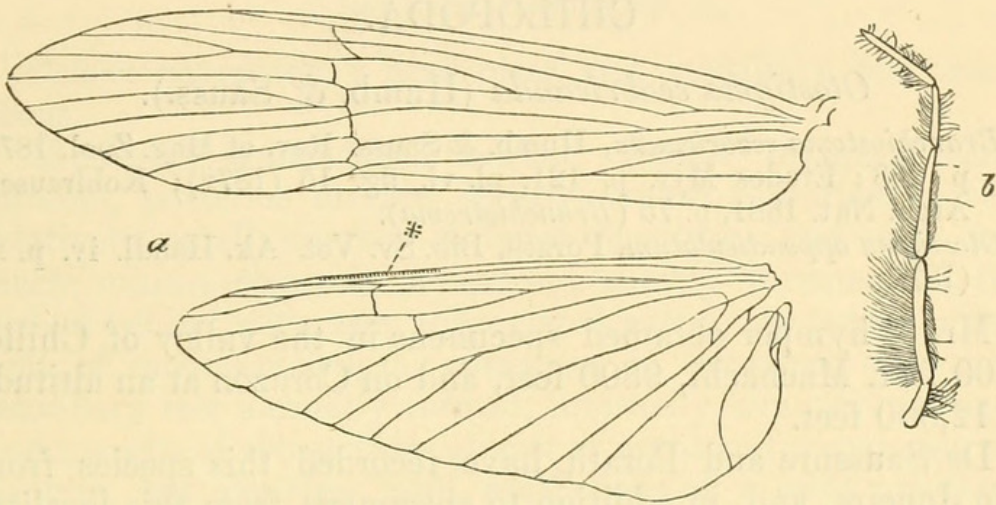


which it is here referred under the provisional name of *N. vivipara*, in allusion to its remarkable mode of reproduction.

The following are amongst the points upon which further information in regard to this interesting animal is desirable, and will, it is to be hoped, soon be forthcoming:—(1) The nature of the brood-pouch—whether this is a uterine dilatation of an oviduct or of the vagina, as in some viviparous Diptera, or whether it is an invagination into the coelome of the soft roof of the genital sinus, as in the Orthopterous genus *Panesthia*; (2) the habits of the larvæ—whether these are aquatic, as in most other species of this order, or terrestrial, as in the single instance of the *Enoicylæ*; (3) the male; and (4) the form of the larva-case.



Notanatolica vivipara, ♀.—*a*, the wings of the left side, $\times 2.5$, * the reticular hooks; *b*, the maxillary palp of the right side, $\times 2.5$.

XVI.—*A Short Account of a small Collection of Myriopoda obtained by Mr. Edward Whymper in the Andes of Ecuador.* By R. I. POCK, of the British (Natural-History) Museum.

So little is known of the Myriopod fauna of Ecuador that any collection of these animals from that country is deserving of especial notice. But Mr. Whymper has added largely to the interest of his collection by devoting particular attention to the species found at great altitudes. This has been so rarely done by collectors that it is not yet possible to formulate any general laws with regard to the vertical range of the species of this much neglected group of animals; but, so far as any conclusion can be drawn from the small amount of material

obtained by Mr. Whymper, the species found on the mountains do not for the most part differ from those of the lowlands. Of the seven species brought back two only are new. Both of these, since they belong to the rare and little-known genus *Newportia*, are of special interest, inasmuch as they throw fresh light upon the specific characters of the genus. The genus *Scolopocryptops*, too, has proved very troublesome to systematists, and all who are interested in the Chilopoda must feel grateful to Mr. Whymper for having preserved so large a number of individuals of *Sc. mexicanus*, for I have thereby been enabled to draw up with confidence the synonymy of this species as given below.

CHILOPODA.

Otostigma scabricauda (Humb. & Sauss.).

Branchiostoma scabricauda, Humb. & Sauss. Rev. et Mag. Zool. 1870, p. 203; Études Myr. p. 121, pl. vi. fig. 15 (1872); Kohlrausch, Arch. Nat. 1881, p. 75 (*Branchiotrema*).

Otostigma appendiculatum, Porath, Bih. Sv. Vet. Ak. Handl. iv. p. 23 (1876).

Mr. Whymper obtained specimens in the valley of Chillo, 8500 feet, Machachi, 9800 feet, and on Corazon at an altitude of 12,000 feet.

De Saussure and Porath have recorded this species from Rio Janeiro, and, in addition to specimens from this locality, Kohlrausch had others from Popayan, in Colombia. This author considered the remarkable appendage on the anal legs to be a monstrosity. It is in reality a sexual character belonging in all probability to the male.

Scolopocryptops mexicanus, Humb. & Sauss.

Scolopocryptops mexicanus, Humb. & Sauss. Rev. et Mag. Zool. 1869, p. 158; Études Myr. p. 135, pl. vi. fig. 18.

Scolopocryptops Miersii, Meinert, Proc. Am. Phil. Soc. 1886, p. 181 (not *Miersii*, Newport).

Scolopocryptops Meinerti, Pocock, Ann. & Mag. Nat. Hist. 1888, ii. p. 474.

? *Scolopocryptops bisulca*, Karsch, Abh. nat. Ver. Brem. ix. p. 66 (1884).

From the localities that Dr. Meinert gives this species is common in the West Indies and Brazil. It appears also to be common in Mexico. In Ecuador it is very abundant, specimens being obtained at Chiquipoquio, on Chimborazo, and on the south side of the mountain at an altitude of 12,000 to 13,000 feet, and on the east side at 11,700 feet; at Pichincha, 12,000 feet; at Machachi, 9800 feet; at the

Hacienda of Antisana, 13,300 feet ; in the valley of Collanes, 12,540 feet ; and on Corazon at an altitude of 12,000 feet.

Trusting to the accuracy of Dr. Kohlrausch's opinion on the question of the specific identity of *Sc. sexspinosus* and *Sc. mexicanus*, I was led into describing as new, under the name *Meinerti*, some specimens of a *Scolopocryptops* from Dominica which seemed identical with *Sc. Miersii* of Meinert, but which certainly were not *Sc. Miersii* of Newport. I now find that Dr. Kohlrausch was wrong in setting *Sc. mexicanus* as synonymous with *Sc. sexspinosus*, and that *Sc. mexicanus* was, apparently in consequence of that error, redescribed by Meinert as *Sc. Miersii*.

Newportia dentata, sp. n.

Colour ochraceous ; head-plate and maxillary feet castaneous.

Head-plate somewhat quadrate ; lateral margins nearly parallel, posterior margin lightly convex ; marked with a relatively small number of large punctures and with very many minute close-set punctures ; shortly hirsute and furnished behind with two abbreviated sulci. Antennæ pubescent, of moderate length, composed of seventeen segments ; maxillary feet normally formed, internally hirsute ; the anterior margin of the sternite almost straight and transverse, not dentate, but showing faint indications of a wide prosternal plate on each side ; with a conspicuous seta on each side. First tergite marked behind the anterior margin with a conspicuous semicircular groove and on each side of the middle line there runs backwards from this groove to the hinder margin a single longitudinal sulcus. The rest of the tergites except the last marked as in *Cryptops* with two conspicuous, longitudinal, parallel sulci, and on each side with one posteriorly abbreviated oblique sulcus ; all the tergites except the last without raised margins.

Anal tergite posteriorly impressed, hinder margin convexly produced in the middle ; *sternite* wide, with rounded posterior angles and very slightly concave posterior margin ; *pleuræ* marked with many large pores, produced behind into a long, straight, slender process, terminated by a sharp spine ; *anal legs* short as compared with other members of the genus ; the femur triangular in section, armed beneath with four enormously long and strong spines which progressively increase in length and strength from before backwards ; the superior internal edge armed with a series of about six minute spinules ; patella nearly cylindrical, very slightly longer than

but as thick as the femur, its supero-internal edge armed with three minute spinules; the tibia cylindrical, as long as the patella, but more slender; the tarsus likewise cylindrical, a little shorter and distinctly more slender than the tibia; the metatarsus shorter and much slenderer than the tarsus, composed of four slender cylindrical segments, which increase in length from before backwards and are very distinctly defined from each other; the proximal segment also very clearly marked off from the distal end of the tarsus. Preanal legs long and strong, reaching when extended to the middle of the tibial segment of the anal pair, not armed with spinules; rest of the legs weaker, hairy, the distal end of the tibia, at all events in the middle and posterior end of the body, bearing a superior spinule; the inferior surface of the femur, patella, and tibia also armed with a distal spinule in most of the legs.

Sternites punctured and marked with a median sulcus.

Length 16 millim.

Hab. Chimborazo (east side, 12,000 feet).

From the form of its anal legs it is clear that this species is allied to both *N. longitarsis* (Newp.) and *N. azteca*, Saussure. From the latter it may be recognized by the form of the furrow on the first tergite and by the spine-armature of the anal legs; from the former, which is only known to me from Newport's figure and description, by the great difference in size that exists between the tarsal segment of the anal legs and the metatarsal; in *longitarsis* these segments are only slightly unequal.

Newportia monticola, sp. n.

This species in most of its features so closely resembles the preceding that a reference to the points of difference between the two will be the most intelligible way of describing it.

The anterior border of the maxillary sternite is not transverse and straight, but is strongly and convexly produced forwards in the middle line. The first tergite is marked before its anterior border with a strong furrow; but instead of being semicircular, the furrow is composed of a right and left portion, each of which runs obliquely backwards and inwards to the middle of the tergite, meeting its fellow of the opposite side in an angle of about 100° . The longitudinal sulci of this tergite converge in front and each anteriorly bifurcates: the outer branch running obliquely outwards and forwards meets the anterior furrow; the inner, shorter branch runs obliquely forwards and inwards and meets its fellow of

the opposite side in a depression lying immediately behind the angle of the anterior furrow.

The median sulcus on the sternites is much less conspicuous and the anal sternite has the posterior margin more concave. In the anal legs the femur is more cylindrical and the inferior spines are not so large; the patella is armed on its inner surface with two stronger spinules. The femur, patella, and tibia are about equal in length, but the tarsus is much shorter than the tibia; the metatarsus is the longest segment of the legs and is composed of six or seven clearly defined segments. In the preanal legs there is a distinct metatarsal segment.

Length 18 millim.

Chimborazo (east side, 12,000 feet).

Specimens of this genus are very rare in collections, and there is consequently not much known of the specific characters of the group. I am inclined to think that in this case the only features to be relied upon for the separation of these two forms are those found in the shape of the sulci of the first tergite and of the anterior margin of the maxillary sternite. Those found in the anal legs are, I suspect, subject to individual or perhaps sexual variation.

This species differs from *azteca* and *longitarsis* in having the anterior border of the maxillary sternite produced forwards. It appears somewhat to resemble the former in the shape of the sulci on the first tergite.

A second specimen obtained by Mr. Whymper on La Dormida, at an altitude of 11,800 feet, differs from the type in having ten metatarsal segments on the anal legs. In this particular it approximates to *N. longitarsis*, but until the form of the sulci of the first tergite in this species is known it is impossible to refer any species to it with confidence.

DIPLOPODA.

Stenonia rufipes (C. Koch).

Platyrrhacus rufipes, C. Koch, Die Myr. i. p. 96, pl. xlv. fig. 86.

A single specimen at Nanegal (3000–4000 feet).

C. Koch's specimen was described as doubtfully coming from Brazil. This example from Ecuador agrees very closely with C. Koch's figure of *rufipes*, except that the tergites are slightly smoother and the posterior series of granules smaller; the margins of the keels are in nearly every case quadridentate; the posterior tooth, however, is sometimes bifid.

? *Spirostreptus æquatorialis*, Porath.

? *Spirostreptus æquatorialis*, Porath, Ann. Soc. Ent. Belg. xxxii. pp. 215, 216 (1889).

One specimen at Milligalli and one at Guayaquil (sea-level). Since both these specimens are females it is impossible to identify them with certainty.

Spirobolus spinipodex, Karsch.

Spirobolus spinipodex, Karsch, Berl. ent. Zeitschr. xxxii. p. 29 (1888).

Pichincha, 12,000 feet; Chimborazo (east side 12,000 feet, south side 12,000 to 13,000 feet).

Dr. Karsch's specimens were from Ecuador (? Quito).

XVII.—*List of Land- and Freshwater-Shells collected by Dr. Emin Pasha in Central Africa, with Descriptions of new Species.* By EDGAR A. SMITH.

[Plates V. & VI.]

ON the journey from the Albert Nyanza to Zanzibar in company with Mr. Stanley during the latter part of last year, Dr. Emin Pasha found time to make collections of various branches of natural history; and he has been good enough to send to the British Museum the shells he then obtained. Being from such remote and little-worked localities, it is not surprising that several of them are new to the National Collection, and a few new to science. The following is a complete list of the species with the exact localities which accompany them. Many of these places do not appear in maps which I have consulted, and consequently I am unable to point out their exact position. I therefore have merely copied the names as written by Dr. Emin himself.

The majority of the new species hereafter described were collected by the Rev. J. L. Last during his residence at Mamboia about six years ago, and a few were obtained by the late Bishop Hannington in 1883. All the species are in the British Museum.

I. LIST OF DR. EMIN'S COLLECTION.

1. *Trochonanina mozambicensis*, Pfeiffer.

Hab. Hkata; var. from Illali.



Pocock, R. I. 1890. "A short account of a small collection of myriopoda obtained by Mr. Edward Whymper in the Andes of Ecuador." *The Annals and magazine of natural history; zoology, botany, and geology* 6, 141–146.

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