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A new diplopod of the genus Spinotarsus from Tanganyika

(Spirostreptida: Odontopygidae)

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During the years 1931—1935, Mr. W. V. Harris collected diplopods at many localities in Tanganyika Territory, later sending his material to the late K. W. Verhoeff for determination. Verhoeff published the descriptions of some new species in 1941, but never completed his study of the entire collection. Therefore, among the unclassified diplopods of the Zoologische Staatssammlung (kindly sent to me for study by Dr. Egon Popp) are a number of the Harris specimens which represent still undescribed African species.

I wish to publish one of these species at the present time for two reasons: it is the northernmost representative of a genus largely confined to South Africa, and also, the telocoxite of the male gonopod appears to be of a primitive construction which is very rare among the known species of *Odontopygidae*. In other characters, particularly of the gonopod telopodite and the segmental limbus, this species appears to fit well into the genus *Spinotarsus* as recently (1960) redefined and monographed by Dr. Kraus.

Family **ODONTOPYGIDAE**

Genus **Spinotarsus** Attems

Spinotarsus Attems, 1909, Wiss. Ergeb. Schwed. Zool. Kilimandjaro, vol. 3, no. 19, p. 51. — Kraus, 1960, Ann. Mus. Roy. Congo Belge, Ser. Zool., No. 82, p. 118.

Spinotarsus dissutus, nov. sp.

Figs. 1—4

Holotype: ♂, Zool. Staats. München, from Morogoro, Tanganyika, collected by W. V. Harris. Date not recorded.

Diagnosis: A member of the "Apertus Group" of *Spinotarsus* (Kraus, 1960, p. 123) characterized by (1) the absence of a femoral spine from the telopodite, and (2) the distal end of the telocoxite which has the form of a fringed canopy closing the gonocoel.

Specimen bleached by long preservation, color pattern no longer distinct.

Body slender, length indeterminable because of breakage, diameter 3.7 mm.

Head smooth, polished, evenly convex; epicranial and interocular

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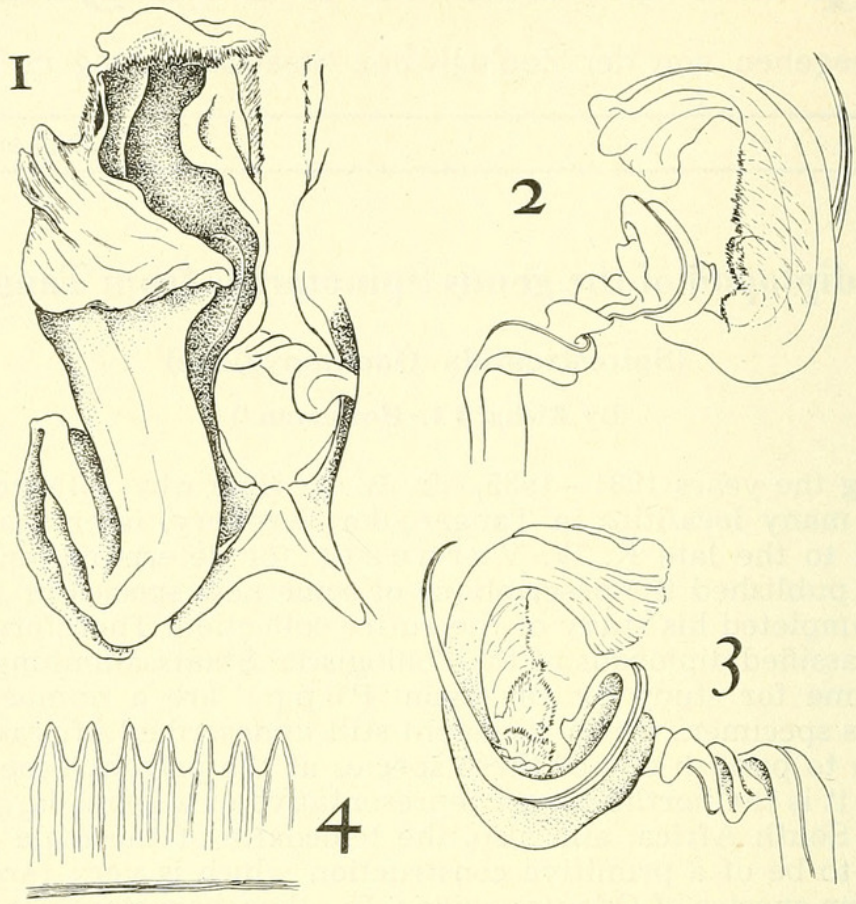

Figures 1—4. — *Spinotarsus dissutus*, n. sp., drawings from ♂ holotype. 1, Left telocoxite of anterior gonopods, oral aspect; 2, Left telopodite of anterior gonopods, oral aspect; 3, same, ab-oral aspect; 4, limbus from dorsolateral side of midbody segment.

sutures distinct; interantennal isthmus slightly flattened; genae continuing convexity of frons, not margined, but the edges bisinuate, each produced into a distinct notch and lobe just in front of dorsal corner of mandibular stipes, and also merging ventrally with the labroclypeal suture and thus appearing to overlap on the lateral edges of the labrum. Clypeal setae 2+2, labral setae about 6+6. Interantennal isthmus wide (0.7 mm.), only slightly less than length of 2nd antennal article (1.0 mm.); antennae long and slender, reaching back to 7th body segment, the 2nd article longest, its end surpassing anterior edge of collum. All articles clavate except 1st, and compressed, the basalmost only sparsely setose, but the hairs becoming more profuse and longer on distal articles. Lengths of articles in decreasing order: 2—3—4—5—6—1—7. Four tiny terminal sensory cones. Small, transversely oval sensory areas on the outer distal surface of articles 5 and 6. Antennal sockets with a fine but distinct raised marginal rim.

Exposed side of mandibular stipe rectangular, with the edges margined and the discal surface smooth and slightly convex, the dorsal anterior corner projecting beneath edge of gena. Ocellaria of the usual subreniform outline, diameter of each slightly less than the interocular space; ocelli in about 8 rows, as follows: 8—9—8—7—6—5—3—2, those of the uppermost row largely unpigmented.

Collum smooth, polished, the anterior lateral edge produced into a rounded lobe covering base of mandibular stipes, its edge set off by

an elevated marginal ridge; a second, more oblique ridge above and behind it, neither ridge extends as far as caudal edge of the collum.

Segments smooth, impunctate, the prozonites without any trace of concentric striation, the metazonites coarsely striate up to level of the ozopores, and very finely coriaceous across dorsum, the two subsegments seperated by a fine but sharply defined groove (level of the prozonite slightly higher than adjoining surface of the metazonite). No distinct longitudinal sutures evident, thus no distinct pleurites are visible. Sterna small and smooth, bases of legs closely crowded together, stigmata are not distinct at a magnification of 30×.

Body composed of 57 segments.

Limbus (fig. 4) of the typical *Spinotarsus* form, the edge dissected into numerous slender subequal points, each point about 1/3rd as long as the complete limbus.

Telson about twice as long as preceeding segment, epiproct elongate, subtriangular, its apex exceeded slightly by the acute and projecting dorsal spines of the paraprocts. Latter large, nearly flat, the distal edges slightly margined, with a setiferous socket near the midlength and another at base of dorsal spine; ventral paraproctal spine present and distinct but only half as large as dorsal spine. Hypoproct large, distinct, smooth, transversely oval, not fused with preceeding segment.

Legs long and slender, somewhat compressed, abundantly setose, the 4th and 5th podomeres with eversible ventral pads as far back as the legs of the 48th segment.

Gonopods large and robust. A distinct, deltoid sternite present in the anterior pair. Telocoxite (fig. 1) partially open, the gonocoel exposed. Outer paragonocoel produced on the anterior side into a large flat reflexed lobe, laterally with two prominent ridges. Inner paragonocoel enlarged distally, with a thin median hyaline fringe, its distal end recurved over the gonocoel in the form of a fringed operculum; median edge of inner paragonocoel slightly lobed and turned inward over the gonocoel.

Gonopod telopodite (figs. 2, 3) typical for the genus except for lacking femoral and tibial spines. Base of the tibial region enlarged, modified into the usual setiferous lobes, inner edge of the tibia laciniate. Telopodite distally flattened, expanded, hyaline, extending well beyond end of the solenomerite.

Observations: As recently treated by Dr. Kraus, *Spinotarsus* consists of 68 species, most of which occur in Natal, Zululand, and the Cape Province of South Africa. A few species also occur in Southwest Africa, Rhodesia, and Mozambique, and two extend north into the Congo (Katanga Province). *S. dissutus* thereby extends the range of the genus considerably to the northeast, by more than 1500 km.

Previously only seven genera of the *Odontopyginae* have been recorded from the coastal regions of East Africa: *Harmomastix, Helicochetus, Odontopyge, Plethocrossus, Prionopetalum, Rhamphidarpoides,* and *Syndesmogenus.* Of these genera, *Helicochetus* clearly seems to be most nearly related to *Spinotarsus.*

Dr. Kraus has endeavored to arrange the numerous species of *Spinotarsus* into natural groups on the basis of gonopod characters. Following his key to the groups, *dissutus* goes into the "*apertus*-group" which is defined in the following way: "Telecoxite lateral mit ± dreieckig vorspringender Platte, distal weit-offen, distal-oral höchstens mit sehr kleinem Fortsatz; Femoraldorn fehlend; Tarsus zu-

sammengefaltet, keine Bogenlamelle/Tarsaldorn." This group includes *S. apertus* (Attems) and *S. glomeratus* Kraus.

By comparison of the entire gonopod structure, *S. dissutus* is not very similar to either *apertus* or *glomeratus,* particularly in formation of the telopodite. In my own opinion, this species has perhaps developed its peculiar telocoxite by independent convergence. Possibly another group might be set up for it.

Most of the species and genera in the *Odontopygidae* have been based on characters of the gonopods, yet previous workers have almost without exception overlooked a structure of possible importance. This is the sternum of the anterior gonopods, which is almost never illustrated or described. In my experience with American spirostreptids, I have found the sternum to be very constant and reliable as a generic character, being much less variable than the more distal gonopodal elements. Probably it would be equally useful as a group-character in the *Odontopygidae* as well, particularly since the telocoxites and telopodites tend to be similar in many genera of that family. Comparison may be made between the sternum in *S. dissutus* and that of *Odontopyge astragalus* (Attems) figured in the Handbuch der Zoologie, vol. 4, p. 202, fig. 252 (1926).