

SOME NOTES ON THE MILLIPED FAMILY
PAEROMOPIDAE, WITH A DESCRIPTION
OF A NEW SPECIES¹

H. F. LOOMIS

5355 S.W. 92 St., Miami, Florida 33156

ABSTRACT

Notes suggesting possible synonymy of several genera and species are presented. A new species, *Paeromopus ocellatus* from California, is described, figured, and included in a key with the other species.

This small family of northwestern millipeds consisted of 14 species, of which 1 was doubtful, as given by Chamberlin and Hoffman (1958). Three more subsequently were added. Of the 16 unquestioned species only the 3 proposed by Karsch (1881), Brolemann (1922), and Verhoeff (1938), have been fully described and figured. The remaining 13, all by R. V. Chamberlin, generally were so briefly described, with only 7 illustrated, that identifications usually are difficult, at best.

In reviewing the various descriptions, preparatory to naming a new species in the type genus, it became apparent that the family is in great need of careful study. For satisfactory results, examinations of Chamberlin's holotypes, topotypes, and greater numbers of specimens will be necessary. This latter requirement may be difficult to overcome because the records imply that specimens of most species were very limited in numbers wherever collected, with distribution restricted to the type locality, in many cases. Failure to find more specimens probably should be attributed to rarity rather than size, for members of the family vary from 60 to 150 mm in length, the latter figure considerably exceeding that of any other milliped in the continental United States. Unfortunately, material for a proper study is not currently known to be available in collections, but observations herein may give aid and offer an incentive to a future worker.

Klansolus socius Chamberlin (1941) does not appear to be different, at least generically, from *Paeromopus chamberlini* Brolemann (1922), which species Chamberlin (1949) made the type of the genus *Atopolus*. Also in 1949, he placed his *Californiulus vicinus* (1943), which appears to be very close to genotype *C. dorsovittatus* Verhoeff (1938), in his genus *Klansolus* (1938), the genotype of which never has been illustrated. *Californiulus yosemitensis* Chamberlin (1941) may be involved in synonymy, either by genus, species, or both, with *Paeromopus chamberlini* Brolemann, *C. dorsovittatus* Verhoeff, *C. vicinus* Chamberlin, or *Klansolus socius* Chamberlin. It is also somewhat remarkable that, with close similarity thus indicated, the only established species synonym is for *Paeromopellus sphinx* Verhoeff (1938), placed under *Paeromopus lysioptetalinus* Karsch (1881).

¹Contribution No. 236. Bureau of Entomology, Division of Plant Industry, Florida Department of Agriculture and Consumer Services, Gainesville.

Paeromopus Karsch 1881*Paeromopellus* Verhoeff 1938.

The 1958 Checklist included 1 doubtful and 4 species considered valid in this genus. Among the latter was *P. pistus* Chamberlin (1941), founded without description other than body diameter, on illustrations he originally attributed to the genotype, *P. lysiopetalinus*. *P. angusticeps* (Wood 1864) was the doubtful species, but since the only specimen was a female, no longer known to exist, and its description gives no adequate characters for separation from the other species, it seems improper to retain it among them.

In 1953, Chamberlin described and figured *P. cavicolens* without mentioning *P. pistus*, although undoubtedly its closest relative. In comparing the gonopod illustrations of the 2 species, no striking differences are evident, and it is suspected that *cavicolens* is a junior synonym of *pistus*, but final judgement must await critical comparison of the *cavicolens* holotype with the original illustrations of *pistus*. With no diagnostic characters available for separation of these 2 species, the name *cavicolens*, supported by more data, has been used in the following key, instead of the older *pistus*.

In 1951, after the manuscript of the Checklist was finished, Chamberlin described *P. buttensis* without illustration. It and a proposed new species now are added to the recognizable taxa of the genus in the key. Holotype of the new species is deposited in the milliped collection of the National Museum of Natural History; the paratype is in the Florida State Collection of Arthropods, in Gainesville.

Key to the species of *Paeromopus*

1. Posterior gonopod slender, gradually reduced in thickness from base to apex *eldoradus* Chamberlin
- 1'. Posterior gonopod with basal portion thickened, upper portion slender 2
2. Ocelli 30-31; anterior gonopod with a complicated structure near base of the long, flagelliform, subterminal process *ocellatus* new species
- 2'. Ocelli fewer; structure near base of flagelliform process smaller, much less complicated 3
3. Structure at base of flagelliform process furcate, the proximal division with dentate margins *buttensis* Chamberlin
- 3'. Structure at base of flagelliform process not furcate 4
4. Body 6.8-8 mm in diameter; segment 1 with longitudinal striae restricted to lateral surfaces *lysiopetalinus* Karsch
- 4'. Body 6 mm in diameter; segment 1 with longitudinal striae across posterior portion of dorsum *cavicolens* Chamberlin

Paeromopus ocellatus new species

Holotype and another male from between Vallejo and Cordelia, Solano Co., California, 4 January 1928, collected by O. F. Cook, who photographed 3 additional males whose whereabouts are not known.

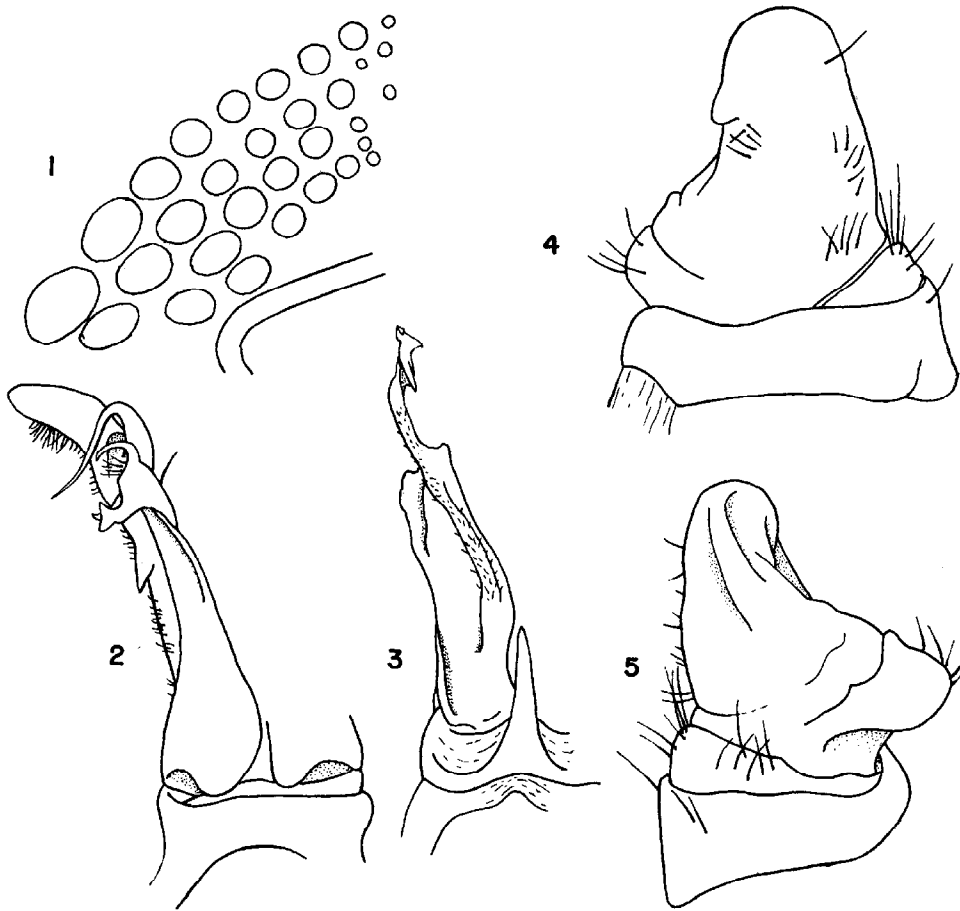


Fig. 1-5, *Paeromopus ocellatus* new species: 1. Ocelli adjacent to margin of antennal socket; 2. Left anterior gonopod (anteromesal view); 3. Left posterior gonopod (anterior view); 4. Left first male leg (slightly mesal-anterior view); 5. Same (posterior view).

Diagnosis: Apparently most closely related to *P. cavicolens* Chamberlin (1941), but slightly larger; with more numerous ocelli; segment 1 not striate behind, across dorsum; and with material differences of the gonopods.

Description: Both males dry and broken; 7-7.5 mm in diameter; 75 segments each; segments 6 and 7 slightly swollen, the latter widely open below, its inner margin each side visibly much raised in lateral view.

Head with deep median furrow of vertex extending to near back margin from a fine transverse stria connecting inner corner of eyes; surface behind stria with dense, fine, longitudinal wrinkles to posterior margin; median surface of clypeus progressively depressed from back to front; lateral margin of head deeply and evenly concave, paralleling upper margin of mandibular stipes, the tentorial notch in it relatively small and located immediately opposite middle of antennal socket; margin behind notch produced downward and squarely angled at junction of stipes and cardo. Eyes composed of 30-31 ocelli differing greatly in size (Fig. 1).

Antennae with sensory area at distal end of joints 5 and 6; area on the former much the largest; socket completely encircled by a sharply raised rim, the socket followed by a deeply concave furrow extending below eye to segment 1.

Segment 1 with lower sides smoothly and extensively curved inward below; a narrow rim extends around lateral limits and up to behind antennal furrow; longitudinal striae present in lower limits and for a short distance up posterior surface but not across dorsum. Segment 2 with striae restricted to lower half of body, extending higher on segment 3, and beginning to cross dorsum on segment 4, after which they are continuous to penultimate segment. Last segment lacking striae; slightly produced at apex. Striae of prozonites transverse, very faint on dorsum but a little more evident elsewhere; interzonal furrow distinct across dorsum but much more deeply impressed below pores, especially on anterior part of body.

Gonopods shown in Fig. 2 and 3; slender distal portion of posterior gonopod spiculate from base to near apex; middle of sternum produced into a slender, acute lobe.

First male leg shown in Fig. 4 and 5; second legs normal; ventral surface of joints 4 and 5 of succeeding legs fully occupied by inflated pads (deeply retracted in dry specimens); toward midbody the pads beneath joint 4 become restricted to the distal end and later disappear; those of joint 5 similarly become shorter after midbody and are lacking from last few pairs of legs. Coxae of legs 4-7 with prominent, rounded, slightly projecting, setose, distomesal shoulders.

LITERATURE CITED

- Brolemann, H. W. 1922. Notes on female paraiulids (Myriapoda), with description of a new species. *Ann. Entomol. Soc. Amer.* 15:281-303.
- Chamberlin, R. V. 1938. New diplopods. *Proc. Biol. Soc. Washington* 51:205-208.
- Chamberlin, R. V. 1941. New American millipeds. *Bull. Univ. Utah* 31 (11): 3-39.
- Chamberlin, R. V. 1943. On some genera and species of American millipeds. *Bull. Univ. Utah* 34 (6): 3-20.
- Chamberlin, R. V. 1949. American millipeds of the family Paeromopidae. *Chicago Acad. Sci. Nat. Hist. Misc.*, no. 2:1-6.
- Chamberlin, R. V. 1953. Six new American millipeds, with notes on several cave-dwelling species. *Proc. Biol. Soc. Washington* 66:67-72.
- Chamberlin, R. V. 1954. Six new California millipeds. *Proc. Biol. Soc. Washington* 67:231-234.
- Chamberlin, R. V., and R. L. Hoffman. 1958. Checklist of the millipeds of North America. *U. S. Nat. Mus. Bull.* 212:1-236.
- Karsch, F. 1881. Neue Juliden des Berlinen-Museums, als Prodrömus einer Juliden monographie. *Zeitschr. Naturw.* 54:1-79.
- Verhoeff, K. W. 1938. *Californiulus* n. g. und *Paeromopellus* n. g. verterer einer neuem familie der Symphyognatha-Arthropora. *Zool. Anz.* 122:113-127.
- Wood, H. C. 1864. Descriptions of new species of North American Julidae. *Proc. Acad. Nat. Sci. Philadelphia* 16:10-16.