

NOTES ON MYRIAPODA FROM LOANDA, AFRICA, COLLECTED BY  
MR. HELI CHATELAINE, INCLUDING A DESCRIPTION OF A NEW  
GENUS AND SPECIES.

BY

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A small collection of Myriapoda presented to the National Museum by Mr. Heli Chatelaine, formerly United States commercial agent at St. Paul de Loanda, was entrusted to me for study by Dr. Riley. This material supplements that collected by the United States Eclipse Expedition of 1889 and 1890\*, and makes necessary some emendation of the former paper, including the establishment of a new genus of Iulidæ.

*Spirostreptus variabilis* Cook and Collins.

Ann. N. Y. Acad. Sci., VIII, 28, Pl. II, Figs. 11-14 (1893).

A mature male agrees entirely with the description and figures quoted. A female specimen 115 mm. long and with 55 segments has the clypeus very coarsely rugose, with the depressions between the antennæ not very apparent; the crescentic excavations lower down are very well pronounced. There are four punctations in the upper and seventeen in the lower row; teeth very broad and blunt. Lower edge of eyes slightly convex instead of concave. The eye-formulæ are, respectively,  $13+12+11+10+8+6+4+2=66$  for the left eye, and  $13+12+11+10+8+7+5=66$ , a variation not recorded in the former description. The surface of the segments are without ridges, but have occasional very fine furrows. Anal valves scarcely wrinkled at base of margin. The exposed parts of the anterior subsegment are, in alcohol, yellowish buff.

Another female specimen 85 mm. long has 52 segments, the exposed parts of the anterior subsegments reddish, the crescentic depressions of the clypeus not evident, while those between the antennæ are much more apparent than in the other specimen.

In the Eclipse Expedition Myriapoda there were eight specimens, four males and four females, and there are thus eleven specimens of this species in the Museum.

\* O. F. Cook and G. N. Collins: The Myriapoda Collected by the United States Eclipse Expedition to West Africa. Ann. N. Y. Acad. Sci., VIII pp. 22-40, Pl. I-III.

**CTENOÏULUS**, gen. nov.

*Odontopyge* of von Porath (probably), *not* of Brandt, Peters, and Karsch.

Body of moderate size, about 15 times as long as broad, cylindrical, narrowed, and slightly compressed posteriorly.

Covered portion of vertex with transverse and longitudinal striations.

Clypeus with two rows of setigerous punctations immediately above the labrum.

Labrum with shallow emargination and blunt teeth, which project nearly as far as the edges of the labrum outside the emargination.

Eyes pointed-oval or triangular-crescentic, distant from each other by more than the transverse diameter of one of them; ocelli 40-80 in number.

Antennæ subclavate, moniliate, second joint longest, followed by the third, sixth, fourth, fifth, first, and seventh; eighth joint distinct; olfactory cones large, widely separated.

Mandibular stipe with exposed surface convex, subrectangular; margin plane or elevated.

Masticatory plate rounded triangular, about twice as long as broad, divided into a flat triangular, roughened surface with a raised margin and a broad groove.

Mandibular tooth large, triangular, with rounded apex, about twice as long as the breadth of base.

Dentate lamella with five blunt teeth.

Pectinate lamellæ, nine.

Hypostoma more or less arcuate, the ends enlarged and with a chitinized projection on the posterior edge.

Mentum of male with the ends very narrow, that of the female oblong.

Promentum semi-elliptical triangular, broadest behind, rounded in front; a narrow posterior portion with the surface plane, the larger anterior part concave, with a distinct line of demarcation.

Cardo small, subtriangular.

Stipe between two and three times as long as its greatest width.

Lingual lamina subequal in length with the promentum, half as wide as the stipe.

First segment with the lateral lobes rounded or somewhat truncate, with one or two oblique striations.

Anterior subsegments concentrically striate anteriorly, and with scattered granules along the striations.

Posterior subsegments finely, longitudinally rugulose; coarser striations on the lateral and ventral surfaces.

Supplementary margin regularly pectinate.

Repugnatorial pores beginning on the sixth segment, absent from the last two segments and sometimes from the fourth from the last; pores located near the middle line of side.

Pedigerous laminae punctate-areolate, not transversely striate.

Last segment carinate on the median line above, completely closed below.

Anal valves carinate near the margins, the carinae produced above into a larger or smaller subconic, pointed mucro.

Legs 6-jointed, the first joint short, the others subequal, with the fourth slightly longest; males with membranous cushions on the ventral face of the fourth and fifth joints; cushions wanting on the first five and last two pairs; seven pairs in front of the genitalia, first three pairs with pedigerous laminae free.

First pair of legs of males 5-jointed, the basal joint with a large curved process directed cephalo-laterad.

Genitalia of male with the flagellum expanded and lamellate.

Segments 54-69, length 30-8mm.

DISTRIBUTION: The species typical of the above genus has been found only at St. Paul de Loanda, but several other species, probably congeneric, are known from Caffraria, so that the genus will probably be found throughout southern Africa.

This genus differs from *Spirostreptus* in the nine pectinate lamellae, the shape of the mentum and pronotum, the pectinate supplementary margin, the repugnatorial pores wanting on the penultimate segment, the membranous cushion of the two penultimate joints of the male legs, and the lamellate flagellum of the male genitalia. How far any individual character will prove to be diagnostic of the genus can not, of course, be inferred, but size, shape, habit, and coloration enforce the opinion that the present is a new generic type.

From the species of *Spirostreptus*, subgenus *Nodopyge*, the spinal anal valves are a distinguishing feature. Whether the two subgenera of *Spirostreptus* ought not to be given generic rank, remains to be determined; the spined anal valves, if a constant character, should be given, it would seem, as much weight as the additional pore of *Alloporus*.

***Ctenoiulus chatelainei*, sp. nov.**

*Odontopyge furcata* (Karsch). Ann. N. Y. Acad. Sci., VIII, 36, Pl. III, Figs. 24-28, not *Spirostreptus* (*Odontopyge*) *furcatus* Karsch, neue Juliden des Berliner Museum, p. 22.

Body of males slightly constricted behind the head.

Covered portion of epicranium with two well-pronounced transverse striations, the space between which is finely striate longitudinally.

Vertex smooth or very finely striate longitudinally; sulcus obsolete, but the suture distinct, as well as the transverse intra-ocular suture which it joins.

Clypeus smooth, sometimes with a large shallow depression below the middle; upper row of 5-8 punctations, lower row of 16-20; each of the punctations has a bristle, some of which are .125 mm. long.

Eyes pointed oval, distant from each other by more than the trans-

verse diameter of one of them; ocelli subequal, arranged  $11+10+9+8+7+5+3=53$ .

Antennae 4 mm. long, the fifth and sixth joints together longer than the second.

Mandibulary stipe with anterior edge of exposed surface broadly emarginate.

Mentum oblong, about six times as broad as its median length, posterior corners rounded in the female, in the male replaced by a membranous pouch into which fits the large process of the epa of the first pair of legs.

Promentum without bristles.

Stipe of gnathochilarium with scattered bristles along the promentum and the anterior half of the lateral margins.

Lingual laminae with a few short bristles at base, and three long ones toward the anterior margin.

First segment smooth, anterior angle rounded; one complete and deep striation, and a branched, more shallow, marginal striation.

Anterior subsegments with seven or eight concentric striations on the anterior portion, the striations with small protuberances about as far apart as the striations are from each other; some of the protuberances not on the striations, but located without regularity on that part of the subsegment which is behind the striations.

Posterior subsegments with fine curved and branching wrinkles whose general direction is longitudinal; the coarser striations of the sides and inferior surface begin about two-thirds of the distance from the median line to the repugnatorial pore, but the striations above the pore are very short and to be found only along the suture.

Supplementary margin finely and equally pectinate, 0.055 mm. long, including the teeth, which are 0.01 mm. long, broad at base, pointed; sinews between teeth rounded, 0.01 mm. broad.

Repugnatorial pores longitudinally elliptic, 0.04 mm. long, situated at the middle line of side, nearer to the nearly straight suture than to the posterior margin of the segment. In front of the pore the surface of the segment is smoother, and immediately behind the pore is a more or less evident depression. On male specimens the fourth segment from the end may have no pores. Sometimes there is a pore on one side and not on the other.

Last segment rugose above, smoother below and finely punctate, strongly carinate on the median line above; posterior angle somewhat produced, rounded.

Anal valves rugulose-punctate, each with a prominent carina which incloses a crescentic space between it and the moderately prominent, slightly compressed margins; the carina is produced above into a large, usually sharp-pointed mucro, curved slightly cephalad at apex.

Pre-anal scale punctate, rounded, nearly twice as broad as long.

First pair of legs with the process of coxa tuberculate-wrinkled, a

setigerous punctation near the distal end of the anterior face of the COXA.

Color of alcoholic specimens chestnut-brown, alternating with yellow; anterior portion of each posterior subsegment brown, the posterior margin and usually a broad dorsal median line, yellow or buff; feet pale reddish, antennæ chestnut-brown; anterior and ventral portions of segments buff. In the young the colors are paler and less distinct, so that the general color appears to be a dirty yellow.

Length of larger specimens 60 mm., diameter 4 mm.: 61-64 segments.

HABITAT.—St. Paul de Loanda. Mr. Chatelaine's collection contains three female specimens and several others in more or less fragmentary condition. This additional material has made necessary some changes in the specific description quoted above, and many of the characters previously placed in it have been relegated to the new generic description.

The spined anal valves appeared to Mr. Collins and myself so remarkable a feature that we were inclined to believe them characteristic of a genus, and rather than establish a new genus we preferred to believe that there was some mistake about Dr. Karsch's statement to the effect that the species described by him under *Odontopyge* had no pectinate supplementary margin. Since the former paper was written, the study of a more extensive collection of African Iulidæ has established the fact that the spined anal valves exist in several genera, and are found in forms which have the supplementary margin entire.

It therefore becomes necessary to distinguish the present and allied forms from the other described groups, and when studied with such a purpose in view, the differences from *Spirostreptus* are evidently such as to demand a separate description, not merely the establishment of *Spirostreptus*, a genus no longer adequately definable by reason of the diversity of forms now referred to it.

Porath has described five species with pectinate supplementary margins and other characters which render it probable that they are congeneric with the above, and the generic description has been drawn up to accommodate them. They are *Otenoiulus forcولاتus*, *puncticaudus*, *aequalis*, *dimidiatus*, and *prætextus*, the last with the apices of the teeth of the supplementary margin connate. As Dr. Karsch has examined the type of *Spirostreptus dimidiatus* Peters, and finds the supplementary margin entire, it is probable that Porath's *dimidiatus* is distinct, and the name should be changed as Dr. Karsch has suggested.

All Porath's species are from Caffraria, distant from Loanda by 20 degrees of latitude, and the descriptions do not include the characters of the mouth-parts, legs or genitalia, so that their generic affinities can not be determined with confidence, hence it can only be said that from what is known of them they seem to belong to the present genus rather than to any other.

From the West Coast of Africa three species of *Odontopyge* have

been described, *acutus*, *angolensis*, *furcatus*, the first two from Angola, the third from the Gold Coast, so that no differences of distribution can, as yet, be alleged between the two allied groups. On the East Coast, however, the case seems somewhat different, for nine species of *Odontopyge* have been described from the tropical region, while none were found in Caffraria.

**Scolopendra morsitans** Linn.

Nine specimens, varying from 60–80 mm. in length, and with no characters longer noteworthy in so variable a species.

Huntington, N. Y., 29 Aug., 1893.