

**A NEW GENUS OF THE SPIDER SUBFAMILY GNAPHOSINAE
FROM THE VIRGIN ISLANDS (ARANEAE, GNAPHOSIDAE)**

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ABSTRACT

A new genus, *Microsa*, is established for *M. chickeringi*, a new species from the Virgin Islands. Although closest to the African genus *Asemesthes*, *Microsa* differs from the other known gnaphosine genera in size and in characters of the eyes, spinnerets, and genitalia.

The spider subfamily Gnaphosinae, characterized by the presence of a serrated keel on the cheliceral retromargin, is represented in North America only by the Holarctic genus *Gnaphosa* (Platnick and Shadab, 1975). It was therefore with surprise that we studied the Virgin Island specimens described below, which differ from *Gnaphosa* in size as well as ocular, spinneret, and genitalic characters. Comparisons with descriptions and available specimens of the previously described New and Old World gnaphosine genera indicate that these specimens represent an undescribed genus most closely allied to *Asemesthes*, described by Simon (1887) on the basis of an immature female from South Africa. As interpreted by Purcell (1908), Dalmas (1921), Tucker (1923), Lawrence (1927, 1928), and Lessert (1933), *Asemesthes* includes about 25 African species with either strongly or moderately recurved posterior eye rows. The Virgin Island specimens resemble the latter group of *Asemesthes* species closely in ocular characters, but differ in genitalic characters (males lack the elaborate retrolateral tibial apophysis and elongated embolus of *Asemesthes*) and by having two spigots, rather than three, on the anterior spinnerets (Simon, 1893, indicated that *Asemesthes* have two spigots on the anterior spinnerets, but Dalmas, 1921, showed that this was an error caused by a poorly preserved specimen, and all subsequently described *Asemesthes* have three spigots). In addition to the structural differences separating the new genus, the Virgin Island species, with males under 2 mm and females under 3 mm in total length, is the smallest known member of the subfamily.

The format of the descriptions and standard abbreviations of morphological terms follow those used in Platnick and Shadab (1975). We thank Dr. H. W. Levi of the Museum of Comparative Zoology, Harvard University, for making the specimens available for study and allowing us to retain two of the females for the collection of the American Museum of Natural History. The scanning electron micrographs were obtained with the assistance of Mr. Robert J. Koestler.

Microsa, new genus

Type species.—*Microsa chickeringi*, new species.

Etymology.—The generic name is an arbitrary combination of letters considered feminine in gender.

Diagnosis.—*Microsa* may be distinguished from all other gnaphosids by the following combination of characters: cheliceral retromargin with serrated keel (Fig. 1), anterior spinnerets with two spigots (Fig. 2), posterior eye row recurved (Fig. 8), male palp without retrolateral tibial apophysis (Fig. 6), and total length under 3 mm.

Description.—Total length 1.7-2.4 mm. Carapace roughly triangular in dorsal view, widest between coxae II and III, but not greatly narrowed posteriorly, truncated and narrowed anteriorly, pale yellowish brown with dark border, scattered dark markings, and black ocular area (Fig. 3), with erect black setae and two clypeal macrosetae. Cephalic area moderately elevated, posterior declivity smooth; thoracic groove short, longitudinal. From front, anterior eye row procurved, posterior row straight; from above, anterior row slightly procurved, posterior row recurved. PME square, nocturnal; other eyes circular, diurnal. Lateral eyes larger than medians. AME separated by more than their diameter, by less than their diameter from ALE. PME separated by less than their diameter, by roughly their diameter from PLE. Lateral eyes separated by slightly less than their diameter. MOQ roughly square. Clypeal height at AME more than three times the AME diameter. Chelicerae with promarginal series of short spines and retromarginal serrated keel (Fig. 1). Endites convergent, obliquely depressed. Labium much wider than long. Sternum slightly longer than wide, without sclerotized extensions to coxae, with broad extension between coxae IV. Leg formula 4123. Tarsi with two dentate claws and claw tufts, without distinct scopulae. Metatarsal preening comb lacking. Trochanters not notched. Typical leg spination pattern (only surfaces bearing spines listed): femora: I, II d1-1-0, p0-0-1; III, IV d1-1-0, p0-0-1, r0-0-1; patellae IV r0-1-0; tibiae: I, II v0-1r-0; III, IV p1-0-1, vlp-1p-2, r0-1-1; metatarsi: I, II vlr-0-2; III, IV p-0-1-2, v0-0-1p, r0-1-2. Abdomen longer than wide, with distinct pattern (Fig. 3), venter without markings; males with inconspicuous anterior scutum. Six spinnerets; anteriors widely separated, bearing two long spigots (Fig. 2). Palp



Figs. 1, 2.—*Microsa chickeringi*, new species, scanning electron micrographs: 1, chelicera, posterior view, showing serrated keel, 1000x; 2, anterior spinneret, ventral view, showing spigots, 500x.



Figs. 1, 2.—*Microsa chickeringi*, new species, scanning electron micrographs: 1, chelicera, posterior view, showing serrated keel, 1000x; 2, anterior spinneret, ventral view, showing spigots, 500x.

without retrolateral tibial apophysis (Figs. 4-6). Epigynum with midpiece and paired spermathecae (Figs. 7, 9).

Microsa chickeringi, new species

Figures 1-9

Types.—Male holotype and female paratype from St. Thomas, Virgin Islands (August, 1966; A. M. Chickering), deposited in the Museum of Comparative Zoology, Harvard University.

Etymology.—The specific name is a patronym in honor of the late Dr. A. M. Chickering, in recognition of his many years of careful collecting of the West Indian spider fauna.

Diagnosis.—With the characters of the genus and genitalia as in Figs. 4-7, and 9.

Male.—Total length 1.72 mm. Carapace 0.83 mm long, 0.75 mm wide. Femur II 0.50 mm long (holotype). Eye sizes and interdistances (mm): AME 0.03, ALE 0.05, PME 0.04, PLE 0.05; AME-AME 0.05, AME-ALE 0.02, PME-PME 0.03, PME-PLE 0.06, ALE-PLE 0.04. MOQ length 0.11 mm, front width 0.11 mm, back width 0.11 mm. Palp without retrolateral tibial apophysis (Figs. 4-6). Leg spination: tibia III p1-1-1, vlp-2-2.

Female.—Total length 1.87-2.34 mm. Carapace 0.85-0.97 mm long, 0.72-0.83 mm wide. Femur II 0.47-0.61 mm long (seven specimens). Eye sizes and interdistances (mm): AME 0.03, ALE 0.06, PME 0.05, PLE 0.05; AME-AME 0.04, AME-ALE 0.01, PME-PME

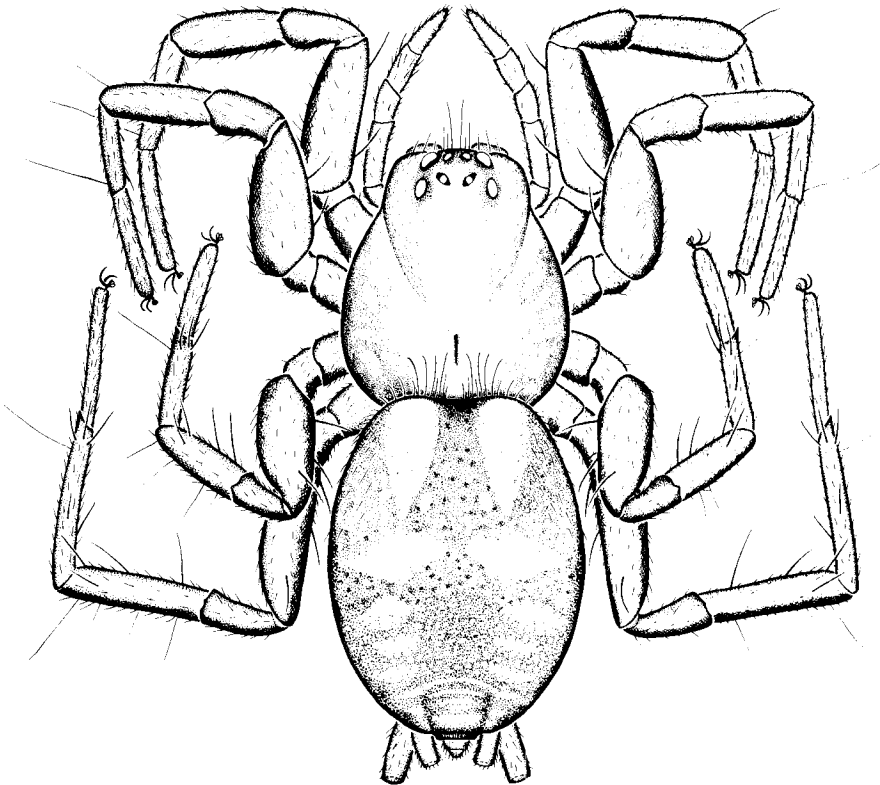


Fig. 3.—*Microsa chickeringi*, new species, dorsal view.

0.03, PME-PLE 0.04, ALE-PLE 0.05. MOQ length 0.11 mm, front width 0.10 mm, back width 0.13 mm. Epigynum with midpiece and paired spermathecae (Figs. 7, 9). Leg spination: metatarsi: I vlp-0-0; II vlp-0-1r; IV vlp-0-1p.

Material examined.—Six females and three juveniles collected with the type specimens.

Distribution.—Known only from the Virgin Islands.

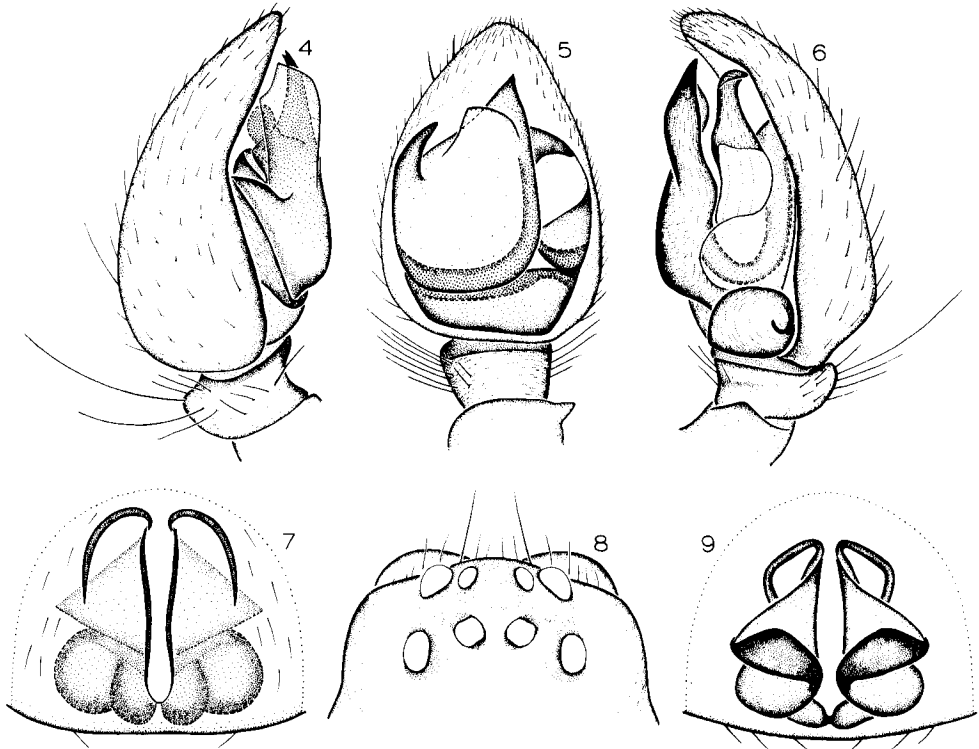


Fig. 4-9.—*Microsa chickeringi*, new species: 4, palp, prolateral view; 5, palp, ventral view; 6, palp, retrolateral view; 7, epigynum, ventral view; 8, ocular area, dorsal view; 9, vulva, dorsal view.

LITERATURE CITED

- Dalmas, R. de. 1921. Monographie des Araignées de la section des *Pterotricha* (Aran. Gnaphosidae). Ann. Soc. Entomol. France 89:233-328.
- Lawrence, R. F. 1927. Contributions to a knowledge of the fauna of South-West Africa. V. Ann. South African Mus. 25:1-75.
- Lawrence, R. F. 1928. Contributions to a knowledge of the fauna of South-West Africa. VII. Ann. South African Mus. 25:217-312.
- Lessert, R. de. 1933. Araignées d'Angola. Rev. Suisse Zool. 40:85-159.
- Platnick, N. I., and M. U. Shadab. 1975. A revision of the spider genus *Gnaphosa* (Araneae, Gnaphosidae) in America. Bull. Amer. Mus. Nat. Hist. 155:1-66.
- Simon, E. 1887. Arachnides recueillis dans le sud de l'Afrique. Ann. Soc. Entomol. France, ser. 6, 7:369-384.
- Simon, E. 1893. Histoire naturelle des Araignées. Paris, 1:257-488.
- Tucker, R. W. E. 1923. The Drassidae of South Africa. Ann. South African Mus. 19:251-438.