

THE GENUS *OZYPTILA* IN NORTH AMERICA  
(ARANEIDA, THOMISIDAE)

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#### ABSTRACT

The generic name *Ozyptila* Simon, 1864 is stabilized by the identification of the type-species *O. claveata* (Walckenaer) 1837 as conspecific with *O. nigrita* (Thorell) 1875, the latter becoming a junior synonym of *claveata*.

The 22 species and two subspecies comprising the genus *Ozyptila* in North America are described or redescribed, keyed, and illustrated. The *floridana* group contains five species from eastern or south-eastern United States and Mexico. *O. peon* Gertsch, 1953 and *O. imitata* Gertsch, 1953, known hitherto from female and male, respectively, are newly recognized as conspecific under the name *imitata*. The *brevipes* group contains 15 species and two subspecies from various regions of North America, of which *O. distans* and *O. curvata* are described as new species and *O. sincera canadensis* and *O. sincera oraria* are described as new subspecies. *O. bryantae* Gertsch, 1939 is synonymized under *O. conspurcata* Thorell, 1877, *O. bison* Gertsch, 1953 under *O. beaufortensis* Strand, 1916, *O. barrowsi* Gertsch, 1939 under *O. americana* Banks, 1895, and *O. belma* Gertsch, 1953 under *O. trux* (Blackwall) 1846. The *rauda* group contains two species of the north or west. *O. schusteri* Schick, 1965 is synonymized under *O. yosemitica* Schick, 1965. *O. sincera* Kulczynski, 1926 and *O. septentrionalium* L. Koch, 1879, are recognized as Holarctic for the first time, bringing the number known to be Holarctic to five. *O. nevadensis* Keyserling, 1880 is shown to belong in the genus *Xysticus*, where it becomes a senior synonym of *X. knowltoni* Gertsch, 1939. *O. infumata* (Walckenaer) 1837 is designated a *nomen dubium*.

#### INTRODUCTION

The pioneer work on the genus *Ozyptila* in North America was done by the European arachnologists Thorell (1877), Keyserling (1880, 1884), and Strand (1916), who altogether described five species from various parts of the United States. Four of these species are still valid, though early American workers redescribed them under new names, not having access to the types which had been deposited in various European museums. Banks (1895) and Bryant (1930) gave their interpretation of these early species, and described several more as new to science. Gertsch's (1939, 1953) papers have served as the definitive work on the genus in this continent up to the present time. Schick (1965) described three species from California, bringing the total for North America to 22, which represent about one-quarter of the described species of the world.

A preliminary review of *Ozyptila* revealed the existence of a number of nomenclatural and identification problems. The identity of the type-species of the genus, for example, was clouded with uncertainty [compare Bonnet's (1958) account with that of Roewer (1954)]. The ranges of some of the early-described species (e.g., *O. conspurcata* Thorell) did not agree with those resulting from our examination of the material available in North American museums. Females of many species were difficult to identify with certainty on the available characters, and several species were known from only one sex. A new revision that would meet and propose solutions to these problems seemed to be needed.

Simon's (1875) summary of the way of life of *Ozyptila* is still accurate: "Les *Oxyptila*

ont des moeurs analogues à celles des *Xysticus*; elles sont seulement plus lentes et plus exclusivement terrestres; on les trouve sous les pierres ou sous les touffes de plantes; quand on veut les saisir, elles rapprochent leurs pattes et restent immobiles. La plupart des *Oxyptila* ont une coloration uniforme et terne en rapport avec celle des terrains qu'elles habitent. Leurs téguments rugueux se recouvrent, dans certains cas, de terre et de sable qui y adhèrent fortement et qui dissimulent plus ou moins la coloration véritable. Le cocon est blanc, lenticulaire, relativement très-gros; la femelle le tient entre ses pattes." Bristowe (1971) notes that "they are sluggish spiders and most of them live amongst moss, detritus and low vegetation like diminutive toads," though some of the moss and detritus dwellers are known to climb into low herbs at night. The biology of North American species is virtually unknown.

#### THE TYPE-SPECIES OF THE GENUS *OZYPTILA*

"Pour les genres décrits, autrefois, par nos pères  
 Qui de types vraiment ne se souciaient guères,  
 La chose est déjà faite et les types choisies  
 Sans conteste devront être toujours admis.  
 Nul n'aura donc le droit de démolir un type,  
 Même s'il a raison de l'avoir pris en grippe".

(Bonnet 1948)

It is not clear why Simon (1864, 1895) designated two different species as type of the genus *Ozyptila*. We assume that *Thomisus claveatus* Walckenaer, the first designated, no longer conformed to his concept of the genus and that *T. brevipes* Hahn would serve better. In any case his act, although accepted by subsequent workers [including the bibliographers Bonnet (1958) and Roewer (1954)], contravenes Article 68 of the International Code of Zoological Nomenclature (1964 Edition), and we must return to *T. claveatus* as type-species.

*Thomisus claveatus* is usually interpreted as a name proposed for a desert-dwelling spider from Egypt, the species having been misidentified by Savigny and Audouin (1825) as *Thomisus hirtus* Latreille (Bonnet, 1958). Examination of Savigny's (1817) illustration of the Egyptian species, and of preserved material of "*Ozyptila claveata* (Walckenaer)" in the Muséum National d'Histoire Naturelle, Paris establishes that "*claveatus*" and *hirtus* are indeed two very different species. The former is a heavy-bodied, *Xysticus*-like spider which, however, bears many clavate setae on its body and legs, whereas the latter, now known as *Heriaeus hirtus* (Latreille), is a hairy spider that lives on plants both in North Africa and Europe.

Examination of Walckenaer's (1837) description of *claveatus* reveals that the identification of his species with that illustrated by Savigny (1817) and curated under the name *O. claveata* is equally unacceptable. Savigny illustrated a spider of 5-6 mm length having slender tibiae I which bear three pairs of ventral macrosetae. Egyptian specimens of "*Ozyptila claveata*" further reveal that the spider is yellow in color, and that the epigynum has a heavily-sclerotized, raised median septum with the copulatory openings close beside it. Except for its coat of clavate setae this species presents the habitus of representatives of *Xysticus* (a few Nearctic species of *Xysticus* bear these setae, e.g., *X. nigromaculatus* Keyserling). Walckenaer (1837), on the other hand, described a smaller spider of 3-4 mm length with a fawn and brown body and swollen front leg segments. His material consisted of females (the male is mentioned but not described) collected under stones in the Basses-Pyrénées of France.

We now believe that it was this French species rather than the Egyptian one on which Simon (1864) erected the genus *Ozyptila*. Unfortunately Walckenaer's material has long been lost, and the identity of the species, in modern terms, is unknown. Roewer (1951) regarded *claveatus* as a *nomen dubium*, but his only contribution to the problem was the proposal of a new name for the large Egyptian species, namely, *Ozyptila audouini* Roewer.

Clearly the characters of *Thomisus claveatus* Walckenaer place the species in the genus *Ozyptila* as herein defined, the critical characters being its clavate setae and swollen front legs. Stability of the generic name *Ozyptila* would best be served by (1) the identification of *T. claveatus* with one of the species now known to inhabit the Pyrénées Mountains, provided such a species can be shown to agree with Walckenaer's description, and (2) the designation of a neotype for *T. claveatus*.

Our study of the several species of *Ozyptila* recorded from the Pyrénées indicates that only *O. nigrita* (Thorell) fits the description of *T. claveatus*. Walckenaer's (1837) characters are compared with those observed by us in Pyrénées females of *O. nigrita* in the following:

<i>O. claveata</i>	<i>O. nigrita</i>
Body length: 1.5 lines (3.12 mm)	2.7 to 3.0 mm
Carapace: ". . . petit, rugueux, avec cinq raies longitudinales, obscures, alternativement fauves et brunes, dont la plus visible et la plus large est celle du milieu, qui est fauve."	1.1 to 1.3 mm wide, coriaceous, with broad, yellow-brown median band flanked by pair of red-brown longitudinal bands; lateral margins yellow. Bands often obscure, occasionally absent.
Abdomen: "fauve ou brun, aussi large que long, mais plus large dans son milieu que dans le reste du corps . . . il y a sur le dos de gros crins cylindriques, noirs, courts, séparés par des intervalles réguliers. Ces crins sont plus gros à leur extrémité supérieur, et paraissent comme autant de petits clous fixés par leurs points. . ."	Yellow-brown, with indistinct grey or black markings; as wide as long but wider at middle than cephalothorax; dorsum armed with many short, dark, clavate setae that are regularly spaced.
Legs: "brunes, mêlées de fauves, avec des piquants longs, les antérieures renflées."	almost uniform orange-yellow to orange-red; leg I, particularly femur and tibia, swollen.
Epigynum: "offre sur une éminence conique une petite ouverture en forme de boutonnière."	A transverse curved slit, bordered posteriorly by a lip and situated near the base of a conical eminence.

There appear to be no important discrepancies between the two sets of characters. *O. nigrita* is variable in color, some specimens, particularly males, being dark grey or black. Thorell's (1875a, 1875b) syntype males, from Denmark and Germany, are of this dark color. The difference in body length is probably not significant. *O. nigrita* is the only known species of *Ozyptila* possessing an epigynum of the kind described by Walckenaer.

The foregoing gives the following synonymy:

*Ozyptila* Simon

*Ozyptila* Simon, 1864, p. 439. Type-species: *Thomisus claveatus* Walckenaer, by

monotypy. Original spelling maintained by Article 32, International Code of Zoological Nomenclature (1964 Edition). *Oxyptila* is an unjustified emendation (Article 33), even though highly desirable from the standpoint of orthography.

*Ozyptila claveata* (Walckenaer)

*Thomisus claveatus* Walckenaer, 1837, p. 510. Syntypes from the Vallée d'Ossau (42°54'N, 0°27'W), Basses-Pyrénées, France (lost). Neotype female with label "*Ozyptila claveata* (Walck.). Neotype ♀. P. France (E. Simon)" deposited in the Muséum National d'Histoire Naturelle, Paris, here designated.

*Ozyptila claveata*: Simon, 1864, p. 439.

*Xysticus nigritus* Thorell, 1875a, p. 104; 1875b, p. 140. Male syntype (palpus only) from Møen, Denmark (Schiödt) deposited in the Thorell Collection, Riksmuseet, Stockholm, No. 197/4102b. Examined. NEW SYNONYM.

*Oxyptila nigrita*: Simon, 1875, p. 238; 1932, pp. 797, 806, 872, Figs. 1172, 1173, 1200. Bösenberg, 1903, p. 361, Figs. 530A-530E (not Fig. 531). Tullgren, 1944, p. 77, Figs. 140-143. Locket and Millidge, 1951, p. 189, Figs. 94D, 95A. Bonnet, 1958, p. 3258. Vilbaste, 1969, p. 78, Figs. 65, 66A, 66B.

*Ozyptila nigrita*: Roewer, 1954, p. 877.

**Female**—Total length 2.50 mm. Carapace 1.25 mm wide, widest and highest at level of legs II and III, distinctly narrowed in anterior fifth; with indistinct yellow-brown median band and red lateral areas; set with numerous clavate setae, those on front longest. Legs rather short and stout, yellow-brown, paler basally; femur I swollen near middle on prolateral side, with one or two prolateral clavate macrosetae. Tibia I with one dorsal clavate macroseta and two pairs of slender ventrals, neither of which is terminal. Abdomen flattened dorsally, widest at middle, yellow-brown, veined with dark grey; dorsum with numerous short, semi-erect, regularly-spaced clavate setae. Epigynum with conical, anteriorly-directed sclerite, posterior to which is a deep, procurved slit.

**Comments and diagnosis**—Searches made in various European museums in recent years for Walckenaer material have all proven fruitless, and it is now generally believed that his collection is completely lost or destroyed. The need for a reference specimen of *O. claveata* prompted us to designate a neotype. The specimen selected conforms generally with Walckenaer's original description of *claveata* and particularly with the details of epigynal structure, which are unique to the species as defined above. The specimen is believed to have been collected in the Pyrénées Mountains, the region from which Walckenaer's original material was collected.

The disadvantage of identifying *claveata* with *nigrita* is that the latter name, much used by European arachnologists, must now become a junior synonym of *claveata*. We believe, however, that the stability accruing to the generic name *Ozyptila* warrants this course of action.

TRANSFER OF *OZYPTILA NEVADENSIS* KEYSERLING TO GENUS *XYSTICUS*

The type of *O. nevadensis* Keyserling is a female from the State of Nevada deposited in the Simon Collection and now in the Muséum National d'Histoire Naturelle, Paris. Its overall length is about 4.8 mm. Its carapace, abdomen, and legs are richly invested with clavate setae. Tibia I has three pairs of ventral macrosetae, one pair of which is terminal, and femur I does not have the characteristic prolateral swelling found in most species of *Ozyptila*. The epigynum, which bears no hood, is in agreement with Keyserling's illustra-

tion. The spermathecae show this spider to be identical to *Xysticus knowltoni* Gertsch as illustrated by Schick (1965, Fig. 249). The synonymy is as follows:

*Ozyptila nevadensis* Keyserling, 1880, p. 50, Fig. 25. Female holotype from Nevada, deposited in the Muséum National d'Histoire Naturelle, Paris, labelled "3005. *Ox. nevadensis* Key. Nevada." Examined. Bonnet, 1958, p. 3258 (part). Not *O. nevadensis* of American authors.

*Ozyptila nevadensis*: Roewer, 1954, p. 884 (part). Not *O. nevadensis* of American authors.

*Xysticus knowltoni* Gertsch, 1939, p. 399, Figs. 244, 245. Holotype male from Vernon, Utah, 2 May 1936 (G. F. Knowlton), deposited in the American Museum of Natural History, New York. Not examined. Gertsch, 1953, p. 452, Fig. 58. Roewer, 1954, p. 920. Bonnet, 1959, p. 4880. Schick, 1965, p. 167, Figs. 247-249, Map. 38. NEW SYNONYM.

#### *OZYPTILA INFUMATA* (WALCKENAER), NOMEN DUBIUM

Walckenaer (1837) described *Thomisus infumatus* from an unpublished color illustration of a Georgian spider by John Abbot. Chamberlin and Ivie (1944, p. 161) decided the species belonged to the genus *Ozyptila*, and, without giving reasons, made the name a senior synonym of *O. floridana* Banks. Gertsch (1953) took note of this proposal but did not accept the synonymy.

We examined, through the courtesy of Dr. H. W. Levi, a color slide of Abbot's original illustration in the Museum of Comparative Zoology. The spider was a subadult male collected on oak in December. The carapace is rather strongly narrowed toward the front, and the abdominal dorsum is transversely wrinkled, both characters commonly found in species of *Ozyptila*. Its banded legs and the presence of four pairs of ventral macrosetae on tibia I place the species in the *floridana* group of the present work. Beyond this, however, we cannot go, as the species of this group are separated on characters of the genitalia. The name *Thomisus infumatus* Walckenaer is therefore best regarded as a nomen dubium, *i.e.*, a name not applicable with certainty to any known species.

#### DEFINITION AND DIAGNOSIS OF GENUS *OZYPTILA*

Total length 3 to 4 mm, occasionally as short as 2 mm or as long as 5 mm. Carapace 1.25 to 1.75 mm wide, occasionally as narrow as 1.16 mm or as wide as 2.50 mm; male and female of the same species usually little different in size. Carapace rounded at sides, abruptly narrowed at level of posterior row of eyes (ratio of width at level of posterior eyes to maximum width 0.42 to 0.62); highest at level of dorsal groove (approximately 1.5 times higher at level of leg III than at level of posterior eyes); nearly always clothed with clavate setae (males of some species in the *floridana* group may lack them). Lateral eye tubercles close together (distance from anterior lateral to posterior lateral on one side equal to, or slightly less than, distance from anterior median to posterior median); anterior laterals largest; median ocular quadrangle usually slightly longer than wide, occasionally equal in length and width, or wider than long. Carapace red-brown, orange, or nearly black, with pale red or yellow eye area, median band, and V-shaped mark in front of the dorsal groove; dark lateral area often partly divided from behind by yellow longitudinal band. Legs rather short and stout, I and II usually with femur distinctly swollen on prolateral side; femur I usually with two prolateral clavate macrosetae, zero dorsals; tibia

I usually with one short dorsal clavate macroseta and two pairs of nonclavate ventrals, neither of which is terminal (more than two pairs, one pair terminal, in the *floridana* group); basitarsus I with zero or one prolateral macroseta, three pairs of nonclavate ventrals (rarely four pairs); tarsus I with two or three (rarely four) mid-dorsal trichobothria in distal half. Abdomen flattened dorsally, widest just behind middle, clothed dorsally with curved rows of short, clavate setae; often transversely wrinkled.

Tibia of male palpus with two or three apophyses, the intermediate apparently reduced to a small tooth, or absent, in most species. Tegulum rather flat, unarmed (*floridana* group) or with a hard apophysis at or near centre (*brevipes* and *rauda* groups); basal tegular ridge sometimes bearing one or two teeth. Embolus short, usually arising distally or prolaterodistally on tegulum, appressed to cymbium except in *O. georgiana* Keyserling, in which it hangs free (Fig. 34).

Epigynum usually with hood, wrinkled area posterior to hood, and sclerites associated with the copulatory openings. Copulatory openings located laterally, often close to lateral margins of epigynum. Spermathecae slender and segmented by transverse grooves (*floridana* group), divided into two parts, the posterior part bulbous (*brevipes* group) or undivided and expanded (*rauda* group), never in contact at midline, usually separated by a distance less than the width of one of them.

Representatives of *Ozyptila* most resemble those of *Coriarachne* and *Xysticus*. In *Coriarachne*, however, the distance from anterior lateral to posterior lateral eye is greater than that from anterior median to posterior median, the carapace is as low at the level of leg III as at the level of the posterior eye row, and tarsus I bears four mid-dorsal trichobothria. It is more difficult to distinguish between *Ozyptila* and *Xysticus*, there being much overlap in size, coloration, height of carapace, setation of body and legs, and eye relations in specimens of these two genera. A specimen of *Oxyptila* can, however, be recognized by the combined presence of clavate setae on the body (at least the abdominal dorsum) and the modification of leg I, *i.e.*, swollen femur and the presence of only two pairs of ventral macrosetae, neither of which is terminal, on the tibia. Representatives of a few species of *Xysticus* also have clavate body setae (*e.g.*, *X. nigromaculatus* Keyserling), but these do not have the modifications of leg I, nor do they have a prominent epigynal hood anterior to the female copulatory openings or less than two prolateral macrosetae on basitarsus I. Representatives of some species of *Ozyptila* in turn lack the modifications of leg I (*i.e.*, members of the *floridana* group); these have no more than one prolateral macroseta on basitarsus I, and the epigynum has a hood.

Measurements of the carapace, in this paper, are given by the mean and standard deviation whenever more than ten specimens were available for measurement.

KEY TO NORTH AMERICAN SPECIES GROUPS, SPECIES, AND SUBSPECIES  
OF *OZYPTILA* (EXCEPT MALES OF *HARDYI*, *INGLESI*, *CREOLA*, AND *TRUX*)

1a.	Male .....	2
1b.	Female .....	20
2a(1a).	Tegulum of palpus without sclerotized, toothlike apophyses near centre. Femur I slender, not swollen near middle of prolateral side ( <i>floridana</i> group) .....	.3
2b.	Tegulum of palpus with sclerotized apophysis near centre. Femur I swollen near middle on prolateral side .....	.6

- 3a(2a). Tibia I with more than two pairs of ventral macrosetae, one pair terminal. Retrolateral apophysis of palpal tibia without rounded lobe, with pointed process (Figs. 4, 5). Carapace unbanded . . . . . 4
- 3b. Tibia I with two pairs of ventral macrosetae, neither pair terminal. Retrolateral apophysis of palpal tibia with rounded lobe at its base (Figs. 6, 8). Carapace with pair of red longitudinal bands close to lateral margins of pale median area . . . . . 5
- 4a(3a). Retrolateral apophysis of palpal tibia two-pointed (Fig. 4). . . . . 1. *okefinokensis* Gertsch
- 4b. Retrolateral apophysis of palpal tibia three-pointed (Fig. 5) . . . . . 2. *imitata* Gertsch
- 5a(3b). Tip of embolus truncate (Fig. 3) . . . . . 3. *floridana* Banks
- 5b. Tip of embolus pointed (Fig. 7) . . . . . 4. *modesta* (Scheffer)
- 6a(2b). Ventral apophysis of palpal tibia oriented transversely (Figs. 35, 36). Intermediate apophysis a well-developed process lying close to retrolateral apophysis (Figs. 38, 39) (*rauda* group) . . . . . 19
- 6b. Ventral apophysis of palpal tibia not transverse. Intermediate apophysis lying close to ventral apophysis, or absent (*brevipes* group) . . . . . 7
- 7a(6b). Retrolateral apophysis of palpal tibia bent ventrally at approximately 90° near base (Fig. 12). Lateral areas of carapace with yellow radiating lines. . . . . 6. *praticola* (C. L. Koch)
- 7b. Retrolateral apophysis of palpal tibia bent distinctly less than 90°, or straight. Lateral areas of carapace without yellow radiating lines . . . . . 8
- 8a(7b). Retrolateral apophysis of palpal tibia slender, extending beyond mid-point of cymbium (Figs. 13, 31, 37) . . . . . 9
- 8b. Retrolateral apophysis of palpal tibia not extending beyond mid-point of cymbium . . . . . 11
- 9a(8a). Embolus long, slender, curling free of tegulum (Figs. 34, 37). . . . . 20. *georgiana* Keyserling
- 9b. Embolus short, not free of tegulum . . . . . 10
- 10a(9b). Tooth near prolaterobasal margin of tegulum broad, concave (Fig. 32). . . . . 19. *formosa* Bryant
- 10b. Tooth near prolaterobasal margin of tegulum low, slender (Fig. 10) . . . . . 7. *gertschi* Kurata
- 11a(8b). Basal tegular ridge without teeth (Figs. 11, 15, 17, 18) . . . . . 12
- 11b. Basal tegular ridge toothed (e.g., Figs. 19, 23, 25) . . . . . 15
- 12a(11a). Retrolateral apophysis of palpal tibia erect, set parallel with long axis of tibia (Fig. 14). Tegular apophysis divided (Fig. 11) . . . . . 8. *conspurcata* Thorell
- 12b. Retrolateral apophysis of palpal tibia not erect, not parallel with long axis of tibia. Tegular apophysis not divided . . . . . 13
- 13a(12b). Tegulum of palpus with pale swelling basad of tegular apophysis (Fig. 16). . . . . 9. *monroensis* Keyserling
- 13b. Tegulum of palpus without pale swelling basad of apophysis. . . . . 10. *sincera* Kulczynski 14

- 14(13b). Range restricted to Atlantic coast of United States (Map 4, open circles) . . . . . 10b. *sincera oraria*, ssp. n.
- 14b. Range in inland Canada and northern United States (Map 4, closed circles) . . . . . 10a. *sincera canadensis*, ssp. n.
- 15a(11b). Basal tegular ridge bearing one tooth (Figs. 19, 25, 30) . . . . . 16
- 15b. Basal tegular ridge bearing two teeth (Figs. 23, 26, 27) . . . . . 18
- 16a(15a). Retrolateral apophysis of palpal tibia nearly parallel with long axis of tibia (ventral view, Figs. 19, 25) . . . . . 17
- 16b. Retrolateral apophysis of palpal tibia set at approximately 45° with long axis of tibia (ventral view, Fig. 30). Tegulum with large, concave tooth near pro-laterobasal margin (Figs. 30, 33) . . . . . 15. *americana* Banks
- 17a(16a). Prolaterobasal margin of tegulum with broad sclerotized area (Fig. 19). Range in eastern North America (Map 5, closed circles) . . . . . 12. *distans*, sp. n.
- 17b. Prolaterobasal margin of tegulum without broad sclerotized area but with small tooth (Fig. 25). Range in Rocky Mountains (Map 5, triangles) . . . . . 13. *beaufortensis* Strand
- 18a(15b). Teeth on basal tegular ridge distinctly separated (Figs. 23, 24). Prolaterobasal margin of tegulum with sharp tooth (Fig. 23). Pacific coast (Map 4, triangles) . . . . . 17. *pacifica* Banks
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#### THE FLORIDANA GROUP

The *floridana* group is coextensive with Gertsch's (1939) Group A and with his (Gertsch, 1953) subgenus *Modysticus*, except that we include *O. hardyi*. *O. hardyi* was accorded group status in the subgenus *Ozyptila* by Gertsch (1953) mainly because of the terminal pair of macrosetae under tibia I and the eye relations of specimens of *hardyi*. We have found the leg character to relate adults of *hardyi* to the *floridana* group, and the eye character too variable to provide a basis for group separation. The spermathecal structure of *hardyi* females is consistent with that found in the *floridana* group.

In this group femur I is slender rather than swollen near the middle on the prolateral side as in representatives of the *brevipes* and *rauda* groups. Tibia I bears more than two pairs of ventral macrosetae, of which one pair is terminal. The tegulum of the male palpus lacks an apophysis near its centre, and the basal tegular ridge is smooth (Figs. 1-8) and never toothed. A small tutacular apophysis is present, though not so well developed as in species of *Xysticus*. The spermathecae are divided into many segments by transverse grooves (as in Figs. 42, 44, 46, etc.) rather than into two ungrooved parts. We place here five species.

1. *Ozyptila okefinokensis* Gertsch

Figs. 1, 4, 40, 42. Map 2.

*Ozyptila okefinokensis* Gertsch, 1934, p. 13. Female holotype from Billy's Island, Okefenokee Swamp, Georgia, June 1912 (Crosby), deposited in the American Museum of Natural History, New York (Cornell University Collection). Examined. Chamberlin and Ivie, 1944, p. 161. Bonnet, 1958, p. 3259. Original spelling maintained by I.C.Z.N., Article 32 (1964 Edition).

*Ozyptila okefenokensis*: Gertsch, 1939, p. 342, Figs. 130, 138.

*Oxyptila okefenokensis*: Gertsch, 1953, p. 465.

*Ozyptila okefinokensis*: Roewer, 1954, p. 884.

**Male**—Total length about 3.3 mm. Carapace 1.85 mm wide (one specimen). Median ocular quadrangle slightly wider than long; carapace dark red-brown, somewhat paler in median area and near lateral margins; pair of dark spots near mid-line at posterior declivity; eye area off-white; with short untapered setae, those on front longest. Sternum pale red-brown, with Y-shaped black mark in posterior two-thirds and a small black spot in each anterolateral angle. Legs I and II red-brown, the femora with indistinct yellow patches; legs III and IV yellow-brown with a few irregular, paler or darker spots; femur I long and slender, with three or four prolateral macrosetae, two short dorsals near middle; tibia I with one short, untapered dorsal macroseta near base, three pairs of ventrals (distal pair apical); basitarsus I with one prolateral macroseta, one retrolateral, three pairs of ventrals. Abdomen widest behind middle; dorsum pale red with scattered black spots; with several curved, transverse rows of short clavate setae; venter yellow-white with small, scattered black spots.

Tibia of palpus with erect, hooked ventral apophysis and a stouter, two-pointed retrolateral (Figs. 1, 4). Tegulum unarmed (Fig. 1). Embolus short, slender, arising distally on tegulum. Small tutacular apophysis present.

**Female**—Total length about 4.8 mm. Carapace 2.50 mm wide (one specimen). Median ocular area slightly wider than long. Carapace essentially as in male; sternum yellow with large black area which is broken into smaller spots anteriorly. Legs light brown with irregular, yellow or dark brown patches; femur I with three prolateral macrosetae, no dorsals; tibia I with four or five pairs of ventral macrosetae plus one or two unpaired; basitarsus I with four pairs of ventral macrosetae, one prolateral, one retrolateral. Abdomen widest behind middle; dorsum off-white with many small, irregular black patches, set with transverse rows of clavate setae; venter yellow-white, with small, scattered black spots.

Epigynum with shallow atrium surrounded by low, ill-defined rim; hood small, well separated from copulatory openings (Fig. 40). Spermathecae slender, posterior part angled and divided externally by many transverse grooves (Fig. 42).

**Localities**—*Georgia*: Billy's Island, Okefenokee Swamp. *Florida*: Three miles southwest of Micanopy, Marion Co.

**Range**—Georgia and Florida (Map 2).

**Comments and diagnosis**—The male of *O. okefinokensis* is described here for the first time. Adults of this rare species are separated from those of the other members of the *floridana* group by the two-pointed retrolateral apophysis in the male (Fig. 4) and by the small but distinct, non-triangular hood in the female (Fig. 40).

2. *Ozyptila imitata* Gertsch

Figs. 2, 5, 43, 44. Map 1.

*Ozyptila imitata* Gertsch, 1953, p. 464, Figs. 77, 78. Male holotype from ten miles north of Victoria, Tamaulipas, 13 April 1941 (A. M. Davis), deposited in the American Museum of Natural History, New York. Examined.

*Ozyptila imitata*: Roewer, 1954, p. 881.

*Ozyptila peon* Gertsch, 1953, p. 465, Fig. 79. Female holotype from Huatusco, Veracruz, 11 October 1945 (M. Cardenas), deposited in the American Museum of Natural History, New York. Examined. NEW SYNONYM.

*Ozyptila peon*: Roewer, 1954, p. 881.

**Male**—Total length approximately 3.1 mm. Carapace 1.71 to 2.03 mm wide (mean of three specimens 1.84 mm). Median ocular quadrangle wider than long. Carapace dark red-brown with off-white eye tubercles, with some large yellow spots along lateral margins; lateral areas subdivided in posterior half by distinct yellow or red band; small yellow spot behind dorsal groove; with tapered or untapered setae, those on front longest. Sternum red, mottled with yellow or black. Legs yellow-brown, the femora, patellae, and tibiae spotted with yellow or black; femur I with three or four prolateral macrosetae, one or no dorsal; tibia I with three pairs of ventral macrosetae (one pair terminal), one or two short dorsals; basitarsus I with three pairs of ventral macrosetae, one prolateral (which may occur almost in line with the three proventrals), one retrolateral. Abdomen widest behind middle; dorsum red or yellow, with paired indistinct black spots; with many clavate setae; venter yellow, with broken transverse black lines.

Tibia of palpus with hooked ventral apophysis and two-lobed retrolateral (Figs. 2, 5). Tegulum without apophysis, the basal tegular ridge forming a concavity at its centre. Embolus thin, arising distally.

**Female**—Total length approximately 4.2 mm. Carapace 2.11 mm wide (mean of two specimens). Median ocular quadrangle as in male. Coloration as in male but generally paler; lateral margins of carapace entirely yellow or red; yellow spot at dorsal groove larger; dorsum of abdomen with little black pigmentation; sternum with distinct Y-shaped black mark. Leg macrosetation as in male except that basitarsus I has four pairs of ventral macrosetae (or three pairs plus one unpaired).

Epigynum with small triangular hood, which is well separated from copulatory openings; openings marked posteriorly and mesally by curved, slender sclerites (Fig. 43). Spermathecae convoluted and very slender in anterior part; posterior part curved and transversely grooved (Fig. 44).

**Localities**—*Tamaulipas*: Ten miles north of Victoria. *San Luis Potosí*: El Salto; 18 miles south of Tamazunchale. *Querétaro*: 17.8 miles east of Landa de Matamoros, 5300 ft elevation. *Veracruz*: Huatusco.

**Range**—Eastern Mexico (Map 1).

**Comments and diagnosis**—A study of the size, color, and distribution of the male of *O. imitata* Gertsch and the female of *O. peon* Gertsch indicates that they are the sexes of a single species. Males of *O. imitata* can be separated from those of the other species of the *floridana* group by the three-pointed retrolateral apophysis of the male palpal tibia (Fig. 5). Females differ from those of the other species of the group in having both a raised, triangular hood and a very narrow anterior part of the spermatheca (Figs. 43, 44).

Specimens of *O. imitata* are recorded from tropical deciduous forest in Mexico.

### 3. *Ozyptila floridana* Banks

Figs. 3, 6, 47-49. Map 1.

*Oxyptila floridana* Banks, 1895, p. 243. Female holotype from Punta Gorda, Florida (Mrs. A. T. Slosson), deposited in the Museum of Comparative Zoology, Harvard University. Examined. Gertsch, 1953, p. 464. Bonnet, 1958, p. 3256.

*Ozyptila floridana*: Bryant, 1930, p. 380, Figs. 3, 4, 17 (not Fig. 18). Gertsch, 1939, p. 341, Figs. 106, 107, 129. Roewer, 1954, p. 882.

**Male**—Total length approximately 2.5 mm. Carapace 1.43 to 1.49 mm wide (mean of three specimens 1.46 mm). Median ocular quadrangle slightly longer than wide or equal in length and width, slightly wider in front than behind. Carapace dark red-brown, with yellow eye tubercles and yellow streaks in pale median area; lateral areas with small to large red spots along side margins, and each lateral area broadly or narrowly divided by irregular, longitudinal band that lies close to pale median area; with clavate setae, those on front longest. Sternum yellow, speckled with red-brown or black. Legs red-brown to orange-brown, the femora, patellae, and tibiae spotted with black and off-white; coxae with one or more small black spots; femur I with four prolateral macrosetae, one or no dorsal; tibia I with three pairs of ventral macrosetae (one pair terminal, sometimes reduced), one short dorsal; basitarsus I with three pairs of ventral macrosetae, one prolateral, one retrolateral. Abdomen widest behind middle; dorsum red-brown, irregularly spotted with off-white and black; venter red or yellow, with thin, transverse black lines.

Tibia of palpus with hooked ventral apophysis and with lobe at base of retrolateral apophysis (Figs. 3, 6). Tegulum without apophyses; basal tegular ridge rather broad, raised on one margin and forming cup-like depression at centre of tegulum. Embolus broad and thin, truncate at tip.

**Female**—Total length approximately 3 mm. Carapace 1.34 to 2.05 mm wide (mean of seven specimens 1.63 mm). Median ocular quadrangle as in male. Coloration and macrosetation as in male.

Epigynum with small hood remote from copulatory openings; openings nearly surrounded by slender sclerites (Fig. 47). Spermathecae with anterior part curved, broad (Figs. 48, 49).

**Localities**—*Florida*: Punta Gorda; Dunedin; Winter Park; Tall Timbers Research Station, Leon Co.; Archbold Biological Station, near Sebring. *South Carolina*: Georgetown. *Tennessee*: Montvale Springs.

**Range**—Southeastern United States (Map 1).

**Comments and diagnosis**—Males of *O. floridana* can be separated from those of the other species of the *floridana* group by the truncate embolus (Fig. 3). Females differ from those of *O. okefinokensis*, *O. imitata*, and *O. hardyi* by the epigynal sclerites, which nearly surround the copulatory openings (Fig. 47). *O. floridana* females can be separated from those of *O. modesta* by the width of the anterior part of the spermatheca (Figs. 48, 49).

### 4. *Ozyptila modesta* (Scheffer)

Figs. 7, 8, 50-52. Map 2.

*Xysticus modestus* Scheffer, 1904, p. 257, Fig. 1. Female syntypes from Manhattan, Kansas, 10 June, deposited in the Museum of Comparative Zoology, Harvard University, of which only one remains. Examined.

*Oxyptila modesta*: Scheffer, 1905, p. 184. Gertsch, 1953, p. 464, Fig. 82. Levi and Field, 1954, p. 461, Figs. 82, 90. Bonnet, 1958, p. 3257.

*Ozyptila modesta*: Bryant, 1930, p. 383, Fig. 20 (part, not Fig. 6). Gertsch, 1939, p. 340, Figs. 104, 105, 127, 128. Chamberlin and Ivie, 1944, p. 161. Roewer, 1954, p. 883 (part).

*Oxyptila marshalli* Barrows, 1919, p. 357, Pl. 15, Fig. 2. Male holotype from Sugar Grove, Ohio, 11 Sept. 1917 (W. M. Barrows) deposited in the collection of the Ohio State University, Columbus, Ohio. Not examined. Bryant, 1930, p. 382, Figs. 8, 10.

**Male**—Total length approximately 3.5 mm. Carapace  $1.66 \pm 0.12$  mm wide (11 specimens). Median ocular quadrangle wider than long (mean width and length in 11 specimens 0.27, 0.23 mm). Carapace orange with black pattern; eye tubercles off-white; dark lateral areas divided by broad, irregular red band that lies close to pale median area; with tapered or untapered setae, those on front longest. Sternum yellow-orange, often lightly speckled with black. Legs orange-brown or yellow-brown, tibiae I and II dark brown, the femora and coxae with few indistinct black spots; femur I with three or four prolateral macrosetae, one or no dorsal; tibia I with two pairs of ventral macrosetae (neither terminal), one short dorsal; basitarsus I with three pairs of ventral macrosetae, one prolateral, one retrolateral. Abdomen widest behind middle; dorsum orange-brown, with many indistinct black spots and streaks; venter yellow with transverse black spots or lines.

Tibia of palpus with hooked ventral apophysis, and with lobe at base of retrolateral apophysis (Figs. 7, 8). Tegulum without apophysis; basal tegular ridge rather narrow, raised at one edge and forming depression at centre of tegulum. Embolus broad, drawn to a point (Fig. 7). Small tutaculum present.

**Female**—Total length approximately 4 mm. Carapace  $2.10 \pm 0.17$  mm wide (11 specimens). Median ocular quadrangle wider than long (mean width and length in 11 specimens 0.32, 0.28). Coloration essentially as in male; legs with more dark spotting. Macrosetation as in male.

Epigynum with small, distinct hood; copulatory openings nearly surrounded by narrow, prominent sclerite (Fig. 50). Spermathecae curled, anterior part as wide as posterior part at point of junction (Figs. 51, 52).

**Localities**—*Michigan*: Calhoun Co. *Indiana*: Pine. *Ohio*: Sugar Groove; Clear Creek, Hocking Co. *West Virginia*: Minnehaha Springs, Pocahontas Co. *Kansas*: Manhattan. *Missouri*: Columbia; Warrensburg, Johnson Co. *Arkansas*: Berryville; Bradley Co. *Georgia*: Talullah Falls.

**Range**—Kansas to West Virginia, north to Michigan and south to Arkansas and Georgia (Map 2).

**Comments and diagnosis**—Adults of *O. modesta* most closely resemble those of *O. floridana*. The distinctive embolus tip of the male of *O. modesta* readily separates it from that of *O. floridana*. In the female there is a pair of epigynal sclerites which surround the copulatory openings, as in *O. floridana*, but the anterior part of the spermatheca is widest at its point of junction with the posterior part (Figs. 51, 52).

Specimens of *O. modesta* have been collected in litter in Missouri, and under rocks in Kansas.

##### 5. *Ozyptila hardyi* Gertsch

Figs. 45, 46. Map 3.

*Oxyptila hardyi* Gertsch, 1953, p. 471, Fig. 83. Female holotype from Laguna Madre, 25 miles southwest of Harlingen, Texas, 22 August 1945 (Hardy and Wooley),

deposited in the American Museum of Natural History. Examined. Female paratype from the type locality (same data). Examined.  
*Ozyptila hardyi*: Roewer, 1954, p. 883.

**Male**—Unknown.

**Female**—Total length approximately 2.2 mm. Carapace 1.16, 1.17 mm wide (two specimens). Carapace strongly narrowed along sides at level of leg I, depressed behind posterior eye row; brown or orange-brown, with a row of off-white spots along lateral margins, off-white eye tubercles, off-white or yellow area at dorsal groove; with clavate setae, those on front longest. Sternum yellow with black bands at mid-line and along posterolateral margins. Legs yellow-brown or orange-brown, the femora dark brown on distal half or third, spotted with off-white; coxae brown; femur I without macrosetae; tibia I with four pairs of ventral macrosetae (one pair terminal and reduced) plus some unpaired macrosetae, no dorsals; basitarsus I with four pairs of ventral macrosetae, no prolaterals (or one prolateral which has apparently fallen in line with proventral row), no retrolaterals; ventral macrosetae of legs I and II set on long bases. Abdomen widest behind middle; yellow with off-white or black spots and streaks; with pale, clavate setae; venter off-white, without dark markings.

Epigynum with short, broad, flat, transparent hood (Fig. 45). Spermathecae long, slender, transversely grooved, and coiled (Fig. 46).

**Locality**—*Texas*: Laguna Madre, 25 miles southwest of Harlingen.

**Range**—Known only from the type locality (Map 3).

**Comments and diagnosis**—Adults of *O. hardyi* are distinguished by their small size, narrowed carapace, and slender, coiled spermathecae (Fig. 46). The types were collected in a nest of *Neotoma micropus*.

### THE *BREVIPES* GROUP

This group comprises the majority of the species of *Ozyptila*, both in the Palaearctic and in the Nearctic. Gertsch (1953) regards them as "typical" of the genus.

Femur I is swollen near the middle, on the prolateral side, and tibia I bears only two pairs of ventral macrosetae. These characters are found as well in species of the *rauda* group but not in those of the *floridana* group. The male palpal tegulum bears a tooth or ridge near its centre (as in Figs. 9-34), though this is less protruding than in species of the *rauda* group. The basal tegular ridge is often armed with one or two sharp teeth (e.g., 19, 22, 23, 24). The epigynum has a hood and lacks the rimmed atrium and median septum found in species of the *rauda* group. The spermathecae are not segmented but divided into a variable anterior part and a bulbous posterior part (e.g., Figs. 54, 56, 59, 62), characters that separate species of this group from those of both the *floridana* and *rauda* groups. The group contains fifteen species.

#### 6. *Ozyptila praticola* (C. L. Koch)

Figs. 9, 12, 53, 54. Map 3.

*Xysticus praticola* C. L. Koch, 1837, p. 26. Types from Europe, depository unknown.

*Oxyptila praticola*: Simon, 1875, p. 222; 1932, pp. 803, 811, 873, Figs. 1188, 1189, 1210. Tullgren, 1944, p. 78, Figs. 144-146. Locket and Millidge, 1951, p. 190, Figs. 96A, 97C. Gertsch, 1953, p. 470, Figs. 92, 93. Lindroth, 1957, p. 105. Bonnet, 1958, p. 3259.

*Ozyptila praticola*: Roewer, 1954, p. 881.

**Male**—Total length approximately 3 mm. Carapace 1.55 mm wide (one specimen). Median ocular quadrangle slightly longer than wide. Carapace dark red-brown, with yellow eye area, median band, and radiating lines in the lateral areas; yellow V-shaped mark at dorsal groove; with clavate setae, those on front longest. Sternum with black spots at centre and near margins. Legs red-brown, femora spotted with black or yellow; tibiae III and IV dark at base; femur I slightly swollen near middle on prolateral side, with two prolateral macrosetae, one or two dorsals; tibia I with two pairs of ventral macrosetae, one or two short clavate dorsals; basitarsus I with three pairs of ventral macrosetae, one or no prolateral, one or no retrolateral. Abdomen widest behind middle; dorsum red-brown with off-white or black spots and transverse streaks; with clavate setae; venter red with thin transverse black lines.

Tibia of palpus with slender, hooked ventral apophysis and stout, blunt intermediate apophysis, both inclined toward retrolateral side, and slender, slightly sinuous retrolateral apophysis, which is inclined toward ventral side (Figs. 9, 12). Tegulum with thin ridge-like tooth near centre; basal tegular ridge broad and flat, without teeth. Embolus ribbon-like, curved ventrally at tip.

**Female**—Total length approximately 4 mm. Carapace approximately 1.7 mm wide. Median ocular quadrangle as in male. Coloration essentially as in male but generally paler. Macrosetation as in male.

Epigynum with small hood and shallow, smooth-floored atrium with distinct, sclerotized rim (Fig. 53). Spermathecae inclined toward mid-line anteriorly (Fig. 54).

**Localities**—*Washington*: Seattle. *Massachusetts*: unspecified locality. *Europe*.

**Range**—Pacific and Atlantic coasts of United States (Map 3).

**Comments and diagnosis**—*O. praticola* is a widespread and common European species, and its two North American coastal records (one specimen for each) suggest separate unintentional introductions into this continent. Gertsch (1953) and Lindroth (1957) regard its distribution in this way. The yellow radiating lines on the carapace, strongly bent retrolateral apophysis on the male palpal tibia, and unwrinkled epigynum separate adults of *O. praticola* from those of all other North American members of the *brevipes* group.

*O. praticola* inhabits undergrowth and detritus in Britain (Locket and Millidge, 1951).

#### 7. *Ozyptila gertschi* Kurata

Figs. 10, 13, 55-57. Map 1.

*Ozyptila gertschi* Kurata, 1944, p. 1, Figs. 1, 2, 5, 6. Male holotype No. 7072 from Fort Albany, James Bay, Ontario, 22 June 1942 (F. A. Urquhart), deposited in the Royal Ontario Museum, Toronto, Ontario. Not examined. One male paratype from the type locality (same data) in each of the American Museum of Natural History, New York and the Museum of Comparative Zoology, Harvard University. Examined. Roewer, 1954, p. 883. Lindroth, 1957, p. 105.

*Ozyptila gertschi*: Gertsch, 1953, p. 470, Figs. 89-91. Sauer, 1972, p. 319. Wunderlich, 1973, p. 425, Figs. 45-50.

*Oxyptila simplex*: Vilbaste, 1969, p. 85, Figs. 73A, 73B (male only). Not *O. simplex* (Pickard-Cambridge), 1862.

**Male**—Total length approximately 3 to 4 mm. Carapace  $1.47 \pm 0.08$  mm wide (21 specimens). Median ocular area as wide as long, or slightly less wide than long. Carapace dark red to nearly black, with red-brown median stripe, and with V-shaped yellow mark

at dorsal groove; dark lateral areas partly divided from behind by band of yellow-brown spots; set with tapered or untapered setae, those on front longest. Sternum without conspicuous color spots. Legs yellow-brown to brown, the femora speckled with dark brown below; femur I swollen prolaterally at middle, with one or two prolateral macrosetae, one or no dorsal; tibia I with two pairs of ventral macrosetae, one slim dorsal; basitarsus I with three pairs of ventral macrosetae, one or no prolateral, one or no retrolateral. Abdomen widest behind middle; dorsum mottled off-white, yellow-brown, and black; venter red or purple, with numerous thin, transverse, black or brown bands.

Tibia of palpus with short, hooked ventral apophysis, small intermediate apophysis that arises from base of ventral apophysis, and long, slender retrolateral apophysis (Figs. 10, 13). Tegulum armed with toothed apophysis at centre, prominent basal tegular ridge, and hard tooth near proximal margin. Embolus short, bent near base.

**Female**—Total length approximately 3.5 to 5 mm. Carapace  $1.54 \pm 0.10$  mm (20 specimens). Coloration and macrosetation as in male.

Epigynum with wide hood that overhangs wrinkled area (Fig. 55). Atrium shallow, its rim composed of low, dark lobes (Fig. 55). Spermathecae as in Figs. 56, 57.

**Localities**—*Yukon Territory*: Swim Lake,  $62^{\circ}15'N$ ,  $133^{\circ}W$  (3100 to 3200 ft elevation); Gravel Lake, 58 miles east of Dawson (2050 ft elevation). *Northwest Territories*: Aklavik; Fort Simpson. *Alberta*: Clyde; Medicine Hat; Waterton Lakes National Park. *Saskatchewan*: 13 miles east of Saskatoon; 2 miles north of Laura; Pasqua; Montmartre; Lady Lake. *Manitoba*: 2 miles east of Pipestone; 9 miles west of Souris; Winnipeg; Fort Churchill. *North Dakota*: Kelley; Bottineau Co.; Burke Co.; Cavalier Co.; Divide Co.; Walsh Co. *Ontario*: Fort Albany, James Bay; Gregoire Mills. *Quebec*: Hull. *Labrador*: Cartwright. *Nova Scotia*: Greywood, Annapolis Co.

**Range**—Yukon Territory to Labrador, south to southern Alberta, North Dakota, and Nova Scotia (Map 1). Europe.

**Comments and diagnosis**—*O. gertschi* is apparently a boreal Holarctic species, having been reported from Sweden by Lindroth (1957). More recently Vilbaste (1969) illustrated the male palpus of *gertschi* under the name *O. simplex* (Pickard-Cambridge) from the Estonian S.S.R., and Wunderlich (1973) gives the European localities for *O. gertschi*.

The male of *O. gertschi*, as in *O. formosa* and *O. georgiana*, has an unusually long retrolateral apophysis on the palpal tibia. The embolus of *gertschi*, however, does not curl free of the tegulum as it does in *georgiana*, and the tegulum itself bears a low, slender ridge, rather than the broad concave tooth found near the prolaterobasal margin in the male of *formosa*. The epigynum of the female bears a prominent U-shaped sclerite as in females of *O. distans*, *O. curvata*, and *O. beaufortensis*, but the shape and relative length of the anterior and posterior parts of the spermatheca separate females of *gertschi* from these others.

Specimens of *O. gertschi* have been collected in *Carex-Salix* marsh in Saskatchewan, and from "hummocks" at Hull, Quebec.

#### 8. *Oxyptila conspurcata* Thorell

Figs. 11, 14, 58-60. Map 2.

*Oxyptila conspurcata* Thorell, 1877, p. 496. Female holotype from Manitou Springs, Colorado, 13 July 1875 (A. S. Packard, Jr.), presumed lost. Bonnet, 1958, p. 3255 (part).

- Ozyptila nevadensis*: Gertsch, 1939, p. 347, Figs. 112, 113, 132. Roewer, 1954, p. 884. Schick, 1965, p. 173, Figs. 256-258, Map 40. Not *O. nevadensis* Keyserling, 1880.
- Oxyptila nevadensis*: Gertsch, 1953, p. 467, Fig. 84. Bonnet, 1958, p. 3258 (part). Sauer, 1972, p. 319. Not *O. nevadensis* Keyserling, 1880.
- Ozyptila bryantae* Gertsch, 1939, p. 348. Female holotype from "Norwalk, Connecticut," 4 June 1933 (Gertsch), deposited in the American Museum of Natural History, New York. Examined. Roewer, 1954, p. 883 (part). NEW SYNONYM.
- Oxyptila bryantae*: Kaston, 1948, p. 420, Fig. 1536 (female only). Bonnet, 1958, p. 3254.

**Male**—Total length approximately 2.8 mm. Carapace  $1.39 \pm 0.12$  mm wide (32 specimens). Median ocular quadrangle slightly longer than wide. Carapace dark red-brown, faintly mottled with yellow; with yellow V-shaped mark at dorsal groove; set with clavate setae, those on front longest. Sternum pale red-brown, sometimes with minute brown speckles or white spots. Legs pale red-brown, the femora nearly black, or with small off-white spots in some specimens; femur I swollen near middle on prolateral side, with one prolateral macroseta, no dorsal; tibia I with two pairs of ventral macrosetae, one short dorsal; basitarsus I with three pairs of ventral macrosetae, one or no prolateral, one or no retrolateral. Abdomen widest behind middle; dorsum pale red-brown to black, set with short clavate setae; venter mottled off-white, yellow, and black.

Tibia of palpus with three short apophyses (Figs. 11, 14). Tegulum armed with small divided tooth near centre; basal tegular ridge broad, without teeth; embolus short.

**Female**—Total length approximately 3 to 4 mm. Carapace  $1.47 \pm 0.23$  mm wide (32 specimens). Coloration essentially as in male but generally paler. Macrosetation as in male.

Epigynum with short, wide hood and shallow, Y-shaped atrium (Fig. 58). Spermathecae set at angle to long axis of body (Figs. 59, 60).

**Localities**—*Alberta*: Ft. McLeod; Lethbridge. *Manitoba*: Glenlea, 10 miles south of Winnipeg. *Washington*: Spokane. *Oregon*: Corvallis; Peavine Ridge, near McMinnville. *Idaho*: St. Charles Canyon; 7 miles south of Downy, 5200 ft elevation. *Montana*: 18 miles west of Lolo, Missoula Co., 3900 ft elevation. *North Dakota*: Billings Co.; Burleigh Co.; Dunn Co.; Emmons Co.; Grand Forks Co.; Grant Co.; LaMoure Co.; MacKenzie Co.; Morton Co.; Richland Co.; Slope Co. *South Dakota*: Custer State Park. *Nebraska*: Hays Springs. *Minnesota*: Minneapolis. *Wisconsin*: 2 miles north of Coloma, Waushara Co. *California*: Northfork, Madera Co. *Utah*: Zion National Park; Fish Lake, Sevier Co.; Fruita; Salt Lake City; Dry Canyon, near Salt Lake City; White River, Uinta Co. *Arizona*: North Fork of White River, Apache Co., 7000 ft elevation; Mormon Lake; Santa Catalina Mtns., Pima Co., 4000 ft elevation. *Colorado*: Copper Creek Valley, Gunnison Co.; Gothic, 9700 ft elevation; Piedra, Archuleta Co., 7000 ft elevation; Biebel Spring, 7 miles northeast of Gunnison, 9200 ft elevation; 7 miles south of Estes Park, Larimer Co.; Buckhorn Mtn. Road, west of Fort Collins; Fort Collins, 6300 to 6700 ft elevation; Manitou Springs. *New Mexico*: Sand Springs, Quay Co.

**Range**—Southern Alberta east to Wisconsin and south to California and New Mexico (Map 2). The Illinois and North Carolina records of Gertsch (1953) could not be confirmed.

**Comments and diagnosis**—*O. conspurcata* was described by the European arachnologist Thorell (1877) from a female specimen from Manitou Springs, Colorado, sent to him by the entomologist A. S. Packard, Jr. It seemed remarkable that all other localities given

for this species by subsequent workers, and confirmed by us as *conspurcata* [sensu Gertsch (1939, 1953)], fell east of the Rockies. The search for the type specimen was therefore renewed in hopes of resolving this apparent anomaly.

The type female of *O. conspurcata* was apparently sent back to Prof. Packard in the United States after its description by Thorell in Sweden. It is not now in the Riksmuseet, Stockholm (T. Kronstedt, *in litt.*). Emerton (1894) saw the type, but there is no record of it after that time. Enquiries at the Peabody Museum of Salem, Massachusetts, where the Packard entomological collection was originally deposited, and at the Museum of Comparative Zoology, Harvard University, to which the Packard collection was later moved, proved fruitless. We therefore assumed the type to be lost, and resorted to a scrutiny of Thorell's original description.

The description is long and detailed, but largely filled with undiagnostic characters. The epigynum, however, is described as having "a small Y-shaped depression (the fore margin of the vulva having the form of a triangular lobe) bordered behind by two tubercles, one on each side". Our study of the species of *Ozyptila* inhabiting the Rockies leads us to conclude that the only one possessing this set of characters is that defined here as *conspurcata*. *O. conspurcata* may therefore be regarded as a distinctive species widespread west of the Great Lakes, and not to be confused with either *O. nevadensis* Keyserling, *O. georgiana* Keyserling, or with any of the past interpretations of these species.

Gertsch (1939) described *O. bryantae* from a female labelled "Norwalk, Connecticut". The specimen belongs to *O. conspurcata*, and its locality is in doubt. The allotype male of *bryantae* is not conspecific and is herein made the holotype of the new subspecies *O. sincera oraria*.

Males of *O. conspurcata* can be separated from those of similar species in the *brevipes* group by the lack of teeth on the basal tegular ridge and the divided tegular apophysis (Fig. 11), and females are identified by the pale, Y-shaped figure in the epigynum (Fig. 58).

Specimens of *O. conspurcata* have been collected from a field edge in Alberta, from talus at 10,000 ft elevation and from Juniper-Douglas fir forest in Colorado, from the nest of a house sparrow in North Dakota, and from pine litter in Wisconsin.

#### 9. *Ozyptila monroensis* Keyserling

Figs. 15, 16, 61-63. Map 3.

*Oxyptila monroensis* Keyserling, 1884, p. 671, Fig. 19. One female and one immature male, syntypes, from Fort Monroe, Virginia, deposited in the United States National Museum collection in the American Museum of Natural History, New York. Examined. Gertsch, 1953, p. 466. Bonnet, 1958, p. 3257.

*Ozyptila monroensis*: Banks, 1895, p. 242 (part). Bryant, 1930, p. 385 (part, Fig. 19). Gertsch, 1939, p. 346, Figs. 110, 111, 131. Roewer, 1954, p. 883.

*Ozyptila neglecta*: Bryant, 1930, p. 386, Figs. 11, 14. Male holotype from Hayden Falls, Columbus, Ohio, 13 June 1926 (W. M. Barrows) deposited in the Museum of Comparative Zoology, Harvard University. Examined.

**Male**—Total length approximately 2.5 to 3 mm. Carapace  $1.41 \pm 0.10$  mm wide (20 specimens). Median ocular quadrangle varying from slightly longer than wide to slightly wider than long. Carapace dark red-brown to nearly black; with yellow eye area and median longitudinal band, the latter often reduced to Y-shaped mark at dorsal groove; set

with clavate setae, those on front longest. Sternum red-brown, mottled with black and off-white. Legs red-brown, the femora darkest and the patellae and distitarsi lightest; femur I swollen prolaterally near middle, with one or two prolateral macrosetae, no dorsal; tibia I with two pairs of ventral macrosetae, one or two short clavate dorsals; basitarsus I with three pairs of ventral macrosetae, one or no prolateral, one or no retrolateral. Abdomen widest behind middle; dorsum pale red-brown with black pattern, set with short, clavate setae; venter red-brown, marked with black or off-white transverse lines.

Tibia of palpus greatly expanded distally, bearing ventral and retrolateral apophyses, the intermediate apophysis apparently reduced to a tiny ridge (Figs. 15, 16). Tegulum armed with short tooth near centre; basal tegular ridge broad and thick, not raised at edge, without teeth (Fig. 15). Embolus short, strongly narrowed, bent near tip.

**Female**—Total length approximately 3 to 4 mm. Carapace  $1.46 \pm 0.09$  mm wide (20 specimens). Coloration essentially as in male but generally paler, the carapace and legs often orange or brown-orange (in alcohol). Leg macrosetation as in male.

Epigynum with small hood and shallow, ill-defined atrium; copulatory openings marked by rounded sclerites (Fig. 61). Spermathecae with inconspicuous anterior part and large, rounded posterior part (Figs. 62, 63).

**Localities**—*Wisconsin*: Eagle Bluff, 5 miles south of Sauk City; Devils Lake State Park; Parfrey's Glen, Sauk Co.; Wyalusing State Park, Grant Co.; 3 miles northeast of Coon Valley, LaCrosse Co. *Michigan*: Gull Lake Biological Station, Kalamazoo Co. *Ontario*: Pelee Island, Lake Erie. *Kansas*: Douglas Co. *Missouri*: St. Louis; Columbia; Johnson. *Illinois*: Urbana; Chester, Randolph Co.; Pine Hills, Union Co.; 5 miles north of Alto Pass, Union Co. *Indiana*: Lafayette. *Ohio*: Put-in-Bay, Ottawa Co.; Columbus. *Kentucky*: Natural Bridge State Park, Wolff Co. *Pennsylvania*: Neshaminy Creek, northeast of Jamison. *Virginia*: Falls Church; Fort Monroe, near Hampton. *Maryland*: Baltimore. *Arkansas*: Bradley Co.; Cove Creek, Walsh Co. *Texas*: Raven Ranch, Kerr Co.

**Range**—Wisconsin to Pennsylvania, south to Texas (Map 3). The literature records cited by Gertsch (1939, 1953) from Georgia, Florida, and Alabama were not confirmed.

**Comments and diagnosis**—The male of *O. monroensis* can be separated from those of similar species in the *brevipes* group by the lack of teeth on the basal tegular ridge (Fig. 15), and by the pale swelling on the tegulum basad of the tegular apophysis (Fig. 16). In the female the paired, rounded sclerites at the level of the hood, and the deep, V-shaped groove (Fig. 61) of the epigynum are diagnostic.

The *monroensis* type vial, which Keyserling (1884) stated to contain a female and an immature male, actually contains two female spiders. Both are of *O. monroensis* as defined here. Re-examination of the holotype of *O. neglecta* confirms the synonymy of this name with *monroensis* given by Gertsch (1939, 1953).

Specimens of *O. monroensis* have been collected from abandoned fields and from leaf mold and litter in oak, maple, or basswood forest.

#### 10. *Ozyptila sincera* Kulczynski

Figs. 17, 18, 20, 21, 41, 64-71. Map 4.

*Oxyptila sincera* Kulczynski, 1926, p. 62, Fig. 24. Female holotype from "Klutschevskoje" [Klyuchevskaya Sopka], Kamchatka, 31 May 1909, deposited in the Zoological Institute of the Polish Academy of Sciences, Warsaw. Examined. Schenkel, 1930, p. 28, Figs. 11a-11c. Bonnet, 1958, p. 3265.

*Ozyptila sincera*: Roewer, 1954, p. 879.

*Ozyptila bryantae* Gertsch, 1939, p. 348 (part, allotype male. Examined). Roewer, 1954, p. 883 (part).

*Oxyptila bryantae*: Gertsch, 1953, p. 467 (part). Sauer, 1972, p. 318.

**Comments and diagnosis**—A study of the type material of Kulczynski's (1926) three species of *Ozyptila* from Kamchatka revealed that one of them, *O. sincera*, was conspecific with a widespread North American species that has been identified in the past as *O. bryantae* Gertsch [holotype ♀ *bryantae* = *O. conspurcata*; allotype ♂ and all remaining *bryantae* in Gertsch (1939, 1953) = *O. sincera*]. We therefore regard *O. sincera* as an Holarctic species, and further subdivide it into geographic populations as follows: *O. sincera sincera* Kulczynski from Kamchatka, *O. sincera canadensis*, ssp. n. from Alaska to Ontario, and *O. sincera oraria*, ssp. n. from the Atlantic coast of the United States. Only the two North American forms are treated in this paper.

The male of *O. sincera* most resembles those of *O. monroensis* and *O. conspurcata*, but lacks the tegular swelling found in males of *monroensis* and the divided tegular apophysis found in males of *O. conspurcata*. The female of *O. sincera* also lacks the V-shaped epigynal groove found in females of *O. monroensis* and the triangular sclerite posterior to the hood found in females of *O. conspurcata*.

10a. *Ozyptila sincera canadensis*, ssp. n.

Figs. 17, 20, 41, 64-66. Map 4.

*Ozyptila bryantae*: Gertsch, 1939, p. 348, Figs. 108, 109 (part). Roewer, 1954, p. 883 (part).

*Oxyptila bryantae* Gertsch, 1953, p. 467 (part). Sauer, 1972, p. 318.

**Male**—Total length approximately 2 to 3 mm. Carapace  $1.36 \pm 0.07$  mm wide (24 specimens). Median ocular area slightly longer than wide. Carapace orange-brown to brown, the lateral areas faintly mottled with yellow; with yellow V-shaped mark, which is often margined with a dark brown line, at dorsal groove; set with tapered or untapered setae, those on front longest. Sternum yellow-brown, marked at centre and near margins with indistinct brown spots. Legs light orange-brown to black, often yellow at bases of femora and on distitarsi, the femora lightly speckled with brown below; femur I swollen near middle on prolateral surface, with one or two prolateral macrosetae, one or no dorsal; tibia I with two pairs of ventral macrosetae, one or two short dorsals; basitarsus I with three pairs of ventral macrosetae, one or no prolateral, one or no retrolateral. Abdomen widest behind middle; dorsum nearly black, set with short, clavate setae; venter off-white or yellow, transversely lined with black.

Tibia of palpus with short ventral and intermediate apophyses broadly united at their bases, and short, finger-like retrolateral apophysis (Figs. 17, 20). Tegulum armed near centre with short, broad tooth; basal tegular ridge broad, its proximal margin raised, without teeth. Embolus short, narrowed and bent near tip.

**Female**—Total length approximately 3 mm. Carapace  $1.40 \pm 0.07$  mm wide (21 specimens). Coloration essentially as in male but generally paler; lateral areas of carapace often divided by yellow longitudinal band, sternum unspotted, and dorsum of abdomen with less extensive black pattern (Fig. 41). Macrosetation as in male.

Epigynum with broad, pale hood, shallow atrium, and distinct round sclerites at copulatory openings (Fig. 64). Spermathecae with slender anterior part, bulbous posterior part (Figs. 65, 66).

**Localities**—*Alaska*: Fort Richardson; Tolovana, Yukon River. *Yukon Territory*:

Dawson. *Northwest Territories*: Fort Simpson; Wrigley; Alexandra Falls, Hay River (60°30'N, 116°17'W). *Alberta*: Edmonton; George Lake (53°57'N, 114°06'W); Spring Creek Basin (53°30'N, 117°40'W); Mt. Edith Cavell, Jasper National Park; Jasper; Fawcett; Morley, near Calgary; Canmore; Ft. McLeod; Judson; Elkwater Lake, Cypress Hills Provincial Park. *Saskatchewan*: 50 miles north of Lac La Ronge; Saskatoon; Lady Lake; Cypress Hills Provincial Park. *Manitoba*: Aweme, near Brandon; Darwin; Rennie; Seddon's Corner; Riverton; Agassiz Provincial Forest; Elm Creek; Spruce Woods Provincial Park. *Ontario*: 20 miles east of Kenora; Petersen Lake, 35 miles east of Kenora; Raith, near Thunder Bay; Sandstone Lake, near Thunder Bay; Black Sturgeon Lake (49°20'N, 88°50'W); Nipigon; Ramore; 9 miles north of New Liskeard; Oxford Mills, near Kemptville. *Colorado*: 10 miles west of Estes Park, Rocky Mountain National Park. *North Dakota*: Bottineau Co. *Minnesota*: Minneapolis; Itasca Park.

**Range**—Boreal North America, from Alaska to eastern Ontario, south to Colorado and Minnesota (Map 4).

**Comments and diagnosis**—This widespread North American subspecies was reported questionably (as *O. bryantae*) from Newfoundland by Gertsch (1953) and Hackman (1954). Dr. Hackman kindly sent us a drawing of the spermathecae of his specimen, but it is a newly-moulted individual and difficult to identify with certainty. Further collecting east of Ontario may confirm these eastern records.

Gertsch's (1939) allotype male of *O. bryantae* is assigned here to *O. sincera oraria*, ssp. n., though his Figs. 108 and 109 definitely pertain to *O. sincera canadensis*, ssp. n.

Adults of *O. sincera canadensis* closely resemble those of *O. sincera oraria*, ssp. n. in size, color, and structure. In males, however, there are slight differences in the shape of the tegular apophysis and basal tegular ridge (compare Figs. 17 and 18). In females the shape of the rounded sclerites of the epigynum seems to differ (compare Figs. 64 and 67, 68), as do the structural details of the anterior part of the spermatheca (compare Figs. 65, 66 and 69-71). The female holotype of *O. sincera sincera* has a wrinkling on the anterior part of the spermatheca which is not found in *sincera canadensis*. Cross-breeding tests would perhaps show whether or not our interpretation of these forms is accurate.

Specimens of *O. sincera canadensis* have been collected from litter and sphagnum moss in larch swamps, from the floor of spruce-poplar or lodgepole pine forest, and from frog stomachs.

**Type locality**—Wrigley, Northwest Territories, Canada.

**Type material**—Holotype male and paratype female from the type locality, 6-12 June 1969 (G. E. Shewell), deposited in the Canadian National Collection, Ottawa. Paratype male and female from 20 miles east of Kenora, Ontario, 10 May-16 June 1963 (A. L. Turnbull), deposited in Museum of Comparative Zoology, Harvard University. Paratype male from Minneapolis, Minnesota, 4 May 1932 (W. J. Gertsch), and paratype female, Alexandra Falls, Hay River, Northwest Territories, 16 August 1965 (Jean and Wilton Ivie), deposited in the American Museum of Natural History, New York. Other paratypes in the above institutions, and in the Royal Ontario Museum and Michigan State University.

10b. *Ozyptila sincera oraria*, ssp. n.

Figs. 18, 21, 67-71. Map 4.

*Ozyptila monroensis*: Banks, 1895, p. 242 (part).

*Ozyptila monroensis*: Bryant, 1930, p. 385 (part, Fig. 9, male).

*Ozyptila bryantae* Gertsch, 1939, p. 348, (part, allotype male. Examined). Roewer, 1954, p. 883 (part).

*Oxyptila bryantae*: Kaston, 1948, p. 420, Fig. 1494 (male only). Gertsch, 1953, p. 467 (part).

**Male**—Total length approximately 2 to 3 mm. Carapace approximately 1.29 mm wide (mean of six specimens). Median ocular quadrangle slightly longer than wide, or equal in length and width. Carapace orange-brown, the lateral areas faintly mottled with yellow or divided by yellow longitudinal bands; with yellow V-shaped mark at dorsal groove, the yellow area sometimes extending forward to eyes; set with tapered or untapered setae, those on front longest. Sternum red-brown, indistinctly marked with brown spots at centre and near margins. Legs light orange-brown to brown, paler at bases of femora and on distitarsi; femur I with one or two prolateral macrosetae, one or no dorsal; tibia I with two pairs of ventral macrosetae, one or two short dorsals; basitarsus I with three pairs of ventral macrosetae, one or no prolateral, one or no retrolateral. Abdomen widest behind middle; dorsum red-brown, patterned with black, set with short, clavate setae; venter yellow, sometimes with a few black transverse lines.

Tibia of palpus with short ventral and intermediate apophyses broadly joined at their bases, and short, finger-like retrolateral apophysis (Figs. 18, 21). Tegulum armed near centre with short, broad tooth; basal tegular ridge broad, its proximal margin raised, without teeth. Embolus short, narrowed and bent near tip.

**Female**—Total length approximately 3 mm. Carapace  $1.34 \pm 0.19$  mm wide (16 specimens). Coloration and macrosetation essentially as in male. Epigynum variable, with pale hood, shallow atrium, and distinct round sclerites (Figs. 67, 68). Spermathecae variable, with slender anterior part and bulbous posterior part (Figs. 69-71).

**Localities**—*Massachusetts*: Monposett; Chatham, Barnstable Co. *New York*: Sea Cliff; Cold Spring Harbor; Long Pond, Suffolk Co.; Riverhead; Montauk Point. *New Jersey*: Lakehurst; Whitesbog, near Browns Mills. *Maryland*: Baltimore. *Virginia*: 12 miles south of Portsmouth.

**Range**—Eastern coastal United States from Massachusetts to Virginia (Map 4).

**Comments and diagnosis**—Adults of this eastern coastal form closely resemble those of *O. sincera canadensis*, ssp. n. There appear to be minor differences in the shape of the tegular apophysis and basal tegular ridge in males (compare Figs. 17 and 18), in the shape of the rounded sclerites of the female's epigynum (Figs. 64, 67, 68), and in the structural details of the anterior part of the spermatheca (Figs. 65, 66, 69, 71). The type female of *O. sincera sincera* has a wrinkling on the surface of the anterior part of the spermatheca not found in *sincera oraria*. Further collecting and cross-breeding tests are needed.

**Type locality**—Baltimore, Maryland.

**Type material**—Holotype male and paratype female from the type locality (no other data), deposited in the American Museum of Natural History, New York. Paratype male and four females from Sea Cliff, Long Island, New York, deposited in the Museum of Comparative Zoology, Harvard University. Paratype male and female from Sea Cliff, Long Island, New York, deposited in the Canadian National Collection, Ottawa. Other paratypes in the American Museum of Natural History and the Museum of Comparative Zoology, Harvard University.

#### 11. *Ozyptila creola* Gertsch

Figs. 72, 73. Map 3.

*Oxyptila creola* Gertsch, 1953, p. 469, Fig. 88. Female holotype from Tallulah Falls,

Georgia, 18 June 1930, deposited in the American Museum of Natural History, New York. Examined.

*Ozyptila creola*: Roewer, 1954, p. 883.

**Male**—Unknown.

**Female**—Total length approximately 4 mm. Carapace 1.65 mm wide (holotype). Median ocular quadrangle slightly longer than wide. Carapace red-brown with yellow eye area and median band, and with darker radiating lines in lateral areas; median band enclosing large brown area behind eyes and forming yellow V-shaped figure at dorsal groove; with clavate setae, those on front longest. Sternum red-brown, darkest at margins and in posterior half. Legs red-brown, paler at bases of femora and on distitarsi, lightly mottled with off-white or yellow; tips of femora III and IV, patellae, and tibiae IV nearly black; femur I swollen near middle on prolateral surface, with one prolateral macroseta, no dorsal; tibia I with two pairs of ventral macrosetae, one short clavate dorsal; basitarsus I with three pairs of ventral macrosetae, one prolateral, one retrolateral. Abdomen widest behind middle; dorsum off-white and pale red, with a few black transverse marks; venter yellow with indistinct transverse black lines.

Epigynum with small, hard hood, the openings marked by rounded sclerites (Fig. 72). Spermathecae with short anterior part and bulbous posterior part (Fig. 73).

**Locality**—*Georgia*: Tallulah Falls.

**Range**—Known only from the type locality (Map 3).

**Comments and diagnosis**—The female of *O. creola* is one of the most distinct among the species of the *brevipes* group. It is separated from females of all other species by the small hard sclerites surrounding the copulatory openings (Fig. 72).

#### 12. *Ozyptila distans*, sp. n.

Figs. 19, 22, 74-76. Map 5.

*Ozyptila americana*: Bryant, 1930, p. 377 (part, Fig. 1). Gertsch, 1939, p. 345 (part, Figs. 114, 115, 134). Roewer, 1954, p. 882 (part). Not *O. americana* Banks, 1895.

*Oxyptila americana*: Chickering, 1940, 199 (part, Figs. 16, 17). Kaston, 1948, p. 420, Figs. 1493, 1519, 1535. Gertsch, 1953, p. 466. Bonnet, 1958, p. 3248 (part). Not *O. americana* Banks, 1895.

**Male**—Total length approximately 3-3.5 mm. Carapace  $1.59 \pm 0.12$  mm wide (19 specimens). Carapace dark red-brown with yellow eye area and V-shaped mark at dorsal groove; lateral areas divided by yellow longitudinal bands; with mixture of tapered, untapered or clavate setae, those on front longest. Sternum yellow. Legs yellow-brown to red-brown, with tip of femur III and patellae and tibiae III and IV nearly black; femur I swollen at middle on prolateral side, with two or three prolateral macrosetae, two to no dorsals; tibia I with two pairs of ventral macrosetae, one or two short dorsals; basitarsus I with three pairs of ventral macrosetae, one or no prolateral, one or no retrolateral. Abdomen widest behind middle; dorsum red-brown with many small black bands or spots, set with numerous clavate setae; venter off-white or yellow, with thin, transverse black lines.

Tibia of palpus with hooked ventral apophysis, intermediate apophysis closely united with the base of the ventral, and finger-like retrolateral apophysis (Figs. 19, 22); with membranous lobe between intermediate and retrolateral apophyses. Tegulum armed with ridge-like tooth near centre, and with low ridge near prolaterobasal margin; basal tegular ridge broad, bearing one tooth. Embolus short, bent near tip.

**Female**—Total length approximately 3 to 4 mm. Carapace  $1.58 \pm 0.08$  mm wide (21

specimens). Coloration and macrosetation essentially as in male. Legs sometimes with off-white mottling.

Epigynum with short hood and shallow atrium; with oblique sclerites at copulatory openings (Fig. 74). Spermathecae with anterior part short, posterior part bulbous (Figs. 75, 76).

**Localities**—*Wisconsin*: Copper Falls State Park, Ashland Co.; Point Beach State Park, Manitowoc Co.; Eau Plaine Reservoir, Marathon Co.; Camp Tesoma, Rhinelander, Oneida Co. *Illinois*: Volo-Bog, Lake Co. *Michigan*: Marquette; Crawford Co.; Wexford Co.; Roscommon Co.; Cheboygan Co.; Wilderness State Park, Emmet Co.; Mackinac Co.; Charlevoix. *Ontario*: Lake Timagami; Deux Rivières; Lake Opeongo and South Tea Lake, Algonquin Provincial Park; Mazinaw Lake; Odessa; Chatterton, north of Belleville; Newmarket. *Quebec*: Chelsea; Bagotville. *Newfoundland* (Hackman, 1954): South Side Hills, St. John's; Gambo, Bonavista North Co.; Glenwood, Grand Falls Co. *Prince Edward Island*: Rustico Island. *Nova Scotia*: Kentville; Cow Bay, near Dartmouth; Greywood; Granville Ferry. *New Brunswick*: Priceville; Fredericton. *Maine*: Jefferson, Lincoln Co.; Presque Isle. *New Hampshire*: White Mountains (unspecified locality); Intervale; Jackson; North Woodstock. *Massachusetts*: Hanover. *Connecticut*: Norwalk; Washington (Kaston, 1948). *New York*: Ithaca; Presho; Trenton Falls, north of Utica; Pinekill, Sullivan Co.; Slide Mountain, Ulster Co.; Guyanoga, Yates Co.; Connecticut Hill, Tompkins Co.; McLean; Danby; Peru. *Pennsylvania*: Potters Mills, Center Co.; Loganton. *New Jersey*: High Point State Park, Sussex Co. *Maryland*: Baltimore. *Virginia*: Mountain Lake, Giles Co. *Tennessee*: Mollies Gap and Brushy Mountain, Great Smoky Mountains National Park. *North Carolina*: Grandfather Mountain, Avery Co.

**Range**—Wisconsin to Newfoundland, south in the Appalachian Mountains to Tennessee and North Carolina (Map 5).

**Comments and diagnosis**—Individuals of this eastern species were previously confused with those of *O. americana*. The male does closely resemble that of *americana* and also that of the Rocky Mountain species *beaufortensis*, but can be separated from both by the presence of a broad, sclerotized area near the prolaterobasal margin of the palpal tegulum (Fig. 19). The female of *O. distans* resembles those of *O. gertschi*, *O. beaufortensis*, and *O. curvata*, sp. n. in possessing a U-shaped epigynal sclerite. In *O. distans* the anterior part of the spermatheca is shorter than the posterior part (Figs. 75, 76), a condition not found in *O. gertschi*. The relative slenderness of the U-shaped sclerite in *distans* separates the female of this species from those of *beaufortensis* and *curvata* (Figs. 74, 84, 86, 89, 90, 92).

Specimens of *O. distans* have been collected from a sphagnum bog in northern New York, from old fields and hazel swamps in Ontario, and from pine litter.

**Type locality**—Chatterton, Hastings Co., Ontario (44° 15' N, 77° 29' W).

**Type material**—Holotype male and paratype female from the type locality, 26 June-5 July 1967 (holotype) and 1 August-6 September 1962 (paratype) (C. D. Dondale) deposited in the Canadian National Collection, Ottawa. Paratype male and four paratype females from Sproule Bay, Opeongo Lake, Algonquin Provincial Park, Ontario, 26 June-7 July 1945 (W. Ivie and T. B. Kurata), deposited in the American Museum of Natural History, New York. One paratype male and one paratype female from North Woodstock, New Hampshire, 4 June 1908 (J. H. Emerton), deposited in the Museum of Comparative Zoology, Harvard University. Other paratypes in the above institutions, and in the Royal Ontario Museum and Michigan State University.

13. *Ozyptila beaufortensis* Strand

Figs. 25, 28, 84-88. Map 5.

*Oxyptila conspurcata*: Emerton, 1894, p. 417, Pl. IV, Fig. 7d (not *O. conspurcata* Thorell, 1877).

*Oxyptila beaufortensis* Strand, 1916, p. 124. Two syntype males from "Beaufort, N-California (A. Reichardt)," "N.-Carolina: Beaufort (U.S.A.)," deposited in the Senckenberg Museum, Frankfurt (Numbers 4305, 4306). Examined. Gertsch, 1953, p. 471. Bonnet, 1958, p. 3251.

*Ozyptila beaufortensis*: Roewer, 1954, p. 882.

*Oxyptila bison* Gertsch, 1953, p. 468, Figs. 85-87. Male holotype from Buffalo Lake, near Victor, Colorado, 11,000 ft elevation, July 1941 (C. and M. Goodnight), deposited in the American Museum of Natural History, New York. Examined. NEW SYNONYM.

*Ozyptila bison*: Roewer, 1954, p. 882.

**Male**—Total length approximately 3 mm. Carapace 1.27 to 1.50 mm wide (mean of seven males 1.44 mm). Median ocular quadrangle slightly longer than wide. Carapace dark red-brown, with yellow eye area and yellow V-shaped mark at dorsal groove; lateral areas divided by longitudinal paler band; with clavate setae, those on front longest. Sternum orange-yellow, with small brown spots near margins and at mid-line. Legs red-brown, the trochanters and femora speckled with black; femur I swollen near middle on prolateral side; with two prolateral macrosetae, no dorsals; tibia I with two pairs of ventral macrosetae, one short dorsal; basitarsus I with three pairs of ventral macrosetae, one or no prolateral, one or no retrolateral. Abdomen widest behind middle; dorsum red-brown, with many indistinct black spots or bands; venter pale red-brown, with transverse black lines.

Tibia of palpus with hooked ventral apophysis, small intermediate apophysis united at base with the ventral, and finger-like retrolateral apophysis (Figs. 25, 28). Tegulum with toothed ridge near centre and short, slender tooth near prolaterobasal margin; basal tegular ridge broad, raised along proximal margin, armed with large tooth. Embolus short, bent near tip.

**Female**—Total length approximately 3.5 to 4 mm. Carapace 1.48 to 1.67 mm wide (mean of nine specimens 1.56 mm). Coloration much as in male but somewhat paler. Macrosetation as in male.

Epigynum with broad hood, shallow atrium, oblique, curved sclerites at copulatory openings (Figs. 84, 86). Spermathecae with short, inconspicuous anterior part, bulbous posterior part (Figs. 85, 87, 88).

**Localities**—*Alberta*: Lake Louise (formerly Laggan). *Idaho*: St. Charles Canyon, Bear Lake Co. *Wyoming*: Bridge Bay, Yellowstone Lake. *Utah*: Smith and Morehouse Canyon, 40°47'N, 111°06'W. *Colorado*: Florissant; Buffalo Lake, near Victor, 11,000 ft elevation.

**Range**—Rocky Mountains, from Alberta to Colorado (Map 5).

**Comments and diagnosis**—Bryant (1930) synonymized the name *beaufortensis* with *modesta*. Gertsch (1953), however, thought it best to reserve judgment on *beaufortensis* until "an opportunity arises to see the type or authentic specimens." Our study of the two syntype males deposited in the Senckenberg Museum in Frankfurt indicates them to represent a valid species conspecific with *O. bison* Gertsch from Colorado.

The type locality of *beaufortensis* can hardly be "Beaufort, N.-California" as published by Strand (1916); it is equally unlikely to be "N.-Carolina: Beaufort (U.S.A.)," as recorded

on the labels of the syntypes. No similar material has been collected in the east, whereas several specimens (including the type of *O. bison*) have been collected in the Rocky Mountains. The collector of the two syntype males of *beaufortensis*, A. Reichardt, also collected spiders in Yellowstone National Park ("Yellowstone Park"), Wyoming, and possibly this is the true locality of these males. Until new evidence indicates otherwise, therefore, we regard *beaufortensis* as a species of the Rocky Mountains.

The female of *O. beaufortensis* was until now undescribed.

The male of *O. beaufortensis* most resembles those of *O. distans*, sp. n. and *O. americana*, but differ in having neither a large, concave tooth nor a broad, sclerotized area near the prolaterobasal margin of the palpal tegulum (Fig. 25). The female is most similar to those of *O. gertschi*, *O. distans*, sp. n., and *O. curvata*, sp. n., but the anterior part of the spermathecae is shorter than the posterior part (Figs. 85, 87, 88), unlike the condition found in females of *gertschi* (Figs. 56, 57); the U-shaped epigynal sclerite is less slender than in females of *distans* (compare Figs. 84, 86, and 74), and the epigynal wrinkles are procurved (Figs. 84-88) rather than straight as in females of *curvata* (Figs. 91, 93, 94).

#### 14. *Oxyptila curvata*, sp. n.

Figs. 26, 27, 29, 89-94. Map 6.

*Oxyptila barrowsi*: Sauer, 1972, p. 318. Not *O. barrowsi* Gertsch, 1939, a junior synonym of *O. americana* Banks, 1895.

**Male**—Total length approximately 3 mm. Carapace 1.41 to 1.54 mm wide (mean of five specimens 1.47 mm). Median ocular quadrangle slightly longer than wide. Carapace dark red-brown to black, sometimes with yellow eye area and indistinct V-shaped mark, the latter divided by brown or black mid-dorsal streak, at dorsal groove; lateral areas sometimes indistinctly divided by pale red longitudinal band; with clavate setae, those on front longest. Sternum red-brown, sometimes with divided pale spot on front of centre. Legs dark red-brown to nearly black, sometimes spotted with off-white on femora, patellae, and tibiae; basal part of femora II to IV, and tarsi of all legs, pale yellow; femur I swollen near middle on prolateral side, with one or two prolateral macrosetae, one or no dorsal; tibia I with two pairs of ventral macrosetae, one short dorsal; basitarsus I with three pairs of ventral macrosetae, one or no prolateral, one or no retro-lateral. Abdomen widest behind middle; dorsum red-brown with off-white or black spots; venter red-brown with black or off-white transverse lines.

Tibia of palpus with hooked ventral apophysis, small intermediate apophysis that is apparently reduced to a small tooth on the margin of the ventral, and finger-like retro-lateral apophysis that is bent ventrally (Figs. 26, 27, 29). Tegulum with ridge-like tooth near centre and flattened blunt tooth on prolateral margin; basal tegular ridge broad, armed with two stout teeth. Embolus short, bent proximally and ventrally at tip.

**Female**—Total length approximately 4 mm. Carapace 1.36 to 1.79 mm wide (mean of eight specimens 1.55 mm). Coloration essentially as in male, the yellow parts on carapace and legs more extensive. Macrosetation as in male.

Epigynum with small hood and prominent, oblique sclerites at copulatory openings (Figs. 89, 90, 92). Spermathecae with inconspicuous anterior part and bulbous posterior part (Figs. 91, 93, 94).

**Localities**—*Manitoba*: Telford; Riverton; Seddon's Corner (50°04'N, 96°18'W). *Minnesota*: Otter Tail Co. *Massachusetts*: Chatham, Barnstable Co. *Virginia*: Stumpy

Lake Reservoir, Norfolk.

**Range**—Manitoba to Massachusetts, south to Virginia (Map 6).

**Comments and diagnosis**—Adults of *O. curvata* are similar to those of *O. pacifica* in that the basal tegular ridge of the male bears two teeth rather than one as found in *O. beaufortensis* and similar species. The teeth in male *curvata*, however, are close together (Figs. 26, 27). The U-shaped epigynal sclerite appears to relate *curvata* to *gertschi*, *distans*, and *beaufortensis*. The short anterior part of the spermatheca (Figs. 91, 93, 94) separates females of *curvata* from those of *gertschi*; the relatively thick U-shaped epigynal sclerite separates females of *curvata* (Fig. 89, 90, 92) from those of *distans*; and the straight transverse epigynal wrinkles separate females of *curvata* from those of *beaufortensis*.

**Type locality**—Riverton, Manitoba.

**Type material**—Holotype male from Riverton, Manitoba, 2 July 1963 (W. Ives), deposited in the Canadian National Collection, Ottawa. Paratype female from the type locality, 18 June 1963 (W. Ives), deposited in the Canadian National Collection, Ottawa. Paratype male from Otter Tail County, Minnesota, 4-12 July 1966 (R. J. Sauer), and paratype female from Seddon's Corner, Manitoba, 10 July 1963 (W. Ives), deposited in the American Museum of Natural History, New York. Paratype male and two females from Chatham, Barnstable County, Massachusetts, 10 June 1920 (J. H. Emerton), deposited in the Museum of Comparative Zoology, Harvard University. Other paratypes in the Canadian National Collection and the Museum of Comparative Zoology, Harvard University.

### 15. *Ozyptila americana* Banks

Figs. 30, 33, 95, 96. Map 6.

*Ozyptila conspurcata*: Emerton, 1894, p. 417 (part, Figs. 7a, 7c). Not *conspurcata* Thorell, 1877.

*Ozyptila americana* Banks, 1895, p. 242. One female and two immature syntypes from Ithaca, New York (N. Banks) deposited in the Museum of Comparative Zoology, Harvard University. Examined. Chickering, 1940, p. 199 (part, Fig. 18). Bonnet, 1958, p. 3248 (part).

*Ozyptila americana*: Bryant, 1930, p. 377 (part, possibly Fig. 15). Gertsch, 1939, p. 345 (part, Fig. 133). Roewer, 1954, p. 882 (part).

*Ozyptila modesta*: Bryant, 1930, p. 383 (part, Fig. 6). Not *O. modesta* (Scheffer) 1904.

*Ozyptila barrowsi* Gertsch, 1939, p. 348, Figs. 120, 121. Male holotype from "Pine," Indiana (N. Banks) deposited in the Museum of Comparative Zoology, Harvard University. Examined. Roewer, 1954, p. 882. **NEW SYNONYM.**

*Ozyptila barrowsi*: Gertsch, 1953, p. 466, Fig. 80. Bonnet, 1958, p. 3251.

**Male**—Total length approximately 3 to 3.5 mm. Carapace  $1.71 \pm 0.19$  mm (20 specimens). Median ocular quadrangle slightly longer than wide. Carapace dark red-brown to nearly black, with yellow eye area and yellow V-shaped mark at dorsal groove; sometimes with dark streak at mid-line in front of dorsal groove; lateral areas subdivided by longitudinal band of red-yellow spots; with clavate setae, those on front longest. Sternum yellow to red-brown. Legs dark red-brown, the tarsi yellow, femora II to IV off-white on basal half; femur I swollen near middle on prolateral side, with two or three prolateral macrosetae, two, one, or no dorsals; tibia I with two pairs of ventral macrosetae, one short dorsal; basitarsus I with three pairs of ventral macrosetae, one or no prolateral, one or no retrolateral. Abdomen widest behind middle; dorsum pale red-brown, with off-

white or black spots and transverse streaks; venter yellow, with transverse grey or black lines.

Tibia of palpus with hooked ventral apophysis, small intermediate apophysis that is apparently reduced to a small tooth on the side of the ventral, and a stout, finger-like retrolateral apophysis (Figs. 30, 33). Tegulum with small, ridge-like tooth near centre and concave tooth near prolaterobasal margin; basal tegular ridge broad, raised along proximal margin, with large tooth (Fig. 30). Embolus short, bent in two planes near tip.

**Female**—Total length approximately 3.5 to 4 mm. Carapace  $1.72 \pm 0.15$  mm wide (20 specimens). Coloration essentially as in male, but generally paler; lateral areas of carapace dark at posterolateral margins but often nearly yellow; femora and tibiae sometimes brown with darker speckling. Macrosetation as in male.

Epigynum with moderately large hood, W-shaped atrium, large oblique sclerites marking copulatory openings (Fig. 95). Spermathecae with broad anterior part and rather small, bulbous posterior part (Fig. 96).

**Localities**—*Iowa*: Sioux City; Ames. *Kansas*: Manhattan. *Indiana*: Pine (holotype of *O. barrowsi* Gertsch). *Michigan*: Mosherville, Hillsdale Co.; Tekonsha and Albion, Calhoun Co.; Gratiot Co.; Midland Co.; Grandville, Kent Co.; East Lansing. *Ontario*: Point Pelee; Newburgh, Lennox and Addington Co.; Oxford Mills, near Kemptville; Ottawa. *New York*: Ithaca. *Connecticut*: Norwalk. *Virginia*: Falls Church. *Arkansas*: Mississippi Co. *Texas*: Dallas; Palmetto State Park, Gonzales Co.

**Range**—Iowa to eastern Ontario, south to Texas and Virginia (Map 6).

**Comments and diagnosis**—Adults of *O. americana* Banks have been confused in the past with those of the species herein described as *O. distans* sp. n. Our study of the relevant type material indicates that *americana* and *barrowsi* are conspecific and that the species interpreted by Gertsch (1939, 1953) as *americana* was undescribed.

The 45° angle of the retrolateral apophysis, and the large concave tooth near the prolaterobasal margin of the palpal tegulum (Fig. 30), separate *americana* males from those of all other members of the *brevipes* group. The W-shaped epigynal plate is diagnostic for females (Fig. 95).

Specimens of *O. americana* have been collected on the ground under hawthorn scrub and in hayfields and swamps (Ontario). One specimen was taken from the stomach of a frog (New York).

#### 16. *Ozyptila trux* (Blackwall)

Figs. 82, 83.

*Thomisus trux* Blackwall, 1846, p. 300. Male holotype from Oakland, England, June 1846. Presumed lost.

*Ozyptila trux*: Simon, 1874, p. LXXIII; 1932, pp. 804, 809, 873, Figs. 1193, 1194, 1206. Tullgren, 1944, p. 74, Figs. 133-135. Locket and Millidge, 1951, p. 190, Figs. 96B, 97D. Bonnet, 1958, p. 3266.

*Ozyptila trux*: Roewer, 1954, p. 880.

*Ozyptila belma* Gertsch, 1953, p. 467, Fig. 81. Female holotype from Montreal, Quebec deposited in the American Museum of Natural History, New York. Examined. Roewer, 1954, p. 882. **NEW SYNONYM.**

**Male**—Not studied. See, for example, Locket and Millidge, (1951, p. 190, Fig. 96B).

**Female**—Total length approximately 3 mm. Carapace 1.42 mm wide (one specimen). Median ocular quadrangle slightly longer than wide. Carapace brown-orange or

yellow-orange, with yellow eye area and indistinct yellow V-shaped mark at dorsal groove; lateral areas broadly divided by pale longitudinal band; margins pale; with clavate setae, those on front longest. Sternum yellow. Legs yellow-orange, with minute brown speckles on femora; femur I swollen at middle on prolateral side, with two prolateral macrosetae, no dorsal; tibia I with two pairs of ventral macrosetae, one short dorsal; basitarsus I with three pairs of ventral macrosetae, one or no prolateral, one or no retrolateral. Abdomen widest slightly behind middle; dorsum yellow with few pairs of brown spots or transverse bands; venter yellow with a few thin, transverse, black or brown bands.

Epigynum with broad hood and sinuous, or bent, sclerites at copulatory openings (Fig. 82). Spermathecae with broad anterior part and rather small, bulbous posterior part (Fig. 83).

**Locality**—*Quebec*: Montreal.

**Range**—Montreal. Europe (Bonnet, 1958; Roewer, 1954).

**Comments and diagnosis**—*O. trux* is known in North America from a single female specimen, which Gertsch (1953) designated as holotype of his new species *O. belma*. This type matches a female specimen of *trux* in the Canadian National Collection from Wytham Wood, England. Locket and Millidge (1951) and other European workers illustrate the male. *O. trux* may have been accidentally introduced into North America; the lack of subsequent collections suggests that it may not have become established.

Adults of *O. trux* appear to resemble those of *O. distans*, sp. n. (male palpus), *O. pacifica*, and *O. inglesi* in the North American fauna. Females can be readily separated from those of the latter species by the shape of the sclerites at the copulatory openings (Fig. 82).

*O. trux* is reported common "in undergrowth, amongst grass, etc." in Britain (Locket and Millidge, 1951).

#### 17. *Ozyptila pacifica* Banks

Figs. 23, 24, 77-79. Map 4.

*Oxyptila pacifica* Banks, 1895, p. 243. One female and one immature syntype from Olympia, Washington (Trevor Kincaid), deposited in the Museum of Comparative Zoology, Harvard University. Examined. Gertsch, 1953, p. 468. Bonnet, 1958, p. 3259.

*Ozyptila pacifica*: Bryant, 1930, p. 386, Figs. 12, 13, 21. Gertsch, 1939, p. 349, Figs. 122, 123, 137. Roewer, 1954, p. 884.

**Male**—Total length approximately 3 to 3.5 mm. Carapace 1.46 to 1.59 mm wide (mean of nine specimens 1.54). Median ocular quadrangle slightly longer than wide. Carapace red-brown with yellow eye area and with yellow V-shaped mark extending forward from dorsal groove; lateral areas divided by longitudinal yellow or red bands; with clavate setae, those on front longest. Sternum yellow, sometimes with black spots near margin. Legs red-brown or yellow-brown, the femora and trochanters usually spotted with black and off-white; tibiae with dark ring near base; femur I swollen at middle on prolateral surface, with two prolateral macrosetae, no dorsal; tibia I with two pairs of ventral macrosetae, one or two short dorsals; basitarsus I with three pairs of ventral macrosetae, one or no prolateral, one or no retrolateral. Abdomen widest behind middle; dorsum red-brown, with off-white or black bands and spots, with short, clavate

setae; venter with many transverse black lines.

Tibia of palpus with hooked ventral apophysis and small, closely associated intermediate apophysis; with finger-like retrolateral apophysis (Figs. 23, 24). Tegulum armed with short, sharp tooth near prolaterobasal margin; basal tegular ridge broad, raised and bearing two sharp teeth. Embolus short, bent near tip.

**Female**—Total length approximately 4 mm. Carapace 1.42 to 1.71 mm wide (mean of eight specimens 1.62 mm). Coloration much as in male but paler generally; carapace and legs usually with little or no black pigmentation, the leg spots brown. Macrosetation as in male.

Epigynum with short hood and V-shaped, paired, rounded sclerites (Fig. 77). Spermathecae with expanded anterior part, bulbous posterior part (Figs. 78, 79).

**Localities**—*British Columbia*: Masset, Graham Island; Terrace; Metlakatla, near Prince Rupert; Vancouver; Mission City. *Washington*: Olympia. *Oregon*: Elk City and Burnt Woods, Lincoln Co.; 10 miles west of Philomath; 8 miles southeast of Colton, Clackamas Co.; Walton, Lane Co.; Comstock, Douglas Co.; Allegany.

**Range**—Coastal British Columbia to Oregon (Map 4). The Alaskan record of Lindroth and Ball (1969) was not confirmed.

**Comments and diagnosis**—Adults of *O. pacifica* differ from those of all other species in the *brevipes* group in having the two teeth on the basal tegular ridge of the male palpus well separated and of different sizes (Figs. 23, 24). The female of *pacifica* most resembles those of *O. inglesi* and *O. trux*, but can be separated from that of *inglesi* by the posteriorly diverging spermathecae (Figs. 78, 79) and from that of *trux* by the shape of the epigynal sclerites posterior to the hood (Fig. 77).

Specimens of *O. pacifica* have been collected from Berlese samples of moss, bark, and litter in hemlock or cedar-hemlock forest in British Columbia and Oregon.

#### 18. *Ozyptila inglesi* Schick

Figs. 80, 81. Map 4.

*Ozyptila inglesi* Schick, 1965, p. 173, Figs. 259, 260, Map 40. Holotype female from Huntington Lake, 7000 ft elevation, Fresno County, California, 27 September 1957 (L. G. Ingles) deposited in the American Museum of Natural History, New York. Examined.

**Male**—Unknown.

**Female**—Total length approximately 4 mm. Carapace 1.93 to 2.14 mm wide (mean of five specimens 2.02 mm). Median ocular quadrangle as wide as long. Carapace dark red-brown, with yellow eye area and with yellow V-shaped mark at dorsal groove; dark lateral areas divided by paler longitudinal bands; with clavate setae, those on front longest. Sternum pale red-brown, with small, scattered, brown spots. Legs red-brown, trochanters and femora spotted with black or off-white below, femora III and IV and patella IV marked with black; tibia IV sometimes with black ring near base; femur I swollen near middle on prolateral side, with two prolateral macrosetae, no dorsal; tibia I with two pairs of ventral macrosetae, one or two short, clavate dorsals; basitarsus I with three pairs of ventral macrosetae, one or no prolateral, one or no retrolateral. Abdomen widest behind middle; dorsum red-yellow, with few irregular black spots and with numerous short, clavate setae; venter yellow with scattered black spots or thin bands.

Epigynum with short hood, shallow atrium, elongate sclerites at copulatory openings (Fig. 80). Spermathecae with broad anterior part and rather small, bulbous posterior part

(Fig. 81).

**Locality**—*California*: Huntington Lake, Fresno County.

**Range**—Known only from the type locality (Map 4).

**Comments and diagnosis**—The male of *O. inglesi* is unknown. The female resembles those of *O. pacifica* and *O. trux*, but can be separated from females of *pacifica* by the posteriorly converging spermathecae (Fig. 81) and from those of *trux* by the shape of the epigynal sclerites (Fig. 80).

The type specimen of *O. inglesi* was collected in an alpine meadow habitat.

#### 19. *Ozyptila formosa* Bryant

Figs. 31, 32, 97, 98. Map 7.

*Ozyptila formosa* Bryant, 1930, p. 381, Figs. 5, 7, 18 (not 17). Male holotype from Royal Palm Park, Florida, 6-24 March 1925 (W. S. Blatchley), deposited in the Museum of Comparative Zoology, Harvard University. Examined. Three female paratypes from the type locality, March and April (W. S. Blatchley) in the same institution. Examined. Gertsch, 1939, p. 344, Figs. 118, 119, 136. Roewer, 1954, p. 882. *Ozyptila formosa*: Kaston, 1948, p. 420, Figs. 1495, 1537. Gertsch, 1953, p. 466. Bonnet, 1958, p. 3256.

**Male**—Total length 2.5 to 3 mm. Carapace 1.39, 1.61 mm wide (two specimens). Median ocular quadrangle slightly longer than wide. Carapace dark red-brown to nearly black, with yellow eye area and divided, yellow lance-shaped or V-shaped mark at dorsal groove; lateral areas lightly mottled with red-yellow; with clavate setae, those on front longest. Sternum yellow with dark spots near margins. Legs red-brown, femora II to IV off-white on basal half, tarsi yellow; femur I with one or two prolateral macrosetae, no dorsal; tibia I with two pairs of ventral macrosetae, one short dorsal; basitarsus I with three pairs of ventral macrosetae, one or no prolateral, one or no retrolateral. Abdomen widest behind middle; dorsum red-brown, mottled with off-white and black; venter yellow with transverse black lines.

Tibia of palpus with hooked ventral apophysis, intermediate apophysis apparently reduced to small tooth near base of ventral, and slender, sinuous retrolateral apophysis (Figs. 31, 32). Tegulum with small ridge-like tooth near centre and broad concave tooth on prolateral margin (Fig. 32); basal tegular apophysis with stout tooth. Embolus short, bent proximally and ventrally near tip.

**Female**—Total length approximately 3.5 mm. Carapace 1.74 to 1.85 mm wide (mean of four specimens 1.79 mm). Coloration much as in male but generally paler, the median band on carapace yellow, lateral areas mottled with off-white, femora mottled with off-white, dorsum of abdomen with very few black markings. Macrosetation as in male.

Epigynum with small hood, shallow and elongate atrium, copulatory openings encircled by prominent sclerites (Fig. 97). Spermathecae with short, narrow anterior part, bulbous posterior part (Fig. 98).

**Localities**—*Florida*: Royal Palm Park; Belle Glade; two miles south of Florida City; Big Bend region, Jefferson Co. *New York*: Cold Spring Harbor. *Massachusetts*: Nantucket.

**Range**—East coast from Florida to Massachusetts (Map 7).

**Comments and diagnosis**—The male of *O. formosa* resembles that of *O. georgiana* and of *O. gertschi* in having a long retrolateral apophysis on the palpal tibia, but differs from both in having a broad concave tooth near the prolaterobasal margin of the tegulum (Fig. 32). The female resembles that of *O. georgiana* but differs from the latter in the large size

of the copulatory openings in relation to that of the sclerites (Fig. 97).

The habitat of *O. formosa* is recorded as litter under pecan trees in Florida.

20. *Oxyptila georgiana* Keyserling

Figs. 34, 37, 99-102. Map 7.

*Oxyptila georgiana* Keyserling, 1880, p. 52, Pl. 1, Fig. 26. Syntype females "In der Sammlungen der Herren Dr. Koch und E. Simon mehrere aus Peoria und Georgia stammende Exemplare." [One syntype female from Georgia in the Muséum National d'Histoire Naturelle, Paris (tube 2432, Bocal 1507). Examined. One syntype female from Peoria, Illinois in the British Museum (Natural History), London (No. 3718). Examined].

*Oxyptila conspurcata*: Banks, 1895, p. 242 (part). Chickering, 1940, p. 201, Figs. 19-21. Kaston, 1948, p. 419 (part, Figs. 1492, 1534). Bonnet, 1958, p. 3255 (part). Sauer, 1972, p. 319. Not *O. conspurcata* Thorell, 1877.

*Oxyptila conspurcata*: Bryant, 1930, p. 379 (part, Figs. 2, 16). Gertsch, 1939, p. 343 (part, Figs. 116, 117, 135). Roewer, 1954, p. 883 (part).

*Oxyptila americana*: Sauer, 1972, p. 318. Not *O. americana* Banks, 1895.

**Male**—Total length approximately 3 to 4 mm. Carapace  $1.52 \pm 0.10$  mm wide (20 specimens). Median ocular quadrangle slightly longer than wide. Carapace dark red to nearly black, the pale median area enclosing a brown area behind the eyes and with a yellow V-shaped mark at dorsal groove; dark lateral areas partly subdivided from behind by pale red bands; eye area yellow. Sternum red-brown, sometimes with black spot at mid-line. Legs I and II with femora mottled red-brown, black, and yellow, and with tibiae and distal segments yellow-brown; legs III and IV with femora (basal half), basitarsi and distitarsi yellow, femora (distal half), patellae, and tibiae nearly black; femur I swollen prolaterally near middle, with one or two prolateral macrosetae, one or no dorsal; tibia I with two pairs of ventral macrosetae, one short clavate dorsal; basitarsus I with three pairs of ventral macrosetae, one or no prolateral, one or no retrolateral. Abdomen widest behind middle; dorsum red-brown with paired off-white or black spots, set with short clavate setae; venter yellow with several black streaks or spots.

Tibia of palpus with stout, curved ventral apophysis, minute intermediate apophysis near base of ventral apophysis, and long, slender, sinuous retrolateral apophysis (Figs. 34, 37). Tegulum armed with small tooth near centre and with second tooth near proximal margin; basal tegular ridge bearing large, blunt tooth (Fig. 34). Embolus long and sinuous, arising on prolateral side of tegulum, tip free of tegulum.

**Female**—Total length approximately 3.5 to 4.5 mm. Carapace  $1.72 \pm 0.14$  mm wide (29 specimens). Coloration and macrosetation essentially as in male. Some specimens show indistinct speckling under the femora, and the V-shaped mark on carapace less distinct.

Epigynum with small hood, shallow atrium, copulatory openings nearly encircled by raised sclerites; copulatory tubes visible through epigynal wall (Figs. 99, 101). Spermathecae with small anterior part and bulbous posterior part (Figs. 100, 102).

**Localities**—*North Dakota*: Richland Co.; Cass Co. *Minnesota*: Clay Co.; Minneapolis. *Iowa*: Ames. *Illinois*: Chicago; Peoria. *Michigan*: Livingston Co.; Grandville, Kent Co.; East Lansing; Bath and Burke, Clinton Co.; Gull Lake Biological Station, Kalamazoo Co.; Midland Co.; Montcalm Co.; Tekonsha and Albion, Calhoun Co. *Ontario*: Chatter-

ton, 13 miles northwest of Belleville; Belleville; Sand Banks Provincial Park, Prince Edward County. *New York*: Ithaca; Sea Cliff; Staten Island. *Massachusetts*: Holliston; Sharon; Nantucket; Woods Hole. *Connecticut*: Norwalk. *New Jersey*: Ramsey; Newfoundland. *Georgia*: unspecified locality.

**Range**—North Dakota to Massachusetts, south to Georgia (Map 7).

**Comments and diagnosis**—*O. georgiana* was early made a junior synonym of *O. conspurcata* (of authors) by Banks (1895), who was followed by all subsequent revisers. We find this disposition unacceptable. The curled embolus of the male of *georgiana* is unique (Figs. 34, 37). The female differs from that of other species in the extensively wrinkled area posterior to the epigynal hood and in the long, oblique copulatory tubes visible through the epigynal wall (Figs. 99, 101).

Specimens of *O. georgiana* have been collected in hawthorn scrub, abandoned fields, and on a lawn, in Ontario, in pitfall traps “near water” in North Dakota, and on the open prairie in Illinois.

### THE RAUDA GROUP

This group was not known to occur in North America until Schick (1965) described *O. yosemitica* from inland California. Although he recognized the female of this species as quite unique in genitalia, Schick surprisingly did not propose any taxon for it above species level. We propose here a species group to include this and the Holarctic *septentrionalium*, using the oldest name applied to a member of the group.

The diagnostic characters of the group are the transversely-oriented ventral apophysis (Figs. 35, 36) and long, well-developed intermediate apophysis (Figs. 38, 39) on the palpal tibia in males and the absence of a hood coupled with the presence of a distinct, rimmed atrium and median septum in the epigynum of females (Figs. 103, 106). The femoral swelling on leg I and the presence of only two pairs of macrosetae (neither terminal) under tibia I appear to relate the species of this group to those of the *brevipes* group. There are two North American species.

#### 21. *Ozyptila septentrionalium* L. Koch

Figs. 35, 38, 103-105. Map 5.

*Oxyptila septentrionalium* L. Koch, 1879, p. 96, Pl. 3, Figs. 11, 11a (male, not female). Male syntype from “Surgutskoj” (between Alinskoye and Lebed’), 18 September 1875, and male syntype from “Anninskoye” (Alinskoye), 17 September 1875 deposited in the Naturhistoriska Riksmuseet, Stockholm. Examined. Male syntype from “Surgutskoj” hereby designated as lectotype of *O. septentrionalium*. Note: two females respectively from “Troitzkoj” and “Intsarewo” (Lebed’), and forming part of the syntype series, belong to the related species *O. rauda* Simon. Bonnet, 1958, p. 3264.

*Ozyptila rauda*: Roewer, 1954, p. 878 (part, not *O. rauda* Simon).

**Male**—Total length approximately 3 mm. Carapace 1.24 to 1.69 mm wide (mean of six specimens 1.37 mm). Median ocular quadrangle approximately as long as wide. Carapace dark red-brown to nearly black, with yellow eye area and divided yellow V-shaped mark at dorsal groove; lateral areas divided by longitudinal band of yellow spots; with clavate setae, those on front longest. Sternum red-brown. Legs red-brown or yellow-brown, femora darkest but with indistinct brown or yellow spots; femur I swollen at

middle on prolateral side, with one or two prolateral macrosetae, no dorsal; tibia I with two pairs of ventral macrosetae, one short clavate dorsal; basitarsus I with three pairs of ventral macrosetae, one or no prolateral, one or no retrolateral. Abdomen widest behind middle; dorsum red or yellow, with small, off-white, paired spots; with rows of short clavate setae; venter red with off-white or black transverse lines.

Tibia of palpus with transverse, hooked ventral apophysis, slender curved intermediate apophysis, and retrolateral apophysis that lies close to cymbium (Figs. 35, 38). Tegulum with stout, fluted apophysis near centre; basal tegular ridge not divided into two parts (Fig. 35). Embolus rather broad, terminating in slender, angled piece.

**Female**—Total length approximately 3 mm. Carapace 1.21 to 1.55 mm wide (mean of ten specimens 1.38 mm). Median ocular area as in male. Coloration essentially as in male; legs yellow or red-brown, femora and tibiae streaked and spotted with brown to black. Macrosetation as in male.

Epigynum without hood, with distinct, depressed atrium and with median septum (Figs. 103, 104). Spermathecae looped (Fig. 105).

**Localities**—*Alaska*: Deering, Seward Peninsula; Tangle Lakes, approximately 63°10'N, 146°W. *Yukon Territory*: North Fork Pass, Ogilvie Mountains, 65°21'N, 138°15'W, 4100 ft elevation. *Northwest Territories*: 20 miles west of Inuvik; 7 miles southeast of Tununuk; 20 miles east of Tuktoyaktuk; Lac Maunoir, 67°30'N, 124°55'W; Plains of Abraham, Mackenzie Mountains, 64°32'N, 127°44'W, 4300-5600 ft elevation; Salmita Mines, 64°05'N, 111°15'W. *British Columbia*: Summit Lake, Mile 392 Alaska Highway.

**Range**—Alaska to the western part of the Northwest Territories and northern British Columbia (Map 5). Siberia and Europe.

**Comments and diagnosis**—*O. septentrionalium* has been regarded as a junior synonym of *O. rauda* Simon by recent European authors. Our study of the syntype series of *septentrionalium* from Siberia, and of *raudae* material from the Basses-Alpes of France, indicates that these are distinct species, of which the former is Holarctic in range. As the syntype series contains representatives of both species we designate here a lectotype of *septentrionalium* (see synonymy) and redefine the species accordingly.

Adults of *O. septentrionalium* most resemble those of *O. yosemitica* in the North American fauna. The former differ from the latter in the shape of the tegular apophysis and in the angle of the retrolateral apophysis of the tibia in males (compare Figs. 35, 38 with 36, 39), and in the looped spermathecae of the female (compare Fig. 105 with 107).

Specimens of *O. septentrionalium* have been collected from shrub tundra in the Mackenzie Delta.

## 22. *Ozyptila yosemitica* Schick

Figs. 36, 39, 106, 107. Map 3.

*Ozyptila yosemitica* Schick, 1965, p. 173, Figs. 261, 262, Map 40. Holotype female from Wawona Camp, Mariposa County, California, 17 September 1941 (W. Ivie), deposited in the American Museum of Natural History, New York. Examined.

*Ozyptila schusteri* Schick, 1965, p. 175, Map 40. Holotype female from Riverton, El Dorado County, California, 22 February 1958 (R. O. Schuster), deposited in the American Museum of Natural History, New York. Examined. **NEW SYNONYM.**

**Male**—Total length approximately 3 mm. Carapace 1.50, 1.59 mm wide (two specimens). Median ocular quadrangle slightly longer than wide. Carapace dark red-brown with yellow eye area and divided yellow V-shaped mark at dorsal groove; lateral areas with few yellow spots; with clavate setae, those on front longest. Sternum red-

brown. Legs red-brown to brown, femora darkest, coxae and tarsi yellow-brown; femur I swollen near middle on prolateral surface, without macrosetae; tibia I with two pairs of ventral macrosetae, one or two short clavate dorsals; basitarsus I with three pairs of ventral macrosetae, one or no prolateral, no retrolateral. Abdomen widest behind middle; dorsum nearly black; with short clavate setae; venter red with off-white or black transverse lines.

Tibia of palpus with hooked, transversely-oriented ventral apophysis, straight, erect intermediate apophysis, and slender retrolateral apophysis lying against cymbium (Figs. 36, 39). Tegulum with long, fluted apophysis at centre; basal tegular ridge narrow, passing under embolus tip. Embolus tip long and slender, making one complete turn within space between tegular apophysis and basal tegular ridge.

**Female**—Total length approximately 3.5 mm. Carapace 1.53 to 1.74 mm wide (mean of ten specimens 1.65 mm). Median ocular quadrangle as in male. Coloration essentially as in male; carapace lateral areas with yellow spots; femora and tibiae sometimes showing off-white spots; sternum partly yellow; dorsum of abdomen red-brown, lightly patterned with black. Macrosetation as in male.

Epigynum with distinct atrium, which has grooved floor, narrow median septum, and distinct raised margin (Fig. 106). Spermathecae with long, expanded anterior part and small posterior part (Fig. 107).

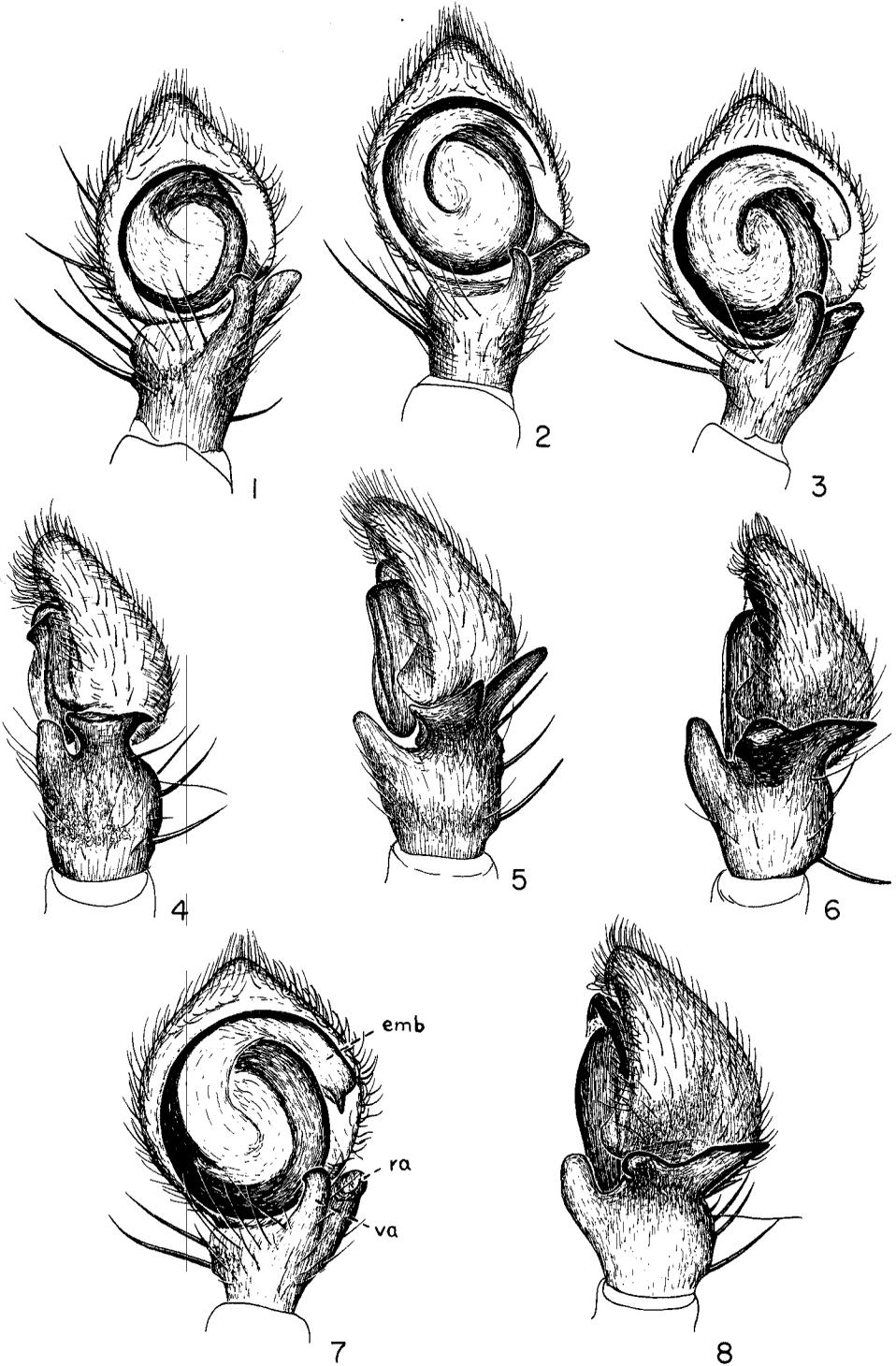
**Localities**—*California*: Bridalveil Falls and Wawona Camp, Yosemite National Park; Riverton, El Dorado Co.; Quincy; Burney Falls, Shasta Co.; near Leggett, Mendocino Co. *Oregon*: Ruch and 15 miles southwest of Ruch, Jackson Co.; southeast of Steamboat, Douglas Co.; Agnes Pass, Curry Co.

**Range**—California and Oregon (Map 3).

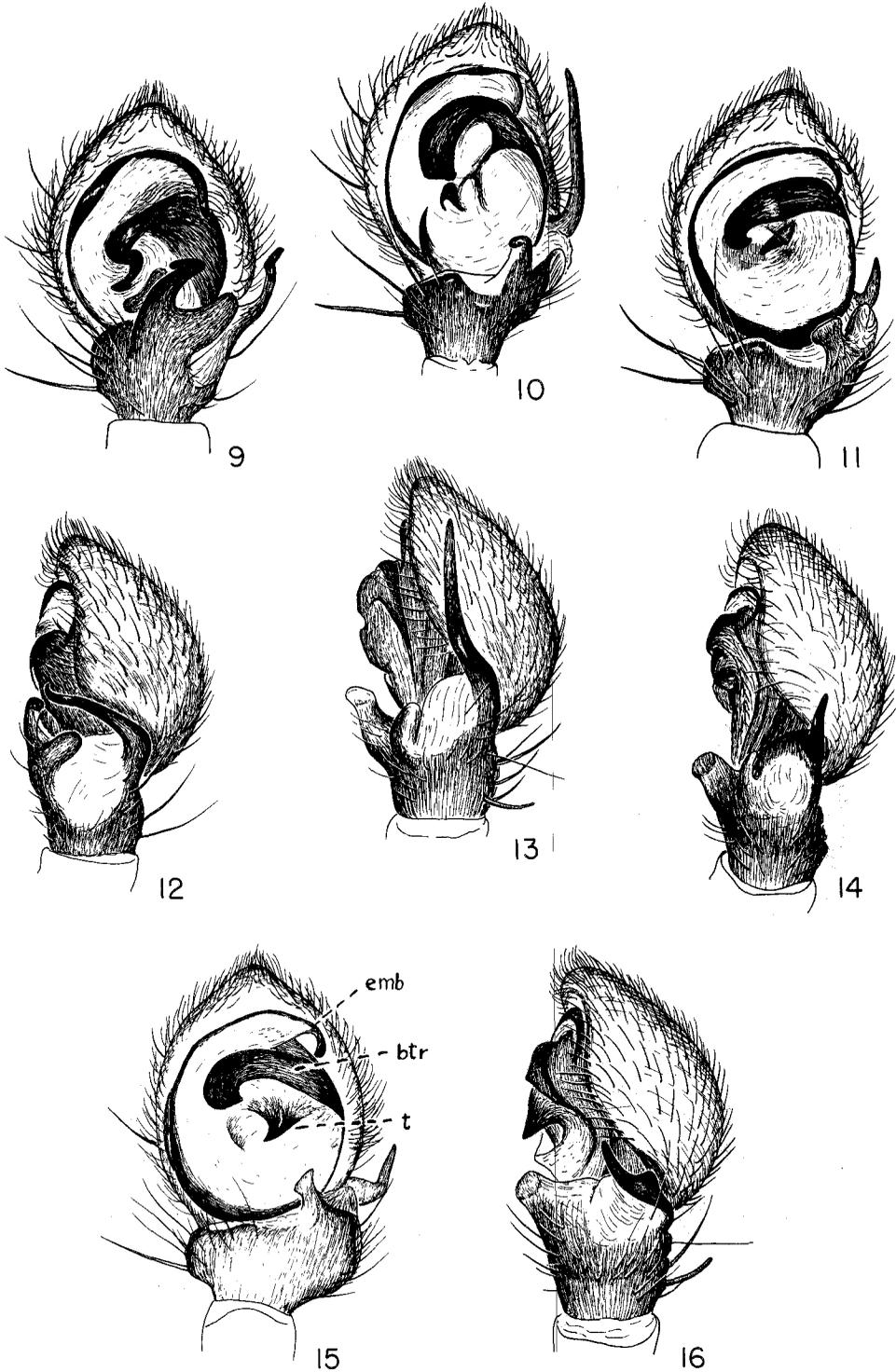
**Comments and diagnosis**—*O. yosemitica* is a western species apparently related to the Holarctic species *O. septentrionalium*. The male is described here for the first time. Schick's (1965) *schusteri* was based on a female that was stated to have an unusually narrow "pars cephalica." Whereas Schick gives a "pars cephalica" width index of 3.7 for the holotype female of *schusteri*, compared with 4.8-5.0 for females of *yosemitica*, we find the female of *schusteri* to be 4.6 and females of *yosemitica* 4.6-5.0 in this character. The female genitalia of *yosemitica* and *schusteri* are identical. We therefore synonymize *schusteri* under *yosemitica*.

The shape of the tegular apophysis and the angle of the retrolateral apophysis of the palpal tibia in males (Fig. 35), and the non-looped spermathecae in females (Fig. 107), separate *yosemitica* from *septentrionalium*.

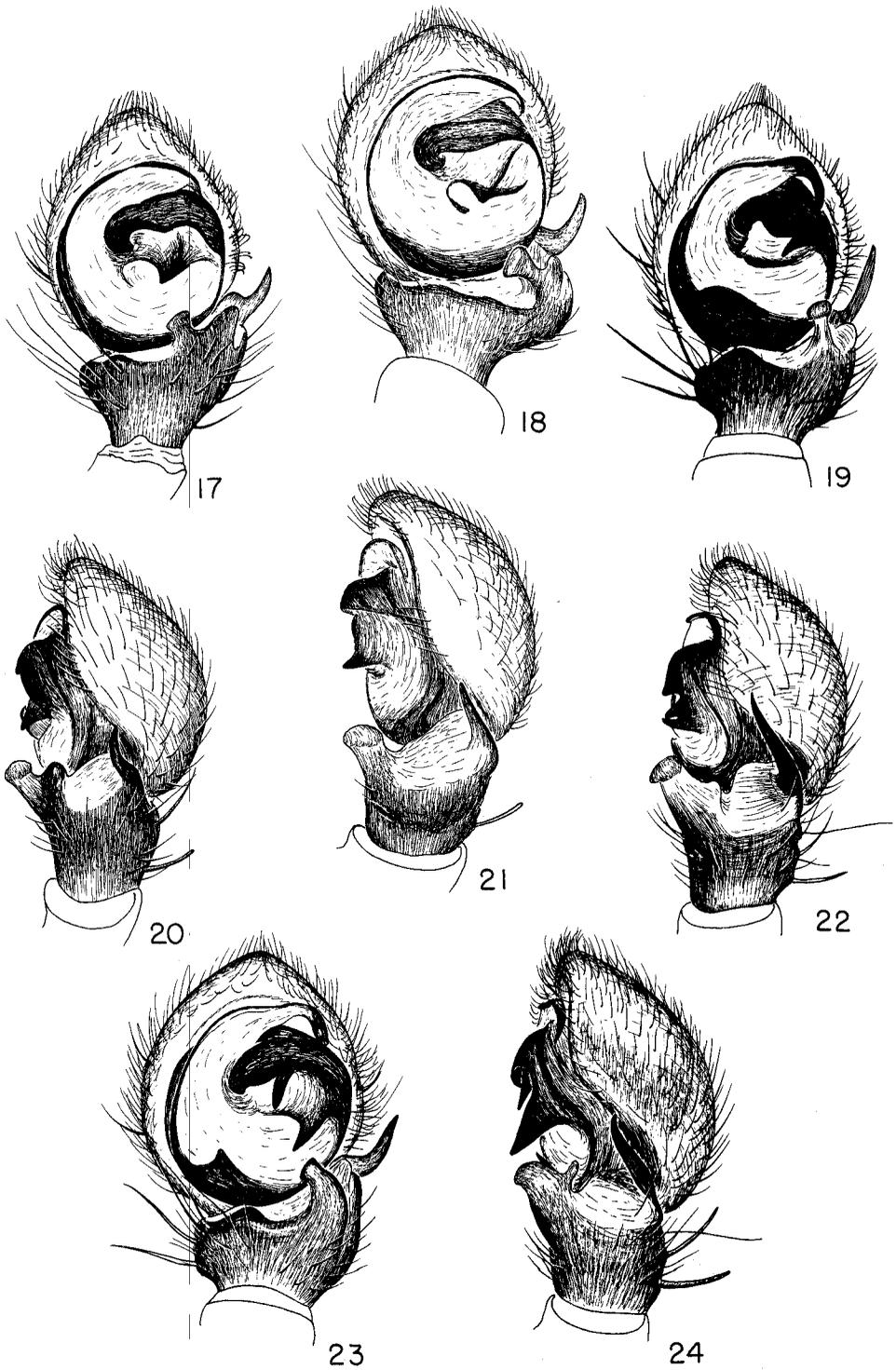
Adults of *O. yosemitica* have been collected from Berlese samples of moss, bark, and litter in a hemlock forest in Oregon.



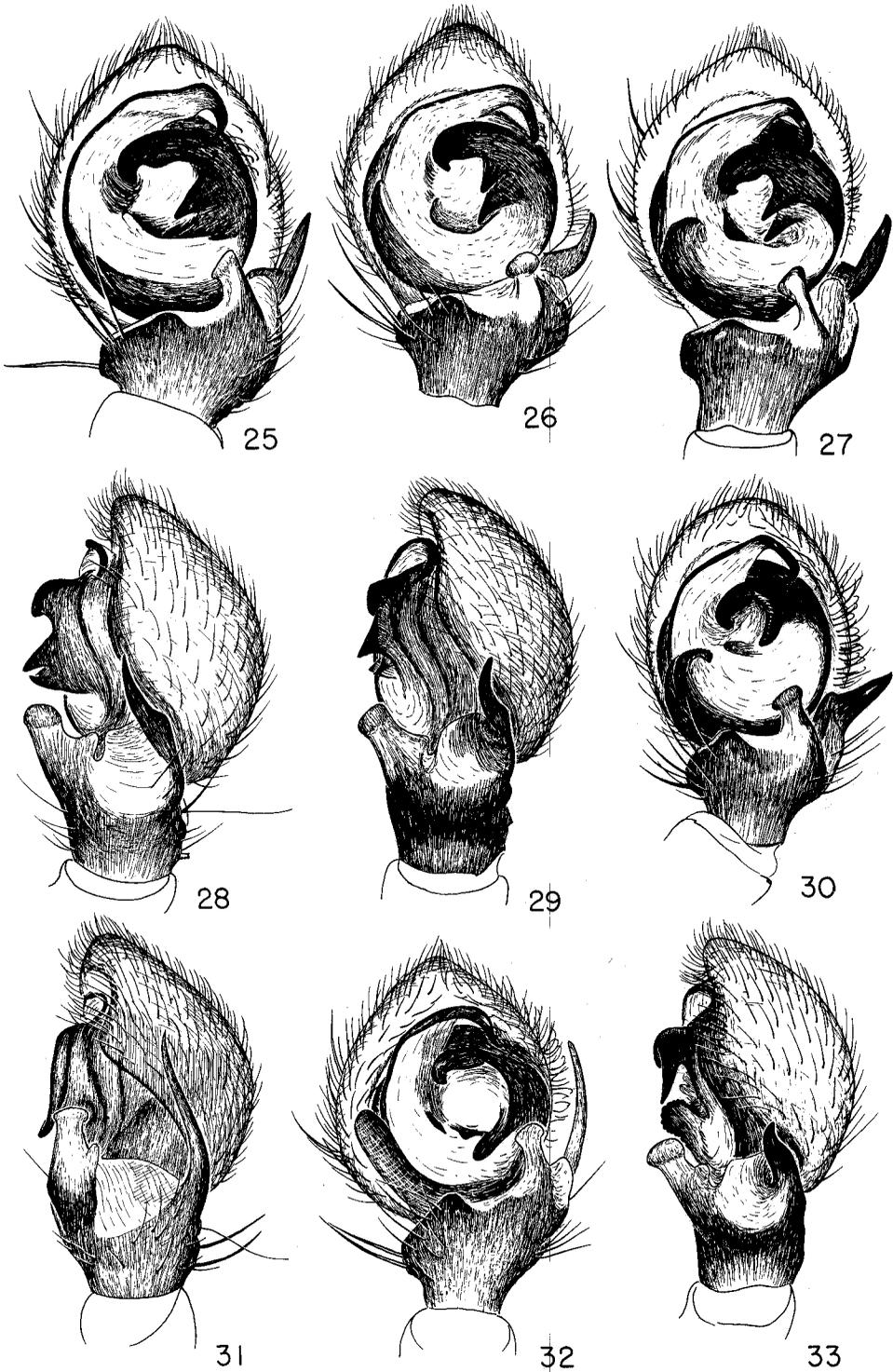
Figs. 1-8.—Male palpi of *Ozyptila* spp.: 1, 4, *O. okefinokensis* Gertsch; 2, 5, *O. imitata* Gertsch; 3, 6, *O. floridana* Banks; 7, 8, *O. modesta* (Scheffer). emb, embolus; ra, retrolateral apophysis of tibia; va, ventral apophysis of tibia.



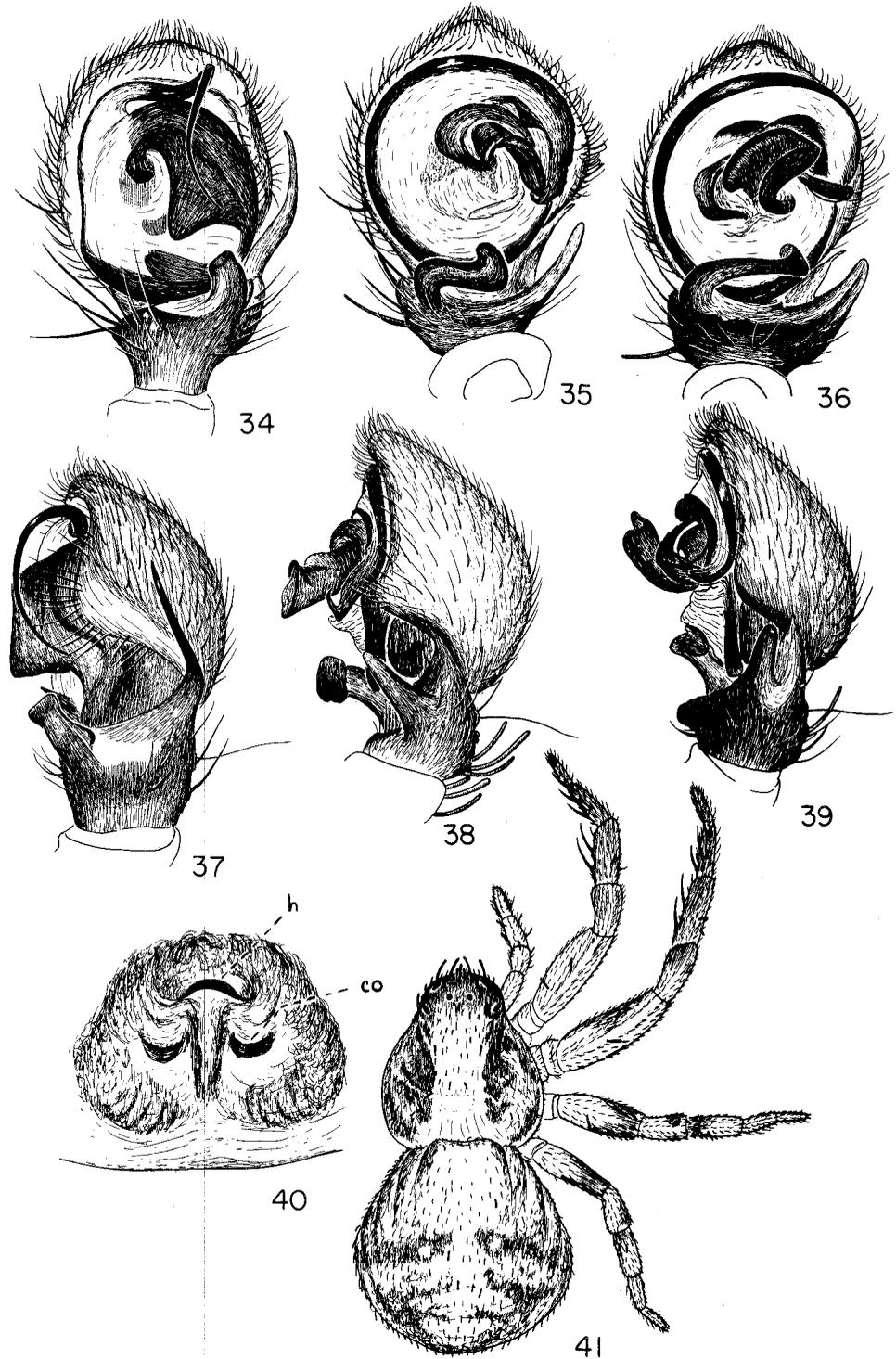
Figs. 9-16.—Male palpi of *Ozyptila* spp.: 9, 12, *O. praticola* (C. L. Koch); 10, 13, *O. gertschi* Kurata; 11, 14, *O. conspurcata* Thorell; 15, 16, *O. monroensis* Keyserling. emb, embolus; btr, basal tegular ridge; t, tooth of tegular apophysis.



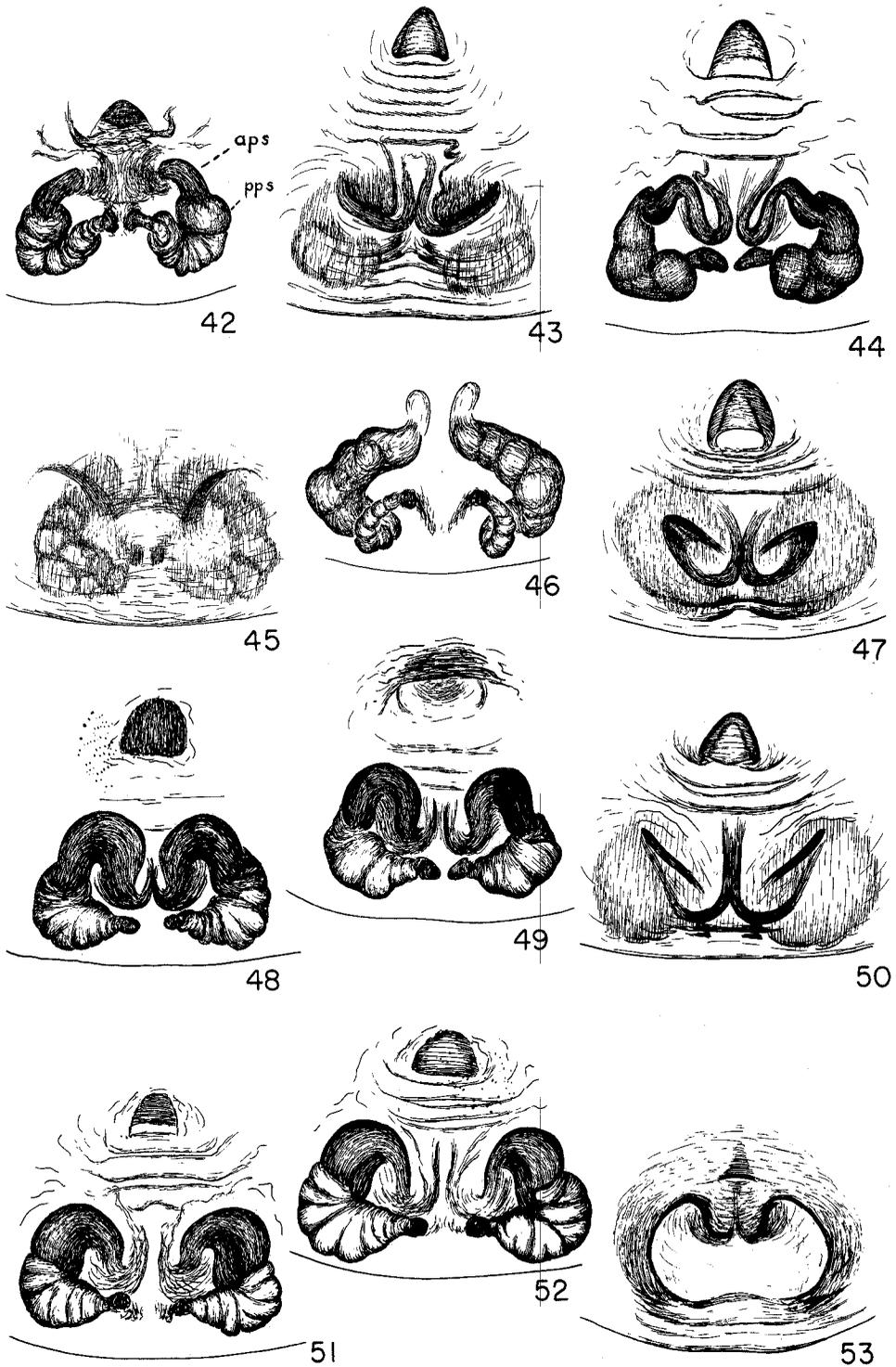
Figs. 17-24.—Male palpi of *Ozypitla* spp.: 17, 20, *O. sincera canadensis* ssp. n.; 18, 21, *O. sincera oraria* ssp. n.; 19, 22, *O. distans*, sp. n.; 23, 24, *O. pacifica* Banks.



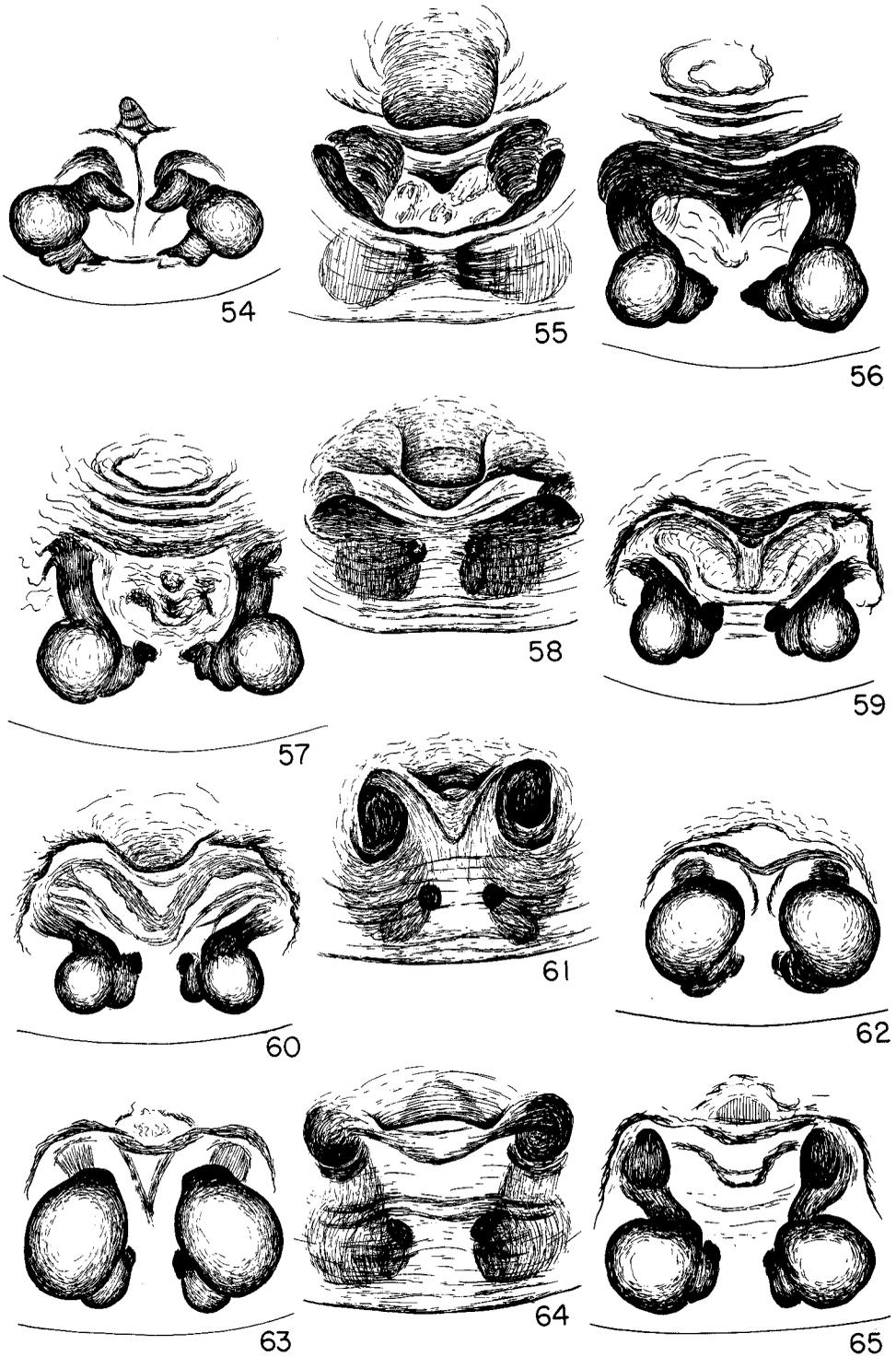
Figs. 25-33.—Male palpi of *Ozyptila* spp.: 25, 28, *O. beaufortensis* Strand; 26, 27, 29, *O. curvata* sp. n. (26, Massachusetts, 27, 29, Minnesota); 30, 33, *O. americana* Banks; 31, 32, *O. formosa* Bryant.



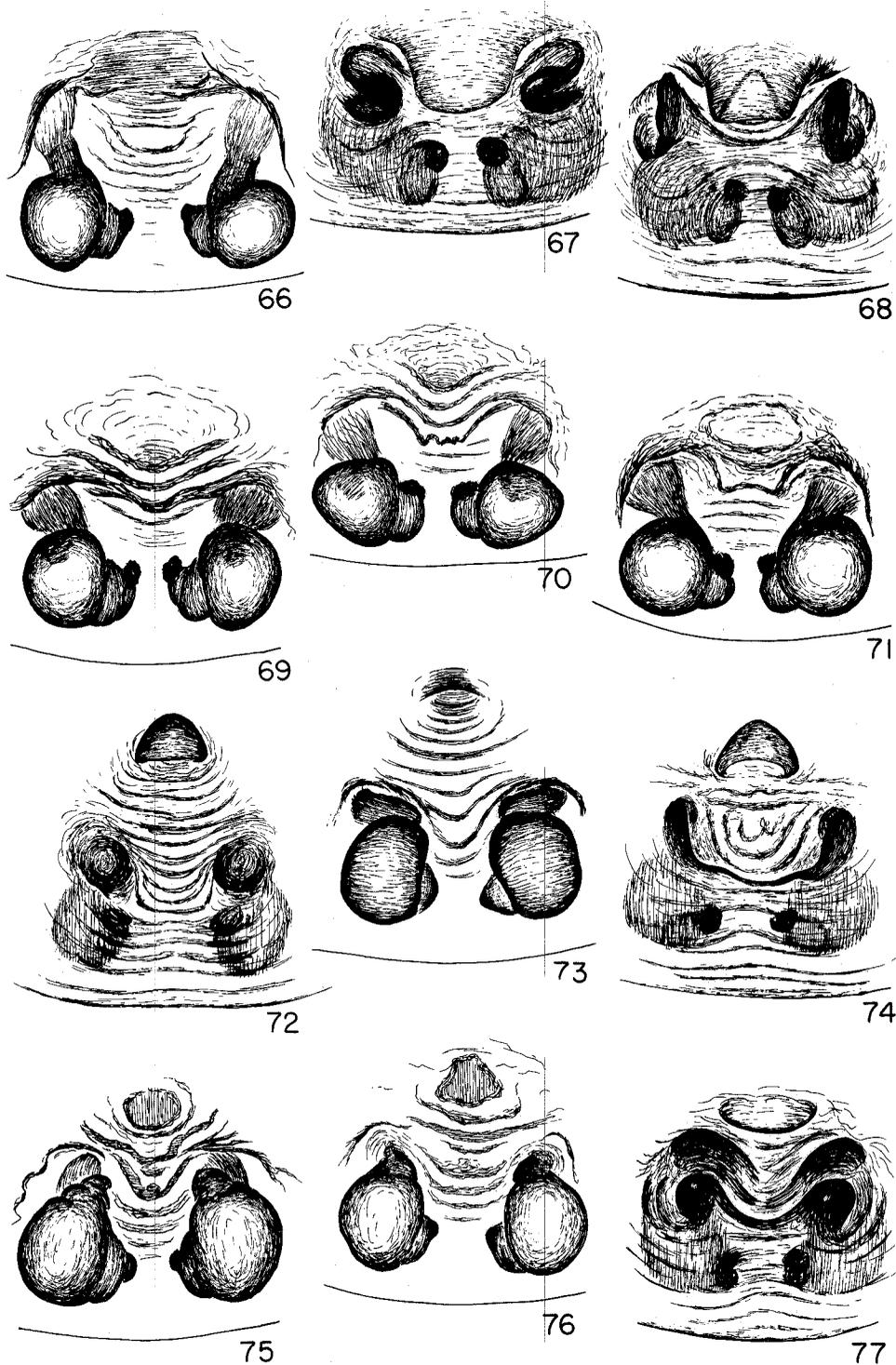
Figs. 34-39.—Male palpi of *Ozyptila* spp.: 34, 37, *O. georgiana* Keyserling; 35, 38, *O. septentrionalium* L. Koch; 36, 39, *O. yosemitica* Schick; 40, Epigynum of *O. okefinokensis* Gertsch; 41, body of *O. sincera canadensis* ssp. n. h, hood; co, copulatory opening.



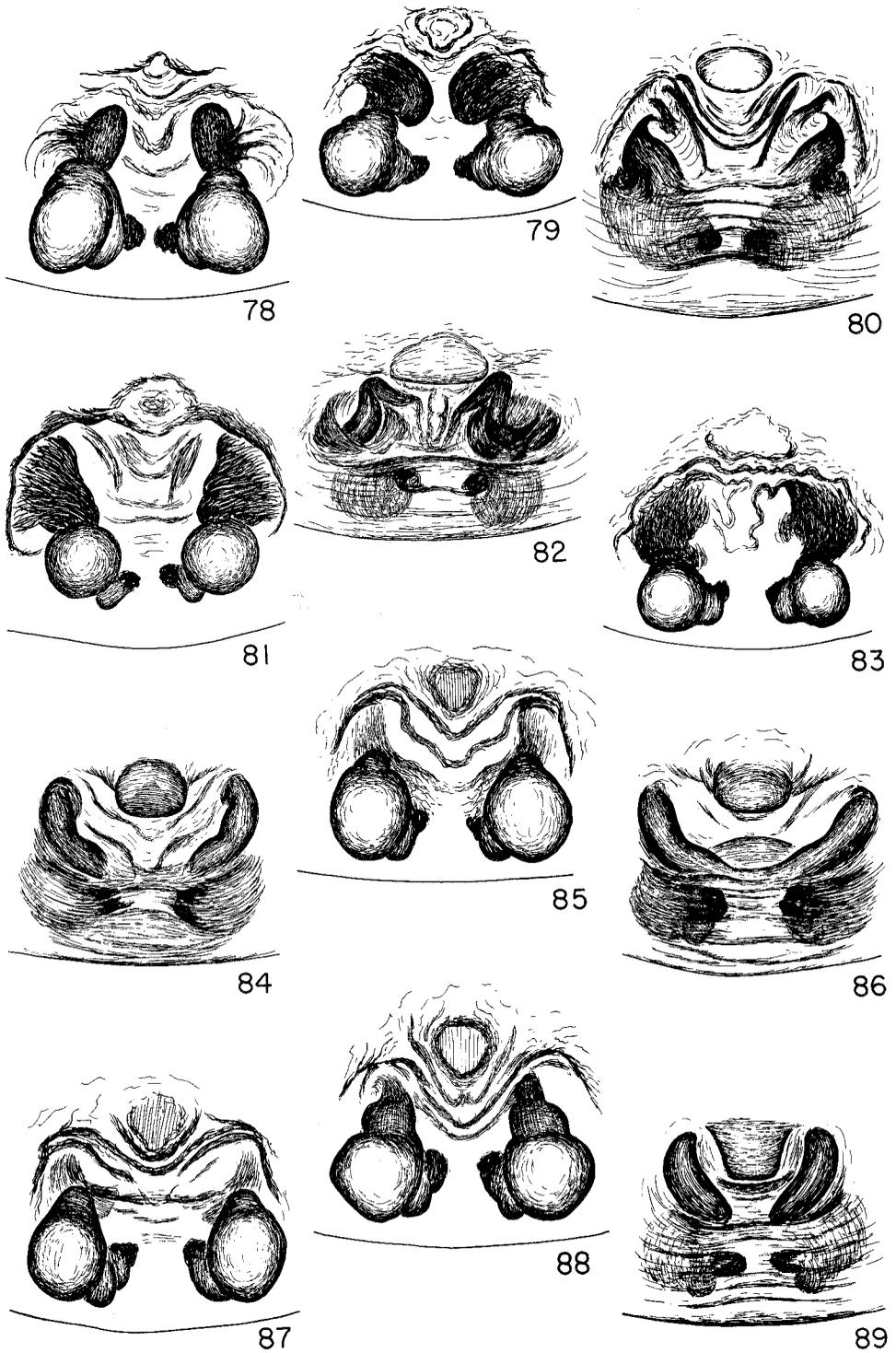
Figs. 42-53.—Epigyna and spermathecae of *Ozyptila* spp.: 42, *O. okefinokensis* Gertsch; 43, 44, *O. imitata* Gertsch; 45, 46, *O. hardyi* Gertsch; 47-49, *O. floridana* Banks (47, 48, Florida, 49, Tennessee); 50-52, *O. modesta* (Scheffer) (50, 52, Ohio, 51, Indiana); 53, *O. praticola* (C. L. Koch). aps, anterior part of spermatheca; pps, posterior part of spermatheca.



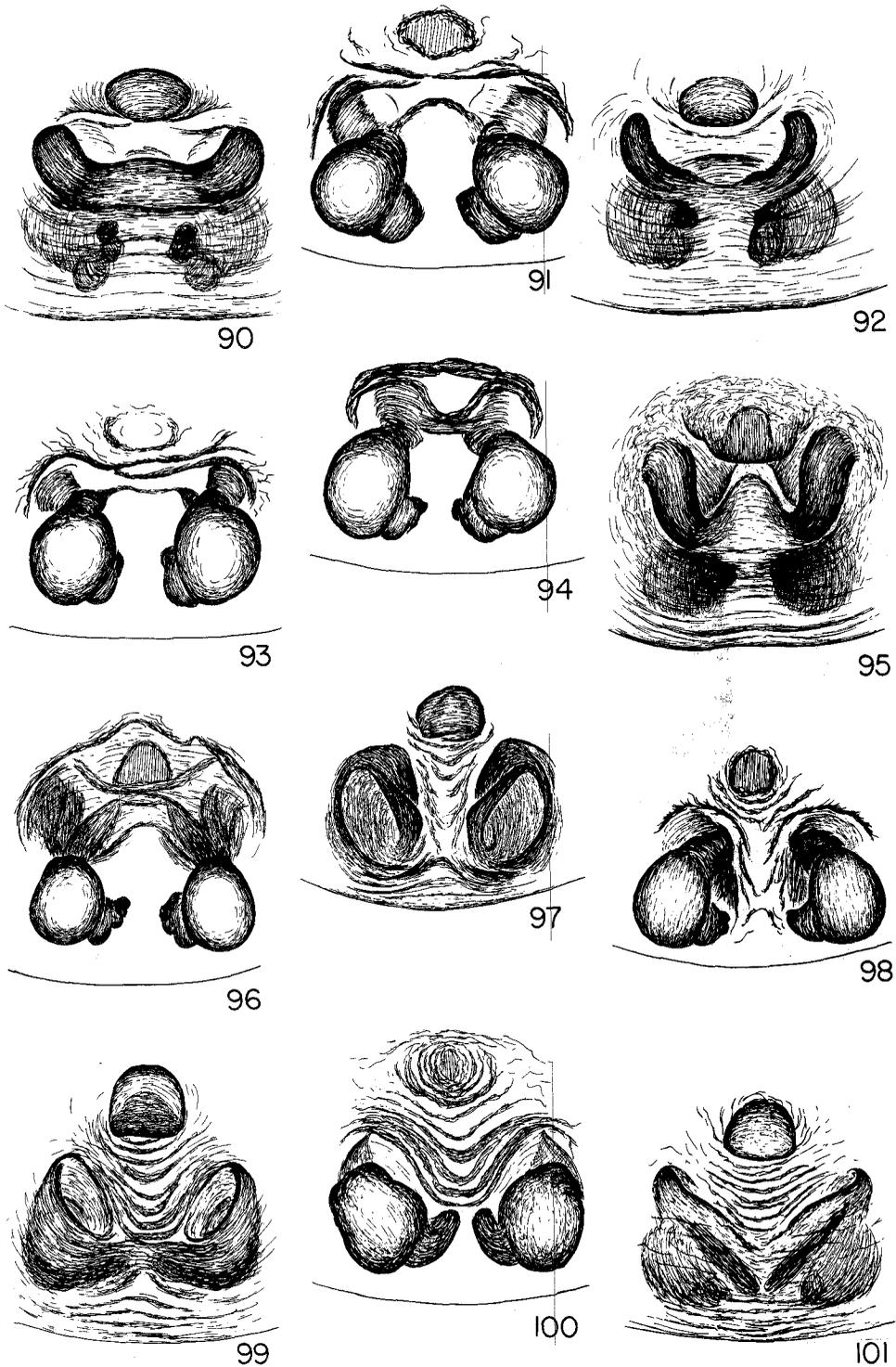
Figs. 54-65.—Epigyna and spermathecae of *Ozyptila* spp.: 54, *O. praticola* (C. L. Koch); 55-57, *O. gertschi* Kurata; 58-60, *O. conspurcata* Thorell; 61-63, *O. monroensis* Keyserling; 64, 65, *O. sincera canadensis* ssp. n.



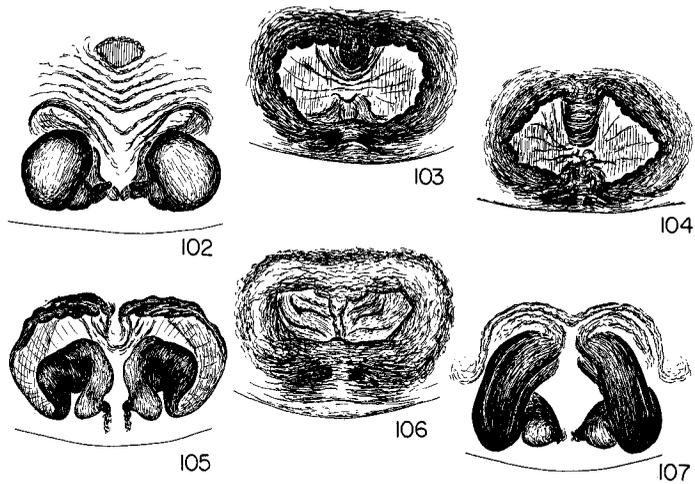
Figs. 66-77.—Epigyna and spermathecae of *Ozyptila* spp.: 66, *O. sincera canadensis* ssp. n.; 67-71, *O. sincera oraria* ssp. n.; 72, 73, *O. creola* Gertsch; 74-76, *O. distans* sp. n.; 77, *O. pacifica* Banks.



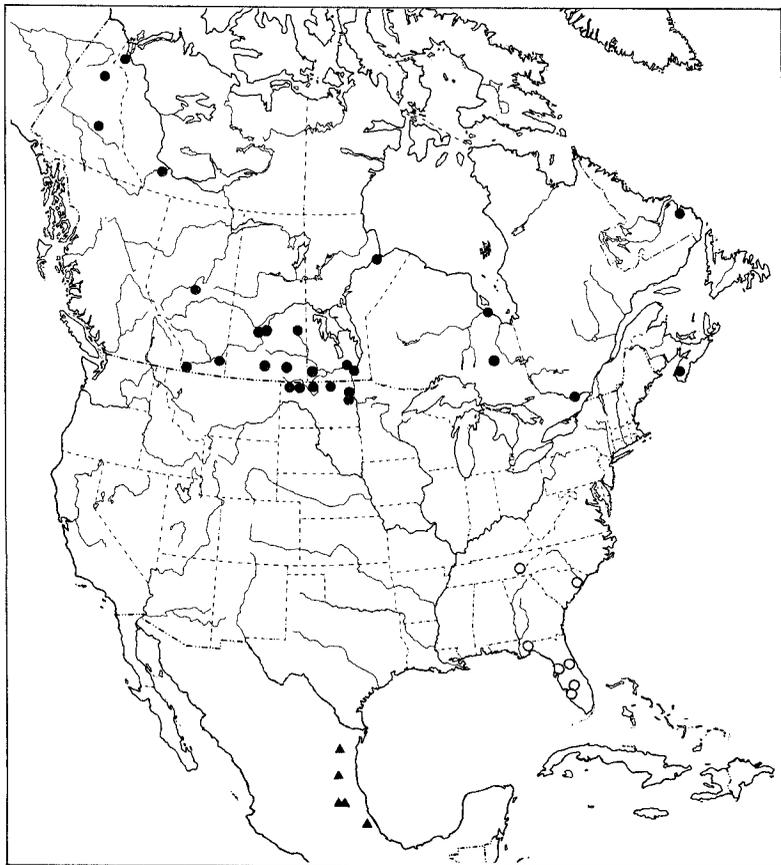
Figs. 78-89.—Epigyna and spermathecae of *Ozyptila* spp.: 78, 79, *O. pacifica* Banks; 80, 81, *O. inglesii* Schick; 82, 83, *O. trux* (Blackwall); 84-88, *O. beaufortensis* Strand; 89, *O. curvata* sp. n.



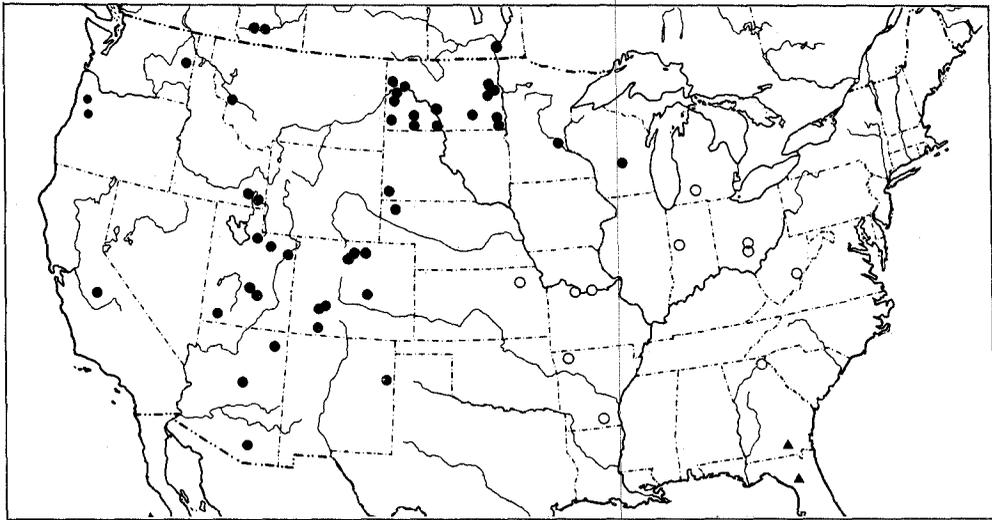
Figs. 90-101.—Epigyna and spermathecae of *Ozyptila* spp.: 90-94, *O. curvata* sp. n. (90-93, Manitoba and Minnesota, 94, Massachusetts); 95, 96, *O. americana* Banks; 97, 98, *O. formosa* Bryant; 99-101, *O. georgiana* Keyserling (99, 100, Ontario, 101, Connecticut).



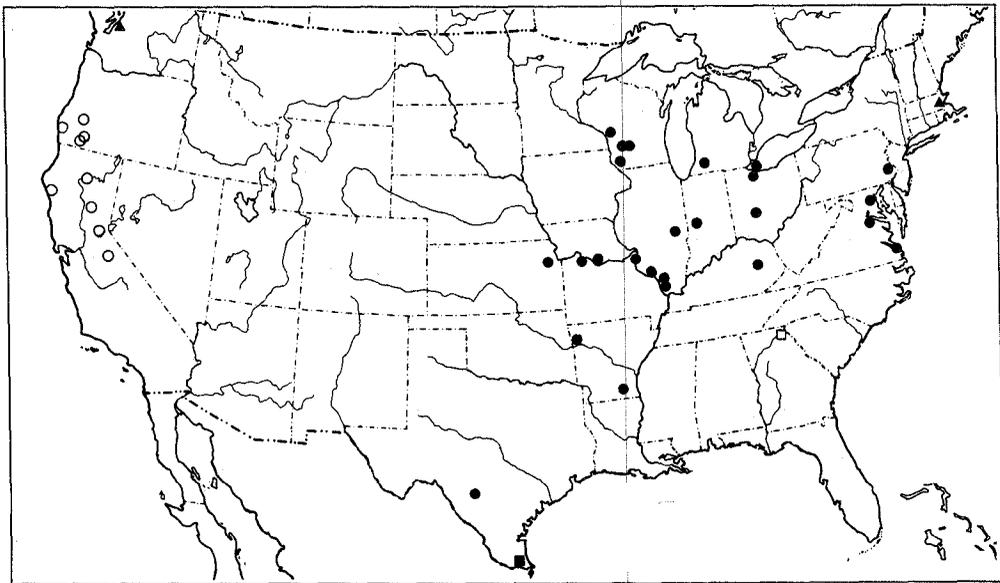
Figs. 102-107.—Epigyna and spermathecae of *Ozyptila* spp.: 102, *O. georgiana* Keyserling (Connecticut); 103-105, *O. septentrionalium* L. Koch; 106, 107, *O. yosemitica* Schick.



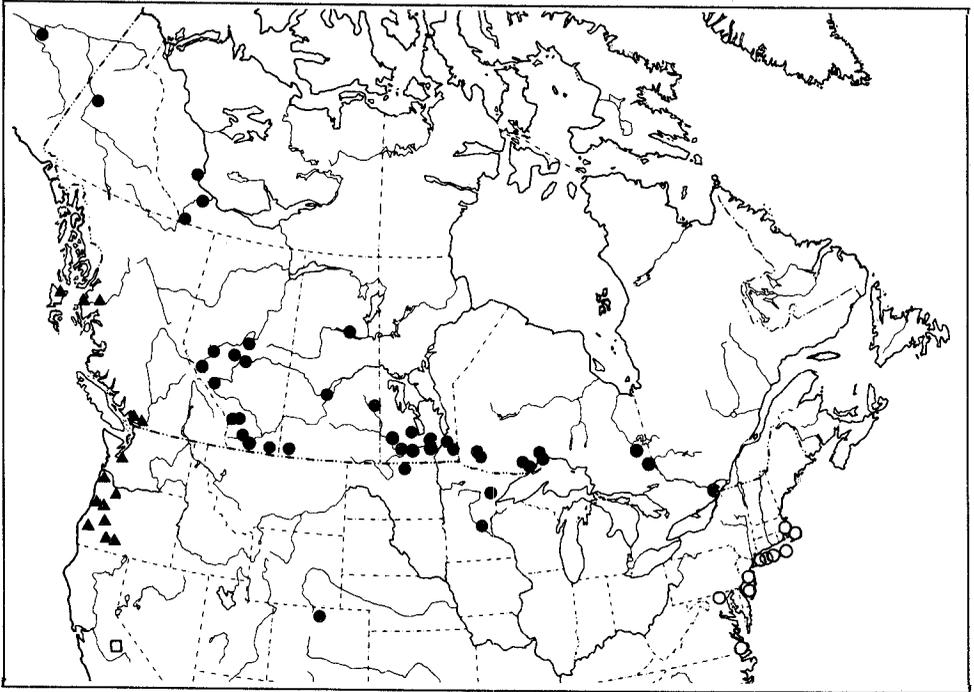
Map 1.—Collecting localities of *Ozyptila* spp.: Closed circles, *O. gertschi* Kurata; open circles, *O. floridana* Banks; triangles, *O. imitata* Gertsch.



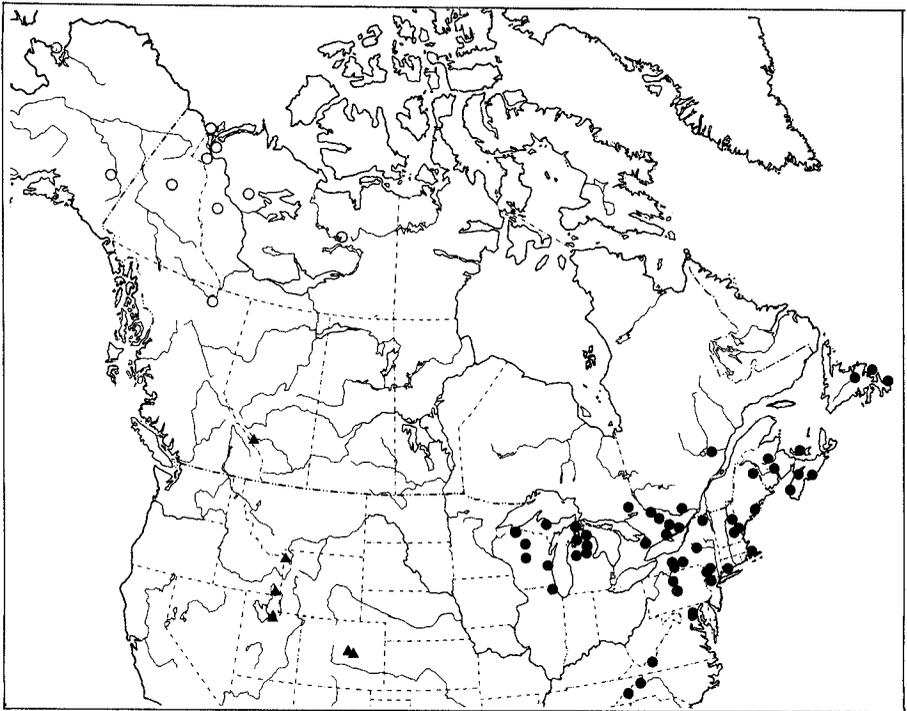
Map 2.—Collecting localities of *Ozyptila* spp.: Closed circles, *O. conspurcata* Thorell; open circles, *O. modesta* (Scheffer); triangles, *O. okefinokensis* Gertsch.



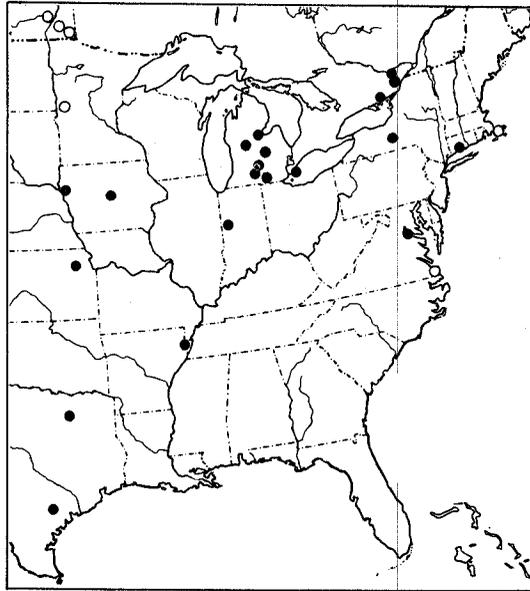
Map 3.—Collecting localities of *Ozyptila* spp.: Closed circles, *O. monroensis* Keyserling; open circles, *O. yosemitica* Schick; triangles, *O. praticola* (C. L. Koch); closed square, *O. hardyi* Gertsch; open square, *O. creola* Gertsch.



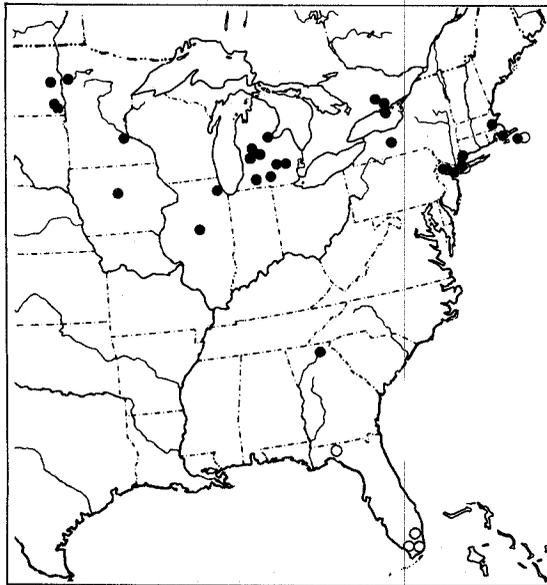
Map 4.—Collecting localities of *Ozyptila* spp.: Closed circles, *O. sincera canadensis* sp. n.; open circles, *O. sincera oraria* sp. n.; triangles, *O. pacifica* Banks; square, *O. inglesi* Schick.



Map 5.—Collecting localities of *Ozyptila* spp.: Closed circles, *O. distans* sp. n.; open circles, *O. septentrionalium* L. Koch; triangles, *O. beaufortensis* Strand.



Map 6.—Collecting localities of *Ozyptila* spp.: Closed circles, *O. americana* Banks; open circles, *O. curvata* sp. n.



Map 7.—Collecting localities of *Ozyptila* spp.: Closed circles, *O. georgiana* Keyserling; open circles, *O. formosa* Bryant.

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