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A consideration of the subgenus *Megaschizophyllum* of the diplopod genus *Ommatoiulus* (Julidae)

by

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With 6 text figures

SUMMARY

Description of a new subspecies in the diplopod genus *Ommatoiulus* from southern Spain, and notes on related forms. The nominal subgenus *Megaschizophyllum* is considered to have only one polytypic species, *O. diplurus*, with the four races *O. d. diplurus* (Attems), *O. d. hoplites* (Verhoeff), *O. d. appendiculatus* (Brolemann), and *O. d. mauriesi*, subsp. n. The species named *Schizophyllum ceratophorum* by ATTEMS in 1952 is not related to *diplurus*, but is probably a synonym of *Ommatoiulus armatus* (Verhoeff, 1910).

Specimens of a julid milliped collected in southern Spain (Cadiz) and recently submitted to me for identification by Dr. Clarence McCoy of the Carnegie Museum (Pittsburgh, U.S.A.) are referrable to the endemic subgenus *Megaschizophyllum* of the chiefly Iberian genus *Ommatoiulus*.

Examination of this material provided the opportunity for an evaluation of the group to the extent possible with pertinent literature sources. It has become evident as a result that *Megaschizophyllum* should probably be considered a monospecific group, since the differences in gonopod structure of the established taxa and the new specimens at hand do not seem to reflect more than subspecific differentiation, and since another form placed in this subgenus by Attems clearly does not belong here.

The several named forms of *Ommatoiulus diplurus* can be listed as follows:

Ommatoiulus diplurus diplurus (Attems), comb. et stat. nov.

Schizophyllum (Bothroiulus) diplurum Attems, 1903, *Zool. J.*, Abt. Syst. 18: 144, pl. 11, figs. 71, 72 ("Grenada, Andalusien").

Schizophyllum (Megaschizophyllum) diplurum: Verhoeff, 1910, *Nova Acta, Acad. Caesar. Leop. Carol.* 92: 195.

Ommatoiulus diplurus hoplites (Verhoeff), comb. et stat. nov.

Schizophyllum (Megaschizophyllum) hoplites Verhoeff, 1910, *Nova Acta, Acad. Caesar. Leop. Carol.* 92: 197, figs. VIII, XVII, XVIII ("Algeciras, Januar ♂♀").

Schizophyllum diplurum (nec Attems, 1903): Brolemann, 1928, *Bull. Soc. Sci. nat. Maroc* 8: 52, figs. 17-21 ("Algeciras; Andalousie, Tarifa").

Ommatoiulus diplurus appendiculatus (Brolemann), comb. nov.

Schizophyllum diplurum appendiculatum Brolemann, 1926, *Bull. Soc. Hist. nat. Afr. N.* 16: 147 ("Tipasa, Algeria").

Omma oiulus diplurus mauriesi, subsp. nov. [1]

? *Schizophyllum (Megaschizophyllum) diplurum:* Attems, 1952, *Eos.* 28: 365 ("Ronda").

Type material: Five adult specimens, from the following localities in Cadiz Province, Spain: ♂ holotype (Mus. Genève), 4.3 miles east of Arcos de la Frontera, 4 October 1969; ♀ paratype (Mus. Genève), 4.9 miles east of La Barca de la Florida, 4 October 1969; 1 ♂, 2 ♀♀ paratypes (Coll. Hoffman), same locality but 7 October 1969 (all S. D. Busack, leg.).

Diagnosis: Characterized by small details of the genitalia (figs. 1-3, 5), subterminal lateral projection of mesomerite larger than in other know forms; promerite slender and evenly curved, not short and cuneate as in *hoplites*, but less bisinuate than in *diplurus*; processes 1-3 of the opisthomerite entirely different in size and arrangement from those of *hoplites*, and the parasolenomerite much longer than the solenomerite instead of subequal to it, cf. figs. 5 and 6.

Holotype: Body with 50 segments, maximum diameter 3.9 mm. Color pattern strikingly annulate with ivory white on a black background; on anterior segments only posterior half of metazona white, in going posteriorly on body entire metazona become white; collum dominantly black with all margins white. Antennae, front of head, and legs reddish; margin of labrum testaceous; interocellariar band blackish.

Agreeing closely with ATTEMS' description of *diplurus* (1903: 44) in body structure, except that each segment has a transverse series of slender setae near posterior margin; these setae break off easily and doubtless had been abraded away in ATTEMS' types.

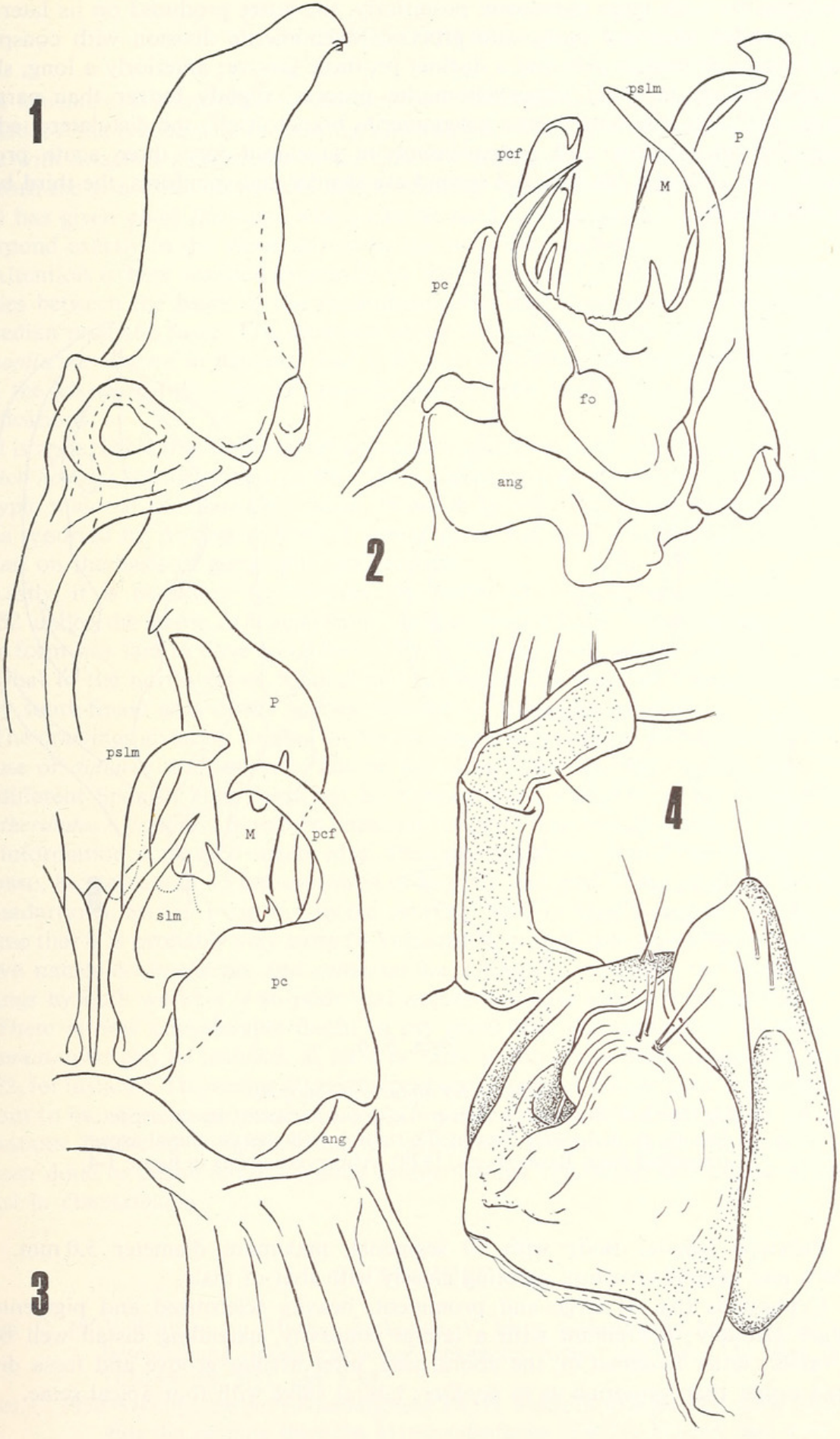
Gonopods similar to those of *diplurus* and *hoplites* in general form. Promerite relatively slender, its distal third bent abruptly mesad at a 45° angle and strongly narrowed to the acuminate, caudally-directed apex. Mesomerite almost as long as promerite, apically curved anteromesad, its lateral process large, slender directed distolaterad.

[1] For my colleague J.-P. Mauries (Paris), in recognition of his important recent studies on Iberian Diplopoda.

FIGS. 1-4.

Ommatoiulus diplurus mauriesi, n. subsp.

Fig. 1: Right promerite, anterior aspect.—Fig. 2: Left gonopods, mesal aspect.—Fig. 3: Right gonopods, posterior aspect.—Fig. 4: Right cyphopod and base of 2nd leg, posterior aspect. Abbreviations: ang, angiocoxite; fo, prostatic fossa; M, mesomerite; P, promerite; pc, paracoxite; pcf, paracoxite process; pslm, parasolenomerite.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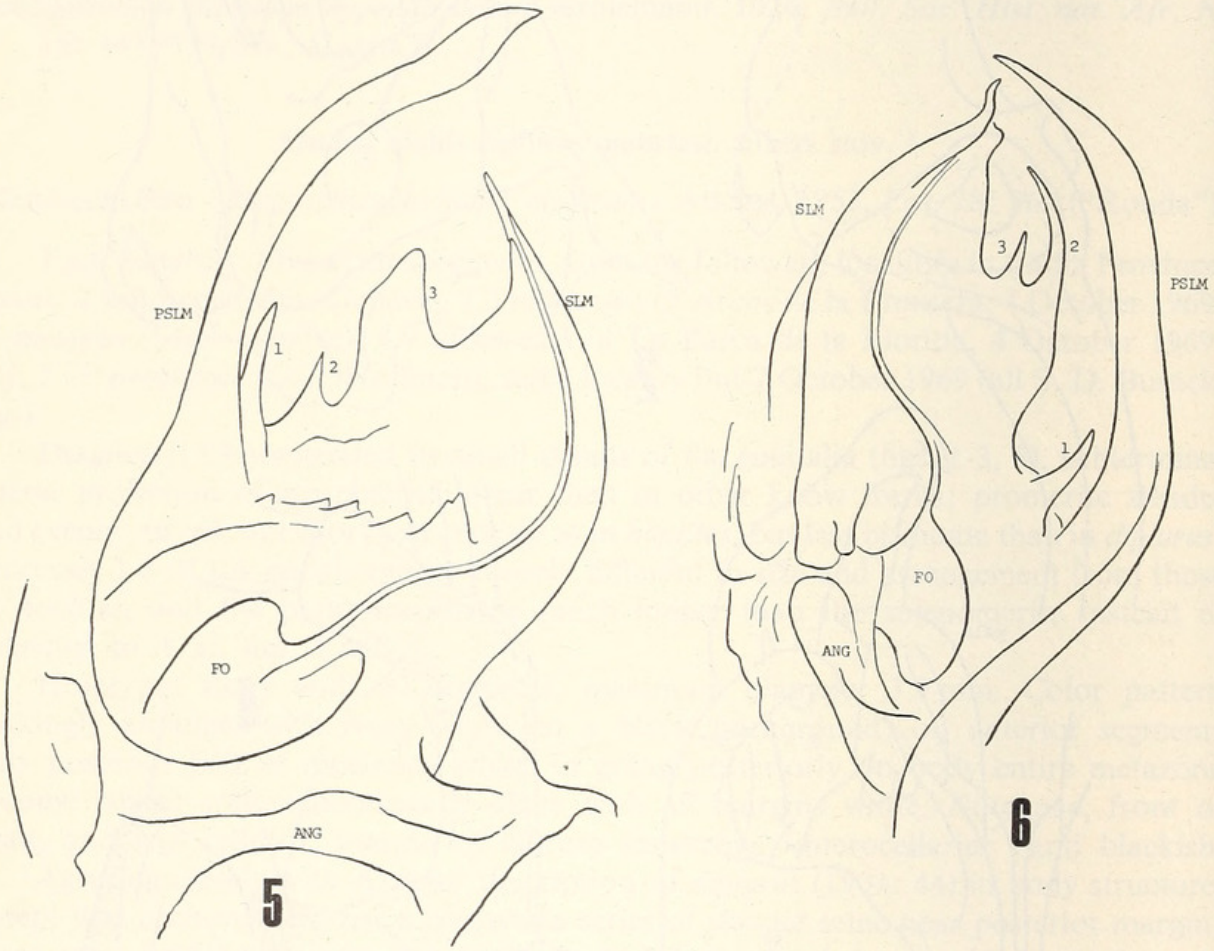
Opisthomerite with large paracoxite posteriorly, the latter produced on its lateral side into a slender, incurved paracoxite process. Solenomerite division with conspicuous basal foveola on median side and a distinct prostatic groove; anteriorly a long, slender, medioposteriorly incurved parasolenomerite process, slightly longer than paracoxite process and distinctly longer than solenomerite branch itself; the distolateral edge between the solenomerite and parasolenomerite produced into three acute processes (figs. 5, 1-3), of which the first and second are slender and spiniform, the third broader and sublaminate.



FIGS. 5, 6.

Ommatoiulus diplurus. Gonopods.
Fig. 5: *O. d. mauriesi*, n. subsp. Left opisthomerite, mesal aspect.—
Fig. 6: *O. d. hoplites* (Verhoeff), right opisthomerite, mesal aspect
(modified from BROLEMANN, 1928). Abbreviations as in figure 1-4.

Paratype female: Body with 50 segments, maximum diameter 5.0 mm. Color pattern and general structure agreeing closely with that of male.

Cyphopods (fig. 4) large and prominent, heavily sclerotized and pigmented, in contact medially; operculum with a lateral concavity, extending distad well beyond the valves; latter flattened on the aboral side, intervalvular groove and fossa directed mesad rather than posteriad as in *hoplites*; lateral valve with four apical setae.

COMMENTARY

A satisfactory knowledge of the gonopod structure in this group of millipeds is impeded by the inadequacy of existing illustrations. ATTEMS (1903) shows the opisthomerite with attached mesomerite in the anterior aspect only; Verhoeff (1910) seems to have torn the gonopods into pieces before drawing the isolated parts. Only BROLEMANN (1928) has given good drawings which can be used for comparison but none of them correspond exactly to the views shown by the two other authors.

Attention is here directed especially to the distal edge of the opisthomerite region that lies between the bases of the parasolenomerite and solenomerite, thus just above the median prostatic fossa. The processes along this edge are quite different in *mauriesi* and *hoplites* as shown in figures 5 and 6. If such differences are relatively constant between the known forms, they will provide perhaps the most useful means for making identifications.

It is remarkable that BROLEMANN apparently overlooked the 1910 paper of VERHOEFF in which *hoplites* was described, as his 1928 redescription of "diplurum" was based upon topotypic material of VERHOEFF's form. Without having restudied the specimens from Ronda reported by ATTEMS in 1952, I would guess that they are perhaps referable to *mauriesi* on the basis of geographic provenance.

Lastly, it is necessary to consider the status of a species described by ATTEMS in 1952 under the name *Schizophyllum (Megaschizophyllum) ceratophorum*. The type of this form was said to have come from "Sierra Guadarrama, Mte. Canal bei Villalba", somewhat to the northwest of Madrid and thus distantly removed from the otherwise strictly south-Spain area of the species referred to *Megaschizophyllum*.

The drawings given by Attems for his *ceratophorum* certainly have little resemblence to those of *diplurus* and its races, but on the other hand they are strongly reminiscent of a different Spanish julid described by VERHOEFF in 1910. This is his *Schizophyllum (Eleutheroiulus) armatus*, based on material labeled "Spanien, Pennalar S. Ildifonso". This information I take to mean Mte. Penalara (2430 m), above the village of San Ildefonso, located about 15 km southeast of Segovia and thus in the center of the Sierra de Guadarrama. So far I can not locate ATTEMS' locality Mte. Canal bei Villalba, but presume that it is probably very close to VERHOEFF's. It thus seems very likely to me that the two names *ceratophorum* and *armatum* are synonyms, although the quality of the drawings by both workers is so poor that accurate comparisons are impossible.

There is now considerable doubt in my mind that the recognition of subgenera in *Ommatoiulus* can be justified, at least as these groups have been defined by ATTEMS in 1952, for instance. This seems especially pertinent when the known taxa of a "subgenus" turn out to be, at most, geographic races of a single species. In his last papers on julids, BROLEMANN neglected subgeneric names altogether and until some revisionary work has been done to define natural species-groups I think this is the best course to follow at least in *Ommatoiulus*.

LITERATURE

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