A NEW GENUS OF NORTH AMERICAN HARVESTMEN
(ARACHNIDA: OPILIONES: PALPATORES)

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ABSTRACT.—*Dalquestia*, a new genus of harvestmen is described. *Eurybunus formosus* Banks, from Texas, is redescribed and designated the type species of *Dalquestia*. *Globipes rugosus* Schenkel, from California, is redescribed and transferred to the new genus. *Dalquestia concho*, n. sp. and *Dalquestia grasshoffii*, n. sp. are described from Chihuahua—Durango and Hidalgo, México, respectively.

In 1980, Cokendolpher reported that *Globipes rugosus* Schenkel, *Globipes formosus* (Banks), and an undescribed species from México differed from typical *Globipes* spp. Further studies revealed that these species represented an undescribed genus and that a second undescribed species exists in México. It is the purpose of this paper to describe the new genus and the two new species.

The new genus is a member of an undescribed family or subfamily, here referred to as the *Metopilio* assemblage. This group was first noted by Gruber (1969) and consists of *Metopilio* Roewer, *Diguetinus* Roewer, *Globipes* Banks, *Eurybunus* Banks, and *Dalquestia*, new genus. As the classification of the Phalangiidea is unresolved, I refrain from formally describing a new taxon for the assemblage. Current ideas on the classification of the Phalangiidea embrace essentially the same groups, but the different systems rank particular taxa at significantly different levels (i.e., a tribe in one system will be a family in another system). The notion that members of the *Metopilio* assemblage belong to the Leptobunidae (Starega, 1978, and others in correspondence) is incorrect. The Leptobunidae has been a catchall group for many years. It is now known that this group is not monophyletic and that the type genus *Leptobunus* Banks is a member of the Phalangiinae, Phalangiidae (Cokendolpher, 1981b). It should be noted that Starega (1978) was correct in transferring *Globipes charitonovii* Grizenko (from Kazakhskaya S. S. R., central Asia) to *Egaenus* C. L. Koch. The *Metopilio* assemblage is apparently restricted to southern North America and Central America.

MATERIALS AND METHODS

Acronyms for collections from which specimens were examined are listed in the acknowledgments. Specimens in my personal collection are listed JCC.

All anatomical measurements are in millimeters and were obtained using a binocular microscope equipped with an ocular micrometer as outlined by Cokendolpher (1981a). Descriptions are based on all available specimens, but measurements were only taken of the largest and smallest (based on
total length when more than two specimens were available) of each sex. The genitalia were removed from the body, examined and illustrated, and then placed in genitalia vials, which in turn were placed in the specimen vials. The male genitalia were immersed in 100% glycerol for study. A tuft of cotton placed in glycerol was used to support the penes when lateral views were desired. The female genitalia were first examined in 100% clove oil and then in 100% lactophenol (Krantz, 1970:49). The ovipositors were soaked in absolute ethyl alcohol (to remove all traces of oil and phenol) prior to rehydration and placement in genitalia vials. All illustrations were prepared with the aid of a camera lucida.

**Dalquestia**, New Genus


**Type species.**—*Eurybunus formosus* Banks, by the present designation.

**Etymology.**—Named in honor of Dr. Walter W. Dalquest; the gender of the name is considered feminine.

**Diagnosis and comparisons.**—*Dalquestia* differs from all known genera of Palpatores by the combination of the following characters: 1) palpal claws smooth, 2) lateral coxal denticle rows absent, 3) dorsal abdominal scutes fused, with seven rows of tubercles, 4) scent gland pores distinctly visible from above, 5) all legs with distinct longitudinal rows of tubercles, 6) tibiae angular in cross section, 7) femora lacking pseudo-articular nodules, 8) penis with base of corpus greatly enlarged, and 9) glans an extension of corpus, junction immovable. *Dalquestia* is clearly a member of the unnamed assemblage in which Gruber (1969) placed the genera *Metopilio, Digueutinus, Eurybunus, and Globipes*. Like *Metopilio* and *Digueutinus*, *Dalquestia* has rows of abdominal tubercles. *Dalquestia* differs from *Metopilio* and *Digueutinus* primarily by the angular cross section of the leg tibiae, and by having non-alate penes which have the corpus greatly enlarged. *Dalquestia* differs from *Eurybunus* and *Globipes* (note that there are some misplaced *Metopilio* spp. described or incorrectly placed in *Eurybunus* and *Globipes*) not only by the presence of abdominal tubercles, but by the characters mentioned above to separate *Dalquestia* from *Metopilio* and *Digueutinus*. Although it is of limited use, *Dalquestia* spp. have one or no pseudosegments on tibiae II. Two or more pseudosegments are known from other members of the assemblage.

**Description.**—Small to medium sized harvestmen with hard granulate bodies; scutes fused, thoracic tergite margins indistinct laterally; with seven rows of dorsal abdominal tubercles (Figs. 1-5). Ocular tubercle low, with two rows of well developed tubercles. Chelicerae with or without tooth on basal joint; movable finger without apophysis (Figs. 13 and 14). Supracheliceral lamellae indistinct, not visible from above. Preocular area with a small
Fig. 1.—*Dalquestia formosa* male from cave in central Texas.
Figs. 2-5.—*Dalquestia* males, dorsal aspects: 2, *D. formosa*; 3, *D. rugosa*; 4, *D. grasshoffi*; 5, *D. concho* (scale lines = 1.0 mm).
medium hump, covered with pointed tubercles. Scent gland pores facing anterodorsad, with paired dark depressions, mounted on small raised areas, and often with paired lateral tubercles. Abdominal sternites closely spaced, borders indistinct. Leg coxae without lateral rows of denticles; I and III enlarged in males; endites of coxae II extended in front of genital operculum, forming obtuse angle to each other. Legs short, femora II approximately equal to (males) or shorter than (females) body length; pseudoarticulatory nodules of femora lacking; tibia II with one or no pseudosegments; metatarsi without pseudosegments. Leg claws smooth, untoothed. Males with legs I and III enlarged, metatarsi and basal portions of tarsi with ventral rows of spine-tipped tubercles. Femora and tibia of legs
(less so on I and II) pentagonal or hexagonal in cross section (Figs. 6-11). Genital operculum lacking lateral rows of denticles. Palpi with many tubercles on all sides except mesal margins, lacking apophyses; femora, patellae, and tibiae flattened mesally; males with tarsi ventrally armed with many small tubercles; claws untoothed, smooth (Fig. 12). Penes broadest at base, sharply tapering to a thin shaft; distal 1/4 of corpus flattened; glans rigidly fixed to corpus, with four delicate bristles distodorsally. Stylus thickened and slightly fusiform (Figs. 15-21). Ovipositors with 25 to 28 rings and three segmented furcal; second furcal segment with two to three slit sensilla (rarely with single sensillum) per side. Seminal receptacles consisting of paired convoluted tubules (Figs. 23-27).

Subordinate taxa.—The genus Dalquestia contains four species, *D. formosa* (Banks), *D. rugosa* (Schenkel), *D. concho*, n. sp., and *D. grasshoffii*, n. sp. In addition to differences in morphology, these species can easily be distinguished by their distributions, all being widely separated (Fig. 28).

**Key to the Species of Adult Dalquestia**

1. Tibiae II with distinct pseudosegments; basal segment of chelicerae smooth dorsally ........ 2

   Tibiae II lacking pseudosegments; basal segment of chelicerae with tubercles dorsally (Figs. 13 and 14) .......................................................... 3

2. Tibiae II sharply bicolored; total length of body greater than 4.30 mm (male) or 5.60 mm (female); Chihuahua and Durango border .......................... *D. concho*

   Tibiae II distally lightened but not sharply bicolored; total length of body less than 3.50 mm (male) or 5.20 mm (female); Hidalgo .................................. *D. grasshoffii*

3. Tibiae of all legs with distal white bands; abdominal tubercles approximately uniform in size (Fig. 2); Texas ........................................... *D. formosa*

   Tibiae of all legs uniformly brown or brown mottled with white; abdominal tubercles noticeably larger towards the posterior midline (Fig. 3); southwestern California . . . . *D. rugosa*

**Dalquestia formosa** (Banks), new combination

Figs. 1, 2, 6-13, 15, 16, 23, 24, 28

*Eurybunus formosus* Banks, 1910:156; Comstock, 1948:72.


**Types.**—Although Banks (1910) did not give many detactions, it is apparent from examination of museum specimens that two different collections were involved. One collection was made at Barton Creek, near Austin, Travis Co., Texas, elev.? (22 Nov. 1899, J. H. Comstock) and was catalogued as Cornell University Lot 255. I am selecting a male from Lot 255 as the lectotype. This male and two females, herein designated paralectotypes, are deposited at the MCZ. The remaining paralectotypes (1 male, 1 female, 1 juvenile) forming Lot 255 are part of the Cornell University collection on semi-permanent loan to the AMNH. The second collection of syntypes, herein designated paralectotypes, are likewise from the Cornell University collection on loan to the AMNH and consists of 1
Figs. 15-27.—Dalquestia genitalia: 15, D. formosa penis, dorsal aspect; 16, lateral aspect of distal end; 17, D. rugosa penis, dorsal aspect; 18, lateral aspect of distal end; 19, D. grasshoffi penis, dorsal aspect; 20, lateral aspect of distal end; 21, D. concho penis, dorsal aspect; 22, lateral aspect of distal end; 23, D. formosa seminal receptacle, specimen from Chisos Mountains; 24, D. formosa seminal receptacle, specimen from central Texas (Kerr Co.); 25, D. rugosa seminal receptacle; 26, D. grasshoffi seminal receptacle; 27, D. concho seminal receptacle (scale line A = 0.1 mm for seminal receptacles, B = 0.5 mm for penes).
male and 2 juveniles collected at Austin, Travis Co., Texas, 500-600 ft (150-180 m) elev. (12-18 March 1903, J. H. Comstock).

Diagnosis and comparisons.—In most respects, *D. formosa* resembles *D. concho*, n. sp. and *D. grasshoffi*, n. sp., but can be easily distinguished from these two species by its larger size, lack of tibiae II pseudosegments, and by the presence of many tubercles on the leg coxae (only marginal groups of tubercles on the other two species). *Dalquestia formosa* and *D. rugosa* can be separated by the differences in their chelicerae and in color as noted in the key to species (see also “diagnosis and comparisons” of *D. rugosa*).

Distribution.—Central and southwestern Texas in the U.S.A. (Fig. 28).

Description.—Males: Body large, total length 5.67-6.91, greatest width 2.72-3.94, maximum height 2.33-3.10. Dorsum dark brown to black, often appearing metallic, with white to pinkish-white (rarely pink) spots on median portions of last three abdominal tergites (Fig. 1); rarely with pale pink to white small dots between first and second abdominal tergites; lateral margins of cephalothorax (posterior to scent gland pores) and abdomen (anterior to front margin of penultimate tergite) white to yellowish-white; thoracic and abdominal tubercles large and approximately equal in size (Fig. 2). Ocular tubercle concolorous with cephalothorax; length 0.31-0.46, width 0.36-0.45, height 0.19-0.20; with 5-7 sturdy, pointed tubercles on each side. Venter smooth and creamy-yellow white to light brown; except for posterior end of abdomen and lateral margins of abdominal sternites, orangish-brown to black (commonly dark brown) with small pointed tubercles. Genital operculum length 1.38-2.18, width at base 1.09-1.43, width at neck 0.58-0.78. Palpal segment lengths: femora 0.86-1.22, patellae 0.72-1.12, tibiae 0.83-1.39, tarsi 1.30-1.74. Chelicerae with distinct ventral spur on basal segment, with few tubercles dorsally (Fig. 13). Chelicerae and palpi light brown to black. Legs (Figs. 6-11) with distinct rows of large pointed tubercles on femora, patellae, and tibiae; tibiae II without pseudosegments. Legs yellowish-white to light yellowish-brown with distal parts of femora II shaded yellowish-brown to brown; distodorsal tips of femora II and IV and all tibiae white; distal parts of patellae shaded brown; all tibiae, metatarsi II, and tarsi II and IV dark brown. Tarsi I and III, metatarsi I, III, and IV dark yellowish-brown; distal tips of tarsi and metatarsi white; proximal ends of metatarsi IV, rarely III, white. On occasion leg femora (excluding II), all coxae, and trochanters with considerable irregular white reticulations. Coxae with lateral clusters of tubercles on anterior and posterior margins of I, III, IV, and anterior of II; few scattered small tubercles on all coxae, particularly numerous on I. Femora I-IV lengths (respectively): 2.28-2.63, 5.68-6.15, 2.18-2.67, 3.32-3.70; tibiae I-IV lengths (respectively): 1.97-2.58, 4.61-5.14, 1.82-2.38, 1.82-2.82. Penis as in figures 15 and 16, length 2.72-2.86.

Females: Form and coloration as in males except palpi and legs not enlarged or modified, tubercles reduced in size and number on leg coxae and chelicerae dorsally. Lateral white stripes of dorsum extend from just posterior of scent gland pore to anterior edge of penultimate abdominal
Fig. 28.—Distribution of *Dalquestia*, star = *D. rugosa*, circle = *D. formosa*, triangle = *D. concho*, square = *D. grasshoffi*.

Tergite. Total length 4.58-7.16, greatest width 3.12-4.19, maximum height 2.16-3.00. Ocular tubercle longer than wide, length 0.38-0.39, width 0.32-0.35, height 0.14-0.17, with five large rounded tubercles over each eye. Genital operculum length 1.40-1.48, width at base 1.34-1.68, width at neck 0.74-0.76. Palpal segment lengths: femora 0.78-0.80, patellae 0.55-0.57, tibiae 0.64-0.66, tarsi 1.15-1.33. Tibiae II without pseudosegments. Femora I-IV lengths (respectively): 2.00-2.08, 5.61-6.08, 2.06-2.08, 3.43-3.75; tibiae I-IV lengths (respectively): 1.58-1.78, 4.31-4.54, 1.74-1.82, 2.31-2.49. Seminal receptacles as in Figures 23 and 24.

Imatures: Body smooth, lengths 3.3-4.5; dorsally reddish-brown with dark reddish-brown ocular tubercle; creamy-white stripes laterally from scent gland pores to about middle of abdomen and creamy-white spot medially on last three abdominal tergites; with characteristic rows of tubercles, as in
adults. Venter creamy-white to whitish-yellow except for anal plate and lateral portions of last three to four sternites reddish-brown. Chelicerae and palpi creamy-white with extensive reddish-brown mottlings. Basal joint of chelicerae with distinct ventral spur. Palpi without apophyses or tubercles. Leg coxae, trochanters, and bases of all femora creamy-white; femora (excluding II) and patellae (excluding II) light orange to creamy-orange distally, femora II and patellae II distally orangish-brown. Extreme distal tips of femora II orange, all tibiae reddish-brown with broad white bands on II and creamy-white to whitish-orange on distal ends of I, III, and IV. Tarsi and metatarsi light creamy-brown to light reddish-brown with white on proximal ends of metatarsi III, and distal ends of metatarsi III and IV.

Natural history.—From labels accompanying museum specimens, it is clear that many of the specimens were collected under rocks and pieces of wood. Adult specimens have been collected throughout the year with the majority being taken from July to November. Juveniles are likewise known throughout the year, but too few specimens are known to determine any seasonal trends. Two females collected during October contain large eggs. This species is known from essentially two regions of Texas, the Chisos Mountains and central Texas. From the latter region, specimens have been collected at altitudes from 150 to 550 m, with the majority from 290 to 360 m elevation. Collections from the Chisos Mountains were made at elevations from 1370 to 2130 m, with the majority from 1550 to 1640 m. No other natural history data are available.

male, 1 female (FMNH), Chisos Basin (2 Aug. 1938, collector ?), 3 males (AMNH), 3 males (ALE), (31 July 1937, K. P. Schmidt), 1 male, 1 female (FMNH), (6 Aug. 1937, K. P. Schmidt), 1 juvenile (FMNH), Chisos Basin Pass (28-29 July 1979, O. F. Francke and J. V. Moody), 1 male, 1 penultimate male, 2 females, 2 juveniles (OFF).

**Dalquestia rugosa** (Schenkel), new combination

Figs. 3, 14, 17, 18, 25, 28


**Types.**—Male lectotype and male (reported as a juvenile) paralectotype (designated by Forcart, 1961:53) from Country Club Heights, La Jolla, San Diego Co., California, 500 ft (150 m) elev. (10 Jan. 1939, H. Schenkel-Rudin), NMB no. 90-a, examined.

**Diagnosis and comparisons.**—In addition to the characters stated in the key to species, *D. rugosa* can be distinguished by the lack of white spots on the posterior end of the abdomen, which are so striking in other *Dalquestia* spp. (Fig. 1). The cheliceral spur or “hook” is not developed in *D. rugosa* as it is in its congeners (Figs. 13 and 14), but the development of tubercles on the distal segment of the chelicerae occurs only in *D. rugosa* males.

**Distribution.**—Known only from southwestern California in the U.S.A. (Fig. 28).

**Description.**—Males: Body large, total length 4.67-5.81, greatest width 2.42-3.53, maximum height 2.38-2.64. Dorsum roughly granulated, light brown to dark reddish-brown with considerable spotting and mottling of darker brown; small tubercles and ridges of abdomen reflect light as sparkles; rounded tubercles on abdomen increase in size posteriorly and medially (Fig. 3). Ocular tubercle length 0.38-0.41, width 0.35-0.42, height 0.12-0.18, with 4-7 short rounded tubercles on each side. Venter uniformly light yellow brown to light brown. Anal plate and posterior half of the last two sternites strongly rugose; anterolateral margins of all abdominal sternites rugose. Genital operculum length 1.46-2.07, width at base 1.03-1.58, width at neck 0.43-0.71. Palpal segment lengths: femora 0.79-1.12, patellae 0.60-0.78, tibiae 0.72-0.98, tarsi 1.19-1.47. Chelicerae with many tubercles on dorsal surfaces of both segments; basal joint without ventral spur (Fig. 14). Legs, palpi, and chelicerae light yellowish-brown to light reddish-brown in color. Leg femora and tibiae slightly darker in color and mottled, with rows of large tubercles. Coxae evenly covered with pointed tubercles except anterior edges of III slightly more tuberculate. Tubercles on leg coxae, trochanters, palpi, and chelicerae dark brown to black, very conspicuous. Femora I-IV lengths (respectively): 1.80-2.50, 4.28-5.80, 1.62-2.09, 2.16-3.08; tibiae I-IV lengths (respectively): 1.69-2.48, 3.81-5.00, 1.95-2.00, 1.83-2.38. Penis as in figures 17 and 18, length 3.18-4.02.

Females: Form and coloration as in males, except legs, palpi, and chelicerae not enlarged or modified, and body not as tuberculate. Chelicerae with few tubercles dorsally on basal joint, none on distal joint, lacking distinct spur ventrally. Tubercles on abdomen dorsum much smaller than
on males (largest female tubercle slightly larger than smallest tubercle on males). Total length 5.28-5.49, greatest width 2.71-2.80, maximum height 1.76-2.18. Ocular tubercle slightly longer than wide, length 0.27-0.34, width 0.25-0.30, height 0.13-0.14, with 5-7 low tubercles on each side. Genital operculum length 1.10-1.15, width at base 1.14-1.26, width at neck 0.37-0.56. Palpal segment lengths: femora 0.66-0.70, patellae 0.35-0.43, tibiae 0.50-0.56, tarsi 0.93-1.06. Tibiae II without pseudosegments. Femora I-IV lengths (respectively): 1.60-1.72, 4.50-7, 1.42-1.89, 2.63-2.81; tibiae I-IV lengths (respectively): 1.31-1.40, 3.77-7, 1.26-1.31, 1.63-1.67. Seminal receptacle as in figure 25.

Immature: Body length 4.4; dorsally uniform light brown with dark brown to black rings around eyes; smooth except for two thoracic and seven abdominal rows of tubercles. Venter smooth except for small tubercles on anal plate; light creamy-yellow. Palpi and chelicerae lacking all tubercles, light yellowish-brown to light reddish-brown in color. Basal segment of chelicera with rounded ridge, spur absent. Legs with tibiae angular in cross section; with rows of small tubercles on femora, patellae, and tibiae; tibiae II without pseudosegments; light yellow brown to reddish-brown with some mottling.

Natural history.—All known specimens, except for the types, were collected with pitfall traps. Adults have been taken throughout the year. Two females collected on 15 January and 29 August, respectively, had their abdomens distended and contained large eggs. The single juvenile, a late instar female, was collected on 19 December. Collections have been made in two different regions about 100 km apart. Near the type locality, specimens come from areas between 100 and 150 m in elevation and are found in altered (disturbed) chaparral. Other samples are known from Palomar Mountain (550-1350 m elevation).


Dalquestia grasshoffi, new species
Figs. 4, 19, 20, 26, 28

Types.—Male holotype, male paratype, and two female paratypes from Jucula, Hidalgo, Mexico, 4000 ft (1200 m) elev. (20 April 1908, W. J. Gertsch and W. Ivie), AMNH.

Etymology.—The specific epithet is a patronym in honor of Dr. Manfred Grasshoff for his contributions to arachnology.

Diagnosis and comparisons.—Dalquestia grasshoffi is most similar to D. concho, and from that species, it can be separated by its smaller size and
differences in the leg tibiae. The femora and tibiae of D. grasshoffi are concolorous, except for the distal ends of the tibiae which are lighter in color (not distinctly bicolored). The tubercles on tibiae II are reduced in size on D. grasshoffi. The basal portions of the leg tibiae in D. concho are always darker in color than the femora. Tibiae II always have distinctive white bands distally. For additional comments, see diagnosis of D. formosa.

Distribution.—Known only from Jacala, Hidalgo, México (Fig. 28).

Description.—Males: Body small, total length 3.09-3.45, greatest width 2.00-2.18, maximum height 1.34. Dorsum light reddish-brown with small white opalescent spots on middle of abdominal tergites I and II and larger white to silvery-white spots on last three tergites; thoracic and abdominal tubercles rounded and approximately equal in size (Fig. 4). Ocular tubercle dark reddish-brown in color; longer than wide, length 0.27-0.30, width 0.23-0.25, height 0.12-0.18; with 5-6 tubercles on each side. Genital operculum and venter essentially smooth, except for small pointed tubercles on lateral margins of abdomen, last free abdominal sternite, and anal plate. Genital operculum length 0.95-0.96, width at base 0.98-1.00, width at neck 0.45-0.50. Palpal segment lengths: femora 0.72-0.96, patellae 0.48-0.50, tibiae 0.60-0.61, tarsi 0.84-0.96. Chelicerae with distinct ventral spur on basal segment, lacking dorsal tubercles. Venter of body and chelicerae light yellowish-brown; except anal plate slightly darker, concolorous with dorsum of abdomen. Palpi and legs yellowish-brown to reddish-brown: coxae slightly lighter, more yellow in color; distal tips of leg tibiae dorsally with yellowish-white spots (sometimes weak or absent on II). Leg coxae with few pointed tubercles clustered on anterior and posterior margins of I, III, and IV; II sometimes with one or two tubercles. Tibiae II with rows of small tubercles on ventral side and larger and more greatly spaced tubercles on basal 1/3 dorsolaterally; all other leg femora and tibiae with complete rows of large pointed tubercles. Tibia II with single pseudosegment. Femora I-IV lengths (respectively): 1.60-1.70, 4.81-5.24, 1.38-1.84, 2.34-2.44; tibiae I-IV lengths (respectively): 1.38-1.52, 3.82-4.04, 1.27-1.29, 1.69-1.76. Penis as in figures 19 and 20, length 1.92-2.04.

Females: Form and coloration as in males, except abdominal tergite II without white spot, femora IV basally yellowish-white, palpal tarsi without ventral rows of tubercles, and legs I, III, and palpi not enlarged. Total length 4.00-5.07, greatest width 2.57-2.80, maximum height 1.61-1.93. Ocular tubercle longer than wide, length 0.32-0.34, width 0.27, height 0.12-0.20, with 6-8 tubercles on each side. Genital operculum length 1.04-1.07, width at base 1.12, width at neck 0.52-0.53. Palpal segment lengths: femora 0.61-0.63, patellae 0.36-0.40, tibiae 0.50-0.52, tarsi 0.92-0.96. Tibia II with single pseudosegment. Femora I-IV lengths (respectively): 1.52-1.55, 5.06-5.21, 1.50-1.55, 2.66-2.70; tibiae I-IV lengths (respectively): 1.29-1.40, 4.05-4.73, 1.26-1.29, 1.84-1.91. Seminal receptacle as in figure 26.

Immatures: unknown.
Natural history.—The only known specimens were collected as adults during the middle of April at an elevation of 1200 m. The larger of the two females contains large eggs.

Specimens examined.—Male holotype, male paratype, and two female paratypes.

**Dalquestia concho**, new species

Figs. 5, 21, 22, 27, 28

*Globipes* n. sp., Cokendolpher, 1980:134.

**Types.**—Male holotype and two female paratypes from 1.6 km E. of the ranch LaSauceda, Chihuahua, México, 7000 ft (2100 m) elev. (21 July 1947, W. J. Gertsch), AMNH; and eight additional paratypes listed under specimens examined. The ranch La Saucedada is located approximately 34 km (by road) NW of Santa Barbara in a narrow valley surrounded by mountains. The type locality is near the crest of the mountains (see Spieth, 1950:26, fig. 52).

**Etymology.**—The specific epithet is a noun in apposition; the name of the Indians of the region.

**Diagnosis and comparisons.**—In addition to characters stated in the key to species, see diagnosis under *D. grasshoffii*.

**Distribution.**—Southern Chihuahua and northern Durango in México (Fig. 28).

**Description.**—Males: Body small, total length 4.42-4.76, greatest width 2.58-2.78, maximum height 2.00-2.18. Dorsum reddish-brown to dark brown with yellow-white longitudinal stripes from just posterior to scent gland pores to tip of abdomen laterally; last abdominal tergite with a central white spot; thoracic and abdominal tubercles low, rounded, and approximately equal in size (Fig. 5). Ocular tubercle reddish-brown in color; longer than wide, length 0.36-0.40, width 0.32-0.33, height 0.16-0.19; with 4-6 low rounded tubercles on each side. Genital operculum and venter essentially smooth, except for small pointed tubercles on anal plate, posterior half of last abdominal sternite, and sometimes lateral edges of anterior sternites. Genital operculum length 1.25-1.36, width at base 1.37-1.47, width at neck 0.56-0.58. Palpal segment lengths: femora 0.92-1.06, patellae 0.68-0.81, tibiae 0.89-1.09, tarsi 1.17-1.18. Chelicerae with distinct spur on basal segment ventrally, lacking dorsal tubercles. Venter of body, chelicerae, and palpi light yellowish-brown; except for anal plate darker; palpal femora, patellae, and tibiae dorsally with white reticulations. Legs light yellow to yellowish-brown with distodorsal tips of all leg femora and often patellae with white splotches; all tibiae, patellae II concolorous with abdominal dorsum (reddish-brown to dark brown); distal tips of tibiae I, III, and IV, and all of tibiae II distal to pseudosegments white; metatarsi II dark brown; rows of pointed tubercles well developed on all femora and tibiae. Coxae of legs with clusters of pointed tubercles on distal ends of I and IV (anterior and posterior margins) and III (anterior only); other margins with only 2-5 scattered tubercles. Tibia II with single pseudosegment. Femora I-IV lengths
(respectively): 2.09-2.30, 4.84-5.35, 1.92-2.74, 2.73-2.96; tibiae I-IV lengths (respectively): 1.92-2.00, 4.22-4.58, 1.64-1.80, 2.00-2.18. Penis as in figures 21 and 22, length 2.37-2.78.

Females: Form and coloration as in males, except legs I, III, and palpi not enlarged. White spots on abdominal tergites I and II not well developed. Tubercles on abdomen smaller than on males. Coxae with clusters of denticles on both sides I, and anterior III and IV; other surfaces either smooth or with only few scattered tubercles. Tubercles distal to pseudosegments on tibiae II (dorsal and dorsolateral surfaces) smaller and more greatly spaced than proximal tibiae II tubercles. Total length 5.71-5.84, greatest width 3.17-3.22, maximum height 2.30-2.32. Ocular tubercle longer than wide, length 0.32-0.32, width 0.25-0.29, height 0.15-0.15, with 5-6 large tubercles over each eye. Genital operculum length 1.13-1.23, width at base 1.18-1.32, width at neck 0.56-0.61. Palpal segment lengths: femora 0.63-0.69, patellae 0.35-0.44, tibiae 0.55-0.56, tarsi 0.97. Tibia II with single pseudosegment. Femora I-IV lengths (respectively): 1.67-1.84, 4.96-5.09, 1.75-1.76, 2.82; tibiae I-IV lengths (respectively): 1.50-1.52, 3.90-4.11, 1.38-1.48, 1.80-1.92. Seminal receptacle as in figure 27.

Immatures: Body lengths 2.3 and 2.8; dorsally smooth except for rows of large pointed tubercles on thoracic tergites and abdomen (as in adults) and small to minute tubercles scattered over entire dorsum. Venter, coxae, chelicerae, and palpi smooth. Palpi with few small spines. Chelicerae with distinct pointed ventral spur on basal joint. Legs essentially as in adult females but with tubercles greatly reduced in size; tibia II with single pseudosegment. Coloration of body and legs as in adults except much paler; dorsum yellow brown to light brown.

Natural history.—Adults are known from January and July. One of the two females contained large eggs. Although only one specimen was collected at some time other than July, it must be remembered that all the July collections were made by a single expedition. Most animals were collected in mountainous areas with grasses, century plants, a few shrub junipers, and some cacti. Other specimens were taken in moister situations in sparse oak and pine woods. Photographs of the region as well as descriptions of each locality are given by Spieth (1950:25-33, figs. 15, 18). All collections were at elevations from about 1700 to 2300 m, with the majority from about 1950 m.

Specimens examined.—Holotype and 10 paratypes—MEXICO, CHIHUAHUA: 1.6 km E. of ranch La Sauceda (21 July 1947, W. J. Gertsch), male holotype, 2 females (AMNH); Vallé de Olivos (20 July 1947, W. J. Gertsch), 1 male (AMNH); Santa Barbara (20 Jan. 1947, M. G. Bradt), 1 male (AMNH); DURANGO: Encino (27 July 1947, W. J. Gertsch), 1 male, 1 juvenile (AMNH); Los Puentes (23 July 1947, W. J. Gertsch), 3 males, 1 juvenile (AMNH).

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