

TWO NEW DIPLOPOD MYRIAPODA OF THE GENUS OXYDESMUS FROM THE CONGO.

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NEARLY two years ago, I received from the U. S. National Museum a small collection of Myriapoda, sent in by Rev. J. H. Camp, of the American Baptist Missionary Union. The Polydesmidae were represented by the two species of *Oxydesmus* here described.

Since the specimens have been in my hands I have had opportunity of comparing them with the types of *O. afer* (Gray) and *O. grayi* (Newport), in the British Museum, and with those of *O. tricuspидatus* (Peters) in the Berlin Museum, with none of which are they identical or closely related. As far as may be judged from the insufficient descriptions of the other species, these Congo Valley forms offer a new character in the great width of the apex of the last segment. This, however, can hardly form the basis of generic distinction, for the other characters, including those drawn from the copulatory legs of the male, offer merely specific differences from the other species of *Oxydesmus*. Indeed, the characters of the copulatory legs in the present genus are of comparatively little use in separating the species, the differences being so slight as to be very difficult of definition, even between species strikingly distinct in color, sculpture, and form.

The genera of Polydesmidae have in very few cases been adequately described, so that their characters and affinities must be inferred mostly from what may be known of the typical species. In the case of *Oxydesmus* the species differ little in structural characters, and while the type species, *O. flavomarginatus*, is not sufficiently known, it was said by its author to differ only in color from *O. tricuspидatus*, so that a generic description is apparently practicable.

Genus OXYDESMUS (Humbert and Saussure).

Oxydesmus (HUMBERT and SAUSSURE), Verh. Zool.-Bot. Ges. Wien, 1869, p. 671.

Diagnosis.—Body large. Antennae with four olfactory cones. Segments dorsally with three transverse rows of rounded granules or tubercles. Segments 1-4 without specially enlarged tubercles. Lateral carinae large, the lateral edge thin and sharp, even, or nearly so.

Repugnatorial pores 11, dorsal on the outer slope of the intramarginal ridge of segments 5, 7, 9, 10, 12, 13, 15-19. Penultimate segment exceeding segment 18. Last segment broad, or very broad, the apex more or less evidently emarginate; superior lateral tubercle usually not large.

Sterna without special structures. Male legs somewhat crassate. Male genitalia flexed, and inserted under the edge of the aperture.

Description.—Body large, about six times as long as broad; cavity nearly circular. Vertex prominent, rough; sulcus very deep. Antennae scarcely clavate; third joint nearly as long as the second, or subequal; joints in order of length 6, 2, 3, 4=5, 1, 7.

Mandibular stipe with exposed surface divided by sutures into six areas, two triangular, four trapezoidal. Masticatory plate lunate, oblong, the surface crossed by eight to ten transverse ridges, alternating with grooves. Dentate lamella with three to four broad, rounded teeth. Pectinate lamella, six.

Mentum triangular-cordate, slightly broader than long, broadly emarginate posteriorly, anterior angle sharp or rounded. Cardo small, pointed distad.

Lingual lobes with one small cone concealed on the dorsal face; median lobes with styliform processes long and simple.

First segment semi-elliptical, with the lateral corners produced and somewhat recurved, much broader than the head, longer and somewhat narrower than the second segment.

Lateral carinae broad (one-half as wide as the body cavity), inserted near the top of the body-cylinder; sharp and thin at the entire or slightly sinuate edge, with a prominent, smooth and shining submarginal ridge. Anterior carinae laterally curved forward, the posterior with corners produced caudad; dorsal surface finely granular, divided by furrows into three transverse rows of more or less evident quadrate areas, usually with one large, smooth granule in each.

Below the carinae the segments are rough with conic warts; a rounded prominence just above the front pair of legs, larger in the male.

Repugnatorial pores opening dorsally on the outer slope of the submarginal ridge of segments 5, 7, 9, 10, 12, 13, 15, 16, 17, 18, 19; pores surrounded by a raised rim.

Anterior subsegments finely wrinkled longitudinally, sometimes very obscurely. Supplementary margin long, membranous, very finely striate longitudinally, not pectinate.

Anal segment finely granular, posteriorly transversely wrinkled and slightly decurved; the apex broad, rounded-truncate; on the margin three pairs of setigerous punctations, two pairs located on tubercles; the upper surface with two pairs and the under with one pair of setigerous punctations, more or less elevated.

Anal valves with two setigerous tubercles, the upper placed on the raised margin, the lower somewhat removed from it.

Preanal scale semi elliptic triangular, tricuspidate, the middle projection usually flat and thin; the others long conic-cylindric papillæ, with a setigerous cavity at apex.

Legs of male larger and stronger than those of female, without special modification for copulatory purposes, except that the claw of the male legs is short and stont; second joint with a short, sharp spine at apex below; joints in order of length 3, 6, 5, 2=4, 1; surface of joints not tuberculate nor papillate in either sex.

First and second pairs of legs free in both sexes; first pair much smaller than second and succeeding pairs, the two basal joints proportionately longer.

Second pair of legs of male with the coxal joint produced ventrally into a sharp cone, on the median face of which is the opening of the spermatie duct. Genitalia of female internal, protrusible. Genitalia of male apically of two parts, one of which is distally spatulate, transversely wrinkled, and with a decurved edge forming a groove which serves as a sheath for the other, styliform, ramus. Basal joint not expanded; apical joint inserted under the projecting edge of the aperture in which the genitalia lie. Segments of adult, 20.

Distribution.—The west coast of Tropical Africa.

OXYDESMUS CAMPII, new species.

Vertex prominent, granular-rugulose; sulcus very distinct.

Clypeus medianly prominent, nearly smooth or finely striate-rugulose, excavate below the antennæ; also a broad, oblique fossa midway between the antenna and the lateral margin.

First segment somewhat longer and narrower than the second, laterally decurved, especially in front; distinctly and broadly emarginate in front on each side of the prominent middle; a fine, smooth, raised margin runs entirely around; submarginal ridge smooth, very prominent, rather remote from the margin and incurved anteriorly. Surface of segment finely and evenly granular, obliquely rugulose on the anterior lateral portions; medianly in front there is a distinct prominent area; behind this a broad depression. Tubercles scarcely evident, areas wanting. Two tubercles representing the anterior row are located on the raised area; the second row is represented by two located considerably behind the middle, while of the third several are evident, the median coalesced with the posterior marginal ridge, the others very near it.

Subsequent segments gradually broader to the sixth or seventh, thence subequal to the seventeenth; second segment shortest, the others gradually longer to about the sixteenth. Anterior corner gradually less rounded, so that the middle segments have their lateral margins nearly straight, though the anterior corner is never as square as the posterior. Surface distinctly, though finely and evenly, granular, the tubercles gradually more prominent than on the first segment,

scarcely distinguishable with the naked eye; posterior row more and more remote from the posterior margin. Areas and transverse depression behind the first row of tubercles not distinguishable except on middle segments.

Carinae with edges faintly sinuate under magnification; submarginal ridge evident, straight, longitudinal, close to the margin, nearly smooth, shining.

Repugnatorial pores opening nearly laterad in the rather abrupt outer slope of the submarginal ridge. Above the pore the ridge is somewhat higher if viewed from the side, and the margin is somewhat decurved below the pore, causing the lateral margins of poriferous segments to appear much thicker than the others; around the pore is the usual excavation and raised rim, though not so pronounced as in some species.

Near the middle of the carinae of poriferous segments is a slight though evident elevation, showing the probable location of the repugnatorial gland; the duct leading out to the pore may sometimes be seen.

Below the carinae the surface is granular, the granules coarser below and toward the posterior margin; no large tubercles. Densely hirsute with long hairs along the margin.

Anterior subsegments longitudinally rugulose; sulcus between subsegments abrupt, deep, nearly smooth.

Penultimate segment with the large granules not distinct; surface uneven.

Last segment transversely rugulose, the posterior half abruptly thinner. Apex broad subquadrate, the twelve marginal and apical bristles located on or near the posterior margin.

Anal valves very finely granular, vertically somewhat rugulose; margins very prominent, thick; superior setigerous tubercle located on the margin; the inferior distinct, large.

Preanal scale prominent in the anterior portion; setigerous tubercles long, manillate, subequal to the broader median process.

Sterna granular, without hairs between the bases of the legs, but hirsute in front and behind.

Male legs hirsute, the hairs rising from small tubercles, especially on the distal joints; femora distinctly spined.

Color in alcohol dull brown to nearly black, the submarginal ridge, legs, and antennae, reddish; also a triangular median spot on the anterior subsegments. The apex of the triangle is directed caudad; sometimes it is produced a short distance upon the posterior subsegment.

Length, about 60 mm.: width, 11.5 mm.

Locality.—Near Leopoldville, Congo Free State, four males, collected by Rev. J. H. Camp, for whom the species is named, in the National Museum collection.

No. 758 of the Berlin Museum, collected at Chinchoxo, by Dr. Falkenstein, is a male of this species.

OXYDESMUS FLABELLATUS, new species.

Head as described for *O. campii*, and somewhat more hirsute.

First segment not so decurved as in *O. campii*; anterior emarginations not evident; raised margin not distinct posteriorly; surface of segment finely granular, uneven, but the granulation not nearly so pronounced as in *O. campii*, so that the surface appears smooth except in the depressions; tubercles very minute, the anterior median pair very close to the anterior margin; posterior row indistinguishable, suggested only by slight unevenness of the posterior margin.

Subsequent segments very similar to those of *O. campii*, but not so long; the carinæ are evidently shorter, the posterior margin of the anterior and middle ones being directed slightly cephalad from the horizontal, instead of slightly caudad, as is the case with the middle segments of *O. campii*. The difference in the length of the segments is, however, still more evident on the posterior segments, the posterior corners of which are more extended caudad in *O. flabellatus*. Surface somewhat smoother than in *O. campii*, and the tubercles less distinct; the arched median portion more convex and somewhat shining; tubercles visible to the naked eye on median segments, the areas obsolete, and the transverse sulcus very nearly so.

Below the carinæ the surface is less granular than in *O. campii*, but above the bases of the legs are two clusters of coarse papilliform tubercles; that opposite the anterior leg has the tubercles more crowded and shorter, and is placed on a rounded, cushion-like elevation.

Anterior subsegments somewhat more finely rugulose-striate longitudinally.

Last segment somewhat flabellate, the lateral margins evidently divergent caudad; posterior marginal tubercle much larger than the anterior, instead of subequal.

Anal valves distinctly granular and vertically rugulose, the margins also granular. Preanal scale with the median prominence of the same shape as the setigerous tubercles, but much larger and longer.

Sterna hirsute between the bases of the legs, the hairs rather scattering, rising from small tubercles.

Color in alcohol nearly black, with a slight brownish-vinous tinge, concolorous; legs scarcely paler.

Length, 65 mm.; width, 11.5 mm.

Locality.—One male specimen from the vicinity of Stanley Pool, Congo Free State, collected by Rev. J. H. Camp, in the National Museum collection.

As may be judged from the description, this species is evidently related to *O. campii*, from which it seems distinct in the characters noted.

The description was drawn with specimens of both species in hand, and that of *O. campii* may be supposed to apply to *O. flabellatus*, except where modified in the description of the latter.

The shorter carinae are also more distant from each other, and this, with the slight actual difference in length, makes the present species appear more slender. The differences in color, especially of the legs and antennae, are striking, while the shape of the last segment and pre-anal scale are unique and diagnostic. The differences are thus along lines which in other species do not appear subject to much variation, though their constancy in the present case must be shown by further collection.