Novitates

PUBLISHED BY THE AMERICAN MUSEUM OF NATURAL HISTORY CENTRAL PARK WEST AT 79TH STREET, NEW YORK, N.Y. 10024 Number 2885, pp. 1–75, figs. 1–307, tables 1, 2, maps 1–23 July 20, 1987

The Erigonine Spiders of North America. Part 8. The Genus *Eperigone* Crosby and Bishop (Araneae, Linyphiidae)

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ABSTRACT

A revision of the genus *Eperigone* is reported. *E. albula* Zorsch and Crosby is removed from the genus, and the following synonyms are proposed: *Eperigone antillana* Bryant = *E. serrata* Ivie and Barrows; *E. banksi* Ivie and Barrows = *E. fradeorum* (Berland); *E. credula* Gertsch and Davis = *E. bryantae* Ivie and Barrows; *E. lyra* Chamberlin and Ivie = *E. bryantae*; *E. simplex* (Emerton) (junior homonym) = *E. bryantae*; *E. simplicia* Roewer = *E. bryantae*. The known species from North and Central America and the Caribbean area are 68 in number, including the following 41 new taxa: *E. avia, E. caelebs, E. cognata, E. colima, E. comes, E. conexa, E. dominica, E. estrellae, E. faceta, E. florida, E. formosa, E. fracta, E. fusca, E. hospita,* E. ignobilis, E. imago, E. leonina, E. libana, E. madera, E. major, E. media, E. mediocris, E. mera, E. modica, E. montana, E. monticola, E. morata, E. orba, E. ornata, E. paludosa, E. paula, E. perplexa, E. persimilis, E. pinicola, E. proba, E. singularis, E. sodalis, E. sola, E. solita, E. subantillana, and E. tibialis. The genitalic structures indicate that Eperigone and Erigone are closely related, and that Annapolis probably falls in the same group. Eperigone appears to be endemic to the North American continent, but there has been limited dispersal to other regions. Descriptions, diagnoses, and distributions are given for each species.

INTRODUCTION

The North American genus *Eperigone* has not been revised since it was erected almost 60 years ago (Crosby and Bishop, 1928), but since that date several new species have been added to the genus. Examination of the material in the arachnological collections of the American Museum of Natural History, the Museum of Comparative Zoology at Harvard

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TABLE 1 Eperigone Species: North of Mexican Border The species order is that in the text.

TABLE 2 Eperigone Species: South of Mexican Border, and Caribbean Islands

	The species order is that in the text.			
E. trilobata (Emerton) =	E trilohata soo table 1			
E. comorta (Emerton)	E. $iniovalu$ —see table 1 E. sarrata—see table 1			
E. kolda Chamberlin and Ivie	E. service see table 1			
E. solita new species	E, annea-see table 1			
E. solita, new species	E. $ugressu - see table 1$			
E. inormata luio and Barrows	E. maculatu — see table 1 E asahatologiga soo table 1			
E. serveta luie and Barrows	E. eschatologica-see table 1			
E. service and ballows	E. perplexa, new species			
E. tridentata (Emerton)	E. formosa, new species			
E. triaemata (Emerici)	E. estrellae, new species			
E. inductis, new species	E. morata, new species			
E. unarouni Homi	E. colima, new species			
E. sodalis, new species	E. sola, new species			
E. patuaosa, new species	E. avia, new species			
E. antrea (Crosby)	E. dominica, new species			
E. talloo Chamberlin and Ivie	E. subantillana, new species			
E. agressa Gertsch and Davis	E. media, new species			
E. maaera, new species	E. ignobilis, new species			
E. major, new species	E. faceta, new species			
E. maculata (Banks)	E. fracta, new species			
E. florida, new species	E. tlaxcalana Gertsch and Davis			
E. mniara Crosby and Bishop	E. proba, new species			
E. socius Chamberlin	E. conexa, new species			
E. fradeorum (Berland)	E. coahuilana Gertsch and Davis			
E. eschatologica (Crosby)	E. mera, new species			
E. paula, new species	E. montana, new species			
E. modica, new species	E. monticola, new species			
E. entomologica (Emerton)	E. ornata, new species			
E. index (Emerton)	E. annamae Gertsch and Davis			
E. indicabilis Crosby and Bishop	E. leonina, new species			
E. augustae Crosby and Bishop	E. fusca, new species			
E. augustalis Crosby and Bishop	E. pinicola, new species			
E. coahuilana—see table 2.	E. comes, new species			
	E. singularis, new species			
	E. tepejicana Gertsch and Davis			
	E. imago, new species			
University and the Canadian National Cal	E. orba, new species			
University, and the Canadian National Col-	E. hospita, new species			
lection, Ottawa, nas now disclosed a number	E. persimilis, new species			
of additional species of <i>Eperigone</i> . The pres-	E. dopainum Chamberlin and Ivie			

lection, Ottawa, has now disclosed a number of additional species of *Eperigone*. The present paper provides the characters of the genus in more detail than heretofore, and all the known species are described and figured.

The genus as now defined comprises 68 species, of which 41 are new. These include 33 species from the United States and Canada, and 42 from Mexico, Central America, and the Caribbean islands; at the present time only 7 species are common to both these regions (tables 1, 2). Some of the species are known by one or two specimens only; others are represented by one sex only, and it is probable that some of these will eventually

prove to be the male/female of a single species. It can be taken as certain that additional species remain to be discovered, particularly in Mexico and Central America, and among the tiny species.

E. libana, new species

E. caelebs, new species

E. cognata, new species

The genitalia of *Eperigone albula* Zorsch and Crosby (1934) differ from those of true

Eperigone species, and *albula* is therefore excluded from the genus.

Eperigone appears to be endemic to North and Central America; the few records from South America are from the northern part, and probably represent invasions from the north. Two species are known to have dispersed for considerable distances from their probable centers of endemism, almost certainly through the agency of man. E. fradeorum (Berland) (=E. banksi Ivie and Barrows) is probably endemic to the Eastern Seaboard of North America (particularly Florida), but has also been taken from the Azores, South Africa (Jocqué, 1984), and New Zealand (where it appears to be quite common in places: Millidge, in prep.). E. trilobata (Emerton) has recently been found in Germany (Wunderlich, personal commun.), probably carried there by U.S. forces. E. tridentata (Emerton) and one unidentified Eperigone species have been reported from the Hawaiian Islands (Suman, 1964), but it has not been possible to trace the specimens for verification of identity; the identification of one species as E. tridentata cannot be regarded as certain (E. trilobata might appear to be more probable), while the unidentified species may well be E. fradeorum (Berland).

The genus is probably restricted, for the most part, to the ground vegetation layer, with a preference for damp to wet situations, e.g., bogs. *E. trilobata* has adapted to life in the moist conditions inside pitcher plants (van Helsdingen, 1982), and *E. bryantae* Ivie and Barrows has also been taken in a pitcher.

Spiders of the genus *Eperigone* show a number of similarities to typical members of the genus Erigone. In the male sex, species of both genera have a similar cheliceral armature of lateral denticles, and the palps of the two genera share the following characters: (1) a ventral spur on the patella (more highly developed in Erigone, and sometimes absent in *Eperigone*); (2) a suprategular apophysis of similar form; and (3) an embolic division of similar general form consisting of an irregular plate which carries three projections, with the stalk joining the plate near to the anterior margin, and with the embolus in the form of a small stub at the anterior of the plate. In the female sex, the epigyna of both genera have the ventral plate in the form of a scape, with the genital openings on the dorsal side, but in *Eperigone* the plate is more complex, with a median fissure which splits the plate into two arms. In a few of the smallest species of *Eperigone*, however, the fissure is absent, and in these species the epigyna are very close to those of *Erigone*. All the *Eperigone* females have the configuration of the internal genitalia essentially the same as in *Erigone*. The congruence of the genitalic characters indicates that *Eperigone* and *Erigone* are probably closely related, and should possibly be regarded as sister-groups.

The genus Annapolis Millidge (1984a) has the ED of the male palp rather similar in form to that of the small Eperigone species, and the suprategular apophysis is of the same general form; as in the smaller Eperigone species, the male chelicerae have the anterior boss but not the lateral denticles. The epigynum of Annapolis is in the form of a scape, and the configuration of the internal genitalia is essentially the same as in Erigone/Eperigone. The general similarity of the genitalia of Annapolis and Eperigone indicates that Annapolis should probably be regarded as another member of the Erigone/Eperigone group of genera.

Erigone vagans Audouin, which appears not to be congeneric with the majority of the species currently placed in *Erigone* (Millidge, 1985), has the male chelicerae with an armature of lateral denticles as in Erigone and Eperigone, and the palps have a well-developed patellar spur. The suprategular apophysis of the palpal organ is similar to that of Erigone/Eperigone, and the embolic division (Merrett, 1963) is rather similar to that of some of the small *Eperigone* species. The epigynum of E. vagans is, however, distinctly different from that of both Erigone and Eperigone (Millidge, 1984b). If only the male characters were taken into consideration, E. vagans might be inferred to be quite close to Eperigone; the marked dissimilarity of the epigyna, however, makes it clear that the relationship between these two taxa cannot be very close.

I am indebted to the following colleagues for the loan of material: Dr. N. I. Platnick, American Museum of Natural History (AMNH); Prof. H. W. Levi, Museum of Comparative Zoology, Harvard University (MCZ); Dr. C. D. Dondale, Biosystematics Research Centre, Agriculture Canada, Ottawa (CNC); Dr. W. J. Pulawski, California Academy of Sciences, San Francisco (CAS); Dr. J. Heurtault, Muséum National d'Histoire Naturelle, Paris (MNHN); and Dr. W. B. Peck, Warrensburg, Missouri. Help with the literature was provided by the Library of the British Museum (Natural History) and by Mr. G. H. Locket. Assistance with the records and the mapping was given by Drs. N. I. Platnick and C. D. Dondale, and helpful comments on the manuscript were made by Dr. Platnick.

EPERIGONE CROSBY AND BISHOP

Eperigone Crosby and Bishop, 1928: 46.—Roewer, 1942: 716. — Bonnet, 1956: 1706. — Brignoli, 1983: 336.

DIAGNOSIS: Diagnosis is based on a combination of the male and female genitalic characters, as described below.

DESCRIPTION: This genus comprises spiders with a total length of 0.9-3.65 mm. The carapace is unmodified, and the abdomen is either unicolored or with light or dark dorsal chevrons. The chelicerae have a lateral file, which is sometimes only weakly developed. The male chelicerae usually have a pointed boss anteriorly, near the anterior row of teeth, and frequently have a row of pointed denticles anterolaterally (fig. 131). The boss and denticles are absent in a few of the smallest species, and the denticles are absent or poorly developed in some species (including the type species); within a species, the denticles tend to be larger in larger specimens. In the species descriptions only the absence or reduction of the boss or denticles is noted. The eyes are of moderate size, with the posteriors usually one diameter or less apart. The legs are relatively short and stout, with tibia I l/d (female) 4.5-8; the smaller species have the stouter legs. The dorsal tibial spines are normally 2221 in both sexes, but in the smallest species the spines are weak and reduced to 2211. The type species has no trichobothrium on metatarsus IV, but in many of the species, particularly those with a southern distribution, metatarsus IV has one trichobothrium. In most species the value of TmI is 0.45–0.55, but in a few species it is as low as 0.35 or as high as 0.60. The tracheae are of the erigonine form (Millidge, 1986).

The male palp has weak denticles on the femur in a few species; a small ventral spur is often present on the patella (e.g., figs. 43, 49). The tibia has one or two apophyses distally, which are referred to as dorsal and lateral (figs. 36, 44). The palpal tibia usually carries three trichobothria, but in a few species these are reduced to two. The paracymbium is moderately stout (fig. 1). The tegulum is produced anteriorly into a translucent apophvsis (figs. 1, 9, 132), the shape of which varies from species to species. There is a well-developed suprategulum, with the suprategular apophysis (SA) rather tonguelike and basically similar in all species (e.g., figs. 1, 9). The stalk, which carries the duct to the embolic division (ED), arises from the suprategulum near the anterior end of the palpal organ (fig. 128). The ED is typically a stout irregular "plate" (the "scaphium" of Crosby and Bishop, 1928) which has three projections; dorsal, median, and ventral (fig. 3). The stalk joins the ED close to the anterior margin of the plate, and the embolus is a pointed stub which arises directly from the lightly sclerotized region where the stalk joins the plate (figs. 3, 127). A small membranous appendage (embolic membrane) also arises from the stalk, close to the embolus. This typical shape of the ED (fig. 3) is not present in all the species, and various modifications of this basic form are found in the genus (e.g., figs. 108, 143, 176, 238). Because of the complex three-dimensional geometry of the ED, its appearance varies considerably with the angle of viewing; the ED is figured here as it appears when the unexpanded palp is viewed more or less mesally.

The epigynum is in the form of a short scape. In typical members of the genus the ventral plate has a longitudinal fissure, of variable length, which splits the plate posteriorly into two arms (e.g., figs. 4, 41). The genital openings lie in pockets or depressions on the dorsal side of these arms, near the posterior end (figs. 20, 165). The dorsal plate is of variable shape, and the posterior end of this plate is often visible, from the ventral side, lying between the two arms of the ventral plate. The three epigynal lobes cited by Crosby and Bishop (1928: 46) as characteristic of *Eperigone* are thus the two lobes (arms) of the ventral plate plus the posterior end of the dorsal plate. This trilobate form of the epigynum is by no means always apparent, however; in some species the dorsal plate (third "lobe") is not visible from the ventral side, either because the longitudinal fissure is short, or absent, or because the dorsal plate does not extend far enough posteriorly. The fissure is completely absent only in a few tiny species (figs. 144, 150). The epigynal form shows small intraspecific variations, particularly with respect to the length and width of the fissure in the ventral plate. The internal genitalia are of the same basic configuration in all species (figs. 111, 165, 166): the ducts from the openings near the tips of the ventral arms run in a simple loop through the scape to the spermathecae. The epigynum is frequently obscured by a plug composed of a brown, tough, resinlike substance. This plug, which blocks the genital openings in the scape, but not the vaginal passage, may be extensive, covering almost all the ventral plate (figs. 167, 168); or it may be restricted to the region near the openings. The plug is difficult to remove. Soaking the spider for a short time in 5-10% sodium hydroxide solution sometimes, but not always, softens the plug and facilitates its removal with a fine needle: squeezing the plug with the tips of fine forceps, followed by manipulation with a needle, may make it possible to clean the epigynum, but sometimes part of the ventral plate (and particularly the tips of the lateral arms) will come away with the plug. It is not usually possible to identify a female with certainty unless the obscuring plug is removed. The plug is found, to an irregular extent, in many but by no means all of the species of the genus; plugging has not been observed, for example, in *E. maculata, E. coahuilana* and related species, *E. mniara, E. socius, E. entomologica,* and *E. index.* Whether the material of the plug is exuded by the female, or deposited by the male, and from what source, is not known. Firm conclusions on the purpose of the plugging cannot at present be drawn (van Helsdingen, 1982: 396).

KEYS TO SPECIES: Eperigone is a very homogeneous genus, and the only characters which can be used to key the species are the presence or absence of a trichobothrium on metatarsus IV, and the forms of the epigyna and palps. Hence the keys provided below are based mainly on the figures given for the genitalia. In order to simplify the keys somewhat, the species are dealt with in two groups, on the basis of their geographical distributions: (1) species found north of the Mexican border, and (2) species found south of the Mexican border and in the Caribbean islands. As mentioned earlier, the overlap of species between the two areas is at present small; when using the keys, however, it is important to bear in mind that some species currently known only from the northern area may eventually be found in the southern area, and vice versa. The keys are based on the material, sometimes very sparse, which is currently available, and when the extent of variation is better known, as a result of further collecting, it may well be that the keys will require some modification.

PARTIAL KEY: SPECIES FROM NORTH OF MEXICAN BORDER

Females

- 1. Tiny species, total length 1.3 mm or less ... 2
- Larger species 4
- 2. Epigynum ventral plate with short longitudinal fissure on posterior margin (figs. 160, 161)augustalis
 Ventral plate without longitudinal fissure 3
- 3. Ventral plate with thickened (rebordered)
- posterior margin (figs. 144, 145); dorsal aspect of epigynum (fig. 146) ... entomologica
- Epigynum (fig. 150) with internal ducts/sper-

6. Epigynum (figs. 109, 110) maculata

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	F (6 - 127 128)
-	Epigynum (ngs. 137 , 138) paula
7.	Lateral arms of ventral plate (viewed more or
	less perpendicularly to plate) extending pos-
	teriorly only a short distance or not at all
	havend dereal plate (a.g. fag. 4.46)
	beyond dorsal plate (e.g., ligs. 4, 40) 8
-	Lateral arms extending significantly beyond
	dorsal plate (e.g., figs. 12, 41) 11
8.	Dorsal plate of epigynum sharply pointed 9
_	Dorsal plate not pointed 10
0	Enigmum (figs 16 18 50) source tibialis
7.	Epigynum (ngs. 40–48, 50) serraia, itolaits
	(see species diagnoses)
-	Epigyna (figs. $4-7$, 21, 22, 25-27)
	(see species diagnoses)
10.	Epigynum (figs. 71, 72)paludosa
_	Enjevnum (figs 55 58) tridentata
	Epigyna (figs. $61-63$, 66 , 67 , 69 , 70)
-	Epigyna (ligs. 01–03, 00, 07, 09, 70)
	meatocris, linaroini, soaalis
	(see species diagnoses)
11.	Dorsal plate notched on posterior margin (fig.
	35); epigynum (fig. 34) bryantae
_	Dorsal plate not notched 12
12.	Epigynum (figs. 41, 42) inornata
_	Epigyna (figs $12-14$ $17-20$)
	contorta undulata
	(see species diagnoses)
12	(see species diagnoses)
13.	(see species diagnoses) Epigynum (figs. 129, 135)
13.	(see species diagnoses) Epigynum (figs. 129, 135)
13.	Epigynum (figs. 129, 135)
13.	(see species diagnoses) Epigynum (figs. 129, 135)
13.	(see species diagnoses) Epigynum (figs. 129, 135)
13. - _	(see species diagnoses) Epigynum (figs. 129, 135) <i>fradeorum, eschatologica</i> (see species diagnoses) Epigynum (fig. 237) with posterior margins of lateral arms clawlike
13. - -	(see species diagnoses) Epigynum (figs. 129, 135) <i>fradeorum, eschatologica</i> (see species diagnoses) Epigynum (fig. 237) with posterior margins of lateral arms clawlike
13. - 14.	(see species diagnoses) Epigynum (figs. 129, 135) <i>fradeorum, eschatologica</i> (see species diagnoses) Epigynum (fig. 237) with posterior margins of lateral arms clawlike
13. - 14.	(see species diagnoses) Epigynum (figs. 129, 135) <i>fradeorum, eschatologica</i> (see species diagnoses) Epigynum (fig. 237) with posterior margins of lateral arms clawlike
13. - 14.	(see species diagnoses) Epigynum (figs. 129, 135)
13. - 14.	(see species diagnoses) Epigynum (figs. 129, 135)
13. - 14.	(see species diagnoses) Epigynum (figs. 129, 135)
13. - 14.	(see species diagnoses) Epigynum (figs. 129, 135) <i>fradeorum, eschatologica</i> (see species diagnoses) Epigynum (fig. 237) with posterior margins of lateral arms clawlike
13. - 14. -	(see species diagnoses) Epigynum (figs. 129, 135) <i>fradeorum, eschatologica</i> (see species diagnoses) Epigynum (fig. 237) with posterior margins of lateral arms clawlike <i>coahuilana</i> Epigynum not of these forms
13. - 14. -	(see species diagnoses) Epigynum (figs. 129, 135) <i>fradeorum, eschatologica</i> (see species diagnoses) Epigynum (fig. 237) with posterior margins of lateral arms clawlike
13. - 14. - 15. -	(see species diagnoses) Epigynum (figs. 129, 135) <i>fradeorum, eschatologica</i> (see species diagnoses) Epigynum (fig. 237) with posterior margins of lateral arms clawlike
13. - 14. - 15. - 16	(see species diagnoses) Epigynum (figs. 129, 135)
13. - 14. - 15. - 16.	(see species diagnoses) Epigynum (figs. 129, 135)
13. - 14. 15. - 16. -	(see species diagnoses) Epigynum (figs. 129, 135) <i>fradeorum, eschatologica</i> (see species diagnoses) Epigynum (fig. 237) with posterior margins of lateral arms clawlike <i>coahuilana</i> Epigynum not of these forms 14 Ventral plate with short, narrow median fis- sure, with dorsal plate invisible from ven- tral side (figs. 114, 120) <i>mniara, socius</i> (see species diagnoses) Ventral plate with clear, wider median fissure
13. - 14. - 15. - 16. -	(see species diagnoses) Epigynum (figs. 129, 135) <i>fradeorum, eschatologica</i> (see species diagnoses) Epigynum (fig. 237) with posterior margins of lateral arms clawlike <i>coahuilana</i> Epigynum not of these forms
13. - 14. - 15. - 16. - 17.	(see species diagnoses) Epigynum (figs. 129, 135)
13. - 14. - 15. - 16. - 17. -	(see species diagnoses) Epigynum (figs. 129, 135) <i>fradeorum, eschatologica</i> (see species diagnoses) Epigynum (fig. 237) with posterior margins of lateral arms clawlike <i>coahuilana</i> Epigynum not of these forms
13. - 14. - 15. - 16. - 17. -	(see species diagnoses) Epigynum (figs. 129, 135) <i>fradeorum, eschatologica</i> (see species diagnoses) Epigynum (fig. 237) with posterior margins of lateral arms clawlike <i>coahuilana</i> Epigynum not of these forms

Males

1.	Tiny species, 1.	2 mm	or less	 2	2
-	Larger species			 4	ł

2.	Tibial apophyses (figs. 157, 158); ED with long
	pointed ventral arm (fig. 159) augustalis
-	Tibial apophysis acuminate (figs. 148, 153);
	ED (figs. 149, 154) index, indicabilis
	(see species diagnoses)
_	Tibial apophysis short and blunt
3.	ED with long, pointed ventral arm (fig. 166);
	$IIDIA (IIgs. 102, 103) \dots IIIguslae$
-	ED (lig. 143); tibla (ligs. 141, 142)
Δ	Metatarsus IV without trichohothrium 5
_	Metatarsus IV with trichobothrium 10
5.	ED (fig. 108), palpal tibia (figs. 106, 107)
_	ED and palpal tibia not of these forms 6
6.	Lateral tibial apophysis (lateral view) prom-
	inent
-	Lateral tibial apophysis (lateral view) absent
_	or weak
7.	ED (figs. 33, 40), tibia, dorsal (figs. 29, 36)
	bryantae, inornata
	(see species diagnoses)
8	ED not of this form $\dots \dots \dots \dots \dots \dots \dots \dots$ Tibia (figs 43 44) servata
-	Tibia (figs. 49, 62) tibialis
9.	Tibia, dorsal (figs. 10, 16), ED (figs. 11, 18)
	(see species diagnoses)
_	Tibia, dorsal (fig. 2), ED (fig. 3) trilobata
-	Tibia, dorsal (fig. 54), ED (fig. 57)
	Tili l. l(2) ED (6) (0)
-	11bia, dorsal (ng. 62), ED (ng. 60) $\dots \dots \dots$
	Tibia dorsal (fig. 65) ED (fig. 68) lindrathi
10	FD of trilobata form (e.g. figs 75 97) 11
-	ED of different form
11.	Palpal tibia (figs. 86, 87) agressa
_	Palpal tibia (figs. 95, 96)madera
_	Palpal tibia (figs. 101, 102) major
-	Palpal tibia (figs. 73–75, 80, 83)
	antrea, taibo
	(see species diagnoses)
12.	ED (fig. 94), palpal tibia (figs. 92, 93) \ldots
	FD (for 11() not not the formula $112, 112$)
-	ED (ng. 116), paipai tibla (ngs. 112, 113)
	ED (fig. 121) palpal tibia (figs. 118, 119)
_	<i>Socius</i>
_	ED (figs. 125, 134), palpal tibia (figs. 126, 133)
	(see species diagnoses)
-	ED (fig. 238), palpal tibia (figs. 236, 237)

MILLIDGE: EPERIGONE

PARTIAL KEY: SPECIES FROM SOUTH OF MEXICAN BORDER, AND CARIBBEAN ISLANDS

Females

1.	Metatarsus	I١	V	without	trichobothrium		2

- Metatarsus IV with trichobothrium 11

- Epigynum (fig. 299) *caelebs*

- Epigynum with narrower dorsal plate 5

- more pointed than rounded (figs. 46, 291)serrata, persimilis (see species diagnoses)
- Dorsal plate (dorsal aspect) pointed posteriorly (figs. 186, 189) morata, colima

(see species diagnoses) Dorsal plate not pointed posteriorly 8

- Borsar plate not pointed posteriorly 8
 Mexican species: epigyna (figs. 184, 192, 195)
- (see species diagnoses) (see species diagnoses)

Dorsal plate more pointed posteriorly ... 10
10. Epigynum (figs. 4, 5) trilobata
Epigynum (figs. 306, 307) cognata
11. Epigynum (figs. 135, 136) eschatologica

- Epigynum (fig. 267)leonina
 Epigynum (fig. 270)fusca
- Epigynum not of these forms 12

- Claws of ventral plate moderately separated (fig. 239)coahuilana
 Claws of ventral plate widely separated (e.g.,
- figs. 245, 263) 14

- 14. Dorsal plate (dorsal aspect) very narrow posteriorly (fig. 246) mera Dorsal plate less narrow (fig. 256)monticola Dorsal plate wider, truncated posteriorly (fig. 264)ornata Dorsal plate wider, rounded posteriorly (fig. 251) montana 15. Epigynum with lateral arms (ventral aspect) extending barely beyond dorsal plate Epigynum with lateral arms (ventral aspect) extending distinctly beyond dorsal plate (e.g., figs. 89, 301) 17 16. Lateral arms (ventral aspect) bifid (fig. 297) hospita - Lateral arms not bifid (figs. 222, 230) tlaxcalana, proba (see species diagnoses) 17. Dorsal plate scarcely or not at all visible between lateral arms of ventral plate (ventral aspect) (figs. 89, 282) agressa, orba (see species diagnoses) - Dorsal plate clearly visible 18 18. Epigynum (fig. 77) antrea
- Epigynum (fig. 301) *libana*

Males

1.	Metatarsus IV without trichobothrium 2
_	Metatarsus IV with trichobothrium 7
2.	Palpal tibia (figs. 106, 107); ED (fig. 108)
	maculata
-	Palpal tibia not of this form
3.	Palpal tibia (lateral aspect) with clear lateral
	apophysis 4
-	Palpal tibia (lateral aspect) without lateral
	apophysis 6
4.	Species restricted to Lesser Antilles
	dominica, subantillana
	(see species diagnoses)
-	Species from Mexico, Central America, and
_	Caribbean islands
5.	Palpal tibia (figs. 43, 44); ED (fig. 45)
	$P_{1} = 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1$
-	Paipai tibia ($ngs. 1/9, 180$); ED ($ng. 182$)
	$\mathbf{D}_{\mathbf{a}} = \mathbf{b}_{\mathbf{a}} + \mathbf{b}_{\mathbf{a}} + \mathbf{b}_{\mathbf{a}} = \mathbf{b}_{\mathbf{a}} + $
-	raipai tibia (ligs. 207, 208), ED (lig. 209)
	Palpal tibia (figs 210, 211); FD (fig. 212)
	ignohilis
_	Palpal tibia (figs. 303, 304); ED (fig. 305)
6.	Palpal tibia (figs. 1, 2); ED (fig. 3)
	trilobata
_	Palpal tibia (figs. 169, 174); ED (figs. 171, 176)

	perplexa, formosa
	(see species diagnoses)
7.	ED of <i>trilobata</i> form (e.g., figs. 278, 281) 8
-	ED not of this form 10
8.	Tibia (dorsal aspect) with two short apophyses
	(figs. 76, 87, 277) antrea, agressa, comes
	(see species diagnoses)
-	Tibia (dorsal aspect) with only a single apoph-
	ysis (fig. 286) 9
9.	Palpal tibia (figs. 279, 280); ED (fig. 281)
	singularis
-	Palpal tibia (figs. 285, 286, 288, 289); ED (figs.
	287, 290) tepejicana, imago
	(see species diagnoses)
10.	Palpal tibia (figs. 132, 133); ED (fig. 134)
	eschatologica
-	Palpal tibia (figs. 219, 220); ED (fig. 221)
	tlaxcalana
-	Palpal tibia (figs. 227, 228); ED (fig. 229)
	proba
-	Palpal tibia (figs. 273, 275); ED (fig. 274)
	pinicola
-	Palpal tibia (figs. 213, 214); ED (fig. 215)
	fracta
-	Palpal tibia (figs. 216, 217); ED (fig. 218)
	faceta
-	Palpal tibia not as above: armed with two
	clear apophyses (lateral aspect) 11
11.	Lateral apophysis (lateral aspect) short (figs.
	257, 260, 265) 12
-	Lateral apophysis longer (figs. 236, 242, 247,
	252) 13
12.	Palpal tibia (figs. 257, 258); ED (fig. 259)
-	Palpal tibia (figs. 260, 261); ED (fig. 262)
	$D_{a} = 1 \pm \frac{1}{2} + $
-	Paipai 1101a (ligs. 203, 200); ED (lig. 208)
12	Delast tibis relatively long (for 247, 252)
13.	Paipai tibla relatively long (ligs. 247, 252)
	(app appairs diagnoses)
	(see species diagnoses) Balaal tibia abortar (faa. 226, 242)
_	raipai iiula shorter (ligs. 230, 242)
	(and provide discrete)
	(see species diagnoses)

DESCRIPTIONS OF THE SPECIES: All figures of male palps are of the right palp, unless stated to the contrary. All measurements are in millimeters. The records given are listed as follows:

United States: under "state" and "county"

- Canada: under "province" and "county" or "district"; in those provinces which do not have counties or districts, under "province" and "locality"
- Mexico: under "state" and "locality"

Other Central American and Caribbean countries: under "locality"

With few exceptions, the records given are based solely on the material seen and verified by the author.

> *Eperigone trilobata* (Emerton) Figures 1–8, 165, 167, 168; map 1

- *Tmeticus trilobatus* Emerton, 1882: 53, pl. 15, fig. 4 [male and female syntypes from Cambridge, Mass. and New Haven, Conn.; one vial (? types) with numerous males and females, labeled "New Haven, Connecticut, October 1881 (Emerton)," in MCZ, examined].
- *Eperigone trilobata:* Crosby and Bishop, 1928: 61, figs. 143–146. — Roewer, 1942: 718. — Hackman, 1954: 20, figs. 60–62. — Bonnet, 1956: 1709. — Kaston, 1981: 195, figs. 641–646. van Helsdingen, 1982: 393, figs. 1–12.
- Bathyphantes tristis Banks, 1892: 46, fig. 45 (first synonymized by Ivie, 1967: 127).
- Bathyphantes floridana: Banks, 1896: 68 (female); Ivie, 1968: 6.

DIAGNOSIS: This common species has no trichobothrium on metatarsus IV. The female is diagnosed by the epigynum, the lateral arms of which extend only a short distance beyond the dorsal plate (fig. 4), which is pointed (fig. 5). From E. holda and E. solita, which have epigyna (ventral aspect) rather similar (figs. 21, 25) and which overlap in distribution, E. trilobata is distinguished by the anterior (fig. 7, cf. figs. 22, 27), lateral (fig. 8, cf. figs. 23, 26), and dorsal (fig. 5, cf. figs. 24, 28) aspects of the epigynum. The male is diagnosed by the palpal tibia, which has no prominent lateral apophysis (figs. 1, 2), and by the ED (fig. 3). From E. tridentata, E. lindrothi, E. mediocris, E. contorta, and E. undulata, which have rather similar ED's, E. trilobata is readily distinguished by the dorsal and lateral aspects of the tibia; E. undulata is somewhat similar from the lateral aspect (fig. 1, cf. fig. 15), but the dorsal aspect is quite different (fig. 2, cf. fig. 16).

FEMALE: Total length 1.55–2.1. Carapace length 0.65–1.0. Carapace yellow-brown to orange-brown. Abdomen gray to black, dorsally sometimes paler anteriorly. Sternum orange, suffused with gray. Legs brown to orange-brown. Metatarsus IV without trichobothrium; TmI ca. 0.45. Epigynum (figs. 4, 5, 7, 8, 165, 167, 168); specimens from the



Figs. 1–8. *Eperigone trilobata.* 1. Palp, ectal. 2. Palpal tibia, dorsal. 3. Palp, mesal. 4. Epigynum, ventral. 5. Epigynum, dorsal. 6. Palp, ectal, west coast specimen. 7. Epigynum, anteroventral. 8. Epigynum, lateral. Abbreviations: D, M, V, dorsal, median, and ventral projections of ED; E, embolus; SA, suprategular apophysis; TA, tegular apophysis. Scale lines 0.1 mm.

West Coast area may have the median fissure (which is somewhat variable in length) rather shorter than shown in figures 4 and 7 (van Helsdingen, 1982). MALE: Total length 1.55–2.05. Carapace length 0.75–1.0. Color and chaetotaxy as in female. Chelicerae without lateral denticles. Palp (figs. 1–3); the dorsal apophysis of the



Map 1. North America: distribution of Eperigone trilobata.

tibia is slightly shorter (fig. 6) in specimens from the West Coast (van Helsdingen, 1982).

RECORDS: UNITED STATES: Alabama: Baldwin. Arizona: Cochise, Coconino, Graham. California: Alameda, Humboldt, Marin, Mendocino. Colorado: Larimer. Connecticut: Fairfield, Middlesex, New Haven. District of Columbia. Florida: Lee. Georgia: Charlton. Idaho: Payette. Illinois: Champaign, Cook, Macoupin, Winnebago. Indiana: Adams, Marion. Iowa: Boone, Washington. Kansas: Sedgwick. Kentucky: Fayette. Maine: Piscataquis. Massachusetts: Middlesex, Suffolk. Michigan: Albion, Calhoun. Minnesota: Dakota, Olmsted. Missouri: Boone. Nebraska: Jefferson, Richardson. New Jersey: Essex, Mercer. New York: Chenango, Essex, Fulton, Hamilton, Monroe, Nassau, Orange, Oswego, Schuyler, Suffolk, Tompkins. Ohio: Columbiana, Franklin. Oregon: Benton, Multnomah, Yamhill. Pennsylvania: Bucks, Somerset. Tennessee: Cocker. Utah: Duchesne, San Juan, Washington. Vermont: Chittenden. Virginia: Madison. Washington: Clark, Stevens, Wisconsin: Dane, Wyoming: Laramie, Park. CANADA: Alberta: Waterton Lakes National Park: nr. Whitecourt, NW of Edmonton. British Columbia: Burnaby, Graham Island, Kelowna, Mesachie Lake, Prince Rupert, Terrace, Vancouver Island, Yoho National Park. Manitoba: Riding Mountain National Park. New Brunswick: Kent, Madawaska, Westmorland, York. Newfoundland (Hackman, 1954). Northwest Territories: Hay River, Great Slave Lake, Nova Scotia: Halifax, Kings. Ontario: Carleton, Essex, Grenville, Halton, Hamilton-Wentworth, Hastings. Kent. Leeds. Nippissing. Northumberland, Oxford, Peel, Prescott, Prince Edward, Russell, Thunder Bay, Waterloo, York. Quebec: Gaspé-Ouest, Gatineau, Pontiac, Saguenay, Sherbrooke. Saskatchewan: Prince Albert National Park, near Saskatoon. MEXICO: Veracruz: W Jalapa.

DISTRIBUTION: Widespread throughout United States and Canada, from east to west; there is a single record from Mexico (map 1). The species has recently been found in Germany (J. Wunderlich, personal commun.), where it was no doubt brought in by U.S. forces.

NATURAL HISTORY: Both sexes have been taken as adults in all months of the year. Habitats given are meadows and prairie, among alfalfa and low plants, in litter in woods, in moss and sphagnum, in ditches, on a lakeshore, on sand dunes, in salt marsh, and on fences (presumably aeronauting). In Oregon, the species has been found living inside the pitchers of *Darlingtonia californica* (van Helsdingen, 1982).

Eperigone contorta (Emerton) Figures 9–14; map 2

- *Tmeticus contortus* Emerton, 1882: 54, pl. 15, fig. 5 [male syntypes from Cambridge and Waltham, Mass.; there appears to be no designated type, but there is one male ("Waltham, Mass. December 1877") (seen) in MCZ collection which may be one of the syntypes].
- *Eperigone contorta:* Crosby and Bishop, 1928: 48, figs. 105, 107, 108. Roewer, 1942: 717. Bonnet, 1956: 1707. Kaston, 1981: 195, figs. 650, 651.

Note: The synonymy of E. undulata (Em.) with E. contorta by Crosby and Bishop (1928) and subsequent authors is incorrect, and in the present paper the two species are described separately.

DIAGNOSIS: This species lacks a trichobothrium on metatarsus IV. Diagnosis of the female is based on the epigynum, in which the lateral arms extend well beyond the dorsal plate (fig. 12). The lateral arms are rather shorter than in the closely related species E. *undulata* (fig. 12, cf. fig. 17), and the dorsal plate is more rounded posteriorly (figs. 14, 20). The male is diagnosed by the ED (fig. 11) and the tibial apophyses (figs. 9, 10); the dorsal apophysis is significantly shorter than in the closely related species E. *undulata* (figs. 15, 16).

FEMALE: This sex has not been described previously. Total length 1.6–1.75. Carapace length 0.8–0.9. Carapace orange to orange-brown, with dusky markings and margins. Abdomen gray to black. Sternum orange, heavily suffused with black. Legs yellow to orange-brown. Metatarsus IV without trichobothrium; TmI 0.45–0.50. Epigynum (figs. 12–14).

MALE: Total length 1.55-1.65. Carapace length 0.8-0.9. Color and chaetotaxy as in female. Chelicerae without lateral denticles. Palp (figs. 9-11); tibia with two trichobothria.

RECORDS: UNITED STATES: Massachusetts: Middlesex, Sussex. New York: Nassau, Schuyler, Suffolk.

DISTRIBUTION: Known only from Massachusetts and New York (map 2).

NATURAL HISTORY: Females have been taken in May, males in May, June, November, and December. Habitats recorded are on fences (aeronauting), and under a stone.

> *Eperigone undulata* (Emerton) Figures 15–20; map 2

- Gongylidium undulatus Emerton, 1914: 263, pl. 8, fig. 4 (male type from Ithaca, N.Y., in MCZ, examined).
- *Eperigone contorta* (in part): Crosby and Bishop, 1928: 48, fig. 106. Roewer, 1942: 717. Bonnet, 1956: 1707.

DIAGNOSIS: This species lacks a trichobothrium on metatarsus IV. The female is diagnosed by the epigynum, the lateral arms



Figs. 9–20. 9–14, *Eperigone contorta*. 9. Palp, ectal. 10. Palpal tibia, dorsal. 11. ED. 12. Epigynum, ventral. 13. Epigynum, lateral. 14. Epigynum, dorsal. 15–20, *E. undulata*. 15. Palpal tibia, ectal. 16. Palpal tibia, dorsal. 17. Epigynum, ventral. 18. ED. 19. Epigynum, lateral. 20. Epigynum, dorsal. Abbreviations: GO, genital openings; SA, suprategular apophysis; TA, tegular apophysis. Scale lines 0.1 mm.



Map 2. North America: distribution of *Eperigone undulata* (●), *E. contorta* (▲), *E. paludosa* (■).

of which extend well beyond the dorsal plate (fig. 17). The lateral arms are longer than in E. contorta (fig. 17, cf. fig. 12), and the dorsal plate is more pointed posteriorly (fig. 20, cf. fig. 14). The male is diagnosed by the ED (fig. 18) and the tibial apophyses (figs. 15, 16); the dorsal apophysis is significantly longer than in E. contorta (figs. 9, 10).

FEMALE: Total length 1.65–1.9. Carapace length 0.8–0.9. Carapace brown, with darker markings. Abdomen gray to black. Sternum brown, suffused with black. Legs yellow to orange-brown. Metatarsus IV without trichobothrium; TmI 0.45–0.50. Epigynum (figs. 17, 19, 20).

MALE: Total length 1.5–1.8. Carapace length 0.8–0.9. Color and chaetotaxy as in female. Chelicerae without lateral denticles. Palp (figs. 15, 16, 18); tibia with two trichobothria.

RECORDS: UNITED STATES: Michigan: Iosco. Minnesota: Marshall. New York: Cayuga, Clinton, Tompkins. CANADA: Alberta: Waterton Lakes National Park. Manitoba: Riding Mountain National Park. New Brunswick: Kent, Westmorland. Northwest Territories: Hay River, Great Slave Lake, Martin River. Nova Scotia: Annapolis, Kings. Ontario: Carleton, Grenville, Leeds, Muskoka, Prince Edward, York. Quebec: Papineau, Terrebonne.

DISTRIBUTION: Widely distributed in the more northerly parts of the continent, where it seems to replace *E. contorta* (map 2).

NATURAL HISTORY: Females have been taken in May–July, males in May–September. A variety of wet situations is recorded as habitat: sphagnum, moss, bogs, ditch, wet meadows, and saltmarsh.

Eperigone holda Chamberlin and Ivie Figures 21-24; map 3

Eperigone holda Chamberlin and Ivie, 1939: 59, figs. 8, 9 (female holotype from Bridge Bay, Yellowstone Lake, Park Co., Wyoming; this type has not been located). — Roewer, 1942: 717. — Bonnet, 1956: 1708.

Note: The females described here agree reasonably well with the description of E. *holda*, and are provisionally assigned to this species.



Figs. 21–28. Epigyna. 21–24, *Eperigone holda*. 21. Ventral. 22. Anteroventral. 23. Lateral. 24. Dorsal. 25–28, *E. solita*. 25. Ventral. 26. Lateral. 27. Anteroventral. 28. Dorsal. Scale lines 0.1 mm.

DIAGNOSIS: This species is assumed to lack a trichobothrium on metatarsus IV. The female is diagnosed by the epigynum, the lateral arms of which extend only a short distance beyond the dorsal plate (fig. 21), which is pointed posteriorly (fig. 24). For the separation from *E. trilobata* and *E. solita*, which have epigyna (ventral aspect) rather similar, see *E. trilobata* diagnosis. The epigynum is also rather similar to that of *E. serrata* (fig. 46); these species are easily distinguished by the anteroventral (fig. 22, cf. fig. 48) and dorsal (fig. 24, cf. fig. 47) aspects of the epigyna, and by the very different geographical ranges. The male is not known. FEMALE: Total length 1.85. Carapace length 0.85. Carapace orange-brown. Abdomen gray. Sternum orange, suffused with black. Legs orange-brown. Legs I and IV missing; TmII 0.4. In key it is assumed that, as in *E. trilobata*, metatarsus IV has no trichobothrium. Epigynum (figs. 21–24).

RECORDS: UNITED STATES: *Wyoming:* Park. CANADA: *British Columbia:* Vancouver Island.

DISTRIBUTION: Known only from Wyoming and British Columbia (map 3).

NATURAL HISTORY: Females were taken in July and September; nothing was recorded on habitat.



Map 3. North America: distribution of *Eperigone inornata* (\bullet), *E. antrea* (\blacktriangle), *E. holda* (\blacksquare), *E. indicabilis* (\bigtriangledown).

Eperigone solita, new species Figures 25–28; map 8

TYPE: Female holotype from 10 mi W Grand Island, Merrick Co., Nebr., June 6, 1933, deposited in AMNH.

ETYMOLOGY: The specific name is a Latin adjective meaning "customary, usual." DIAGNOSIS: This species lacks a tricho-

DIAGNOSIS: This species lacks a trichobothrium on metatarsus IV. The female is diagnosed by the epigynum, the lateral arms of which extend only a short distance beyond the dorsal plate (fig. 25), which is pointed (fig. 28). For distinctions from *E. trilobata* and *E. holda*, which have epigyna (ventral aspect) rather similar, see *E. trilobata* diagnosis. The male is not known.

FEMALE: Total length 1.75. Carapace length 0.8. Orange-brown, with dusky markings. Abdomen gray, dorsally paler anteriorly. Sternum orange, suffused with black. Legs pale orange. Metatarsi IV missing: assumed in key that trichobothrium is absent, as in similar species *E. trilobata*; TmI 0.50. Epig-ynum (figs. 25–28).

RECORDS: UNITED STATES: Only the holotype.













Figs. 29–42. 29–35, *Eperigone bryantae.* 29. Palpal tibia, dorsal. 30. Palpal tibia, ectal. 31. Palpal tibia, mesal. 32. Epigynum, lateral. 33. ED. 34. Epigynum, ventral. 35. Epigynum, dorsal. 36–42, *E. inornata.* 36. Palpal tibia, dorsal. 37. Palpal tibia, ectal. 38. Palpal tibia, mesal. 39. Epigynum, lateral. 40. ED. 41. Epigynum, ventral. 42. Epigynum, dorsal. Abbreviations: D, L, dorsal and lateral apophyses of palpal tibia. Scale lines 0.1 mm.



Map 4. North America: distribution of *Eperigone bryantae* (●), *E. taibo* (▲), *E. socius* (■).

DISTRIBUTION: Known only from the type locality, Nebraska (map 8).

NATURAL HISTORY: The female was adult in June; nothing was recorded on habitat.

Eperigone bryantae Ivie and Barrows Figures 29–35; map 4

- Tmeticus simplex Emerton, 1913: 216, pl. 2, fig.
 3 (male holotype from Middleboro, Mass., in MCZ, examined, but both palps missing). Name preoccupied by Tmeticus simplex O. P.-Cambridge, 1900 (=Erigone simplex F. O. P.-Cambridge, 1892 = Tmeticus dentichelis Simon, 1884).
- *Eperigone simplex:* Crosby and Bishop, 1928: 58, figs. 136–138. Bonnet, 1956: 1709. Kaston, 1981: 196.
- *Eperigone bryantae* Ivie and Barrows, 1935: 12, figs. 28–30 (male holotype from Marco Island,

Florida, in AMNH, examined; original spelling *bryanti* was corrected to *bryantae* by Bonnet, 1956).

- *Eperigone credula* Gertsch and Davis, 1936: 2, figs. 3, 4 (male holotype from Llano, Llano Co., Tex., in AMNH, examined). NEW SYNONY-MY.
- *Eperigone lyra* Chamberlin and Ivie, 1939: 59, fig. 7 (female holotype from 10 mi N Nebraska City, Neb., in AMNH, examined). NEW SYNON-YMY.
- *Eperigone simplicia* Roewer, 1942: 718 (nomen novum for *Tmeticus simplex* Emerton). NEW SYNONYMY.

DIAGNOSIS: This species lacks a trichobothrium on metatarsus IV. The female is diagnosed by the epigynum: the lateral arms extend well beyond the dorsal plate (fig. 34), and the dorsal plate is truncated and notched posteriorly (fig. 35). The male is diagnosed by the ED (fig. 33) and by the palpal tibia, the lateral apophysis of which (lateral view) is prominent (figs. 30, 31). The palp of *E. inornata* is similar to that of *E. bryantae*, but both the dorsal and lateral apophyses are shorter in *E. bryantae* (figs. 29–31, cf. figs. 36–38). The dorsal aspect of the tibia, and the form of the ED, distinguish *E. bryantae* readily from *E. serrata*.

FEMALE: Total length 1.4–2.3. Carapace length 0.7–0.8. Largest specimens are labeled *credula*. Carapace orange, with dusky markings and margins. Abdomen gray to black, dorsally paler with occasionally faint chevrons. Sternum orange, suffused with gray. Legs pale brown to orange. Metatarsus IV without trichobothrium; TmI 0.40–0.45. Epigynum (figs. 32, 34, 35).

MALE: Total length 1.55–2.05. Carapace length 0.7–0.9. Color and chaetotaxy as in female. Chelicerae without lateral denticles. Palp (figs. 29–31, 33).

RECORDS: UNITED STATES: Florida: Alachua, Highlands, Pinellas. Kansas: Bourbon. Kentucky: Fayette. Nebraska: Cas. New York: Nassau, Orange, Suffolk, Tompkins. North Carolina: Smoky Mountains. Tennessee: Henderson, Roane, Sevier. Texas: Dallas, Duval, Harris, Panola, Webb. Virginia: Fairfax. Wisconsin: Lincoln. CANADA: Newfoundland: Avalon. Nova Scotia: Shelburne. Ontario: Prescott, Russell. MEXICO: Durango. CUBA. Havana.

DISTRIBUTION: The species is widely distributed, mainly on the eastern side of the continent (map 4).

NATURAL HISTORY: Females have been recorded in April-August, October, and December, males in April-August and October. Habitats given are in bogs, sphagnum, moss, grass, and in the pitcher of *Sarracenia*, i.e., in moist situations.

Eperigone inornata Ivie and Barrows Figures 36–42; map 3

Eperigone inornata Ivie and Barrows, 1935: 10, figs. 31, 32 (male holotype from Fort Myers, Florida, in AMNH, examined). – Roewer, 1942: 716. – Bonnet, 1956: 1708.

DIAGNOSIS: This species lacks a trichobothrium on metatarsus IV. The female is diagnosed by the epigynum, the lateral arms of which extend well beyond the dorsal plate (fig. 41), which is pointed posteriorly (fig. 42). The male is diagnosed by the ED (fig. 40), and by the palpal tibia, the lateral apophysis of which (lateral aspect) is prominent (fig. 37). The palp of *E. bryantae* is similar to that of *E. inornata*, but easily distinguishable (see *E. bryantae* diagnosis). The dorsal aspect of the tibia, and the form of the ED, separate *E. inornata* without difficulty from *E. serrata*.

FEMALE (this sex was recorded by Chamberlin and Ivie, 1944, but not described): Total length 1.55–1.7. Carapace length 0.70– 0.75. Carapace pale brown to orange, with darker markings and margins. Abdomen gray to black, sometimes with weak paler chevrons dorsally. Sternum orange, suffused to variable degree with black. Legs yellow-orange to orange-brown. Metatarsus IV without trichobothrium; TmI 0.45–0.50. Epigynum (figs. 39, 41, 42).

MALE: Total length 1.45–1.65. Carapace length 0.70–0.75. Color and chaetotaxy as in female. Chelicerae without lateral denticles. Palp (figs. 36–38, 40).

RECORDS: UNITED STATES: Alabama: Mobile. Florida: Lake, Lee, Osceola, Sarasota. Georgia: Chatham, Clinch, Effingham. Louisiana: Orleans. New Mexico: Otero.

DISTRIBUTION: Known only from the southern United States (map 3).

NATURAL HISTORY: Females have been taken in March-May, July, August, and November, males in February-April, August, November, and December. Nothing was recorded on habitat.

Eperigone serrata Ivie and Barrows Figures 43–48; map 5

- *Eperigone serrata* Ivie and Barrows, 1935: 10, figs. 25–27 (male holotype from Fort Myers, Lee Co., Fla., not located, but AMNH specimens identified by Ivie examined). Roewer, 1942: 716. Bonnet, 1956: 1709.
- *Eperigone antillana* Bryant, 1948: 388, figs. 69, 72, 74 (male holotype from Miragoane, Haiti, in MCZ, examined). Brignoli, 1983: 336. NEW SYNONYMY.

D



Figs. 43–52. 43–48, *Eperigone serrata.* 43. Palpal tibia, ectal. 44. Palpal tibia, dorsal. 45. ED. 46. Epigynum, ventral. 47. Epigynum, dorsal. 48. Epigynum, anteroventral. 49–52, *E. tibialis.* 49. Palpal tibia, ectal. 50. Epigynum, ventral. 51. Epigynum, dorsal. 52. Palpal tibia, dorsal. Abbreviations: D, L, dorsal and lateral apophyses of palpal tibia. Scale lines 0.1 mm.



Map 5. North America: distribution of Eperigone serrata (●), E. tibialis (▲), E. augustae (■).

DIAGNOSIS: This species lacks a trichobothrium on metatarsus IV. The female is diagnosed by the epigynum, the lateral arms of which are pointed and extend scarcely beyond the dorsal plate (fig. 46), which is pointed posteriorly (fig. 47). The epigynum of E. tibialis (figs. 50, 51) is closely similar, and although there may be small differences it is probably not possible to distinguish the females of these two species except by size. E. holda (fig. 21) and E. persimilis (fig. 291) have somewhat similar epigyna, but from these two species E. serrata is readily distinguished by the anteroventral (fig. 48, cf. figs. 22, 293) and dorsal (fig. 47, cf. figs. 24, 292) aspects of the epigynum. The male is diagnosed by the ED, which is of the trilobata type (fig. 45), and by the palpal tibia, the lateral apophysis of which (lateral aspect) is prominent (fig. 43). The ED of *E. tibialis* is identical with that of *E. serrata*, but these two species are distinguished by the palpal tibiae (figs. 43, 44, cf. figs. 49, 52). The lateral aspect of the tibia of *E. serrata* is somewhat similar to those of *E. bryantae* (fig. 30) and *E. inornata* (fig. 37), but the dorsal aspect clearly distinguishes *E. serrata* is also different from those of *E. bryantae* and *E. inornata* (fig. 45, cf. figs. 33, 40).

FEMALE: Total length 2.05–2.3. Carapace length 0.9–1.0. Carapace orange, with faint dusky markings; ocular area often suffused with black. Abdomen gray to black, with faint paler chevrons dorsally. Sternum orange, suffused with black. Legs pale orange to orange. Metatarsus IV without trichobothrium: TmI 0.45–0.50. Epigynum (figs. 46–48); length of median fissure of ventral plate somewhat variable.

MALE: Total length 2.0-2.1. Carapace length 1.0-1.1. Color and chaetotaxy as in female. Palp (figs. 43-45); tibia sometimes slightly longer than shown.

RECORDS: UNITED STATES: Florida: Alachua, Baker, Collier, Dade, Highlands, Jackson, Lake, Monroe, Orange, Palm Beach, Sarasota, Taylor. Georgia: Burke. BAHA-MAS: Port Nelson. CUBA: Havana. DO-MINICA. GUADALOUPE. HAITI: Miragoane. MEXICO: Chiapas: nr. Concordia; Puerto Madero. Tamaulipas: nr. Tula. PUERTO RICO: Rio Piedras; Mayaguez.

DISTRIBUTION: Known from Florida, Georgia, Mexico, and throughout the Caribbean island chain (map 5).

NATURAL HISTORY: Females were adult in January–April, June, August, September, and December, males in January, March, April, June, August, September, and November. Nothing was recorded on habitat.

Eperigone tibialis, new species Figures 49–52; map 5

TYPE: Male holotype from San Fidel, Sierra Co., New Mexico, Sept. 4, 1941, deposited in AMNH.

ETYMOLOGY: The specific name refers to the prominent palpal tibia.

DIAGNOSIS: This species lacks a trichobothrium on metatarsus IV. The female has the epigynum very similar to that of *E. serrata*, but slightly larger (figs. 50, 51, cf. figs. 46, 47); it is probable that the female is not distinguishable from *E. serrata* except perhaps by size. The male is diagnosed by the palpal tibia: the greater length and the form of the apophyses distinguish from *E. serrata* (figs. 49, 52, cf. figs. 43, 44). The lateral denticles of the chelicerae are significantly longer in *E. tibialis* than in *E. serrata*, and the distribution of the two species seems to be different. It is possible that *tibialis* should be regarded as a subspecies of *serrata*.

FEMALE (taken with the male): Total length 3.0. Carapace length 1.3. Carapace orange.

Abdomen gray to black. Sternum orange, suffused with black. Legs orange. Metatarsus IV without trichobothrium; TmI 0.55. Epigynum (figs. 50, 51).

MALE: Total length 2.9. Carapace length 1.5. Color and chaetotaxy as in female. Chelicerae with exceptionally large lateral denticles. Palp (figs. 49, 52).

RECORDS: UNITED STATES: Arizona: Cochise (female paratype). New Mexico: Sierra (female paratype).

DISTRIBUTION: Known only from Arizona and New Mexico (map 5).

NATURAL HISTORY: Females were taken in April and September, males in September. Nothing was recorded on habitat.

Eperigone tridentata (Emerton) Figures 53–58; map 6

- *Tmeticus tridentatus* Emerton, 1882: 53, pl. 15, fig. 2 (male and female syntypes from Providence, R.I., and New Haven, Conn.; not seen, and may not still exist).
- *Eperigone tridentata:* Crosby and Bishop, 1928: 59, figs. 139–142. Roewer, 1942: 718. Bonnet, 1956: 1709. Kaston, 1981: 194, figs. 629–635.

DIAGNOSIS: This species lacks a trichobothrium on metatarsus IV. The female is diagnosed by the epigynum, the lateral arms of which extend barely beyond the dorsal plate (fig. 55), which is broad and rounded posteriorly (fig. 58). Distinction from E. mediocris, E. sodalis, and E. lindrothi, which have somewhat similar epigyna, is clear from the ventral aspect of the epigyna (fig. 55, cf. figs. 61, 66, 69); in addition, E. lindrothi is known only from the Aleutian Islands. The male is diagnosed by the ED, and by the palpal tibia, which has no prominent lateral apophysis (figs. 53, 56). From the closely related species E. mediocris, E. tridentata male is distinguished by relatively small differences in the palpal tibia (figs. 56, 54, cf. figs. 59, 62), by the ED, in which the median apophysis is more slender (fig. 57, cf. fig. 60), and by the absence in E. mediocris of lateral denticles on the chelicerae.

FEMALE: Total length 2.0–2.55. Carapace length 0.95–1.0. Carapace orange to chestnut brown, suffused with deeper brown anteriorly. Abdomen gray to black. Sternum brown,



Figs. 53-63. 53-58, Eperigone tridentata. 53. Palpal tibia, ectal and slightly ventral. 54. Palpal tibia, dorsal. 55. Epigynum, ventral. 56. Palpal tibia, ectal. 57. ED. 58. Epigynum, dorsal. 59-63, E. mediocris. 59. Palpal tibia, ectal. 60. ED. 61. Epigynum, ventral. 62. Palpal tibia, dorsal. 63. Epigynum, dorsal. Scale lines 0.1 mm.

suffused with black. Legs brown to orangebrown. Metatarsus IV without trichobothrium; TmI 0.45. Epigynum (figs. 55, 58).

MALE: Total length 2.1-2.2. Carapace

length 1.0-1.05. Color and chaetotaxy as in female. Palp (figs. 53, 54, 56, 57). RECORDS: UNITED STATES: Alabama:

Calhoun, Mobile. Connecticut: Fairfield, New



Maps 6, 7. 6. Eastern North America: distribution of *Eperigone tridentata* (\bullet), *E. mediocris* (\blacktriangle), *E. sodalis* (\blacksquare). 7. Western North America: distribution of *Eperigone madera* (\bullet), *E. major* (\blacktriangle), *E. mniara* (\blacksquare).

London. District of Columbia. Florida: Okaloosa. Georgia: Screven. Illinois: Livingston. Indiana: Allen. Kentucky: Fayette. Louisiana: Madison. Massachusetts: Norfolk. Marvland: Baltimore. Missouri: Boone, Carter, Crawford, Oregon. Nebraska: Richardson. New Jersev: Essex, Mercer. New York: Albany, Monroe, Suffolk, Tompkins. North Carolina: Johnston, Lee. Ohio: Champaign, Hocking. Pennsylvania: Bucks. Rhode Island: Newport. Tennessee: Knoxville, Washington. Texas: Dallas, Harris, Jefferson. Vermont: Rutland. Virginia: Smyth. CANADA: Manitoba: Riding Mountain National Park, nr. Pipestone. Ontario: Cochrane, Essex, Frontenac, Grenville, Leeds, York.

DISTRIBUTION: Widespread east of the Rocky Mountains (map 6); less frequent in the north (Canada) and not recorded from Mexico.

NATURAL HISTORY: Both sexes have been taken as adults in all months of the year. Habitats quoted are in meadows, sphagnum bogs, leaf litter in woods, and on fences (aeronauting).

Eperigone mediocris, new species Figures 59–63; map 6

TYPE: Male holotype from 8 mi SE Warren, Polk Co., Minn. June 12, 1945 (W. Ivie), deposited in AMNH.

ETYMOLOGY: The specific name is a Latin adjective implying "average, ordinary."

DIAGNOSIS: This species lacks a trichobothrium on metatarsus IV. The female is diagnosed by the epigynum, the lateral arms of which extend barely beyond the dorsal plate (fig. 61), which is broad with a rounded point posteriorly (fig. 63). The epigyna of *E. mediocris* and *E. lindrothi* are very similar, and probably not distinguishable with certainty, but these two species are separable by their differing geographical ranges. The male is diagnosed by the ED (fig. 60), and by the palpal tibia which has no significant lateral apophyses (figs. 59, 62). The palpal form is close to that of *E. tridentata*; for separation, see *E. tridentata* diagnosis.

FEMALE (taken with the male): Total length 1.95–2.35. Carapace length 1.0–1.15. Cara-

pace brown to orange-brown, with dusky markings. Abdomen black. Sternum orange, suffused with black. Legs orange-brown. Metatarsus IV without trichobothrium; TmI 0.45. Epigynum (figs. 61, 63).

MALE: Total length 1.95–2.0. Carapace length 0.9–1.0. Color and chaetotaxy as in female. Chelicerae without lateral denticles. Palp (figs. 59, 60, 62).

RECORDS: UNITED STATES: *Minnesota:* Polk (male and female paratypes). CANA-DA: *Manitoba:* Riding Mountain National Park (female paratype).

DISTRIBUTION: Known only from Minnesota and Manitoba (map 6).

NATURAL HISTORY: Both sexes were adult in June; nothing was recorded on habitat.

Eperigone lindrothi Holm Figures 64–68

Eperigone lindrothi Holm, 1960: 113, figs. 16–18 (male holotype from Adak Island, Andreanof Island, Aleutian Islands, Alaska, in MCZ, examined). – Brignoli, 1983: 336.

DIAGNOSIS: This species lacks a trichobothrium on metatarsus IV. The female is diagnosed by the epigynum, the lateral arms of which extend barely beyond the dorsal plate (fig. 66), which is broad, with a rounded point posteriorly (fig. 67). The epigyna of *E. lindrothi* and *E. mediocris* are probably not distinguishable with certainty. The male is diagnosed by the ED (fig. 68), and by the palpal tibia which has no lateral apophysis (figs. 64, 65); these characters are sufficiently different from those of *E. mediocris* to make confusion unlikely.

FEMALE: Total length 2.55. Carapace length 1.15. Carapace orange-brown, margins suffused with black. Abdomen gray to black. Sternum orange, suffused with gray. Legs orange-brown. Metatarsus IV without trichobothrium; TmI 0.5–0.55. Epigynum (figs. 66, 67).

MALE: Total length 2.4. Carapace length 1.2. Color and chaetotaxy as in female. Palp (figs. 64, 65, 68).

RECORDS: UNITED STATES: *Alaska:* the type locality.

DISTRIBUTION: Known only from the type locality, Aleutian Islands, Alaska.

NATURAL HISTORY: Both sexes were adult in July. Nothing was recorded on habitat.

> *Eperigone sodalis,* new species Figures 69, 70; map 6

TYPE: Female holotype from Jasper, Pickens Co., Ga., July 26, 1903 (J. H. Emerton), deposited in MCZ.

ETYMOLOGY: The specific name is a Latin noun in apposition meaning "a comrade, an associate."

DIAGNOSIS: This species lacks a trichobothrium on metatarsus IV. The female is diagnosed by the epigynum, which is generally similar to those of *E. mediocris* and *E. lindrothi*, but in which the median fissure of the ventral plate is more open (fig. 69, cf. figs. 61, 66). The dorsal plate of *E. sodalis* is relatively narrower and longer than in these two species (fig. 70, cf. figs. 63, 67). The distribution of *E. sodalis* appears to be more southern and eastern than those of *E. mediocris* and *E. lindrothi*. The male is not known.

FEMALE: Total length 2.2. Carapace length 1.0. Carapace orange. Abdomen gray. Sternum orange, suffused with gray. Legs pale orange. Metatarsus IV without trichobothrium; TmI 0.45. Epigynum (figs. 69, 70).

RECORDS: UNITED STATES: Only the holotype.

DISTRIBUTION: Known only from the type locality (map 6).

NATURAL HISTORY: The single female was adult in July. Nothing was recorded on habitat.

> *Eperigone paludosa,* new species Figures 71, 72; map 2

TYPE: Female holotype from Goldstream Provincial Park, British Columbia, June 25– July 2, 1979 (C. D. Dondale), deposited in CNC.

ETYMOLOGY: The specific name is an adjective from the Latin meaning "marshy."

DIAGNOSIS: This species lacks a trichobothrium on metatarsus IV. The female is diagnosed by the epigynum (fig. 71), the lateral arms of which extend barely beyond the dorsal plate, which is rounded posteriorly (fig. 72). The dorsal aspect of the epigynum is rather close to that of *E. tridentata* (fig. 58),



Figs. 64–72. 64–68, *Eperigone lindrothi*. 64. Palpal tibia, ectal. 65. Palpal tibia, dorsal. 66. Epigynum, ventral. 67. Epigynum, dorsal. 68. ED. 69, 70, *E. sodalis*. 69. Epigynum, ventral. 70. Epigynum, dorsal. 71, 72, *E. paludosa*. 71. Epigynum, ventral. 72. Epigynum, dorsal. Scale lines 0.1 mm.

but the ventral aspect is quite distinct (fig. 71, cf. fig. 55). The male is not known.

FEMALE: Total length 2.4–2.65. Carapace length 1.1. Carapace brown, with faint darker markings. Abdomen gray. Sternum brown,

suffused with gray. Legs brown. Metatarsus IV without trichobothrium; TmI 0.50. Epigynum (figs. 71, 72).

RECORDS: CANADA: British Columbia: type locality (female paratype).

DISTRIBUTION: Known only from the type locality (map 2).

NATURAL HISTORY: Females were adult in July, in a saltmarsh.

Eperigone antrea (Crosby) Figures 73–79; map 3

Parerigone antrea Crosby, 1926: 4, figs. 4–6 (male holotype from Carlsbad Cave, New Mexico, in AMNH, examined). – Roewer, 1942: 716. – Bonnet, 1956: 1707.

DIAGNOSIS: This species has a trichobothrium on metatarsus IV. The female is diagnosed by the epigynum (fig. 77), which has the dorsal plate pointed (fig. 79). *E. taibo* has a very similar epigynum (fig. 84); viewed somewhat anteriorly, the epigyna show slight differences (fig. 78, cf. fig. 82), but the females of *E. antrea* and *E. taibo* may not always be distinguishable. The male is diagnosed by the palpal tibia (figs. 73, 74, 76); this is fairly close to that of *E. taibo*, but the lateral apophysis is rather less developed (fig. 76, cf. fig. 80). *E. antrea* tends to be cavernicolous, and perhaps somewhat more southern in distribution than *E. taibo*.

FEMALE: Total length 2.65–2.7. Carapace length 1.1–1.25. Carapace orange to orangebrown. Abdomen gray or whitish gray. Sternum yellow to orange, suffused with gray. Legs pale yellow to orange-brown. Metatarsus IV with trichobothrium; TmI 0.45–0.54. Epigynum (figs. 77–79).

MALE: Total length 2.2–2.8. Carapace length 1.15–1.35. Color and chaetotaxy as in female. Chelicerae with lateral denticles weak. Palp (figs. 73–76).

RECORDS: UNITED STATES: Arizona: Apache, Cochise, Yavapai. Colorado: Custer, Gunnison. New Mexico: Eddy, Otero. Texas: Culberson. MEXICO: Chihuahua: 1 mi E La Sauceda. Michoacán: nr. Zitacuaro.

DISTRIBUTION: Most of the records are from Texas, Arizona, and New Mexico, but there are two from Mexico (map 3).

NATURAL HISTORY: Females have been taken from April to October, males in April, June-August, and December. The typical habitat is in caves (particularly in the Carlsbad area), but some specimens have been taken in the open. In Mexico, a female was found at above 2000 m.

Eperigone taibo Chamberlin and Ivie Figures 80-85; map 4

Eperigone taibo Chamberlin and Ivie, 1933: 12, figs. 26–31 (male holotype from South Fork, Raft River, Utah, in AMNH, examined). – Roewer, 1942: 718. – Bonnet, 1956: 1709.

DIAGNOSIS: This species has a trichobothrium on metatarsus IV. The female is diagnosed by the epigynum (fig. 84), which has the dorsal plate pointed (fig. 85); the epigynum is very close to that of *E. antrea* (see *E. antrea* diagnosis). The male is diagnosed by the palpal tibia (figs. 80, 83), the apophyses of which are slightly longer than those of *E. antrea* (figs. 73, 74, 76). *E. taibo* is very close to *E. antrea*, and it is possible that, from the biological viewpoint, *antrea* should be regarded as a cave-dwelling form of *taibo*.

FEMALE: Total length 2.45–2.65. Carapace length 1.05–1.1. Carapace orange. Abdomen gray, with faint paler chevrons dorsally. Sternum orange, suffused with gray. Legs orange to orange-brown. Metatarsus IV with trichobothrium; TmI 0.42–0.50. Epigynum (figs. 82, 84, 85).

MALE: Total length 2.1–2.6. Carapace length 1.05–1.25. Color and chaetotaxy as in female. Palp (figs. 80, 81, 83).

RECORDS: UNITED STATES: Arizona: Apache, Coconino, Greenlee, Pima. Colorado: El Paso, Montrose. Utah: Box Elder, Summit, Wayne. CANADA: British Columbia: Vancouver Island.

DISTRIBUTION: Arizona, Colorado, Utah, and British Columbia (map 4).

NATURAL HISTORY: Females were taken as adults in April and June–October, males in April and June–September. The only habitat reported is in and under rotten logs and stumps.

Eperigone agressa Gertsch and Davis Figures 86-91; map 21

Eperigone agressa Gertsch and Davis, 1937: 26, figs. 32, 33, 41 (male holotype from Las Cruces, Chihuahua, Mexico, in AMNH, examined). – Roewer, 1942: 716. – Bonnet, 1956: 1707.

DIAGNOSIS: This species has a trichobothrium on metatarsus IV. The female is diagnosed by the epigynum, the lateral arms of



Figs. 73–85. 73–79, *Eperigone antrea*. 73. Palpal tibia, ectal. 74. Palpal tibia, ectal and slightly ventral. 75. ED. 76. Palpal tibia, dorsal. 77. Epigynum, ventral. 78. Epigynum, anteroventral. 79. Epigynum, dorsal. 80–85, *E. taibo.* 80. Palpal tibia, dorsal. 81. ED. 82. Epigynum, anteroventral. 83. Palpal tibia, ectal. 84. Epigynum, ventral. 85. Epigynum, dorsal. Scale lines 0.1 mm.



Figs. 86–94. 86–91, *Eperigone agressa.* 86. Palpal tibia, ectal. 87. Palpal tibia, dorsal. 88. ED. 89. Epigynum, ventral. 90. Epigynum, anteroventral. 91. Epigynum, dorsal. 92–94, *E. florida.* 92. Palpal tibia, ectal. 93. Palpal tibia, dorsal. 94. ED. Scale lines 0.1 mm.

which extend well beyond the dorsal plate (fig. 89), which is pointed (fig. 91). From *E. orba*, which has a similar epigynum, *E. agressa* is distinguished by the differing ventral, anteroventral, and dorsal aspects of the epigynum (figs. 89–91, cf. figs. 282–284). The male is diagnosed by the palpal tibia (figs. 86, 87) and the ED, the median apophysis of which is relatively small and slender (fig. 88). FEMALE: Total length 2.65–2.9. Carapace length 1.3–1.35. Carapace orange to orangebrown. Abdomen gray to black, with faint paler chevrons dorsally. Sternum orange, suffused with black, to almost completely black. Legs orange to orange-brown. Metatarsus IV with trichobothrium; TmI 0.48–0.50. Epigynum (figs. 89–91).

MALE: Total length 2.65-2.8. Carapace



Figs. 95–105. 95–100, *Eperigone madera*. 95. Palpal tibia, dorsal. 96. Palpal tibia, ectal. 97. ED. 98. Epigynum, ventral. 99. Epigynum, anteroventral. 100. Epigynum, dorsal. 101–105, *E. major*. 101. Palpal tibia, dorsal. 102. Palpal tibia, ectal. 103. ED. 104. Epigynum, ventral. 105. Epigynum, dorsal. Scale lines 0.1 mm.

length 1.2-1.3. Color and chaetotaxy as in female. Palp (figs. 86-88).

RECORDS: UNITED STATES: New Mexico: Otero. MEXICO: Chihuahua: Las Cruces. Distrito Federal: Desierto de los Leones; Río Frio. Michoacán: Garnica Pass; NW Villa Victoria. Morelos: Parque Nacional Zempoala. Puebla: nr. Amecameca. Veracruz: 10 mi W Jalapa.

DISTRIBUTION: Most of the records are from Mexico, but there is one record from north of the border (map 21).

NATURAL HISTORY: Females have been taken from March to August, males in April, May, and July, at elevations up to 3200 m.

Eperigone madera, new species Figures 95–100; map 7

TYPE: Male holotype from Madera Canyon, Santa Rita Mountains, Cochise Co., Ariz., Sept. 8, 1941 (W. Ivie), deposited in AMNH.

ETYMOLOGY: The specific name is an adjective referring to the type locality.

DIAGNOSIS: This species has a trichobothrium on metatarsus IV. The female is diagnosed by the epigynum (figs. 98, 99), which has the dorsal plate truncated and slightly notched posteriorly (fig. 100). *E. madera* is distinguished from *E. major*, which has a somewhat similar epigynum, by the less pointed arms (fig. 98, cf. fig. 104) and by the shape of the dorsal plate (fig. 100, cf. fig. 105). The male is diagnosed by the palpal tibia (figs. 95, 96); this is of the same general form as those of *E. antrea* and *E. taibo*, but the lateral apophysis is longer (fig. 95, cf. figs. 76, 80).

FEMALE (taken with the male): Total length 2.45–3.1. Carapace length 1.25–1.4. Carapace orange, with darker markings. Abdomen gray, with faint darker chevrons dorsally. Sternum orange, suffused with gray. Legs orange to orange-brown. Metatarsus IV with trichobothrium; TmI 0.50. Epigynum (figs. 98–100).

MALE: Total length 2.65–2.9. Carapace length 1.35–1.45. Color and chaetotaxy as in female. Palp (figs. 95–97).

RECORDS: UNITED STATES: Arizona: Cochise (male and female paratypes), Graham (male and female paratypes), Pima (female paratype), Santa Cruz (female paratype). New Mexico: Otero (female paratype).

DISTRIBUTION: Known only from Arizona and New Mexico (map 7).

NATURAL HISTORY: Females were adult in

March and May–September, males in June and August–October. Nothing was recorded on habitat.

> *Eperigone major*, new species Figures 101–105; map 7

TYPE: Male holotype from Mormon Lake, Coconino Co., Ariz., April 26, 1936 (Crosby and Bishop), deposited in AMNH.

ETYMOLOGY: The specific name is an adjective referring to the large size of the species.

DIAGNOSIS: This species has a trichobothrium on metatarsus IV. The female is diagnosed by the epigynum (fig. 104), which has the dorsal plate almost hexagonal in shape (fig. 105). *E. major* is distinguished from *E. madera*, which has a somewhat similar epigynum, by the more pointed lateral arms (figs. 104, 105, cf. figs. 98, 100) and by the shape of the dorsal plate (fig. 105, cf. fig. 100). The male is diagnosed by the palpal tibia (figs. 101, 102), which distinguishes it from all other *Eperigone* species; the ED is very close to that of *E. madera*.

FEMALE (taken with the male): Total length 3.0–3.65. Carapace length 1.35–1.55. Carapace orange to orange-brown, with black line on fovea. Abdomen gray. Sternum orange-brown, suffused with black. Legs orange-brown. Metatarsus IV with trichobothrium; TmI 0.5. Epigynum (figs. 104, 105).

MALE: Total length 2.7–3.1. Carapace length 1.4–1.55. Color and chaetotaxy as in female. Palp (figs. 101–103).

RECORDS: UNITED STATES: Arizona: Apache (female paratype), Coconino (male and female paratypes).

DISTRIBUTION: Known only from Arizona (map 7).

NATURAL HISTORY: The female was adult in April and July, the male in April. Nothing was recorded on habitat.

Eperigone maculata (Banks) Figures 106–111; map 8

Tmeticus probatus: Emerton, 1882: 52, pl. 15, fig. 1.

Erigone probata: Keyserling, 1886: 166 (not Erigone probata O. P.-Cambridge, 1873).

Eperigone probata: Roewer, 1942: 718.

Tmeticus maculatus Banks, 1892: 41, fig. 23 (fe-



Figs. 106–111. *Eperigone maculata*. **106.** Palpal tibia, ectal. **107.** Palpal tibia, dorsal. **108.** ED. **109.** Epigynum, ventral. **110.** Epigynum, dorsal. **111.** Internal genitalia, female. Scale lines 0.1 mm.

male syntypes from Coy Glen, near Ithaca, N.Y., in AMNH, examined).

Eperigone maculata: Crosby and Bishop, 1928: 54, figs. 127–131. — Bonnet, 1956: 1708. — Kaston, 1981: 194, figs. 647–649, 664.

DIAGNOSIS: This common species lacks a trichobothrium on metatarsus IV. The female is diagnosed by the epigynum, in which the lateral arms of the ventral plate are broad and rounded, and the dorsal plate is not visible from the ventral side (fig. 109); the dorsal aspect of the epigynum is a confirmatory character (fig. 110). The male is diagnosed by the ED, which is characteristically shaped (fig. 108), and by the palpal tibia (figs. 106, 107); these characters distinguish *E. maculata* from all other *Eperigone* species.

FEMALE: Total length 1.45–1.9. Carapace length 0.7–0.85. Carapace orange-brown, with dusky markings and margins. Abdomen gray to black, often with paler transverse bars or chevrons dorsally, particularly well developed in specimens from more southern latitudes. Sternum orange, suffused with gray. Legs orange to orange-brown. Metatarsus IV without trichobothrium; TmI 0.40–0.45. Epigynum (figs. 109–111).

MALE: Total length 1.45-1.75. Carapace



Map 8. North America: distribution of *Eperigone maculata* (●), *E. solita* (▲), *E. paula* (■).

length 0.7–0.8. Color and chaetotaxy as in female. Chelicerae with lateral denticles weak or absent. Palp (figs. 106–108).

RECORDS: UNITED STATES: Alabama: Madison, Mobile. Arizona: Cochise, Santa Cruz. Arkansas: Hempstead. Connecticut: Fairfield, Middlesex. District of Columbia. Florida: Alachua, Baker, Dade, De Soto, Duval, Hendry, Hillsborough, Jefferson, Lake, Lee, Leon, Liberty, Marion, Palm Beach, Pinellas, Polk, St. Johns, Sarasota. Georgia: Chatham, Cook, Hall, Jackson, Screven. Illinois: Champaign, Madison, McLean, Will. Indiana: Montgomery. Kansas: Linn. Kentucky: Grayson, Morgan. Louisiana: Madison, Rapides, St. Bernard, St. Helena. Maine: Cumberland, Piscataquis. Maryland: Prince Georges. Massachusetts: Barnstaple, Hampshire, Suffolk. Michigan: Berrien, Calhoun, Cheboygan, Crawford, Emmet, Grand Traverse, Jackson, Marquette, Wayne. Minnesota: Aitkin, Hennepin. Mississippi: George, Lauderdale, Marion, Wilkinson. Missouri: Boone. New Hampshire: Rockingham. New Jersey: Cumberland, Middlesex. New York: Cayuga, Erie, Monroe, Nassau, Orange, Rockland, Schuyler, Suffolk, Tioga, Tompkins, Wayne. North Carolina: Caldwell, Carteret, Durham, Macon, Mecklenburg, Yancey. Ohio: Erie, Hocking, Lake, Trumbull.



Maps 9, 10. 9. Eastern North America: distribution of *Eperigone entomologica* (\bullet), *E. florida* (\blacktriangle). 10. Eastern North America: distribution of *Eperigone fradeorum* (\bullet), *E. index* (\blacktriangle), *E. augustalis* (\blacksquare).

Pennsylvania: Bucks, Centre, Monroe, Somerset, Westmoreland. Rhode Island: Providence. South Carolina: Charleston, Dorchester. Tennessee: Cumberland, Grundy, Henderson, Robertson, Sevier. Texas: Brazoria, Edwards, Harris, Jasper, Kerr, Leon, Newton, Panola, Val Verde. Virginia: Fairfax, Norfolk. Wisconsin: Adams, Chippava, Clark, Columbia, Door, Forest, Grant, Iowa, Iron, Marquette, Polk, Richland, Sawyer, Shawano, Vilas, Washburn, Waushara. CANADA: Nova Scotia: Lunenburg. Ontario: Algoma, Brant, Elgin, Essex, Hastings, Kent, Lanark, Manitoulin, Muskoka, Nipissing, Sudbury, York. Quebec: Gatineau, Papineau, Pontiac, La Verendrye Provincial Park. MEXICO: Chiapas: nr. La Concordia. Hidalgo: Chapulhuacan. Nueva León: Linares, Monterrey. GUATEMALA: Quetzaltenango.

DISTRIBUTION: Widespread throughout the United States to the east of the Rockies, but apparently less frequent in Canada; the species extends southward to Mexico and Guatemala (map 8). NATURAL HISTORY: Both sexes have been taken as adults in all months of the year. Habitats mentioned are in sphagnum, moss, leaf litter, in woods, and under logs.

Eperigone florida, new species Figures 92–94; map 9

TYPE: Male holotype from Fort Myers Beach, Lee Co., Fla., March 17, 1954 (W. Ivie), deposited in AMNH.

ETYMOLOGY: The specific name is an adjective referring to the type locality.

DIAGNOSIS: This species has a trichobothrium on metatarsus IV. The male is diagnosed by the ED (fig. 94) and the palpal tibia (figs. 92, 93). The tibia is similar to those of *E. socius* (fig. 118) and *E. mniara* (fig. 112), but the ED distinguishes *E. florida* from these species (fig. 94, cf. figs. 121, 116). The female is not known.

MALE: Total length 1.45. Carapace length 0.65. Carapace orange, with dusky markings. Chelicerae with short lateral denticles, but lacking anterior boss. Abdomen black, with











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Figs. 112–123. 112–117, *Eperigone mniara*. 112. Palpal tibia, ectal. 113. Palpal tibia, dorsal. 114. Epigynum, ventral. 115. Epigynum, dorsal. 116. ED. 117. Epigynum, ventral, another specimen. 118–123, *E. socius*. 118. Palpal tibia, ectal. 119. Palpal tibia, dorsal. 120. Epigynum, ventral. 121. ED. 122. Epigynum, ventral, another specimen. 123. Epigynum, dorsal. Scale lines 0.1 mm.

pale chevrons dorsally. Sternum orange, suffused with black. Legs orange-brown. Metatarsus IV with trichobothrium; TmI 0.50. Palp (figs. 92–94).

RECORDS: UNITED STATES: Only the holotype.

DISTRIBUTION: Known only from Florida (map 9).

NATURAL HISTORY: The male was adult in March; nothing was recorded on habitat.

Eperigone mniara Crosby and Bishop Figures 112–117; map 7

Eperigone mniara Crosby and Bishop, 1928: 57, figs. 132–135 (male holotype from Pingree Park, Larimer Co., Colo., in AMNH, examined). – Roewer, 1942: 717. – Bonnet, 1956: 1709.

DIAGNOSIS: This species has a trichobothrium on metatarsus IV. The female is diagnosed by the epigynum (figs. 114, 117), the ventral plate of which has only a short, narrow, median fissure. From *E. socius*, which has a somewhat similar epigynum, *E. mniara* is distinguished by the narrower fissure (fig. 114, cf. fig. 120), and by the dorsal plate, which is truncated rather than rounded posteriorly (fig. 115, cf. fig. 123). The male is diagnosed by the ED (fig. 116) and the palpal tibia (fig. 112). From *E. socius*, which has a rather similar palpal tibia (fig. 112, cf. fig. 118), *E. mniara* is distinguished by the different forms of the ED (fig. 116, cf. fig. 121).

FEMALE: Total length 1.65–1.75. Carapace length 0.75–0.9. Carapace orange to orangebrown, with dusky markings and margins. Abdomen gray to black. Sternum orange, suffused with gray. Legs orange to orange-brown. Metatarsus IV with trichobothrium; TmI 0.55–0.60. Epigynum (figs. 114, 115, 117).

MALE: Total length 1.55–1.7. Carapace length 0.8. Color and chaetotaxy as in female. Chelicerae without lateral denticles. Palp (figs. 112, 113, 116).

RECORDS: UNITED STATES: Colorado: Larimer. Utah: Summit. (One female in AMNH, labeled "Eperigone augustae C. & B., Voorheesville" is E. mniara; it seems probable that some mixing of specimens has taken place, and New York is not included as a locality for this species.)

DISTRIBUTION: Known only from Colorado and Utah (map 7).

NATURAL HISTORY: Females were taken in June, July, and August, males in June and August. The type locality was at 2900 m, and the only habitat recorded was in moss.

Eperigone socius Chamberlin Figures 118–123; map 4

Eperigone socius Chamberlin, 1948: 528, fig. 159 (female holotype from Bridge Bay, Yellowstone Lake, Park Co., Wyo., in AMNH, examined).

Eperigone socia: Brignoli, 1983: 336 [under ICZN Article 31b (i) the specific name *socius* (Latin noun, "a companion") should be treated as a noun in apposition, and the original spelling retained].

DIAGNOSIS: This species has a trichobothrium on metatarsus IV. The female is diagnosed by the epigynum (figs. 120, 122), the ventral plate of which has only a short median fissure. From *E. mniara, E. socius* is distinguished by the wider fissure (fig. 120, cf. fig. 114) and by the dorsal plate (fig. 123, cf. fig. 115). The male is diagnosed by the ED (fig. 121) and the palpal tibia (figs. 118, 119). The tibia is rather similar to that of *E. mniara*, but the ED's of these two species are readily distinguishable (fig. 121, cf. fig. 116).

FEMALE: Total length 1.85–2.0. Carapace length 0.8–0.95. Carapace orange to orangebrown, with dusky markings. Abdomen grayblack. Sternum yellow to orange, suffused with gray. Legs orange-brown. Metatarsus IV with trichobothrium; TmI 0.6. Epigynum (figs. 120, 122, 123).

MALE (this sex, not previously described, was taken with the female): Total length 1.65–1.9. Carapace length 0.85–0.9. Color and chaetotaxy as in female. Chelicerae with lateral denticles vestigial or absent. Palp (figs. 118, 119, 121).

RECORDS: UNITED STATES: Wyoming: Otero, Park.

DISTRIBUTION: Known only from Wyoming (map 4).

NATURAL HISTORY: Both sexes were adult in June. Nothing was recorded on habitat.

Eperigone fradeorum (Berland) Figures 124–131; map 10

Parerigone fradeorum Berland, 1932a: 76, figs. 3-11 (male holotype from San Miguel, Furnas,



Figs. 124–131. Eperigone fradeorum. 124. Palpal tibia, ectal. 125. ED. 126. Palpal tibia, dorsal. 127. ED, inner (ectal) aspect. 128. Palp, mesal, ED removed. 129. Epigynum, ventral. 130. Epigynum, dorsal. 131. Male chelicerae, anterior. Abbreviations: E, embolus; SA, suprategular apophysis; TA, tegular apophysis. Scale lines 0.1 mm.

Azores, in MNHN; paratypes from Azores, in MNHN, examined).

Anerigone fradeorum: Berland, 1932b: 119. -Roewer, 1942: 714. – Bonnet, 1955: 325. Eperigone fradeorum: Jocqué, 1984: 124, figs. 3–5.

Eperigone banksi Ivie and Barrows, 1935: 12, figs. 20-24 (male holotype from Cocoa, Fla.; male and female paratypes from type locality, in AMNH, examined. - Roewer, 1942: 716. -Bonnet, 1956: 1707. NEW SYNONYMY.

DIAGNOSIS: This species has a trichobothrium on metatarsus IV. The female is diag-
nosed by the epigynum (figs. 129, 130), which is quite distinct from that of other *Eperigone* species apart from *E. eschatologica*. From the latter species, *E. fradeorum* is distinguished by small differences in the epigynum (ventral aspect) (fig. 129, cf. fig. 135), and by the different shape of the dorsal plate (fig. 130, cf. fig. 136). The male is diagnosed by the ED (fig. 125) and the palpal tibia (figs. 124, 126); the ED is almost identical with that of *E. eschatologica*, but these two species are readily distinguished by the palpal tibia (dorsal aspect) (fig. 126, cf. fig. 133).

FEMALE: Total length 2.9–3.0. Carapace length 1.2–1.25. Carapace pale brown to orange, with ocular area suffused with black. Abdomen brownish gray to almost black, dorsally paler anteriorly and with chevrons posteriorly. Sternum orange, heavily suffused with black. Legs yellow to orange. Metatarsus IV with trichobothrium; TmI 0.55. Epigynum (figs. 129, 130).

MALE: Total length 3.0-3.1. Carapace length 1.3-1.4. Color and chaetotaxy as in female. Chelicerae (fig. 131). Palp (figs. 124-128).

RECORDS: UNITED STATES: Alabama: Mobile, Tuscaloosa. Arkansas: Washington. Florida: Alachua, Brevard, Collier, Dade, Hardee, Jefferson, Lake, Lee, Sarasota. Georgia: Chatham, Dougherty. Illinois: Madison. Kentucky: Fayette. Louisiana: Baton Rouge, De Soto. New Jersey: Middlesex. North Carolina: Carteret, Durham, Guildford, Jackson. Tennessee: Polk. CANADA: Ontario: Grenville, Leeds. AZORES. SOUTH AFRICA. NEW ZEALAND.

DISTRIBUTION: Widely distributed on the eastern side of North America, but does not extend to Mexico (map 10). This species has undergone widespread dispersal, probably at least in part through human agency, with records from the Azores, South Africa, and New Zealand.

NATURAL HISTORY: In North America, females have been taken in January-March, May-September, and December, males in February, March, and May-September. Habitats recorded are in grassland, at the edges of woods, and under a rock; its sheet web has been observed at the surface of the soil layer.

Eperigone eschatologica (Crosby) Figures 132–136; map 11

Erigone eschatologica Crosby, 1924: 643 (male holotype from San Marcos Island, Baja California, Mexico, in CAS, examined); not female. Eperigone eschatologica: Crosby and Bishop, 1928:

51, figs. 113, 114 (not female). Roewer, 1942: 717. – Bonnet, 1956: 1708.

Note: Crosby confused two quite distinct species under the name *eschatologica*. His female "allotype" (type no. 1429, CAS) is *E. perplexa*, and his figures of the ED and of the epigynum (Crosby, 1924, and Crosby and Bishop, 1928) also refer to *E. perplexa*. One vial in AMNH labeled "*E. eschatologica* paratype, San Marcos Island 19 June 1921" contains one female of *eschatologica* and one male of *perplexa*, while another vial labeled "*E. eschatologica* paratype, Puerto Escondido, 14 June 1921" contains one female of *E. perplexa*.

DIAGNOSIS: This species has a trichobothrium on metatarsus IV. The female is diagnosed by the epigynum (figs. 135, 136), which is quite distinct from that of other *Eperigone* species apart from *E. fradeorum*. From the latter species, *E. eschatologica* is distinguished by small differences in the epigynum (ventral aspect) and by the different shape of the dorsal plate (fig. 136, cf. fig. 130). The male is diagnosed by the ED (fig. 134), and by the palpal tibia, the dorsal aspect of which distinguishes this species from the closely related species *E. fradeorum* (fig. 133, cf. fig. 126).

FEMALE: Total length 2.75–3.25. Carapace length 1.2–1.45. Carapace orange-brown, sometimes darker anteriorly. Abdomen gray to black, with faint paler chevrons dorsally; occasionally pale yellow dorsally, with dark chevrons posteriorly. Sternum orange-brown, suffused with gray. Legs brown to orangebrown. Metatarsus IV with trichobothrium; TmI 0.50–0.55. Epigynum (figs. 135, 136).

MALE: Total length 1.9–2.5. Carapace length 1.0–1.3. Color and chaetotaxy as in female. Palp (figs. 132–134).

RECORDS: UNITED STATES: Alabama: Baldwin. Arizona: Pima, Santa Cruz, Yuma. California: Imperial, Kern, Orange, Riverside, Santa Barbara, Santa Clara. Florida: Ev-



Map 11. North America: distribution of *Eperigone eschatologica* (\bullet), *E. annamae* (\blacktriangle), *E. modica* (\blacksquare).

erglades. Georgia: Charlton, Sumter. Oklahoma: Pittsburg. Texas: Brewster, Cameron, Dallas, Hidalgo, Houston, Kimble, Kleburg, Knox, Leon, Lipscombe, Llano, Nueces, Potter, San Saba, Victoria, Webb. MEXICO: Baja California: Palmerito de Abajo; San Marcos Island. Nayarit: Tepic. Nuevo León: Galeana; Montemorelos; Monterrey. Oaxaca: Tehuantepec. Sinaloa: Piaxtla. Sonora: W Hermosillo. Tamaulipas: Reynosa.

DISTRIBUTION: Widespread in the more southern areas of North America (map 11).

NATURAL HISTORY: Both sexes have been taken as adults in all months of the year. The only habitat recorded is in crevices in a clay bank in Georgia.

Eperigone paula, new species Figures 137, 138; map 8

TYPE: Female holotype from 5 mi E Rio Grande City, Hidalgo Co., Tex., Oct. 31, 1936 (S. Mulaik), deposited in AMNH.

ETYMOLOGY: The specific name is an adjective meaning "small."

DIAGNOSIS: This species has no tricho-

bothrium on metatarsus IV. The female is diagnosed by the epigynum, the lateral arms of which are rounded, with the dorsal plate invisible from the ventral side (fig. 137); the dorsal aspect of the epigynum (fig. 138) is a confirmatory character. The male is not known.

FEMALE: Total length 1.4. Carapace length 0.6. Carapace yellow, with dusky markings. Abdomen yellow-gray. Sternum yellow, suffused with gray. Legs yellow-brown. Metatarsus IV without trichobothrium; TmI 0.57. Epigynum (figs. 137, 138).

RECORDS: UNITED STATES: Only the holotype.

DISTRIBUTION: Known only from the type locality (map 8).

NATURAL HISTORY: The female was adult in October. Nothing was recorded on habitat.

Eperigone modica, new species Figures 139, 140; map 11

TYPE: Female holotype from Camp Mary White, Otero Co., N. Mex., Aug. 9–12, 1935 (S. Mulaik), deposited in AMNH.



Figs. 132–140. 132–136, *Eperigone eschatologica*. **132.** Palp, ectal. **133.** Palpal tibia, dorsal. **134.** ED. **135.** Epigynum, ventral. **136.** Epigynum, dorsal. 137, 138, *E. paula*. **137.** Epigynum, ventral. **138.** Epigynum, dorsal. 139, 140, *E. modica*. **139.** Epigynum, ventral. **140.** Epigynum, dorsal. Abbreviation: TA, tegular apophysis. Scale lines 0.1 mm.

ETYMOLOGY: The specific name is an adjective meaning "ordinary, undistinguished." DIAGNOSIS: This species has a trichobothrium on metatarsus IV. The female is diagnosed by the epigynum, which has a char-



Figs. 141–146. *Eperigone entomologica.* 141. Palpal tibia, ectal. 142. Palpal tibia, dorsal. 143. ED. 144. Epigynum, ventral. 145. Epigynum, ventral, another specimen. 146. Epigynum, dorsal. Scale lines 0.1 mm.

acteristic appearance (fig. 139); the dorsal plate is truncated posteriorly (fig. 140). The male is not known.

FEMALE: Total length 2.5. Carapace length 1.1. Carapace orange, with ocular area suffused with brown. Abdomen whitish dorsally, with gray chevrons; gray ventrally. Sternum orange, suffused with gray. Legs orangebrown. Metatarsus IV with trichobothrium; TmI 0.60–0.65. Epigynum (figs. 139, 140).

RECORDS: UNITED STATES: Only the holotype.

DISTRIBUTION: Known only from New Mexico (map 11).

NATURAL HISTORY: The single female was adult in August. Nothing was recorded on habitat.

Eperigone entomologica (Emerton) Figures 141–146, 166; map 9

Tmeticus entomologicus Emerton, 1911: 395, pl. 3, fig. 3 (male syntypes from Ipswich and

Tyngsboro, Mass., not seen). Eperigone entomologica: Crosby and Bishop, 1928: 50, figs. 109–112. – Roewer, 1942: 717. – Bonnet, 1956: 1708. – Kaston, 1981: 196.

DIAGNOSIS: Although the types have not been found, the identity of this species is not in doubt: there are many specimens in museum collections which have been identified by Emerton, Crosby, or Bishop. This species is diagnosed initially by its small size. The female is then diagnosed by the epigynum, the ventral plate of which has a characteristic shape, with a thickened (rebordered) posterior margin (figs. 144, 145); confirmation is given by the shape of the dorsal plate (fig. 146). The male is diagnosed by the short tibial apophyses (figs. 141, 142) and the ED (fig. 143); the latter is rather similar to those of E. index and E. indicabilis, but the tibial apophyses readily separate E. entomologica from these two species.

FEMALE: Total length 0.9–1.0. Carapace length 0.5. Carapace orange, with dusky margins. Abdomen gray. Sternum yellow, suffused with gray. Legs yellow to orange. Metatarsus IV without trichobothrium; TmI 0.35– 0.40. Epigynum (figs. 144–146, 166).



Figs. 147–156. 147–151, *Eperigone index*. 147. Palpal tibia, ectal. 148. Palpal tibia, dorsal. 149. ED. 150. Epigynum, ventral. 151. Epigynum, dorsal. 152–156, *E. indicabilis*. 152. Palpal tibia, ectal. 153. Palpal tibia, dorsal. 154. ED. 155. Epigynum, ventral. 156. Epigynum, dorsal. Scale lines 0.1 mm.

MALE: Size, color, and chaetotaxy as in female. Chelicerae without lateral denticles and anterior boss. Palp (figs. 141–143). RECORDS: UNITED STATES: Connecticut: New Haven. Kentucky: Powell. Maine: Piscataquis. Massachusetts: Essex. New Jersey: Ocean. New York: Clinton, Franklin, Hamilton, Orange, Schuyler, Suffolk, Tompkins, Wayne. North Carolina: Macon. CAN-ADA: Ontario: Carleton, Frontenac, Prescott, Russell. Quebec: Berthier, Gatineau, Pontiac.

DISTRIBUTION: The eastern side of the continent, from Quebec and Ontario in the north to Kentucky and North Carolina in the south (map 9).

NATURAL HISTORY: Females have been taken from April-August and in October-November, males in April-July and September-October. The principal habitat seems to be in wet sites, particularly in sphagnum.

Eperigone index (Emerton) Figures 147–151; map 10

- *Tmeticus index* Emerton, 1914: 263, pl. 8, fig. 6 (male holotype from Freeville, N.Y., not seen, but specimens identified by Emerton, in MCZ, examined).
- *Eperigone index:* Crosby and Bishop, 1928: 52, figs. 117–120. Roewer, 1942: 717. Bonnet, 1956: 1708. Kaston, 1981: 196.

DIAGNOSIS: This species is diagnosed initially by its small size. The female is then diagnosed by the epigynum, which has a characteristic appearance with the internal ducts and spermathecae visible through the integument (fig. 150). This species is unlikely to be mistaken for *E. entomologica* (fig. 144), but the two can always be distinguished by the dorsal aspects of the epigyna (fig. 151, cf. fig. 146). The male is diagnosed by the pointed tibial apophysis (fig. 148), and by the ED, which has the ventral apophysis fairly long and pointed (fig. 149); the detail of both these characters distinguishes *E. index* from *E. indicabilis*.

FEMALE: Total length 1.0–1.15. Carapace length 0.55–0.60. Carapace brown to orangebrown, with dusky markings. Abdomen gray to black. Sternum orange, heavily suffused with black. Legs yellow to orange-brown. Metatarsus IV without trichobothrium; TmI 0.35. Epigynum (figs. 150, 151).

MALE: Size, color, and chaetotaxy as in female. Chelicerae without lateral denticles and anterior boss. Palp (figs. 147–149).

RECORDS: UNITED STATES: New York: Essex, Nassau, Schuyler, Tompkins. Wiscon-

sin: Jackson, Taylor. CANADA: New Brunswick: Kent. Ontario: Nipissing.

DISTRIBUTION: The relatively few records are from the eastern side of the continent between latitudes 40 and 50°N (map 10).

NATURAL HISTORY: Females were taken in May and October, males in April–July, September, and October. Habitats recorded were in bog, and in moss and litter near a spring.

Eperigone indicabilis Crosby and Bishop Figures 152–156; map 3

Eperigone indicabilis Crosby and Bishop, 1928: 53, figs. 121–126 (male and female syntypes from McLean, Tompkins Co., N.Y., in AMNH, examined). – Roewer, 1942: 717. – Bonnet, 1956: 1708.

DIAGNOSIS: This species is diagnosed initially by its small size. The female is then diagnosed by the epigynum, which is of characteristic appearance (fig. 155). The epigynum is somewhat similar to those of Wabasso species (Millidge, 1984a), but can be distinguished by the dorsal aspect (fig. 156); *E. indicabilis* is also smaller. The male is diagnosed by the relatively long pointed tibial apophysis (figs. 152, 153) and the ED (fig. 154), both of which distinguish this species from the related *E. index*.

FEMALE: Total length 1.0–1.15. Carapace length 0.50–0.55. Carapace brown to dark brown, with dusky markings and margins. Abdomen gray. Sternum yellow, suffused with black. Legs yellow-brown. Metatarsus IV without trichobothrium; TmI 0.35–0.40. Epigynum (figs. 155, 156).

MALE: Total length 1.1. Carapace length 0.50–0.55. Color and chaetotaxy as in female. Chelicerae without lateral denticles and anterior boss. Palp (figs. 152–154).

RECORDS: UNITED STATES: Only the type locality.

DISTRIBUTION: Known only from the type locality (map 3).

NATURAL HISTORY: Both sexes were taken as adults in May. Nothing was recorded on habitat.

Eperigone augustae Crosby and Bishop Figures 162–164; map 5

Eperigone augustae Crosby and Bishop, 1933: 227, pl. 7, figs. 1–4 (male holotype from East Aurora,



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Figs. 157–164. 157–161, *Eperigone augustalis*. **157.** Palpal tibia, left, ectal. **158.** Palpal tibia, left, dorsal. **159.** ED, left. **160.** Epigynum, ventral. **161.** Epigynum, dorsal. 162–166, *E. augustae*. **162.** Palpal tibia, ectal. **163.** Palpal tibia, dorsal. **164.** ED. Scale lines 0.1 mm.

Erie Co., N.Y.; the type material in AMNH consists of fragments which include one male palp). - Roewer, 1942: 717. - Bonnet, 1956: 1707. Kaston, 1981: 195.

DIAGNOSIS: This species is diagnosed initially by its small size. The male is then diagnosed by the short, blunt tibial apophysis (figs. 162, 163) and by the ED, which has a long, curved, aciform ventral apophysis (fig. 164). These characters distinguish *E. augustae* from the other tiny species. No females have been seen.

MALE: Total length 1.1. Carapace length 0.55. Carapace orange-brown, with dusky

markings and margins. Chelicerae without lateral denticles and anterior boss. Abdomen gray. Sternum orange-yellow, suffused with gray. Legs orange-brown. Metatarsus IV without trichobothrium; TmI 0.4. Palp (figs. 162–164).

RECORDS: UNITED STATES: Connecticut: Killingworth (? Co.) (Kaston, 1981: specimen not seen). New York: Erie, Tompkins.

DISTRIBUTION: The sparse records are from New York and Connecticut (map 5).

NATURAL HISTORY: Both sexes have been taken in May and June. Nothing was recorded on habitat.



Figs. 165–168. Epigyna. 165. *Eperigone trilobata*, internal, dorsal. 166. *E. entomologica*, internal, dorsal. 167. *E. trilobata*, epigynal plug, ventral. 168. *E. trilobata*, plug, lateral. Abbreviation: GO, genital opening. Scale lines 0.1 mm.

Eperigone augustalis Crosby and Bishop Figures 157–161; map 10

Eperigone augustalis Crosby and Bishop, 1933: 228, pl. 7, figs. 5–7 (holotype male and "allotype" female from Raquette Lake, N.Y.; this material, in AMNH, is in fragments, among which are one left palp and one abdomen with epigynum). — Roewer, 1942: 717. — Bonnet, 1956: 1707.

DIAGNOSIS: This species is diagnosed initially by its small size. The female is then diagnosed by the epigynum, the ventral plate of which has a short longitudinal slit on the posterior margin (fig. 160). The male is diagnosed by the tibial apophyses, one of which is narrow and pointed, the other laminar (figs. 157, 158); the ED has a prominent, curved, aciform ventral apophysis (fig. 159) as in *E. augustae*.

FEMALE: Total length 1.15–1.3. Carapace length 0.55. Carapace yellow-brown, with darker markings and margins. Abdomen gray.

Sternum yellow to orange, suffused with gray. Legs yellow to orange. Metatarsus IV without trichobothrium; TmI 0.35. Epigynum (figs. 160, 161).

MALE: Total length 1.1-1.2. Carapace length 0.55. Color and chaetotaxy as in female. Chelicerae without lateral denticles and anterior boss. Palp (figs. 157-159).

RECORDS: UNITED STATES: New York: Hamilton, Orleans, Tompkins. CANADA: Ontario: Renfrew.

DISTRIBUTION: The sparse records are from New York and Ontario (map 10).

NATURAL HISTORY: Females were taken in May and July, males in June and September. Nothing was recorded on habitat.

Eperigone perplexa, new species Figures 169–173; map 12

Erigone eschatologica: Crosby, 1924: 643 (female, not male).



Maps 12–15. 12. Mexico: distribution of *Eperigone tlaxcalana* (\bullet), *E. formosa* (\blacktriangle), *E. perplexa* (\blacksquare). 13. Mexico: distribution of *Eperigone estrellae* (\bullet), *E. conexa* (\blacktriangle), *E. media* (\blacksquare). 14. Mexico: distribution of *Eperigone sola* (\bullet), *E. colima* (\blacktriangle), *E. avia* (\blacksquare). 15. Mexico: distribution of *Eperigone morata* (\bullet), *E. persimilis* (\blacktriangle).

Eperigone eschatologica: Crosby and Bishop, 1928 (in part: ED, fig. 115; epigynum, fig. 116).

TYPE: Male holotype from San Marcos Island, Baja Calif., Mexico, June 19, 1921 (J. C. Chamberlin), deposited in AMNH.

ETYMOLOGY: The specific name is an adjective meaning "confused, ambiguous."

DIAGNOSIS: This species has no trichobothrium on metatarsus IV. The female is diagnosed by the epigynum, in which the broad dorsal plate is visible (ventral aspect) between the widely separated lateral arms of the ventral plate (fig. 172). From the closely related species *E. formosa*, this species is distinguished by the shape of the dorsal plate (fig. 173, cf. fig. 178). The male is diagnosed by the palpal tibia which (lateral aspect) has no clear lateral apophysis (fig. 169). The tibia of *E. formosa* is similar, but this species is distinguishable by the shape of the tibial apophysis (figs. 169, 170, cf. figs. 174, 175). The ED's of *E. perplexa* and *E. formosa* are probably not distinguishable (figs. 171, 176).

FEMALE (not taken with male, but its similarity to *E. formosa* female indicates that it is probably the females of *perplexa*): Total length 2.1. Carapace length 1.15. Carapace orange. Abdomen gray to black, dorsally paler anteriorly with faint chevrons posteriorly. Sternum orange, suffused with gray. Legs orange-brown. Metatarsus IV without trichobothrium; TmI 0.45. Epigynum (figs. 172, 173).

MALE: Total length 2.45. Carapace length 1.1. Color and chaetotaxy as in female. Chelicerae with lateral denticles weak. Palp (figs. 169–171).

RECORDS: MEXICO: *Baja California:* Puerto Escondido (female paratype).

DISTRIBUTION: Known only from Baja California (map 12).

NATURAL HISTORY: Both sexes were taken in June. Nothing was recorded on habitat.

Eperigone formosa, new species Figures 174–178; map 12

TYPE: Male holotype from Rancho los Baños, Sonora, Mexico, May 9, 1966 (V. Roth), deposited in AMNH.

ETYMOLOGY: The specific name is an adjective meaning "beautiful."

DIAGNOSIS: This species has no trichobothrium on metatarsus IV. The female is diagnosed by the epigynum, in which the broad dorsal plate is visible from the ventral side, between the widely separated lateral arms of the ventral plate (fig. 177). From the closely related species E. perplexa, E. formosa is separated by the shape of the dorsal plate (fig. 178, cf. fig. 173). The male is diagnosed by the palpal tibia which (lateral aspect) has no clear lateral apophysis (fig. 174). The tibia of E. perplexa is similar, but the shape of the apophysis is somewhat different (figs. 174, 175, cf. figs. 169, 170). E. formosa is closely related to E. perplexa, and the capture of a larger range of specimens may show that formosa is no more than a subspecies of perplexa.

FEMALE (taken with the male): Total length 2.45–2.65. Carapace length 1.0–1.2. Carapace orange, with dusky markings. Abdomen black, with dorsal side paler anteriorly and with paler chevrons posteriorly. Sternum orange, suffused with black. Legs pale orange to orange-brown. Metatarsus IV without trichobothrium; TmI 0.45–0.5. Epigynum (figs. 177, 178).

MALE: Total length 2.25. Carapace length 1.0–1.1. Color and chaetotaxy as in female. Chelicerae with lateral denticles weak. Palp (figs. 174–176).

RECORDS: MEXICO: *Nayarit*: 5 mi NW Tepic (male and female paratypes). *Sonora*: type locality (female paratype).

DISTRIBUTION: Known only from two localities in western Mexico (map 12).

NATURAL HISTORY: Both sexes were taken as adults in May. Nothing was recorded on habitat.

Eperigone estrellae, new species Figures 179–184; map 13

TYPE: Male holotype from Gruta de la Estrella, Distrito Federal, Mexico, Aug. 17, 1966 (J. Fish and J. Reddell), deposited in AMNH.

ETYMOLOGY: The specific name is a Latin noun in the genitive case, based on the name of the type locality.

DIAGNOSIS: This species lacks a trichobothrium on metatarsus IV. The female is diagnosed by the epigynum, which has the lateral arms rounded and extending only slightly beyond the dorsal plate (fig. 181), with the dorsal plate rounded posteriorly (fig. 184). From E. morata, E. colima, and E. sola, which have rather similar epigyna, E. estrellae is distinguished by the shape of the dorsal plate and by the dorsal aspect of the epigynum (fig. 184, cf. figs. 186, 189, 192). E. estrellae is distinguished from E. avia by the absence of the two small projections which are present on the ventral plate of E. avia (figs. 181, 183, cf. figs. 194, 196). The male is diagnosed by the palpal tibia, which from the lateral aspect has a clear, though small, lateral apophysis (figs. 179, 180), and by the ED (fig. 182).

FEMALE (taken with the male): Total length 2.0–2.3. Carapace length 1.0–1.15. Carapace orange. Abdomen gray, with faint chevrons dorsally. Sternum orange-yellow, suffused with gray. Legs orange-brown. Metatarsus IV without trichobothrium; TmI 0.5. Epigynum (figs. 181, 183, 184).

MALE: Total length 2.2. Carapace length 1.1. Color and chaetotaxy as in female. Palp (figs. 179, 180, 182).

RECORDS: MEXICO: Type locality (male and female paratypes).



Figs. 169–178. 169–173, *Eperigone perplexa*. 169. Palpal tibia, left, ectal. 170. Palpal tibia, left, dorsal. 171. ED, left. 172. Epigynum, ventral. 173. Epigynum, dorsal. 174–178, *E. formosa*. 174. Palpal tibia, ectal. 175. Palpal tibia, dorsal. 176. ED. 177. Epigynum, ventral. 178. Epigynum, dorsal. Scale lines 0.1 mm.



Figs. 179–184. *Eperigone estrellae*. **179.** Palpal tibia, ectal. **180.** Palpal tibia, dorsal. **181.** Epigynum, ventral. **182.** ED. **183.** Epigynum, lateral. **184.** Epigynum, dorsal. Scale lines 0.1 mm.

DISTRIBUTION: Known only from the type locality (map 13).

NATURAL HISTORY: Both sexes were adult in August. Nothing was recorded on habitat.

Eperigone morata, new species Figures 185–187; map 15

TYPE: Female holotype from Pic de la Cuesta, 8 mi W Acapulco, Guerrero, Mexico, June 29, 1941 (L. I. Davis), deposited in AMNH.

ETYMOLOGY: The specific name is an adjective meaning "characteristic."

DIAGNOSIS: This species lacks a trichobothrium on metatarsus IV. The female is diagnosed by the epigynum, which has the lateral arms rounded and extending only slightly beyond the dorsal plate (fig. 185), with the dorsal plate pointed (fig. 186). From *E. estrellae*, *E. colima*, and *E. sola*, the epigyna of which are similar, *E. morata* is distinguished by the shape of the dorsal plate and by the dorsal aspect of the epigynum (fig. 186, cf. figs. 184, 189, 192). The male is not known. FEMALE: Total length 1.6–2.0. Carapace length 0.8–0.9. Carapace orange-brown, with dusky markings. Abdomen gray, with faint chevrons dorsally. Sternum orange, suffused with black. Legs pale brown to orange-brown. Metatarsus IV without trichobothrium; TmI 0.50–0.55. Epigynum (figs. 185–187).

RECORDS: MEXICO: Type locality (female paratype).

DISTRIBUTION: Known only from the type locality (map 15).

NATURAL HISTORY: The female was adult in June. Nothing was recorded on habitat.

> *Eperigone colima*, new species Figures 188–190; map 14

TYPE: Female holotype from Las Humedades, Armeria, Colima, Mexico, Jan. 19, 1943 (F. Bonet), deposited in AMNH.

ETYMOLOGY: The specific name is an adjective referring to the type locality.

DIAGNOSIS: This species has no trichobothrium on metatarsus IV. The female is diagnosed by the epigynum, which has the



Figs. 185–196. Epigyna. 185–187, *Eperigone morata.* 185. Ventral. 186. Dorsal. 187. Lateral. 188–190, *E. colima.* 188. Ventral. 189. Dorsal. 190. Lateral. 191–193, *E. sola.* 191. Ventral. 192. Dorsal. 193. Lateral. 194–196, *E. avia.* 194. Ventral. 195. Dorsal. 196. Lateral. Scale lines 0.1 mm.

lateral arms rounded and extending only slightly beyond the dorsal plate (fig. 188), with the dorsal plate pointed (fig. 189). From *E. estrellae*, *E. morata*, and *E. sola*, which have similar epigyna, *E. colima* is distinguished by the shape of the dorsal plate and by the dorsal aspect of the epigynum (fig. 189, cf. figs. 184, 186, 192). The male is not known.

FEMALE: Total length 2.3. Carapace length 0.95. Carapace orange-brown, with dusky markings. Abdomen gray. Sternum orange, suffused with black. Legs orange-brown.

Metatarsus IV without trichobothrium; TmI 0.5. Epigynum (figs. 188–190).

RECORDS: MEXICO: Only the holotype.

DISTRIBUTION: Known only from the type locality (map 14).

NATURAL HISTORY: The single female was adult in June; nothing was recorded on habitat.

Eperigone sola, new species Figures 191–193; map 14

TYPE: Female holotype from 10 mi W Coatzaccalcos, Veracruz, Mexico, Aug. 15, 1966 (J. and W. Ivie), deposited in AMNH.

ETYMOLOGY: The specific name is an adjective meaning "solitary, alone."

DIAGNOSIS: This species is assumed to lack a trichobothrium on metatarsus IV. The female is diagnosed by the epigynum, which has the lateral arms rounded and extending only slightly beyond the dorsal plate (fig. 191), with the dorsal plate slightly notched posteriorly (fig. 192). *E. sola* is distinguished from the related species *E. estrellae*, *E. colima*, and *E. morata* by the notched dorsal plate and by the differing dorsal aspects of the epigyna (fig. 192, cf. figs. 184, 186, 189). From *E. avia* it is separated by the absence of the two small projections on the ventral plate (figs. 191, 193, cf. figs. 194, 196). The male is not known.

FEMALE: Total length 2.0. Carapace length 0.95. Carapace orange, with dusky markings. Abdomen whitish yellow dorsally, with faint darker chevrons posteriorly; gray-black ventrally. Sternum orange, lightly suffused with gray. Legs orange. Metatarsi IV are missing (in key it is assumed that metatarsi lack trichobothria, as in related species *E. colima* and *E. avia*); TmI 0.5. Epigynum (figs. 191–193).

RECORDS: MEXICO: Only the holotype.

DISTRIBUTION: Known only from the type locality (map 14).

NATURAL HISTORY: The female was adult in August. Nothing was recorded on habitat.

Eperigone avia, new species Figures 194–196; map 14

TYPE: Female holotype from Cayaco, Guerrero, Mexico, Dec. 28, 1944 (F. Bonet), deposited in AMNH.

ETYMOLOGY: The specific name is an adjective meaning "remote, astray."

DIAGNOSIS: This species lacks a trichobothrium on metatarsus IV. The female is diagnosed by the epigynum, which has the lateral arms rounded and extending barely beyond the dorsal plate (fig. 194); each lateral arm carries a small pointed projection (fig. 196). The dorsal plate is rounded posteriorly (fig. 195). *E. avia* is distinguished from *E. estrellae, E. morata, E. colima,* and *E. sola* by the presence of the two projections and by the differing dorsal aspects of the epigyna (fig. 195, cf. figs. 184, 186, 189, 192). The male is not known.

FEMALE: Total length 2.25. Carapace length 1.0. Carapace pale orange, with ocular area suffused with black. Abdomen gray. Sternum orange-yellow, suffused with gray. Legs orange-brown. Metatarsus IV without trichobothrium; TmI 0.5. Epigynum (figs. 194–196).

RECORDS: MEXICO: Only the holotype.

DISTRIBUTION: Known only from the type locality (map 14).

NATURAL HISTORY: The single female was adult in December. Nothing was recorded on habitat.

Eperigone dominica, new species Figures 197–201; map 20

TYPE: Male holotype from Borne, Dominica, Lesser Antilles, Apr. 8, 1978 (Thibaud), deposited in MNHN.

ETYMOLOGY: The specific name is an adjective referring to the type locality.

DIAGNOSIS: This species lacks a trichobothrium on metatarsus IV. The female is diagnosed by its geographical location (Dominica) and by the epigynum, which has the lateral arms rounded and extending barely beyond the dorsal plate (fig. 200). The epigynum is very similar to that of E. subantillana from the ventral aspect, but possibly distinguishable (fig. 200, cf. fig. 205); these two species are readily separable, however, by the differing shapes of the dorsal plates (fig. 201, cf. fig. 206). The male is diagnosed by its geographical distribution and by the palpal tibia (figs. 197, 198), which from the lateral aspect has a clear, though small, lateral apophysis; the ED (fig. 199) is a confirmatory character. E. subantillana has a very similar palp, but the two species can be separated by small differences in the tibial apophyses (fig.













Figs. 197–206. 197–201, *Eperigone dominica*. **197.** Palpal tibia, ectal. **198.** Palpal tibia, dorsal. **199.** ED. **200.** Epigynum, ventral. **201.** Epigynum, dorsal. 202–206, *E. subantillana*. **202.** Palpal tibia, ectal. **203.** Palpal tibia, dorsal. **204.** ED. **205.** Epigynum, ventral. **206.** Epigynum, dorsal. Scale lines 0.1 mm.

198, cf. fig. 203) and the ED's (fig. 199, cf. fig. 204).

FEMALE (taken with the male): Total length 2.0–2.2. Carapace length 0.90–0.95. Carapace orange to yellow. Abdomen gray, with white patches or chevrons dorsally. Sternum yellow, suffused with gray. Legs pale yellow. Metatarsus IV without trichobothrium; TmI 0.6. Epigynum (figs. 200, 201).

MALE: Total length 1.5–1.75. Carapace length 0.8–0.9. Color as in female, except abdomen pale yellow, with few dark chevrons dorsally. Chaetotaxy as in female. Chelicerae without lateral denticles. Palp (figs. 197–199).

RECORDS: DOMINICA: Borne (female paratypes); NW Grand Bay (male and female paratypes); Trafalgar Falls (female paratype).

DISTRIBUTION: Known only from Dominica (map 20).

NATURAL HISTORY: Females were taken as adults in May and June, males in April and June. Nothing was recorded on habitat.

Eperigone subantillana, new species Figures 202–206; map 20

TYPE: Male holotype from Gourbeyre/St. Claude, Guadaloupe, Lesser Antilles, June 4, 1978 (Thibaud), deposited in MNHN.

ETYMOLOGY: The specific name is an adjective referring to the type locality.

DIAGNOSIS: This species lacks a trichobothrium on metatarsus IV. The female is diagnosed by its geographical location (Lesser Antilles) and by the epigynum, which has the lateral arms rounded and extending barely beyond the dorsal plate (fig. 205). For distinctions from *E. dominica*, see that species. The male is diagnosed by its geographical distribution, and by the palpal tibia (figs. 202, 203); the ED (fig. 204) is a confirmatory character. For distinctions from *E. dominica*, see that species.

FEMALE: Total length 1.6–1.9. Carapace length 0.8–0.9. Carapace pale yellow-brown to pale brown. Abdomen gray to black, with faint pale chevrons dorsally, to pale yellow with sometimes weak gray chevrons dorsally. Sternum pale yellow to yellow, suffused with gray. Legs pale yellow to yellow-brown. Metatarsus IV without trichobothrium; TmI 0.55. Epigynum (figs. 205, 206).

MALE: Total length 1.45–1.6. Carapace

length 0.75–0.85. Color and chaetotaxy as in female. Chelicerae without lateral denticles. Palp (figs. 202–204).

RECORDS: GUADALOUPE: Gourbeyre (male and female paratypes); Massif de la Soufriere (male and female paratypes).

DISTRIBUTION: Known only from Guadaloupe (map 20).

NATURAL HISTORY: Both sexes were adult in June. Nothing was recorded on habitat.

Eperigone media, new species Figures 207–209; map 13

TYPE: Male holotype from Finca Santa Marta, near Huehuetan, Chiapas, Mexico, July 31, 1950 (G. and M. Goodnight), deposited in AMNH.

ETYMOLOGY: The specific name is an adjective meaning "ordinary."

DIAGNOSIS: This species lacks a trichobothrium on metatarsus IV. The male is diagnosed by the palpal tibia, which has a short lateral apophysis (figs. 207, 208), and by the ED (fig. 209). The female is not known.

MALE: Total length 2.0. Carapace length 1.0. Carapace orange. Chelicerae without lateral denticles. Abdomen gray. Sternum orange, suffused with gray. Legs yellow. Metatarsus IV without trichobothrium; TmI 0.5. Palp (figs. 207–209). ED somewhat similar to that of *E. estrellae* (it is possible that this male belongs to *E. morata*, *E. sola*, or *E. avia*, all of which were taken relatively near type locality of *E. media*).

RECORDS: MEXICO: Only the holotype.

DISTRIBUTION: Known only from the type locality (map 13).

NATURAL HISTORY: The male was adult in July. Nothing was recorded on habitat.

Eperigone ignobilis, new species Figures 210–212; map 16

TYPE: Male holotype from Palmillas Mts., Tabasco, Mexico, Aug. 18, 1945 (F. Bonet), deposited in AMNH.

ETYMOLOGY: The specific name is an adjective, meaning "obscure."

DIAGNOSIS: This species lacks a trichobothrium on metatarsus IV. The male is diagnosed by the palpal tibia, which has a short lateral apophysis (figs. 210, 211), and by the ED (fig. 212). The female is not known.



Figs. 207–218. Male palps. 207–209, *Eperigone media*. 207. Tibia, ectal. 208. Tibia, dorsal. 209. ED. 210–212, *E. ignobilis*. 210. Tibia, ectal. 211. Tibia, dorsal. 212. ED. 213–215, *E. fracta*. 213. Tibia, ectal. 214. Tibia, dorsal. 215. ED. 216–218, *E. faceta*. 216. Tibia, ectal. 217. Tibia, dorsal. 218. ED. Scale lines 0.1 mm.



Maps 16, 17. 16. Mexico: distribution of *Eperigone comes* (\bullet), *E. montana* (\blacktriangle), *E. ignobilis* (\blacksquare). 17. Mexico: distribution of *Eperigone ornata* (\bullet), *E. proba* (\blacktriangle), *E. imago* (\blacksquare).

MALE: Total length 1.95. Carapace length 0.90. Carapace orange-brown. Chelicerae without lateral denticles. Abdomen pale gray, with few darker chevrons dorsally. Sternum orange, suffused with black. Legs pale orange. Metatarsus IV without trichobothrium; TmI 0.5. Palp (figs. 210–212). ED somewhat similar to that of *E. estrellae* (it is possible that this male belongs to *E. morata, E. sola,* or *E. avia,* all of which were taken relatively near the type locality of *E. ignobilis*).

RECORDS: MEXICO: Only the holotype.

DISTRIBUTION: Known only from the type locality (map 16).

NATURAL HISTORY: The male was adult in August. Nothing was recorded on habitat.

Eperigone faceta, new species Figures 213–215; map 18

TYPE: Male holotype from Rincon de Osa, Costa Rica, Aug. 15, 1966 (S. Peck), deposited in AMNH.

ETYMOLOGY: The specific name is an adjective, meaning "elegant."

DIAGNOSIS: It is assumed that this species has a trichobothrium on metatarsus IV. The male is diagnosed by the palpal tibia (figs. 213, 214) and by the ED (fig. 215). These characters distinguish *E. faceta* from all other known *Eperigone* species, including the probably closely related *E. fracta*. The female is not known. MALE: Total length 2.1. Carapace length 1.0. Carapace orange-brown, with dusky markings. Posterior row of eyes deformed in type. Chelicerae with weak lateral denticles. Abdomen black, with faint paler chevrons dorsally. Sternum orange, suffused with black. Legs orange-brown. Metatarsi all missing; it is assumed in key that metatarsus IV has trichobothrium. Palp (figs. 213–215).

RECORDS: COSTA RICA: Only the holotype.

DISTRIBUTION: Known only from the type locality (map 18).

NATURAL HISTORY: The male was adult in August. The habitat was in litter.

Eperigone fracta, new species Figures 216–218; map 19

TYPE: Male holotype from San Jose, Costa Rica (E. Schmidt), deposited in AMNH.

ETYMOLOGY: The specific name is an adjective, meaning "broken," referring to the state of the type.

DIAGNOSIS: It is assumed that this species has a trichobothrium on metatarsus IV. The male is diagnosed by the palpal tibia (figs. 216, 217) and by the ED (fig. 218). The female is not known.

MALE (unique specimen in rather poor condition): Total length 2.0. Carapace length 1.0. Carapace orange-brown. Chelicerae with lat-



Map 18. Central America: distribution of Eperigone coahuilana (●), E. tepejicana (▲), E. faceta (■).

eral denticles weak. Abdomen black. Sternum orange, suffused with black. Legs orange-brown. Metatarsi IV missing; it is assumed in key that metatarsus IV has trichobothrium; TmI 0.4. Palp (figs. 216–218).

RECORDS: COSTA RICA: Only the holo-type.

DISTRIBUTION: Known only from the type locality (map 19).

NATURAL HISTORY: Nothing recorded.

Eperigone tlaxcalana Gertsch and Davis Figures 219–226; map 12

Eperigone tlaxcalana Gertsch and Davis, 1937: 25, figs. 39, 40 (female holotype from Tlaxcala, Tlaxcala, Mexico, in AMNH, examined). – Roewer, 1942: 716. – Bonnet, 1956: 1709.

DIAGNOSIS: This species has a trichobothrium on metatarsus IV. The female is diagnosed by the epigynum, which has the lateral arms short, not bifid, and extending barely beyond the dorsal plate (figs. 222, 223). From *E. proba*, which has a somewhat similar epigynum, *E. tlaxcalana* is distinguished by the differing ventral and dorsal aspects of the epigyna (figs. 222, 225, cf. figs. 230, 231); the lateral aspects of the epigyna of these two species are almost identical (figs. 226, 230). The separation of *E. tlaxcalana* from *E. hospita* is dealt with under the latter species. The male is diagnosed by the palpal tibia (figs. 219, 220) and by the ED (fig. 221).

FEMALE: Total length 2.2–2.45. Carapace length 1.1–1.15. Carapace orange. Abdomen gray-black to black, with paler chevrons or blotches dorsally. Sternum orange, suffused with gray. Legs orange. Metatarsus IV with trichobothrium; TmI 0.45–0.50. Epigynum (figs. 222–226).

MALE (taken with female; not previously described): Total length 2.45. Carapace length 1.15. Color and chaetotaxy as in female. Chelicerae with lateral denticles very small. Palp (figs. 219–221).

RECORDS: MEXICO: *Hidalgo:* N Lagunillas. *Morelos:* Cuernavaca; Tepoxtlan. *Tlaxcala:* holotype.



Map 19. Central America: distribution of Eperigone hospita (●), E. singularis (▲), E. fracta (■).

DISTRIBUTION: Known only from Mexico (map 12).

NATURAL HISTORY: Females were adult in May-August, males in May. Nothing was recorded on habitat.

Eperigone proba, new species Figures 227–233; map 17

TYPE: Male holotype from 3 mi NE Patzcuaro, Michoacan, Mexico, Sept. 5, 1966 (J. and W. Ivie), deposited in AMNH.

ETYMOLOGY: The specific name is an adjective, meaning "excellent."

DIAGNOSIS: This species has a trichobothrium on metatarsus IV. The female is diagnosed by the epigynum, which has the lateral arms short, not bifid, extending barely beyond the dorsal plate (fig. 230). From *E. tlaxcalana*, which has a somewhat similar epigynum, *E. proba* is distinguished by the differing ventral and dorsal aspects of the epigynum (figs. 230, 231, cf. figs. 222, 225). The male is diagnosed by the palpal tibia (figs. 227, 228) and the ED (fig. 229).

FEMALE (taken with male): Total length 2.05–2.35. Carapace length 0.95–1.05. Carapace orange. Abdomen gray. Sternum or-

ange, suffused with gray or black. Legs brown to orange-brown. Metatarsus IV with trichobothrium; TmI 0.35. Epigynum (figs. 230– 233).

MALE: Total length 2.3. Carapace length 1.1. Color and chaetotaxy as in female. Chelicerae with lateral denticles absent. Palp (figs. 227–229).

RECORDS: MEXICO: *Michoacán*: type locality (female paratype). *San Luis Potosí*: Tenayuca (female paratype).

DISTRIBUTION: Known only from Michoacán and San Luis Potosí, Mexico (map 17).

NATURAL HISTORY: Females were adult in June and September, the male in September. Nothing was recorded on habitat.

> *Eperigone conexa*, new species Figures 234, 235; map 13

TYPE: Female holotype from Huitzilac, Morelos, Mexico, Aug. 14, 1955 (B. Malkin), deposited in AMNH.

ETYMOLOGY: The specific name is an adjective meaning "connected."

DIAGNOSIS: This species has a trichobothrium on metatarsus IV. The female is diagnosed by the epigynum (fig. 234), which has



Figs. 219–226. *Eperigone tlaxcalana*. 219. Palpal tibia, ectal. 220. Palpal tibia, dorsal. 221. ED. 222. Epigynum, ventral. 223. Epigynum, ventral, another specimen. 224. Epigynum, anteroventral. 225. Epigynum, dorsal. 226. Epigynum, lateral. Scale lines 0.1 mm.

the lateral arms of the ventral plate clawlike. The relatively narrow separation of the "claws," and the form of the dorsal plate (fig. 235), distinguish this species from related species which have the epigyna of the same general form. The male is not known.

FEMALE: Total length 1.8–2.2. Carapace length 0.85–0.95. Carapace orange, with ocular area suffused with black. Abdomen black, with pale yellow chevrons dorsally. Sternum

orange, suffused with gray. Legs orange. Metatarsus IV with trichobothrium; TmI 0.40–0.45. Epigynum (figs. 234, 235).

RECORDS: MEXICO: *Morelos:* type locality; Parque Nacional de Zampoala (female paratype). *Puebla:* near Río Frio (female paratype).

DISTRIBUTION: Known only from Morelos and Puebla, Mexico (map 13).

NATURAL HISTORY: Females were adult in



Figs. 227–235. 227–233, *Eperigone proba.* 227. Palpal tibia, ectal. 228. Palpal tibia, dorsal. 229. ED. 230. Epigynum, ventral. 231. Epigynum, dorsal. 232. Epigynum, lateral. 233. Epigynum, anteroventral. 234, 235, *E. conexa.* 234. Epigynum, ventral. 235. Epigynum, dorsal. Scale lines 0.1 mm.

April, May, and August. The holotype was taken at 2400 m, but no habitat was recorded.

Eperigone coahuilana Gertsch and Davis Figures 236-241; map 18

Eperigone coahuilana Gertsch and Davis, 1940: 1, figs. 1, 2 (male holotype from Diamante Drive, 5 mi SE Saltillo, Coahuila, Mexico, in AMNH, examined). – Roewer, 1942: 716. DIAGNOSIS: This species has a trichobothrium on metatarsus IV. The female is diagnosed by the epigynum, which has the lateral arms clawlike (figs. 239, 240). There are several other species which have epigyna of the same general form; *E. coahuilana* is distinguished from these by the moderate degree of separation of the "claws" and by the form of the dorsal plate (fig. 241). The male is diagnosed by the ED (fig. 238) and the palpal



Figs. 236–246. 236–241, *Eperigone coahuilana*. 236. Palpal tibia, ectal. 237. Palpal tibia, dorsal. 238. ED. 239. Epigynum, ventral. 240. Epigynum, ventral and slightly anterior. 241. Epigynum, dorsal. 242–246, *E. mera*. 242. Palpal tibia, ectal. 243. ED. 244. Palpal tibia, dorsal. 245. Epigynum, ventral. 246. Epigynum, dorsal. Scale lines 0.1 mm.

tibia (figs. 236, 237); these characters are sufficiently different from those of related species to make confusion unlikely. FEMALE (taken with male; not previously described): Total length 2.0–2.35. Carapace length 0.9–1.1. Carapace orange. Abdomen

gray to gray-black, with pale chevrons dorsally. Sternum orange, suffused with gray. Legs orange to orange-brown. Metatarsus IV with trichobothrium; TmI 0.50–0.55. Epigynum (figs. 239–241).

MALE: Total length 1.9–2.1. Carapace length 0.9–0.95. Color and chaetotaxy as in female. Chelicerae with lateral denticles small. Palp (figs. 236–238); the tibia has only two trichobothria.

RECORDS: UNITED STATES: Arizona: Cochise, Graham, Pima. New Mexico: Grant. MEXICO: Coahuila: the holotype. Distrito Federal: Desierto de los Leones. Durango: 10 mi E El Salto.

DISTRIBUTION: Recorded from several localities in Arizona, New Mexico, and Mexico (map 18).

NATURAL HISTORY: Females were adult in May, July, August, and September, males in May, July, August, and November. Nothing was recorded on habitat.

Eperigone mera, new species Figures 242–246; map 22

TYPE: Male holotype from Bosencheve National Park, Michoacán, Mexico, Sept. 4, 1966 (J. and W. Ivie), deposited in AMNH.

ETYMOLOGY: The specific name is an adjective meaning "pure."

DIAGNOSIS: This species has a trichobothrium on metatarsus IV. The female is diagnosed by the epigynum, which has the lateral arms clawlike and well separated (fig. 245). From *E. montana, E. monticola,* and *E. ornata,* which have similar epigyna, *E. mera* is distinguished by the shape of the dorsal plate, which is very narrow posteriorly (fig. 246, cf. figs. 251, 256, 264). The male is diagnosed by the palpal tibia (figs. 242, 244) and by the ED (fig. 243); these characters distinguish *E. mera* from the related *E. montana, E. monticola,* and *E. coahuilana.*

FEMALE (taken with male): Total length 2.2– 2.45. Carapace length 1.05–1.15. Carapace orange, sometimes with black line on fovea. Abdomen gray to black, with faint paler chevrons dorsally. Sternum orange, suffused with gray. Legs orange-brown. Metatarsus IV with trichobothrium; TmI 0.55–0.60. Epigynum (figs. 245, 246). MALE: Total length 2.2. Carapace length 1.05–1.15. Color and chaetotaxy as in female. Chelicerae with lateral denticles vestigial. Palp (figs. 242–244).

RECORDS: MEXICO: *Michoacán*: type locality (male and female paratypes).

DISTRIBUTION: Known only from the type locality (map 22).

NATURAL HISTORY: Both sexes were adult in May and September. Nothing was recorded on habitat.

Eperigone montana, new species Figures 247–251; map 16

TYPE: Male holotype from Río Frio, Puebla, Mexico, Apr. 28, 1942 (Bolivar, Osorio and Pelaez), deposited in AMNH.

ETYMOLOGY: The specific name is an adjective referring to the habitat of the type.

DIAGNOSIS: This species has a trichobothrium on metatarsus IV. The female is diagnosed by the epigynum, which has the lateral arms clawlike and well separated (fig. 250). From *E. mera*, *E. monticola*, and *E. ornata*, which have rather similar epigyna, *E. montana* is separated by the shape of the dorsal plate, which is rounded posteriorly (fig. 251, cf. figs. 246, 256, 264). The male is diagnosed by the palpal tibia (figs. 247, 248) and by the ED (fig. 249); these characters separate *E. montana* from *E. monticola* and *E. mera*, the two species with which it is most likely to be confused.

FEMALE (taken with male): Total length 3.15. Carapace length 1.6. Carapace orange, with dusky markings. Abdomen black. Sternum orange, suffused with gray. Legs orangebrown. Metatarsus IV with trichobothrium; TmI 0.55. Epigynum (figs. 250, 251).

MALE: Total length 3.15. Carapace length 1.55. Color and chaetotaxy as in female. Palp (figs. 247–249).

RECORDS: MEXICO: type locality (female paratypes).

DISTRIBUTION: Known only from the type locality (map 16).

NATURAL HISTORY: Females were adult in March and April, the single male in April. The holotype was taken at 3000 m, but nothing was recorded on habitat.



Map 20. Central America and Caribbean: distribution of *Eperigone subantillana* (\bullet), *E. dominica* (\blacktriangle), *E. caelebs* (\blacksquare).

Eperigone monticola, new species Figures 252–256; map 22

TYPE: Male holotype from Nevado de Toluca, México, Mexico, Apr. 21, 1940 (Bolivar and Pelaez), deposited in AMNH.

ETYMOLOGY: The specific name is a noun in apposition, meaning "a dweller in mountains."

DIAGNOSIS: This species has a trichobothrium on metatarsus IV. The female is diagnosed by the epigynum, which has the lateral arms clawlike and well separated (fig. 255). From *E. mera*, *E. montana*, and *E. ornata*, which have rather similar epigyna, *E. monticola* is distinguished by the shape of the dorsal plate, which is truncated and rather narrow posteriorly (fig. 256, cf. figs. 246, 251, 264). The male is diagnosed by the palpal tibia (figs. 252, 253) and the ED (fig. 254); these characters separate *E. monticola* from the related *E. mera*, *E. montana*, and *E. coahuilana*.

FEMALE (taken with male): Total length 2.7– 3.0. Carapace length 1.25–1.45. Carapace orange, with black line on fovea. Abdomen gray to black. Sternum orange, suffused with gray. Legs orange. Metatarsus IV with trichobothrium; TmI 0.60. Epigynum (figs. 255, 256).

MALE: Total length 2.5. Carapace length 1.35. Color and chaetotaxy as in female. Palp (figs. 252–254).

RECORDS: MEXICO: type locality (female paratypes).

DISTRIBUTION: Known only from the type locality (map 22).

NATURAL HISTORY: Both sexes were adult in April. The habitat, at 4200–4600 m, was not recorded.

Eperigone ornata, new species Figures 260–264; map 17

TYPE: Male holotype from 2 mi SW Río Frio, Puebla, Mexico, Apr. 24, 1963 (W. J. Gertsch and W. Ivie), deposited in AMNH.

ETYMOLOGY: The specific name is an adjective meaning "adorned."

DIAGNOSIS: This species has a trichobothrium on metatarsus IV. The female is diagnosed by the epigynum, which has the lateral arms clawlike and well separated (fig. 263).



Figs. 247–256. 247–251, *Eperigone montana*. 247. Palpal tibia, left, ectal. 248. Palpal tibia, left, dorsal. 249. ED, left. 250. Epigynum, ventral. 251. Epigynum, dorsal. 252–256, *E. monticola*. 252. Palpal tibia, ectal. 253. Palpal tibia, dorsal. 254. ED. 255. Epigynum, ventral. 256. Epigynum, dorsal. Scale lines 0.1 mm.



Map 21. Central America: distribution of Eperigone agressa (•), E. cognata (•), E. pinicola (•).

From *E. mera, E. montana,* and *E. monticola,* which have rather similar epigyna, *E. ornata* is distinguished by the shape of the dorsal plate (fig. 264, cf. figs. 246, 251, 256). The male is diagnosed by the palpal tibia (figs. 260, 261) and by the ED (fig. 262); the lateral aspect of the tibia separates *E. ornata* from those species which lie close to it in the key.

FEMALE (taken with male): Total length 1.7– 2.0. Carapace length 0.8–0.9. Carapace yellow to orange, with ocular area suffused with black, sometimes with black patch on fovea. Abdomen dorsally pale yellow, with black lateral margins and black chevrons; ventrally black, with pale yellow patch anterior to spinnerets. Sternum yellow, suffused with black. Legs yellow to orange, sometimes weakly annulated with dark brown. Metatarsus IV with trichobothrium; TmI 0.55–0.60. Epigynum (figs. 263, 264). MALE: Total length 1.55–1.85. Carapace length 0.8–0.9. Color and chaetotaxy as in female. Chelicerae with lateral denticles rudimentary. Palp (figs. 260–262).

RECORDS: MEXICO: Distrito Federal: Desierto de las Leones (female paratype). México: N Villa Victoria (male and female paratypes). Puebla: type locality (male and female paratypes).

DISTRIBUTION: Known from several localities in central Mexico (map 17).

NATURAL HISTORY: Females were adult in April, May, August, and September, males in April and May. Nothing was recorded on habitat.

Eperigone annamae Gertsch and Davis Figures 257–259; map 11

Eperigone annamae Gertsch and Davis, 1937: 27, figs. 34, 35 (male holotype from Las Cruces,



Figs. 257–264. 257–259, *Eperigone annamae*. 257. Palpal tibia, ectal. 258. Palpal tibia, dorsal. 259. ED. 260–264, *E. ornata*. 260. Palpal tibia, ectal. 261. Palpal tibia, dorsal. 262. ED. 263. Epigynum, ventral. 264. Epigynum, dorsal. Scale lines 0.1 mm.

Chihuahua, Mexico, in AMNH, examined). – Roewer, 1942: 716. – Bonnet, 1956: 1707.

DIAGNOSIS: This species has a trichobothrium on metatarsus IV. The male is diagnosed by the palpal tibia (figs. 257, 258), which has a short lateral and a long dorsal apophysis, and by the ED (fig. 259). These characters distinguish *E. annamae* from the somewhat similar *E. leonina* and *E. ornata*. The female is not known. MALE: Total length 1.75. Carapace length 0.85. Carapace pale orange. Chelicerae without lateral denticles and anterior boss. Abdomen gray dorsally, with black chevrons; ventrally black. Sternum orange-yellow, with gray margins. Legs orange. Metatarsus IV with trichobothrium; TmI 0.65. Palp (figs. 257– 259).

RECORDS: MEXICO: Only the holotype.

DISTRIBUTION: Known only from the type locality (map 11).



Maps 22, 23. 22. Mexico: distribution of *Eperigone leonina* (\bullet), *E. monticola* (\blacktriangle), *E. mera* (\blacksquare). 23. Mexico: distribution of *Eperigone orba* (\bullet), *E. fusca* (\blacktriangle), *E. libana* (\blacksquare).

NATURAL HISTORY: The single male was adult in June. Nothing was recorded on habitat.

Eperigone leonina, new species Figures 265–269; map 22

TYPE: Male holotype from Desierto de los Leones, Distrito Federal, Mexico, Aug. 1, 1956 (W. Gertsch and V. Roth), deposited in AMNH.

ETYMOLOGY: The specific name is an adjective, referring to the type locality.

DIAGNOSIS: This species has a trichobothrium on metatarsus IV. The female is diagnosed by the epigynum (fig. 267) and by the truncated dorsal plate (fig. 269). The epigynum of *E. fusca* is rather similar (figs. 270, 271), but the two species are distinguishable by a combination of the ventral and dorsal aspects of the epigyna. The male is diagnosed by the palpal tibia (figs. 265, 266), which has a short lateral apophysis, and by the ED (fig. 268); these characters distinguish *E. leonina* from those species which lie close to it in the key.

FEMALE (taken at same locality as male, but on different date; generally similar to male, and assumed to be conspecific): Total length 1.8–2.0. Carapace length 0.9. Carapace orange, with black line on fovea; ocular area suffused with black. Abdomen black. Sternum orange, suffused with gray. Legs orange. Metatarsus IV with trichobothrium; TmI 0.55. Epigynum (figs. 267, 269).

MALE: Total length 2.2. Carapace length 1.05. Color and chaetotaxy as in female. Chelicerae without lateral denticles and anterior boss. Palp (figs. 265, 266, 268).

RECORDS: MEXICO: Type locality (male holotype and female paratypes).

DISTRIBUTION: Known only from the type locality (map 22).

NATURAL HISTORY: Females were taken in June, the single male in August. Nothing was recorded on habitat.

Eperigone fusca, new species Figures 270–272; map 23

TYPE: Female holotype from Bosencheve National Park, Michoacán, Mexico, May 7, 1963 (W. J. Gertsch and W. Ivie), deposited in AMNH.

ETYMOLOGY: The specific name is an adjective meaning "dark colored."

DIAGNOSIS: This species has a trichobothrium on metatarsus IV. The female is diagnosed by the epigynum (fig. 270) and by the truncated dorsal plate (fig. 271). *E. leonina* has a rather similar epigynum, and these two species can be distinguished by a combination of the ventral and dorsal aspects of the epigynum. The male is not known.



Figs. 265–275. 265–269, *Eperigone leonina*. 265. Palpal tibia, ectal. 266. Palpal tibia, dorsal. 267. Epigynum, ventral. 268. ED. 269. Epigynum, dorsal. 270–272, *E. fusca*. 270. Epigynum, ventral. 271. Epigynum, dorsal. 272. Epigynum, lateral. 273–275, *E. pinicola*. 273. Palpal tibia, ectal. 274. ED. 275. Palpal tibia, dorsal. Scale lines 0.1 mm.

FEMALE: Total length 2.35. Carapace length 1.1. Carapace orange-brown, with dusky markings and margins. Abdomen black. Sternum mainly black. Legs brown, faintly suffused with black. Metatarsus IV with trichobothrium; TmI 0.55-0.60. Epigynum (figs. 270-272).

RECORDS: MEXICO: Only the holotype.

DISTRIBUTION: Known only from the type locality (map 23).

NATURAL HISTORY: The female was adult in May. Nothing was recorded on habitat.

Eperigone pinicola, new species Figures 273–275; map 21

TYPE: Male holotype from Bosque de Abies, El Chico, Hidalgo, Mexico, June 27, 1943 (Bolivar, Osorio and Pelaez), deposited in AMNH.

ETYMOLOGY: The specific name is a noun, meaning "dweller amongst pines."

DIAGNOSIS: This species is assumed in the key to have a trichobothrium on metatarsus IV. The male is diagnosed by the palpal tibia, which has a single apophysis (figs. 273, 275), and by the ED (fig. 274). These characters distinguish *E. pinicola* from all other known *Eperigone* species. The female is not known.

MALE: Total length 1.9. Carapace length 0.8. Carapace orange. Chelicerae with minute lateral denticles. Abdomen black, with pale chevrons dorsally. Sternum orange, suffused with black. Legs orange. Metatarsi IV both missing; it is assumed in key that a trichobothrium is present. Palp (figs. 273–275).

RECORDS: MEXICO: Only the holotype.

DISTRIBUTION: Known only from the type locality (map 21).

NATURAL HISTORY: The male was adult in June. The habitat was at 2800 m, among pines.

Eperigone comes, new species Figures 276–278; map 16

TYPE: Male holotype from Distrito Federal, Mexico, winter 1941–1942 (H. Wagner), deposited in AMNH.

ETYMOLOGY: The specific name is a noun in apposition meaning "a companion."

DIAGNOSIS: This species has a trichobothrium on metatarsus IV. The male is diagnosed by the ED (fig. 277), which is of the *trilobata* form, and by the palpal tibia (figs. 276, 277); the palpal tibia distinguishes E. *comes* from the closely related E. *agressa* and E. *antrea*. The female is not known.

MALE: Total length 2.7. Carapace length 1.35. Carapace orange, with dark line on fovea. Abdomen gray, with faint darker chevrons dorsally. Sternum orange, suffused with black. Legs yellow to orange. Metatarsus IV with trichobothrium; TmI 0.55. Palp (figs. 276–278); ED of the *trilobata* form.

RECORDS: MEXICO: Distrito Federal: holotype. Michoacán: nr. Morelia (male paratype).

DISTRIBUTION: Known only from two localities in central Mexico (map 16).

NATURAL HISTORY: Males were adult in September and in winter. Nothing was recorded on habitat.

> *Eperigone singularis,* new species Figures 279–281; map 19

TYPE: Male holotype from 2 mi SW Río Frio, Puebla, Mexico, Apr. 24, 1963 (W. J. Gertsch and W. Ivie), deposited in AMNH.

ETYMOLOGY: The specific name is an adjective, meaning "lone."

DIAGNOSIS: This species has a trichobothrium on metatarsus IV. The male is diagnosed by the ED (fig. 281), which is of the *trilobata* type, and by the palpal tibia (figs. 279, 280). *E. singularis* is distinguished from the related *E. tepejicana* and *E. imago* by the dorsal aspect of the tibia (fig. 279, cf. figs. 286, 289). The female is not known.

MALE: Total length 2.2. Carapace length 1.0. Carapace orange, with black line on fovea. Chelicerae with lateral denticles weak. Abdomen black, but dorsally somewhat paler anteriorly. Sternum orange, suffused with gray. Legs orange. Metatarsus IV with trichobothrium; TmI 0.4. Palp (figs. 279–281).

RECORDS: MEXICO: Only the holotype.

DISTRIBUTION: Known only from the type locality (map 19).

NATURAL HISTORY: The male was adult in April. Nothing was recorded on habitat.

Eperigone tepejicana Gertsch and Davis Figures 285–287; map 18

Eperigone tepejicana Gertsch and Davis, 1937: 27, figs. 36–38 (male holotype from Tepeji, Hidalgo, Mexico, in AMNH, examined). – Roewer, 1942: 716. – Bonnet, 1956: 1709.

DIAGNOSIS: This species has a trichobothrium on metatarsus IV. The male is diagnosed by the ED (fig. 287), which is of the *trilobata* form, and by the palpal tibia (figs. 285, 286). From the closely similar *E. imago*, *E. tepejicana* is separated by small differences in the tibia (fig. 285, cf. fig. 288) and the smaller size of the median apophysis of the ED (fig. 287, cf. fig. 290). The lateral aspect of the tibia is rather similar to that of *E*.



Figs. 276–284. 276–278, *Eperigone comes.* 276. Palpal tibia, ectal. 277. Palpal tibia, dorsal. 278. ED. 279–281, *E. singularis.* 279. Palpal tibia, ectal. 280. Palpal tibia, dorsal. 281. ED. 282–284, *E. orba.* 282. Epigynum, ventral. 283. Epigynum, anteroventral. 284. Epigynum, dorsal. Scale lines 0.1 mm.

singularis, but the dorsal aspect is quite different (fig. 286, cf. fig. 280). The female is not known.

MALE: Total length 2.2. Carapace length 1.1. Carapace orange. Chelicerae with lateral denticles weak. Abdomen gray-black, with whitish patches and chevrons dorsally. Sternum orange, suffused with gray. Legs pale orange. Metatarsus IV with trichobothrium; TmI 0.5. Palp (figs. 285–287).

RECORDS: MEXICO: Only the holotype.

DISTRIBUTION: Known only from the type locality (map 18).

NATURAL HISTORY: The male was adult in June. Nothing was recorded on habitat.

Eperigone imago, new species Figures 288–290; map 17

TYPE: Male holotype from 5 mi W San Cristobal, Chiapas, Mexico, Aug. 24, 1966 (J. and W. Ivie), deposited in AMNH.



Figs. 285–290. Male palps. 285–287, *Eperigone tepejicana*. **285.** Tibia, ectal. **286.** Tibia, dorsal. **287.** ED. 288–290, *E. imago.* **288.** Tibia, ectal. **289.** Tibia, dorsal. **290.** ED. Scale lines 0.1 mm.

ETYMOLOGY: The specific name is a noun in apposition meaning "a likeness."

DIAGNOSIS: This species has a trichobothrium on metatarsus IV. The male is diagnosed by the ED (fig. 290), which is of the *trilobata* form, and by the palpal tibia (figs. 288, 289). *E. imago* is distinguished from the closely related *E. tepejicana* by small differences in the tibia (fig. 288, cf. fig. 285) and by the larger size of the median apophysis of the ED (fig. 290, cf. fig. 287). It is readily separated from *E. singularis* by the dorsal aspect of the palpal tibia (fig. 289, cf. fig. 280). The female is not known.

MALE: Total length 2.65. Carapace length 1.35. Carapace orange, with dark line on fovea. Chelicerae with lateral denticles weak. Abdomen gray. Sternum orange, suffused with gray. Legs orange-yellow. Metatarsus IV with trichobothrium; TmI 0.55. Palp (figs. 288– 290).

RECORDS: MEXICO: Only the holotype.

DISTRIBUTION: Known only from the type locality (map 17).

NATURAL HISTORY: The male was taken in August, in a pine-oak forest.

Eperigone orba, new species Figures 282–284; map 23

TYPE: Female holotype from 10-25 mi S Jacala, Hidalgo, Mexico, July 20, 1956 (V. Roth and W. J. Gertsch), deposited in AMNH.

ETYMOLOGY: The specific name is an adjective, meaning "bereft."

DIAGNOSIS: This species has a trichobothrium on metatarsus IV. The female is diagnosed by the epigynum, the lateral arms of which extend well beyond the dorsal plate (fig. 282), which is more or less pointed (fig. 284). From *E. agressa*, which has a closely similar epigynum, *E. orba* is distinguished by differences in the ventral, anteroventral, and dorsal aspects of the epigynum (figs. 282– 284, cf. figs. 89–91). The male is not known; *E. orba*, which has the epigynum of the *trilobata* type, may prove to be the female of one of the species *E. comes, E. singularis, E. tepejicana,* or *E. imago,* all of which have the ED of the *trilobata* form, and have a trich-obothrium on metatarsus IV.

FEMALE: Total length 2.8. Carapace length 1.25. Carapace orange-brown. Abdomen gray. Sternum orange, suffused with some black. Legs orange-brown. Metatarsus IV with trichobothrium; TmI 0.5. Epigynum (figs. 282–284).

RECORDS: MEXICO: Only the holotype.

DISTRIBUTION: Known only from the type locality (map 23).

NATURAL HISTORY: The female was adult in July. Nothing was recorded on habitat.

Eperigone hospita, new species Figures 295–298; map 19

TYPE: Female holotype from 10 mi E El Salto, Durango, Mexico, Aug. 8, 1947 (W. J. Gertsch), deposited in AMNH.

ETYMOLOGY: The specific name is a noun in apposition meaning "a stranger."

DIAGNOSIS: This species has a trichobothrium on metatarsus IV. The female is diagnosed by the epigynum, which has the lateral arms short and extending barely beyond the dorsal plate (fig. 296). E. hospita is separated from E. tlaxcalana and E. proba, which lie adjacent to it in the key, by the bifid lateral arms which are clear in both the ventral and dorsal aspects of the epigyna (figs. 296, 297, cf. figs. 222, 225, 230, 231). E. persimilis has a very similar epigynum (fig. 291), but this species lacks the trichobothrium on metatarsus IV (see E. persimilis diagnosis). The male is not known, but E. hospita, which has an epigynum of the *trilobata* type, may prove to be the female of E. comes, E. singularis, E. tepejicana, or E. imago, all of which have the ED of the trilobata form and a trichobothrium on metatarsus IV.

FEMALE: Total length 2.3–2.45. Carapace length 1.0–1.1. Carapace orange to orangeyellow. Abdomen yellowish gray to gray. Sternum orange, suffused with gray. Legs orange-brown. Metatarsus IV with trichobothrium; TmI 0.5. Epigynum (figs. 295–298).

RECORDS: MEXICO: *Durango:* type locality (female paratypes).

DISTRIBUTION: Known only from the type locality (map 19).

NATURAL HISTORY: Females were adult in August. Nothing was recorded on habitat.

Eperigone persimilis, new species Figures 291–294; map 15

TYPE: Female holotype from Bosencheve National park, Michoacán, Mexico, May 7, 1963 (W. J. Gertsch and W. Ivie), deposited in AMNH.

ETYMOLOGY: The specific name is an adjective, meaning "very similar."

DIAGNOSIS: This species lacks a trichobothrium on metatarsus IV. The female is diagnosed by the epigynum, the lateral arms of which are fairly pointed and extend barely beyond the dorsal plate (fig. 291). *E. serrata* has a similar epigynum (fig. 46), but these two species are separated by the dorsal and anterodorsal aspects of the epigyna (figs. 292, 293, cf. figs. 47, 48). *E. hospita* also has a similar epigynum (fig. 296), but this species has a trichobothrium on metatarsus IV, and can also be distinguished by the anteroventral (fig. 293, cf. fig. 295) and dorsal (fig. 292, cf. fig. 297) aspects of the epigynum. The male is not known.

FEMALE: Total length 2.35. Carapace length 1.05. Carapace orange. Abdomen black with faint paler chevrons dorsally. Sternum orange, suffused with black. Legs orange. Metatarsus IV without trichobothrium; TmI 0.50. Epigynum (figs. 291–294).

RECORDS: MEXICO: Only the holotype.

DISTRIBUTION: Known only from the type locality (map 15).

NATURAL HISTORY: The female was adult in May. Nothing was recorded on habitat.

Eperigone dopainum Chamberlin and Ivie

- *Eperigone dopainum* Chamberlin and Ivie, 1936: 42, figs. 99–101 (female holotype from Malinoltepec, Guerrero, Mexico; whereabouts of type unknown). Bonnet, 1956: 1708.
- *Eperigone dopaina:* Roewer, 1942: 716 [under ICZN Article 31b(i), the name *dopainum* should be treated as a noun in apposition and retained].

Note: No paratypes were taken by Chamberlin and Ivie, and the species cannot therefore be redescribed here. The epigyna of *E. persimilis* (figs. 291, 294) and *E. hospita* (figs. 296, 298) are both similar to that of *E. dopainum* (Chamberlin and Ivie, 1936, figs. 99-



Figs. 291–298. Epigyna. 291–294, *Eperigone persimilis*. 291. Ventral. 292. Dorsal. 293. Anteroventral. 294. Lateral. 295–298, *E. hospita*. 295. Anteroventral. 296. Ventral. 297. Dorsal. 298. Lateral. Scale lines 0.1 mm.

101), and it is possible that one of these species is in fact E. dopainum. This possibility cannot be checked until additional specimens recognizable as E. dopainum are collected from the type locality.

Eperigone libana, new species Figures 301, 302; map 23

TYPE: Female holotype from Monte Libano, 20 km E El Real, Chiapas, Mexico, July 4–5, 1950 (C. and M. Goodnight and L. J. Stewart), deposited in AMNH.

ETYMOLOGY: The specific name is an adjective referring to the type locality.

DIAGNOSIS: It is assumed that this species has a trichobothrium on metatarsus IV. The female is diagnosed by the epigynum, the lateral arms of which extend distinctly beyond the dorsal plate (fig. 301). The ventral and dorsal (fig. 302) aspects of the epigynum distinguish this species from all other known *Eperigone* species. The male is not known.

FEMALE: Total length 2.05. Carapace length 1.05. Carapace pale orange. Abdomen graybrown, with faint darker chevrons dorsally. Sternum orange, suffused with gray. Legs pale orange. Both metatarsi missing; it is assumed in key that trichobothrium is present; TmI 0.45. Epigynum (figs. 301, 302).

RECORDS: MEXICO: Only the holotype.

DISTRIBUTION: Known only from the type locality (map 23).

NATURAL HISTORY: The female was adult in July. Nothing was recorded on habitat.

> *Eperigone caelebs,* new species Figures 299, 300; map 20

Type: Female holotype from Barro Colorado Island, Canal Zone, Panama, Nov. 1952– Mar. 1953 (J. Zetek), deposited in AMNH.





Figs. 299–302. Epigyna. 299, 300, *Eperigone caelebs*. **299.** Ventral. **300.** Dorsal. 301, 302, *E. libana*. **301.** Ventral. **302.** Dorsal. Scale lines 0.1 mm.

ETYMOLOGY: The specific name is an adjective, meaning "single."

DIAGNOSIS: This species lacks a trichobothrium on metatarsus IV. The female is diagnosed by the epigynum, in which the dorsal plate is not visible from the ventral aspect (fig. 299); the dorsal plate is pointed posteriorly (fig. 300). These characters distinguish *E. caelebs* from all other known *Eperigone* species, including the probably closely related *E. cognata* (figs. 306, 307).

FEMALE: Total length 1.95. Carapace length 0.8. Carapace orange-yellow. Abdomen yellow-gray. Sternum yellow, suffused with gray. Legs yellow-brown. Metatarsus IV without trichobothrium; TmI 0.5. Epigynum (figs. 299, 300).

RECORDS: PANAMA: Only the holotype.

DISTRIBUTION: Known only from the type locality (map 20).

NATURAL HISTORY: The female was adult in winter. Nothing was recorded on habitat.

Eperigone cognata, new species Figures 303–307; map 21

TYPE: Male holotype from Huichihuayan, San Luis Potosí, Mexico, July 24, 1966 (J. and W. Ivie), deposited in AMNH.

ETYMOLOGY: The specific name is an adjective, meaning "related."

DIAGNOSIS: This species lacks a trichobothrium on metatarsus IV. The female is diagnosed by the epigynum, the lateral arms of which extend well beyond the dorsal plate (fig. 306), which is visible from the ventral side and is bluntly pointed posteriorly (fig. 307). *E. caelebs* has a somewhat similar epigynum, but is readily distinguished by a combination of the ventral and dorsal aspects of the epigynum. The male is diagnosed by the palpal tibia, which from the lateral aspect has a clear lateral apophysis (figs. 303, 304), and by the ED (fig. 305).

FEMALE (taken with male): Total length 2.1-


Figs. 303–307. *Eperigone cognata.* 303. Palpal tibia, ectal. 304. Palpal tibia, dorsal. 305. ED. 306. Epigynum, ventral. 307. Epigynum, dorsal. Scale lines 0.1 mm.

2.45. Carapace length 0.95–1.1. Carapace orange. Abdomen gray to black. Sternum orange, suffused with black. Legs orange to orange-brown. Metatarsus IV without trichobothrium; TmI 0.50. Epigynum (figs. 306, 307).

MALE: Total length 2.0-2.45. Carapace length 1.0-1.3. Color and chaetotaxy as in female. Chelicerae without lateral denticles. Palp (figs. 303-305).

RECORDS: COSTA RICA: San José (female paratype); Volcan Turrialba (female paratype). MEXICO: San Luis Potosí: type locality (male paratype). Tamaulipas: Mante (female paratype). Veracruz: Catemaco (male paratype). NICARAGUA: Musawas, Waspuc River (female paratype).

DISTRIBUTION: Known from Mexico, Nicaragua, and Costa Rica (map 21).

NATURAL HISTORY: Females were taken in April, August, September, and December,

males in April, July, and August, at elevations up to 1800 m.

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