Orbicella, sp.

A small incrusting specimen on mass of coral with Madre-pore and other species of corals.

Tizard Bank, 7 fath.

Genus *ECHINOPORA*, Lam.*Echinopora rosularia*, Lam.

1816. *Echinopora rosularia*, Lam. Hist. des Anim. sans Vertèbr. éd. 2, t. ii. p. 397.

Lagoon, Tizard Bank, 6 fath.

[To be continued.]

XLIV.—*Descriptions of new Species of Pedaria, with Observations on allied Scarabæidæ.* By CHARLES O. WATERHOUSE.

Pedaria tuberculigera, sp. n.

Elongato-oblonga, nigro-fusca, parum nitida, clypeo leviter emarginato; thorace confertim sat fortiter punctato, antice tumiditate ovali sat elevata parcius subtiliter punctulata nitida instructo; elytris thorace paullo latioribus, convexis, ad apicem arcuatim angustatis, sat fortiter punctato-striatis, interstitiis creberrime fortiter punctatis.

Long. 9 millim.

Hab. Senegambia (*Bocandé*).

Dark smoky brown, with a slight purple-bronze shade. The head is evenly and closely punctured, the punctures small but very distinct, usually separated from each other by a diameter of a puncture; the clypeus has a very few punctures; the anterior margin is distinctly but not very deeply emarginate, the angles of the emargination rounded; and between this emargination and the posterior angle of the head there is a distinct angulation. The thorax is transverse, parallel-sided, with a slight sinuosity before the anterior angles, convex, closely punctured; the punctures at the sides are moderately large, separated from each other by about one quarter the diameter of a puncture; but towards the disk the punctures become a little smaller and the intervals proportionately greater; halfway towards the side about twenty-

five punctures would form a line from the front to the posterior margin. The elytra at the base are not broader than the thorax, but are gradually widened to the middle and then again narrowed to the apex; the striæ are strong; the interstices are closely, strongly, and irregularly punctured (except perhaps the sixth), the intervals between the punctures very narrow and inclined to form small tubercles.

Pedaria Taylora, sp. n.

Elongato-oblonga, nigro-fusca, parum nitida; clypeo leviter emarginato; thorace confertim fortiter punctato, antice medio leviter tuberoso, lateribus ante medium et ad basin leviter sinuatis; elytris thoracæ paullo latioribus, sat fortiter punctato-striatis, interstitiis fortiter seriatim punctatis.

Long. 8 millim.

Hab. Mombas, Rabai Hills (*Rev. W. E. Taylor*); Lake Nyassa (*Thelwall*).

Very similar to *P. tuberculigera*, but a little less convex. The head has the punctuation stronger and the punctures are less numerous; about seventeen may be counted in a line from the vertex to the commencement of the clypeus, whereas in *P. tuberculigera* about twenty-four might be counted; the line dividing the clypeus from the forehead is very indistinct, and the punctures on the clypeus are nearly as strong and close as on the forehead; the outer angles of the anterior emargination are very slightly dentiform. The thorax is very similar, but is a trifle narrower at the base, and the sides have a more distinct indentation immediately before the posterior angles; the punctuation is stronger and more uniform, with very narrow intervals; at halfway towards the side about seventeen punctures may be counted in a line from the front to the posterior margin; the swelling at the front margin is very distinct, but not quite as much raised as in *P. tuberculigera*. The elytra are distinctly more rounded at the apex; the striæ are equally strong, but have the punctures a little more separated (about one and a half diameters of a puncture); the punctures on the interstices are strong, arranged in lines, slightly irregular on the second, third, and fifth interstices, regular on the fourth and sixth.

The specimen from Lake Nyassa has the punctures on the thorax a trifle larger, and the swelling in front is much less marked. This is probably the female.

A specimen from S.E. Africa, Arusha (*F. J. Jackson, Esq.*), differs from *P. Taylora* in having the tubercle on the

front of the thorax smaller and more shining, but not less elevated. The elytra have the interstices more regularly punctured in double lines, the second and fifth interstices having one or two additional punctures between the lines near the base.

Another specimen received with the above from Arusha, and agreeing with it in having the interstices of the elytra punctured in lines, differs very much in the form and punctuation of the thorax and in the almost entire absence of the anterior swelling. It seems unlikely that this should be the female of the specimen with the tubercle with which it was received, as the specimen from Nyassa above referred to as the probable female of *P. Taylora* has the punctuation of the thorax very similar to that of the male. I propose to name this specimen provisionally *P. Jacksoni*. The following is a full description:—

Pedaria Jacksoni, sp. n.

Elongato-oblonga, convexa, nigro-fusca, subpurpurascens, sat nitida; thorace creberrime fortiter punctato, antice medio leviter gibboso subtilius punctulato; elytris fortiter striatis, interstitiis planis, nitidis, fortiter biseriatim punctatis, interstitio suturali solum crebre punctato.

Long. $7\frac{1}{2}$ millim.

Hab. Arusha (*F. J. Jackson, Esq.*).

The head is closely and rather strongly punctured, the punctures very near together, but not confluent; at the division between the forehead and clypeus the punctures are very feeble, but are stronger again on the clypeus itself; the angles of the anterior emargination are slightly dentiform. The thorax has the sides gently arcuate, so that there is not such a suddenly oblique inflexion at the anterior angles as in the above-described species; the sinuosity at the middle is very slight. The punctuation is strong, but the punctures are not quite so large as in the foregoing species, crowded at the sides, distinctly separated from each other on the disk, fine on the anterior swelling, which is very slight; halfway towards the side about nineteen punctures may be counted in a line from the front to the posterior margin, the punctures being separated from each other at this part by about one half the diameter of a puncture. The elytra have the striæ strongly marked; the interstices shining, each with a regular line of strong punctures on each side; the sutural interstice, however, has three rather irregular lines of punctures; in the second interstice there are a very few stray punctures.

This species is nearest to one which I have determined to be *P. picea*, from Natal, but differs in having the punctures on the thorax less close and in having a finely punctured area in front.

Pedaria nigra, Castelnau.

This species is figured by Castelnau (Hist. Nat. ii. pl. v. fig. 7) under the name *P. aphodioides*, evidently by an oversight in lettering the plate. The locality placed opposite the name in the 'Munich Catalogue' is "Cap bon. spei," which is an error; Senegal is given by Castelnau in his description of *P. nigra*, and the same locality is given in Dejean's Catalogue opposite *P. aphodioides*. In the 'Munich Catalogue' moreover *P. cylindrica*, Fähr., is placed as a synonym of *P. nigra*, the locality Port Natal being correctly given. I consider this species quite distinct from *P. nigra*, from which it differs in having an elongate shining tubercle at the base of the thorax, as described by Fähræus.

Pedaria criberrima, sp. n.

Elongato-oblonga, nigro-fusca, parum nitida; thorace confertim fortiter punctato, disco medio leviter transversim impresso, lateribus medio leviter sinuatis, ad basin oblique introrsum directis; elytris fortiter punctato-striatis, interstitiis fortiter punctatis, punctis in interstitiis quarto et sexto biseriatim positiss. Long. 7 millim.

Hab. Senegambia, Old Calabar.

The head has the punctuation as in *P. Taylora*; the clypeus has the angles of the emargination slightly dentiform. The thorax is rather parallel-sided, but obliquely narrowed at the extreme base; the punctuation is strong and crowded, the punctures near the front being a little smaller than at the base; at halfway towards the side about twenty punctures might be counted in a line from the front to the posterior margin; in the middle of the front margin there is a slight swelling (with a light transverse impression behind it), but no distinct tubercle; the punctures on the swelling are smaller and more separated. The elytra have the apex obtuse. Owing to the coarse punctuation, the striæ (although strong) are not so conspicuous as in *P. Taylora*; in the second, third, and fifth interstices there are three lines of punctures, but owing to the large size of the punctures they are quite irregular, as there is not space for three punctures side by side. In the fourth and sixth interstices there are two lines

of punctures, regular at the middle but crowded at the base and apex.

The specimen from Old Calabar has the front part of the thorax less parallel, slightly narrowed in front.

Pedaria alternans, sp. n.

Elongato-oblonga, nigro-fusca, subnitida; thorace crebre minus fortiter punctato, leviter convexo, antice non tuberoso; elytris subtilius punctato-striatis, interstitiis quarto et sexto biserialim punctatis, reliquis irregulariter punctatis; carina subhumerali brevi, altera laterali crenulatis instructis.

Long. 8 millim.

Hab. S. Africa (*Dr. Smith*).

Although the punctuation in this species is very distinct, it is nevertheless considerably finer than in any species with which I am acquainted. The head has the angles of the anterior emargination distinctly dentiform, and the side between this angle and the posterior angle is slightly bisinuate. The thorax is slightly constricted at the base and has a very slight sinuosity at the middle of the side. The punctuation (when compared with other species) is rather fine, nearly the same all over; halfway towards the side about twenty-five punctures might be counted in a line from the front to the posterior margin, the intervals between the punctures being a trifle less than the diameter of a puncture; the punctures, however, often touch each other in a longitudinal direction. There is no swelling or tubercle in front. The elytra have the striæ rather fine; the sutural interstice is more closely and rather more strongly punctured than the others. The fourth and sixth interstices have each two regular lines of punctures, the sixth having other punctures at the base. Below the shoulder there is a slightly elevated costa, marked with five or six distinct shining tubercles; and on the ninth interstice there is a longer series of similar tubercles.

Pedaria puncticollis, sp. n.

Elongato-oblonga, nigro-fusca, parum nitida; thorace convexo, haud tuberculato, creberrime fortiter punctato; elytris striatis, interstitiis primo et secundo irregulariter punctatis, reliquis biserialim punctatis; carina brevi subhumerali, altera laterali tuberculis parvis instructis.

Long. $6\frac{1}{2}$ millim.

Hab. S. Africa, Nyassa?

The head is evenly and rather strongly punctured, with much less distinct punctuation on the clypeus; the clypeus has the angles of the emargination distinctly but slightly dentiform; halfway between this angle and the posterior angle there is a very slight sinuosity. The thorax is evenly convex, without any swelling in front, a little constricted at the base, arcuately narrowed at the anterior angles, evenly and strongly punctured; at halfway towards the side about seventeen punctures may be counted in a line from the front to the posterior margin; the punctures are deep, separated from each other by about one half the diameter of a puncture. The elytra have the striæ rather fine, with the punctures in them not very close together; the first interstice is rather closely punctured, the second is irregularly punctured for the basal half and then (like the other interstices) has two lines; these punctures are rather small, and leave a rather wide smooth space in the middle of the interstice; below the shoulder there is a line of about five small shining tubercles, and on the ninth interstice a longer line of more distant tubercles; these tubercles are visible when viewing the insect from above.

APHENGIUM.

I have just had an opportunity of examining the type of *Aphengium seminudum*, Bates (Biol. Centr.-Amer., Coleopt. ii. 2, p. 42), and it appears to have been placed in this genus by an oversight. In characterizing the genus Harold says, "Tarsorum posticorum articulus primus sequenti longitudine multo longior; pygidium rectum. Segmenta abdominalia connexa" (Col. Hefte, iii. p. 54). *A. seminudum* has the abdominal segments free; the pygidium is completely turned under, so that its apex is directed forwards, and Mr. Bates observes, "The short and broad, compressed and subtriangular tarsal joints are a remarkable distinguishing feature. The anterior cavity of the prosternum is exceedingly deep." These characters appear to me to conform more with *Bdelyrus*, Harold (Col. Hefte, v. p. 97), of which Harold says: "Clypeo antice angustato et breviter bidentato. Prosternum antice profundissime foveolatum. Segmenta abdominalia suturis distinctis. Pygidium contractum et abdomini appositum. Tarsi postici dilatati, compressi, articulis latitudine sensim decrescentibus." The clypeus has a projection in the middle, and in fresh specimens this is slightly bidentate; this seems to agree with Harold's character.

Uroxys Rodriguezi, de Borre.

This species is described by M. Preudhomme de Borre in the Ann. d. l. Soc. ent. de Belgique, 1886, p. 107, and he mentions that it is the "*Uroxys dilaticollis*, Deyrolle," a manuscript name. In the British Museum collection there is a specimen bearing this manuscript name, and it agrees well with the description of *U. Rodriguezi*. It appears to me, however, that it is a *Chæridium* having a short, punctured mesosternum and short anterior coxæ.

XLV.—*Notes on Slugs, chiefly in the Collection at the British Museum.* By T. D. A. COCKERELL.

[Continued from p. 288.]

III. THE GENUS *LIMACELLA*, BLAINVILLE.

WHILE working on the slugs at the British Museum I came across the type specimens of *Limacella lactiformis*, Blainville. The two examples are in a bottle with the label "*Limacella lactescens*," and another label, apparently written by Dr. Heynemann, "Original zu Fig. 1. Taf. 7. Fér. Hist. Nat." They are true *Philomycus*, presenting no generic difference from the well-known species of that genus. Heynemann (1884) has referred them to *Arion*, but he could not have examined them sufficiently, and was no doubt misled by the figure in Man. de Mal. (1827), pl. xli. That they are really Blainville's types need not be doubted, as they agree with his figures in outline, and his original description, notwithstanding that he misunderstood the characters of the slug, is sufficient to show that he had not an *Arion* before him. He refers to the absence of a shell and the genital orifice at the base of the right tentacle. The outline of the figure, and especially the anterior portion of the mantle, suggests at once a *Philomycus*. The supposed *Arion*-like mantle indicated in the figures is really due to an outline of some of the internal organs, visible on account of the transparency of the slug. The figures in Journ. de Phys., November 1817, show how the mistake began, fig. 4 having even a sort of spiral coil in the middle of the anterior part of the mantle. The figure of *L. elfortiana* in Man. Mal. is the same outline, but apparently patched up from an *Arion ater*,