other characters (e. g. *A. maculicollis*); others have the joints in question ciliated in the ♂ and at the same time elongated (*A. lateralis*); and many species agree in the shape of the sterna, whilst resembling typical *Acanthoderes* in all other characters. I have thought it best on this account to treat *Pteridotelus* as a subgenus or section of *Acanthoderes*.

Acanthoderes and its allies (*Steirastoma*, *Myoxinus*, &c.) are not, perhaps, so closely allied to the preceding genera as *Polyrhaphis*; it would therefore in some respects be better to place the latter genus after *Ægomorphus*, followed by the Anisocerinae, with which group it has also an evident connexion; whilst *Acanthoderes* leads through *Alphus* naturally to the Acanthocinitæ. This, however, would be presenting only one suite of affinities amongst several which these insects present: the Acanthocinitæ, for instance, have a certain similarity to *Oreodera* and *Ægomorphus*. It seems almost hopeless to detect the true lines of affinity, and quite so to represent them in a scheme of arrangement when detected.

§ 1. Antennæ with the terminal joints filiform, slender.

a. Fore tibiæ widely dilated and compressed.

1. *Acanthoderes hebes*, n. sp.

A. oblongus, convexiusculus, postice rotundatus, supra tomento fusco, subtus pilis griseis sparsim vestitus: thorace tuberculis lateralibus obtusis, dorsalibus tribus magnis: elytris apicibus parum truncatis, fuscis, fascia abbreviata pone medium nigra velutina, prope apicem ochreo maculatis. Long. 5 lin. ♂ ♀.

Head and thorax sooty-brown, with deep scattered punctures. Antennæ about the length of the body, black; base of each joint (from the third) and centre of the third with a pale testaceous ring. Thorax with the lateral tubercles obtuse; three dorsal ones—two anterior very large and prominent, and one posterior smaller and acute. Elytra rounded at the sides, towards the apex very briefly truncated, with a short, tuberculated, longitudinal, slightly elevated ridge in the middle of each near the base; punctured throughout, the punctures accompanied by granulations towards the base: the ochreous spots near the apex are few and irregular. Under surface shining black, with a scanty grey pile. Legs shining black, middle of the tibiæ on the edge, tips of same, and basal joints of the tarsi above greyish; tarsi beneath yellow, claw-joint pallid. In the ♂ the fore tarsi are black beneath, and densely fringed with black hairs. The fore tibiæ are abruptly dilated from the middle in the ♂, more gradually so in the ♀.

On boughs of dead trees in the forest, Ega. Rare.

2. *Acanthoderes Egaensis*, White.

Scleronotus Egaensis, White, Cat. Long. Col. in Brit. Mus. ii. p. 364, pl. 9. f. 3.

The third to the sixth antennal joints are produced and acute at the apex beneath, the fourth to the eleventh are very slender. The extreme tips of the elytra are distinctly truncated. All the tibiæ are compressed, the anterior pair gradually dilated (wider in the ♂ than in the ♀) from the base to the apex.

This species has a peculiar facies, arising from its short figure, black colour, and the slenderness of its antennæ. Owing to this, probably, it was placed in a different genus by Mr. White. The genus to which he referred it (*Scleronotus*, Dejean, at that time a mere catalogue name) has since been characterized by M. Thomson (Class. p. 340), and, from the diagnosis, appears to be very closely allied to *Acanthoderes*. M. Thomson places it amongst the *Anisoceritæ*, regardless of the shape of the anterior acetabula, which he gives as rounded in *Scleronotus* and angulated in the definition of the group to which he refers it.

3. *Acanthoderes fuscicollis*, n. sp.

A. oblongus, fuscus, tomento luteo (capite thoraceque sparsim) vestitus: elytris breviter transverse truncatis, seriatim nigro punctatis, utrinque maculis duabus suturalibus duabusque lateralibus fuscis notatis. Long. 5 lin. ♂.

Head and thorax dusky, with specks of ochreous clay-coloured pile, very scanty on the disk of the latter. Antennæ about the length of the body, the apices of the third to fifth joints produced beneath; black, the base to the middle of the third joint speckled with ochreous atoms; the basal half of the fourth and the base of the remaining joints pale testaceous. The lateral tubercles of the thorax are large and slightly pointed; the disk has a longitudinal smooth line and a large obtuse elevation on each side. The elytra have a few coarse punctures at the base, a few small round black spots arranged in lines, and on each four larger blackish spots, namely two near the suture (one before, one after the middle) and two on the side beyond the middle; there are also two irregular transverse patches of a paler ochreous colour. Under surface of the body black, shining; sides of the metasternum and second to fifth ventral segments ochreous. Legs black, shining, speckled with ochrey pile; middle and hind tibiæ paler, their apices dusky. The fore tibiæ are gradually and widely dilated.

Ega; on branches of dead trees in the forest. The species has much resemblance to *A. fascialis*, White.

4. *Acanthoderes fascialis*, White.

Acanthoderes fascialis, White, Cat. Long. Col. in Brit. Mus. ii. p. 361.

The external angles of the truncature of the elytra are slightly produced. The fore tibiæ (in the ♀) are moderately and gradually dilated.

Ega. This and the preceding are nearly allied to *A. semigriseus*, a Rio-Janeiro species common in collections*.

5. *Acanthoderes minimus*, n. sp.

A. ovalis, nigricans cinereo irroratus, elytris sinuato-truncatis angulis externis acutis. Long. $3\frac{1}{4}$ lin. ♀.

Head and thorax blackish, sprinkled with greyish pile. Thorax short, rather narrow, the lateral tubercles not prominent although pointed, punctured on the disk, and with two distinct dorsal tubercles. Elytra with the centro-basal ridge indistinct, granulate-punctate at the base, punctured along the sides to the apex. Body beneath and legs black, sprinkled with grey hairs; claw-joint of the tarsi testaceous. The fore tibiæ (in the ♀) are widely, but not abruptly, dilated from the middle.

Para.

6. *Acanthoderes maculicollis* (Dej.), n. sp.

A. ovalis, tomento variegato vestitus: antennis curtis, articulo tertio maxime elongato apice dilatato, quarto elongato, reliquis abbreviatis: thorace tubere laterali obtuso, fulvo-griseo, maculis magnis lateralibus duabus atro-brunneis velutinis: elytris trigonis apicibus sinuato-truncatis, fulvo-griseis, utrinque pone medium macula elongata transversa discoidali atro-brunnea, fasciisque duabus macularibus, altera ante medium altera subapicali, flavo-griseis. Long. $4\frac{1}{2}$ lin. ♂ ♀.

Head fulvous mixed with grey, and with scattered brown points. Antennæ about as long as the body, first to third joints pitchy, the third black at the tip, the rest pitchy, with their bases testaceous; the terminal joints are ciliated beneath in the ♂.

* This species is undescribed; therefore the following diagnosis will be useful:—

Acanthoderes semigriseus (Cat. Dej.).

A. oblongo-ovatus, dimidio anteriore tomento fuliginoso, dimidio posteriore cinereo vestitus. Antennæ fuliginosæ, articulis ad basin griseis. Thorax fuliginosus grosse punctatus linea dorsali lævi. Elytra sensim attenuata, apicibus breviter sinuato-truncatis, angulis obtusis, ad basin granulato-punctatis, quarta parte basali fuliginosa coloris margine posteriore retrorsum arcuata, reliquis cinereis utrinque fascia interrupta undulata pone medium maculaque laterali prope apicem fuscis. Subtus niger nitidus, postpectoris lateribus abdominisque apice luteis; pedibus luteis femorum dimidio basali tibiarum tarsorumque apicibus fuscis. Long. $4\frac{1}{2}$ lin. ♀.

Hab. Rio Janeiro.

The disk of the thorax on each side is very convex, the middle is depressed, with a raised dorsal line; on each side is a large, rounded, velvety, dark-brown spot, which is impunctate, the rest of the surface being punctured. The elytra are grey-fulvous, the suture and some indistinct lines on the disk light grey, covered with small rounded brown spots, confluent in places; the disk behind the middle is crossed by an elongate dark-brown spot, besides which there are two transverse macular lines of a yellowish colour. Body beneath black, scantily clothed with grey; the second to fourth ventral segments have a spot of yellow hairs on each side. Legs pitchy, clothed with grey; the tarsi yellowish, the middle and hind tibiæ ringed with yellowish at the middle and the apex. The fore tibiæ in the ♂ are widely and abruptly dilated from near the base.

Para and Villa Nova. It is found also at Cayenne, and exists in many collections under the name I have adopted.

7. *Acanthoderes alboniger*, n. sp.

A. oblongus, niger; fronte, thoracis vitta mediana, elytrorum plaga magna elongata basali communi fasciaque magna maculari sub-apicali tomentosis ochraceo-albis; ipso apice ochraceo. Long. 7 lin. ♀.

Head black, front ochreous punctured. Antennæ shorter than the body, black, the basal half of the third and the bases of the remaining joints light grey. Thorax with the lateral tubercles prominent, acute; the disk depressed, longitudinally punctured, a broad central stripe and a lateral one below the tubercle ochrey white. Elytra oblong, their sides rounded posteriorly, their apices sinuate-truncate, outer angles produced: the centro-basal ridge is strongly pronounced, and produced forward towards a corresponding sinuation in the hind margin of the thorax; it is smooth and shining, not reaching the middle of the elytra behind, and leaving a broad depression at the base: the elytra are punctured, partly in lines, most thickly so on the sides near the base; black, a broad, basal, common stripe, including the scutellum, notched in the middle externally, and a broad, macular, uneven belt before the apex, not touching the suture, ochrey white; the extreme tips are yellowish brown. The black parts are nearly naked, and have a few grey specks. Body beneath and legs black, thinly covered with grey hairs; tarsi grey. There is a row of ochreous points on each side of the abdomen. The fore tibiæ are widely dilated. The prosternum is produced behind, and the mesosternal tubercles are very prominent.

Santarem. This species bears a superficial resemblance to certain Curculionidæ of the genus *Heilipus*, inhabiting the same district.

b. Fore tibiæ compressed, not dilated.

[To this section belongs the European *A. varius*.]

8. *Acanthoderes maculatissimus*, n. sp.

A. curtus, subdepressus, tomento ochraceo-fulvo vestitus: elytris lituris nonnullis griseis, punctis innumeris lineaque transversa undata pone medium brunneis. Long. 6 lin. ♂ ♀.

Head punctured, fulvous varied with brown. Antennæ brown, spotted and ringed with grey. Thorax with the lateral tubercles produced and pointed at the apex, and with two obtuse dorsal elevations and a shining central line; the interstices punctured; in colour minutely variegated with fulvous and brown. Elytra subtrigonal, briefly sinuate-truncate at the apex, the external angles produced; punctured throughout, the centro-basal ridge apparent only at the extreme base, ochrey fulvous, silky, studded with small brown spots, which everywhere cover the punctures: there are a few light-grey marks, and behind the middle a transverse dark-brown zigzag line. Body beneath ashy brown. Legs variegated with ashy, dusky brown, and fulvous. The fringe of the male fore tarsi is black. The prosternum is simple, the mesosternum subvertical in front.

At Santarem; on hanging woody climbers in new plantations.

9. *Acanthoderes thoracicus*, White.

Acanthoderes thoracicus, White, Cat. Long. Col. in Brit. Mus. ii. p. 359.

To the description quoted above I will add that the third to the sixth antennal joints are acutely produced at their apices beneath, as in *A. Egaensis* and other species; the body is depressed; the elytra are subtrigonal, with the apices slightly truncated, and have always an oblique dark-brown streak on the disk; the centro-basal ridges are narrow, disappear about the middle of the elytra, and leave a depressed space between them. The prosternum is simply rounded behind, the mesosternum vertically inclined in front. Long. 6-7½ lin. ♂ ♀.

This is a common species, on branches of felled trees, in the forest throughout the Amazon region. It is also found, I believe, at Cayenne.

[To be continued.]

XXIV.—On the History of the 'Maté' Plant, and the different Species of *Ilex* employed in the Preparation of the 'Yerba de Maté,' or Paraguay Tea. By JOHN MIERS, F.R.S., F.L.S.&c.

NOTWITHSTANDING the seemingly authoritative evidence we have on record concerning it, I have entertained a doubt for many years past in regard to the plant which produces the celebrated



Bates, Henry Walter. 1861. "XXIII. Contributions to an Insect Fauna of the Amazon Valley. Coleoptera : Longicornes." *The Annals and magazine of natural history; zoology, botany, and geology* 8, 212–219.

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