

TWO NEW SPECIES OF DIPLOPODS FROM TEXAS AND ONE FROM MEXICO¹

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ABSTRACT

Eurymerodesmus digitatus and *Aniulus acuminatus* are described as new species with keys to the Texas species. *Tarascolus reflexus* is described as new and placed in a key with the other 2 Mexican species.

A collection of 4 species of diplopods, made in Burnet Co., Texas, contained 2 previously known species and 2 new ones, described hereafter. A new species from new Mexico City also is described as of special interest in adding characters and verifying previously doubtful ones in the genus to which it belongs.

The 3 male holotypes and 2 allotypes are deposited in the Florida State Collection of Arthropods in Gainesville. A male paratype of each species is in the milliped collection of the National Museum of Natural History, Smithsonian Institution, Washington, D. C.

Desmonus Cook 1898

Desmonus crassus Loomis 1959

Although considerably removed from the only reported locality of this species, the specimens show so few differences from it that they are thought to represent only an extension of range.

Two males, female, Texas, Burnet Co., 5 mi ESE Marble Falls, 15-II-75, J. C. Loomis.

Eurymerodesmus Brölemann 1900

KEY TO TEXAS species of *Eurymerodesmus*

1. Body 18.5 mm long, 2.5 mm wide; valves of female cyphopods unequal in length.....*sanbernardensis* Causey
- 1'. Body 20-23 mm long, 3.5-3.6 wide; valves of female cyphopods of equal length 2
2. Lower anterior process of male slender, finger-like, curved; outer joint of gonopods straight *digitatus* new species
- 2'. Lower anterior mandibular process of male broadly triangular, straight; outer joint of gonopods bent near apex.....
.....*melacis* Chamberlin and Mulaik

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Eurymerodesmus digitatus Loomis, NEW SPECIES

Diagnosis: Most closely related to *melacis* but differing mainly as stated in key.

Description: Length of mature specimens 20 mm; male 3.2 mm wide; female 3.6 mm wide and more convex. Color and its distribution apparently much as in *melacis*. Lower anterior process of mandibles as mentioned in key and shown in Fig. 1, curving slightly inward; process of female a much shorter, broadly rounded lobe. First segment of holotype with raised margin in front of posterior angle extending a little laterad of that preceding it, less so in paratype male. Lateral keels and their posterior angles as in *melacis*. Last segment with 3 widely spaced macrosetae along

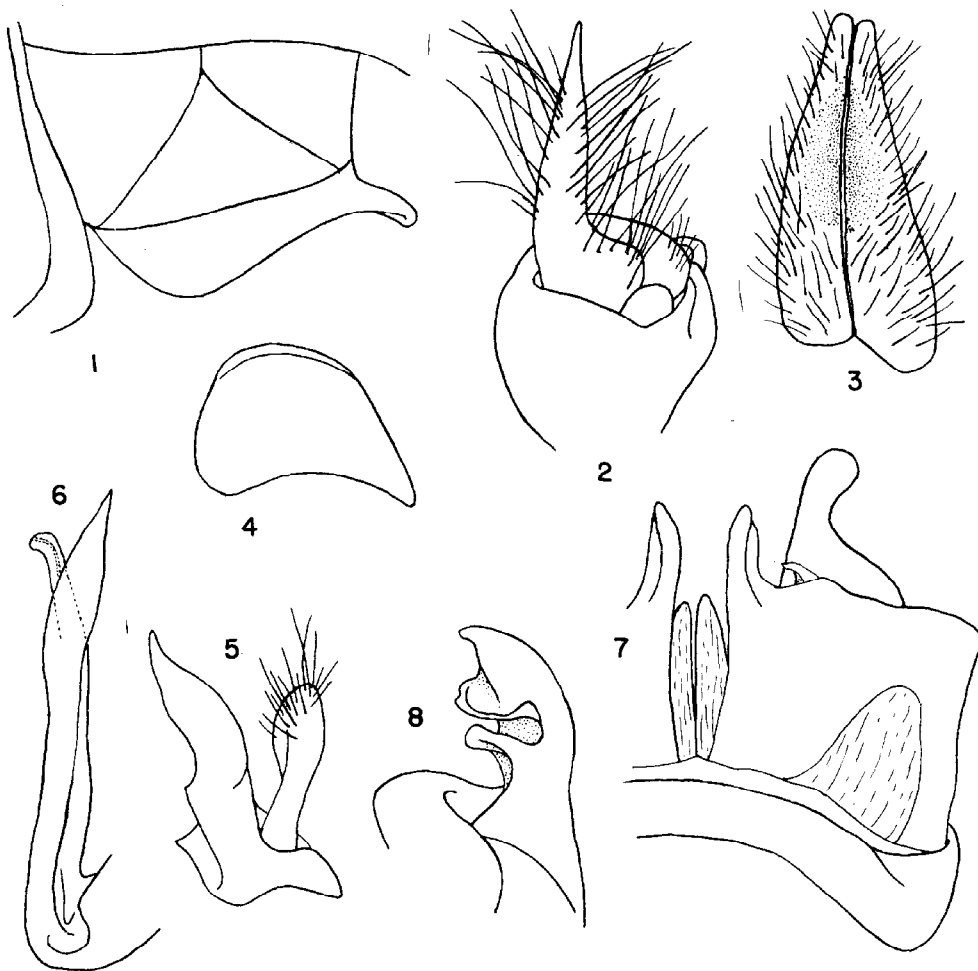


Fig. 1-8. Texas and Mexican millipeds. 1-3, *Eurymerodesmus digitatus* n. sp.: 1) mandibular stipes and margins of head and segment 1; 2) right gonopod, ventral view; 3) right cyphopod, cephalic view. 4-6, *Aniulus acuminatus* n. sp.: 4) mandibular stipes of male; 5) left anterior gonopod, outer lateral view; 6) left posterior gonopod, outer lateral view. 7-8, *Tarascolus reflexus* n. sp.: 7) right side of anterior gonopods, anterior view; 8) right posterior gonopod, anterior view.

each side of dorsum, another on side near apex, and 4 in apex. Anal scale large, almost evenly rounded behind, with a most faint apical angulation. Gonopodial opening large, broadly subcordate; lateral margin gradually raised from either end into a long, thin, rounded lobe, setose along crest and on outer surface. Gonopods (Fig. 2) contained in body, each terminal joint short, straight, with only faint upward curve. Coxae of first male legs with a short, conic, distomesal tubercle; those of next legs with high, curved, slenderly conic tubercle on ventral surface, the thicker seminal tubercles on posterior surface and caudally directed. Third male sternum very narrowly and deeply channeled along middle; sterna 4, 5, and 6 with small setose tubercles each side, those of 7th sternum nearly twice as large but smaller than those of 9th sternum, thereafter reduced and soon vanishing. Cyphopod of female (Fig. 3) narrowly and evenly sagittate, its valves nearly the same size and equal in length.

Holotype male, paratype male, female, 1 young, TEXAS, Burnet Co., 5 mi ESE Marble Falls, 15-II-75, J. C. Loomis.

Aniulus Chamberlin 1940

Sixteen species now are known in this genus, 9 of them concentrated in Texas, their original descriptions and illustrations of the gonopods readily distinguishing them. The remaining species are widely scattered in other states and apparently are quite localized.

KEY TO TEXAS SPECIES OF *Aniulus*

1. Secondary branch of posterior gonopods greatly reduced in size, vestigial.....*vestigialis* Loomis
- 1'. Both branches of posterior gonopods not greatly different in size 2
2. Both branches of posterior gonopods unusually broad.....*austinensis* Chamberlin
- 2'. Secondary branch of posterior gonopods slender 3
3. Seminal branch of posterior gonopods unusually broad.....*oreines* Chamberlin
- 3'. Both branches of posterior gonopods slender..... 4
4. Apical half of produced portion of coxae of anterior gonopods broadly foliar *adelphus* Chamberlin
- 4'. Apical half of produced portion of coxae of anterior gonopods not broadly foliar..... 5
5. Apical part of produced portion of coxae of anterior gonopods long and very slender *dorophor* Chamberlin
- 5'. Apical part of produced portion of coxae of anterior gonopods shorter and less slender 6
6. Produced portion of coxae of anterior gonopods short and smoothly clavate *fluviatilis* Chamberlin
- 6'. Produced portion of coxae of anterior gonopods longer and more irregular in shape..... 7

- 7. Produced portion of coxae of anterior gonopods twice as broad above middle as at base *craterus* Chamberlin
- 7'. Produced portion of coxae of anterior gonopods nearly as broad near base as beyond 8
- 8. Produced portion of coxae of anterior gonopods broad and abruptly pointed *brazonus* Chamberlin
- 8'. Produced portion of coxae of anterior gonopods more slender, gradually acuminate *acuminatus* new species

Aniulus acuminatus Loomis, NEW SPECIES

Diagnosis: As suggested by the key, the closest relative among the known species probably is *brazonus* Chamberlin 1940, as indicated by the anterior and posterior gonopods, the illustrations of the 2 species show the relationship, as well as the main differences.

Description: Largest specimen, holotype, 28 mm long, 53 segments; other male with 51 segments. Head with mandibular stipes as shown in Fig. 4. Ocelli of holotype 2-3-5-6-7-8-9-10, beginning near antenna. Lower margin of segment 1 long, straight to slightly rounded; raised rim strong. Lower side of segment 2 with 3-5 deep channels in both males. Lower side of male segment 7 long and straight but somewhat oblique. Mucro of last segment moderately exceeding valves. Transverse sulcus of segments strongly impressed across dorsum and only slightly curved in front of adjacent prominent pores on anterior segments but more curved and farther removed thereafter. Gonopods shown in Fig. 5 and 6. Sternum of 10th male legs large, extending forward and upward well into body, with a prominent median ridge, the lower end of which, in ventral view, projects as an angle into gonopodial opening.

Holotype male, paratype male, female with last 3 segments legless, TEXAS, Burnet Co., 5 mi ESE Marble Falls, 15-II-75, J. C. Loomis.

Ziniulus Chamberlin 1940

Ziniulus aethes Chamberlin 1940

Two males, Texas, Burnet Co., 5 mi ESE Marble Falls, 15-II-75, J. C. Loomis. This is an extension of range for the species.

Tarascolus Chamberlin 1943

Neither species of this genus has been reported since the original descriptions and illustrations appeared, and these left much to be desired. Hoffman and Orcutt 1960 did not examine specimens, and their statements of characters were found on Chamberlin's text and figures, or studied conjectures. Thus, the finding of a third species allows certification of old and new generic and specific characters and verification of the distinctness of *Tarascolus* from *Scobinomus* Loomis 1953. Differences of the former genus include the clasping first segment, lack of scobinae, straight posterior margin of segments which are without subventral serrations or dentations, and coxites of anterior gonopods not grooved nor separated by membrane from the sternum for much of their breadth.

KEY TO SPECIES OF *Tarascolus*

1. Suture on either side of midbelt distinct *clarus* Chamberlin
- 1'. Only anterior suture more or less distinct 2
2. Punctations of midbelt noticeably smaller than on hindbelt;
coxal lobes of male legs 4 and 5 strongly reflexed
..... *reflexus* new species
- 2'. Midbelt and hindbelt uniformly punctate; coxal lobes of
male legs 4 and 5 vertical *bolivari* Chamberlin

Tarascolus reflexus Loomis, NEW SPECIES

Diagnosis: Related to *bolivari* Chamberlin 1943 but outwardly distinguished by the fine punctations of midbelt, contrasting with coarse ones of hindbelt, and by the reflected tips of coxal lobes of male legs 4 and 5; gonopods also differ.

Description: Body black or nearly so above; length 37mm, diameter 3.8 mm; 48 segment both males; segment 6 and 7 strongly swollen on sides, forming widest part of body. Clypeal fovea 4-4. Segment 1 moderately emarginate behind stipes; thickly rimmed along its lower half; lower limits directed downward and inward; surface with a few fine, rather short, and irregular scratches, and fine, sparse punctations; posterior surface with several striae above lateral angles. Segments, except terminal ones, with broad, indefinite constriction containing midbelt; transverse suture finely impressed between forebelt and midbelt of segment 10 (holotype), segment 20 (paratype), to caudal end of body; no impression between mid- and hindbelt, along middorsum, nor on sides near pores. Forebelt finely transversely striate; midbelt finely and rather sparsely punctate on all but a few caudal segments where size and number increase; hindbelts, last segment, and anal valves coarsely punctate. Lateral striations deeply impressed, often reaching nearly to pores or infrequently above them, their back terminus not marked by a protuberance. Pores large, opening from a distinct pit at front of hindbelt. Last segment broadly rounded at apex, considerably exceeded by anal valves which meet in a deep reentrant angle. Preanal scale short, wide; broad apex at most only faintly rounded; surface noticeably depressed in front of apical half. Gonopods shown in Fig. 7 and 8; coxites of anterior gonopods smooth and without grooves and only partly separated from sternum by membrane; sternum deeply channeled between thick basal portion and that above. Legs 1 and 2 strongly crassate; claws longer and heavier than those that follow. Coxal lobes of third legs longer and narrower than those of *bolivari*, extending between lobes of legs 4 and 5, these lobes narrowly elevated with strongly reflexed tips; coxal lobes of 6th legs broader than preceding ones, ending in a subangular tip, recurving slightly; coxae of 7th legs much thicker and not lobed. Ventral margin of segment 7 high and thin across middle, a separate excavation either side, in front, for reception of tips of anterior gonopods.

Holotype male, another male, MEXICO, 21 km NE Mexico City (La Marquesa), 22-VI-75, Sanchez Velazquez Leticia.

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