On some new species of Carabidae from Sumatra. by H. E. Andrewes.

A collection of Carabidae, which was formed in Sumatra many years ago by Dr. H. Dohrn and which Dr. W. Banzhaf has been good enough to send me from the Stettin Museum for examination, contains, as might be expected, a good many species common to that island and to the adjacent Malay States. Of the four new species described below three are found in both regions, but I had not previously seen any examples of the fourth, a very abnormal Scarites; the type specimen of this and cotypes of the other three are in the Stettin Museum. In addition to the above there are specimens of one or two other new species, of which I have also seen examples in other collections, and which are being described elsewhere.

Scarites anomalus sp. n. Length: 17,5-21 mm. Width: 4,5-5,6 mm.

Head with the lateral truncature on each side faintly emarginate, the preocular angle projecting slightly laterally, frontal impressions wide and fairly deep, moderately striate, extending backwards to mid-eye level, where there is in each a setiferous pore, rest of surface smooth; mandibles striate, scarcely as long as head, both outer and inner carinae very gently curved, sometimes approaching each other slightly at about middle, left mandible with a bifid basal tooth, right one with two teeth, the front tooth bearing a carina; eyes moderately prominent, genae well developed, a little shorter than, but extending quite as far laterally as the eyes; antennae moniliform, not quite reaching hind angles of prothorax, median joints longer than wide; mentum subrugose, very squarely cut at apex, a slight carina on each side, not very near margin, tooth carinate, with a boss on each side towards apex. Prothorax only slightly wider than head, about a fourth wider than long, widest close to front angles, base not produced, its sides nearly straight, median part faintly emarginate, front angles fairly sharp but placed a little behind the level of the adjoining front margin (as in S. retusus Andr.), sides nearly straight at middle, a pore and seta near front angle and another at hind angle, which projects as a small tooth; median line fine, front transverse impression fine in middle, deep at sides, without crenulation, basal foveae obsolete, their site finely granulate. Elytra faintly dilated behind, as wide as prothorax, not quite twice as long as wide, base

a little emarginate, granulate, shoulders with a slight tooth; striae impunctate, shallow on disk, deeper at sides, disappearing a little before apex; intervals flat on disk, moderately convex at sides, without granulation, 3 normally with five pores, surface smooth, a little dull near apex, covered by a fine microsculpture of isodiametric meshes, conspicuous only near apex. Episterna and sides of sterna lightly granulate, metepisterna twice as long as wide. Protibiae with two or three denticulations above upper tooth; mesotibiae with two nearly equal spurs.

In my key to the Indian species of Scarites, this one would come alongside dubiosus Andr., though it is much smaller. The form of the mandibles is similar, but the head is much smoother, and the genae very conspicuous; the prothorax and elytra do not differ much, but there is no trace of granulation along the margins of the elytral intervals. One very unusual character separates the species at once from all others known to me in the genus, namely the presence of a setiferous pore on each side of the head at the hind end of the frontal impressions; the setae are rather short and they are often abraded, though some trace of them is generally visible.

Soekaranda (H. Dohrn) 16 ex. The type is in the Stettin Museum.

Scarites dicaelus Chaud., Ann. Soc. Ent. Belg. 1880, p. 52.

Chaudoir put this and some allied species into the genus Distichus, which subsequent authors have regarded as not more than a subgenus of Scarites. The principal characters used for separating this group from others in the genus have been (I) the presence of transverse sulci on the last three ventral segments, (II) a longitudinal carina on each side of the mentum, placed at a little distance from the margin, and (III) two or three sitiferous pores on the metasternum behind the mesocoxae. In the twelve species included in this group in my first volume on the Carabidae in the Fauna of British India series I was able in the "Key to the species" to make use of all these characters, which in the Indian region seem fairly constant, but elsewhere they sometimes break down. In such species as S. planus Bon. and S. puncticollis Chaud. the ventral sulci are conspicuous. Chaudoir's type of S. dicaelus came from Singapore and he tells us that in that species they are finer; I find this to be the case in a Bornean specimen from Kina Balu, but in the 8 Sumatran examples taken by Dohrn at Soekaranda they have practically disappeared, leaving only traces at the sides. The carinae on the sides of the mentum seem to be well developed throughout the Distichus group, but they are also well developed and also placed at a little distance from the margin in such Indian species of Scarites sens. str. as S. selene Schm.-Goeb. and S. barbarus Dej., though here the carinae are shorter and somewhat different in form. The presence or absence of pores on the metasternum behind the mesocoxae, though useful in the Indian group, is of little value, as Mr. Bänninger informs me, for discriminating the members of the South American fauna. S. dicaelus, now recorded I think for the first time from Sumatra, is nearly allied to S. rectifrons Bates from Burma and Indo-China, and both have in common two very unusual characters, namely the absence of the normal pair of setae on the clypeus, and the fact that the buccal fissure does not extend backwards beyond the base of the mentum. Some further notes on these and many other characters in the group will be found in the first part of Mr. Bänninger's recent paper on the African Scaritini (Ent. Blätt. 25, 1929, pp. 79-84).

Hexagonia dohrni sp.n. Length: 7,5-8,25 mm. Width: 2,5-2,7 mm.

Black, shiny: palpi ferruginous, antennae, elytral epipleura, metasternum, and venter brown, legs pale ferruginous, the knees slightly infuscate.

He ad flat in front, convex behind, large, subpentagonal, frontal impressions moderately long and deep, curving inwards and widening behind, bounded outwardly on each side by a slight ridge, clypeal suture moderately deep, neck deeply constricted, eyes not very prominent, genae longer than eyes, contracted sharply to neck behind, antennae reaching base of prothorax. Prothorax moderately convex, hexagonal, barely wider than head and only a little wider than long, extremities truncate, front angles adjoining neck, sides bordered, obtusely angulate at two-fifths from apex, a pore and seta at the angle, rounded in front, straight behind, but sinuate a little before base, hind angles right, with no seta visible; median line deep, transverse impressions very slight, basal foveae fairly deep, adjoining angles, surface nearly smooth on disk, but with scattered punctures elsewhere, coarser in and near the basal foveae, the lateral channels bounded inwardly by a slight carina, a transverse impression sometimes present at a third from base. Elytra rather flat, a little less than twice as wide as prothorax, about a half longer than wide, border obtusely angulate at shoulders, which are only moderately rounded, sides faintly emarginate behind them and then slightly dilated to apical third, a small emargination near apex; striae moderately impressed and finely punctate, less evidently towards apex, intervals slightly convex, 3 with three pores, near base, at three-fifths, and at five-sixths respectively, 5 with a pore at three-fourths, surface smooth. Microsculpture of

the elytra formed by very faint isodiametric meshes, prothorax and head without any. Prosternum coarsely punctate at middle, mesosternum with a deep longitudinal sulcus, metasternum with a few punctures at sides, metepisterna smooth, more than twice as long as wide; venter smooth, last segment with 1 seta on each side in the \bigcirc , 2 in the \bigcirc .

Its much smaller size distinguishes the species from $H.\ bowringi$ Schaum and $H.\ longithorax$ Wied. (= $H.\ brunnea$ Chaud.). $H.\ bencoulensis$ Pllde. and $H.\ gracilis$ Pllde. are of the same size; in the former the colour is brown, the sides of the prothorax are rounded, and there is apparently no pore on interval 5; the latter is a narrower insect, the prothorax impunctate and more strongly contracted behind, the elytra with the striae more coarsely punctate.

Soekaranda, 2 ex., and Liangagas, 1 ex. (both H. Dohrn — Stettin Mus.). Perak: Batang Padang, Jor Camp, 1800 feet (H. M. Pendlebury — F. M. S. Museums) 1 ex. The type, which was taken many years ago by Dr. M. Cameron in the Malay Peninsula, is in my collection.

Orthogonius stygius sp. n. Length: 18-20,5 mm. Width: 6,5-8 mm. Black, shiny, apex of palpi ferruginous.

Head convex, more or less coarsely rugose-punctate, frontal foveae small, deep, rounded, clypeal suture deep, a short, deep, longitudinal line crossing it at middle, on each side of which in front the clypeus is somewhat raised, eyes large and prominent, antennae short and stout, reaching just beyond base of prothorax, ligula bisetose. Prothorax moderately convex, about a half wider than head and as much wider than long, base bisinuate, bordered, apex truncate, much more contracted in front than behind, the front angles strongly, hind angles moderately rounded, the latter only a little obtuse, the sides rounded, vaguely bordered in front, very slightly reflexed, narrowly explanate in front, rather more widely behind; median line very fine on disk, a little deeper at extremities, front transverse impression deep, uneven, subinterrupted at middle, not nearly reaching front or side margins, a depression behind each extremity, hind transverse impression deep, terminating at each end in a deep, rounded fovea, between which and the explanate margin there is a somewhat raised area, surface faintly transversely striate, some vague puncturation along lateral margins. Elytra moderately convex, about a fourth wider than prothorax, very nearly two thirds longer than wide, basal border entire to stria 1, sides nearly parallel, apex truncate, the outer angle rounded, a slight re-entrant angle at middle; rather finely punctate-striate, stria 3 bent inwards at base, stria 5 somewhat deeper and also bent a little inwards at base; intervals slightly convex, 8 more convex than the rest, 7 narrower close to base, 3 tripunctate, odd ones with a few fine punctures, sometimes wanting on 1 and often only visible towards apex, surface otherwise smooth. Microsculpture of the elytra formed by isodiametric meshes, which over most of the surface assume the form of shallow punctures; prothorax and head practically smooth, but very fine isodiametric meshes can generally be traced on some part of them and are more evident in the type than in the others specimens. Underside smooth, prosternal process bordered; protibiae produced externally at apex to a sharp tooth, mesotibiae undilated, metatibiae with short rounded spurs, all tarsi with joint 4 bilobed and the claws pectinate.

The species is very nearly allied to O. deletus Schm.-Goeb., but differs in the form of the prothorax, in which the front transverse impression is deeper, especially at the ends, the sides only vaguely bordered in front, and the hind angles more rounded; the striae of the elytra are not so deep, the punctures in them equally fine.

but more conspicuous, the intervals flatter.

Soekaranda (H. Dohrn). 3 ex. (but only one of the specimens is labelled). There is also one example from Selangor, Kuala Lumpur (H. M. Pendlebury), taken at light, 22. XII. 1924; this I have made the type and placed in the British Museum collection. In one of the Sumatran examples the surface of the prothorax is deformed by transverse rugae.

Physodera chalceres sp. n. Length: 8-9,5 mm.

Brown, shiny, the elytra cupreous brown: palpi (except at apex), antennae, tibiae, and tarsi piceous; a rounded boss on each side of prothorax, and the sides, above and beneath, of the last abdominal segment pale lemon yellow.

Head flat, frontal foveae deep, uneven, parallel, bounded outwardly on each side by a wide ridge, front with an uneven, transverse depression, sometimes longitudinally striate, ending on each side in a slight fovea near eye, labrum transversely depressed, neck moderately constricted, eyes very prominent, antennae very thick, with joint 4 more or less constricted towards base. Prothorax convex on disk, about a half wider than head and nearly twice as wide as long, base with the median part produced, so that there is a nearly rectangular incision on each side between it and hind angle, sides bordered and slightly rounded in front, front angles a little rounded, setulose, hind angles right and fairly sharp, with a seta on each side just in front of them, a pale rounded projecting boss on each side at middle, occupying rather more than

a third of the total length; median line and basal foveae moderately impressed, transverse impressions rather slight, surface nearly smooth on each side of disk, moderately punctate along margins and sometimes also along the course of the median line. Elytra convex, quadrate, about three fourths wider than prothorax and an eighth longer than wide, shoulders square, slightly dilated behind and widest behind middle, apex nearly squarely truncate, the outer angle on each side rounded and the truncature a little emarginate, sides compressed at two fifths and again, on intervals 7 to 9, at two thirds, so that there is a slight elongate raised area on interval 7 in front, and a rounded one on interval 8 behind; striae formed by punctures of moderate size, which are only a little less impressed behind, intervals flat, two dorsal pores on 3 and one near base on 5, surface smooth. No microsculpture. Surface beneath with a few fine scattered punctures; metepisterna twice as long as wide; venter sparsely pubescent, last segment with 1 marginal seta on each side in the o, 2 setae in the Q; fourth tarsal joint bilbed, claws strongly pectinate.

Very similar to P. dejeani Eschsch., but smaller and lighter in colour. Head similar, prothorax narrower, the pale lateral bosses much smaller, the middle of base much more produced, so that the longitudinal side of the incision is longer than the transverse side, whereas in dejeani the opposite is the case, elytra similar in form and with similar pores on the intervals, but the punctures

forming the striae are a good deal larger.

Soekaranda (H. Dohrn — Stettin Mus.), Jan. 1894, 1 ex. Penang (Lamb), 2 ex. Perak (Doherty), 4 ex. Borneo West Sarawak, Mt. Matang (G. E. Bryant), 1 ex. All the examples, except that from Sumatra, are in the British Museum, including the type (Penang).

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<u>131-136</u>