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(THOMISIDAE, MISUMENINAE)
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INTRODUCTION

THE TYPICAL CRAB-SPIDERS of the subfamily Misumeninae are small, stout ambushers that lie in wait for prey and seize it with their robust front legs. With their very potent venom they quickly subdue, in addition to the many small and weak forms, even such large and dangerous insects as bumblebees, wasps, and predaceous flies. Most misumenids are phlegmatic vagrants that hide in flowers and on foliage, lurk on trees, fences, and houses, where their flattened bodies allow them to squeeze into cracks, and prowl around at deliberate pace under and over ground debris. Many are brightly colored in whites, yellows, and greens and often boldly spotted with red and black. Those genera considered in this paper include some brightly colored species that live on flowers and on grasses, but more generally their colors are dull grays, browns, and blacks in keeping with their ground habitats. A quite full résumé of the biology and systematics of these spiders can be found in my "A revision of the typical crab-spiders (Misumeninae) of America north of Mexico" (1939, Bull. Amer. Mus. Nat. Hist., vol. 76, pp. 277-442).

The subfamily Misumeninae comprises a very large segment of the Thomisidae fauna of the world, with 75 genera and 1062 of the 1600 known species (as listed by Mello-Leitao in 1929). Only nine genera and 86 species were enumerated in my revision of 1939 for the part of Nearctica under consideration, whereas 71 species were known from France alone and about 161 from the entire Palearctic region. The present paper is concerned only with the three genera listed below, but its scope has been enlarged to cover the entire continent of North America. Therefore, the following summary of the known fauna gives a more adequate comparison of the species representation in the two major subdivisions of the Holarctic region:

	PALE- ARCTICA	NEARCTICA	FRANCE
<i>Oxyptila</i>	40	19	17
<i>Xysticus</i>	79	68	32
<i>Coriarachne</i>	2	6	2
Total	121	93	51

At this point, it is of interest to mention

that representatives of two additional subfamilies of the Thomisidae are now known to occur within the borders of the United States. A single female of *Majella* (subfamily Aphantochilinae), representing a genus not heretofore known from north of Veracruz in Mexico, has been taken in the southern Rio Grande Valley of Texas. The subfamily Stephanopsinae is also represented by a few females of *Isaloides* from the Baboquivari and other mountains in southern Arizona. This latter subfamily has representatives in the West Indies and in tropical Mexico. The fourth and last subfamily known from north of the Mexican border is the Philodrominae, with about 65 described species.

One of the earliest papers on North American spiders, and seemingly the first in which Canadian spiders are mentioned, is largely unknown to arachnologists and heretofore has been omitted from catalogues and from the works of all American students of the group. It is a paper by J. G. Children entitled "Catalogue of Arachnida and insects, collected by Mr. King, surgeon and naturalist to the expedition" and is part of Appendix No. 3 (pp. 532-535) of a little-known book by Captain R. N. Back, "Narrative of the Arctic land expedition to the mouth of the Great Fish River and along the shores of the Arctic Ocean, in the years 1833, 1834, and 1835," published in 1836 by John Murray, Albemarle Street, London. The canoe expedition proceeded by inland waterways from Montreal to Lakes Huron and Superior and then to Lake Winnipeg, where the expedition is said to have its beginning. From there the members of the expedition proceeded to Fort Resolution on Great Slave Lake and then northward to the Great Fish River (now the Back River) which was followed in a northeasterly direction to its mouth in the Arctic Ocean near the Boothia Peninsula. The localities where the spiders were collected can be presumed to be somewhere along the route from Lake Winnipeg to the mouth of the Great Fish River.

Five species of spiders are mentioned by Children as follows:

- "1. *Dysdera erethryna*? Walck.
2. *Theridion Backii* (n. s.), Nob.

3. *Tetragnatha extensa* (var.) Walck.
4. *Thomisus borealis* (n. s.), Nob.
5. *Thomisus corona* (n. s.), Nob."

The *Dysdera* is undoubtedly *crocata* Koch, which is nearly cosmopolitan in distribution and the only species of the genus known to occur in North America. *Theridion backii* Children is most likely a *Titanoeca* or an *Asagena*, but its exact placement remains doubtful. *Tetragnatha extensa* Linnaeus is known to occur in the region of the expedition. *Thomisus borealis* Children may be a *Philodromus*, but its placement is doubtful. *Thomisus corona* Children is quite clearly the common Holarctic *Misumena vatia* Clerck (or *calycina* Linnaeus).

Since the publication of my revisional study of the Misumeninae in 1939 a wealth of new material has been accumulated in the collection of the American Museum and in other depositories in the United States and Canada. The desirability of providing a supplementary paper became clear when preliminary studies indicated that quite a number of undescribed species were represented, that synonymic and systematic changes were necessary, and that new and important distributional information was available. Much new material was available from such little collected areas as Alaska and scattered points in Arctic Canada. A further stimulus was the large collection of spiders from the Mexican plateau (specifically the states of Chihuahua, Coahuila, Durango, and Zacatecas) taken during the summer of 1947 on the David Rockefeller expedition to north central Mexico. This acquisition helped considerably to clarify the distributional picture in the area between the rather well-known border states of the United States and the southern, somewhat better known areas of Mexico. The present paper is thus intended as a supplement to the revision of 1939 and gives a full résumé of the fauna, in the genera concerned, for the area in North America south of the United States.

Inasmuch as this paper is not meant to supplant the 1939 revision, the following plan was adopted for the presentation of the new data. All the known species from North America are listed with their complete synonymy and essential bibliography. Com-

plete bibliographic information is given for all papers published since 1939. The type locality, the depositories of the type specimens, and a general statement of the distribution are given for every species. Following this is the summary of the new locality data, arranged by the state, province, or major political division, with whatever additional information is available on the number and sex of specimens, dates of capture, and the collectors. Most of these records are published here for the first time, but under these headings of New Localities is included locality information from papers published since the 1939 revision, in which cases credit is given to the author of the paper. In some instances the entire known distributional data are given.

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I take this opportunity to acknowledge with my sincere thanks the splendid cooperation of the following individuals and institutions in making available desirable study material and for many other favors: Miss E. B. Bryant and Dr. Joseph Bequaert of the Museum of Comparative Zoölogy, Cambridge, Massachusetts; Dr. Ralph V. Chamberlin of the University of Utah, Salt Lake City, Utah; Dr. Edwin Chapin of the United States National Museum, Washington, D. C.; Mr. T. B. Kurata of the Royal Ontario Museum, Toronto, Ontario; Dr. George P. Holland of the Division of Entomology, Department of Agriculture, Ottawa, Ontario; Dr. H. K. Wallace, University of Florida, Gainesville, Florida; Dr. Harriet E. Frizzell, Rolla, Missouri; Dr. Herbert Levi, University of Wisconsin, Wausau, Wisconsin; Dr. Donald Lowrie, University of Idaho, Moscow, Idaho; Dr. Walter Hackman of the Museum Zoologicum Universitatis, Helsinki, Finland; Dr. Hermann Wiehle of Dessau, Germany; Dr. Helmuth Wagner, Bremen, Germany; Dr. F. Bonet and Dr. C. Bolivar Peltain, both of the Escuela Nacional de Ciencias Biológicas, Mexico, D. F.; Dr. and Mrs. Clarence Goodnight, Purdue University, Lafayette, Indiana; and to the host of collectors who have been instrumental in assembling so much important study material. To Dr. George P. Holland and my good friend and colleague Mr. T. B. Kurata I am

indebted for the privilege of studying many specimens from distant points in Arctic Canada.

My especial thanks go to Dr. David Rockefeller who sponsored the expedition into the plateau country of northwestern Mexico (for a general account of which see Herman T. Spieth, 1950, "The David Rockefeller Mexican Expedition of the American Museum

of Natural History, Introductory account," Amer. Mus. Novitates, no. 1454), and from which area has come the principal portion of the Mexican material herein described and listed.

Finally, I acknowledge with my sincere thanks the important aid of Miss Marjorie Statham who prepared the illustrations from pencil sketches furnished by the author.

SYSTEMATIC ACCOUNT

GENUS *XYSTICUS* C. L. KOCH

Xysticus C. L. KOCH, 1835, in Herrich-Schaffer, Deutschlands Insecten, no. 129, pp. 16, 17.

Spiracme MENGE, 1876, Schr. Naturf. Gesellsch. Danzig, vol. 3, p. 446.

Psammitis MENGE, 1876, Schr. Naturf. Gesellsch. Danzig, vol. 3, p. 448.

Proxysticus DALMAS, 1922, Ann. Mus. Civ. Genova, vol. 50, p. 90.

The carapace is of average height for the subfamily, about as broad as long or slightly longer than broad, and weakly convex above. The hairs and spines may be setaceous, filiform, clavate, or even occasionally spatulate. The clypeus is of moderate height, varying from one and one-half to two diameters of an anterior median eye. The eyes of the first row are in a recurved line, and the median eyes are usually much nearer the lateral eyes. The second eye row is moderately recurved, the eyes being equidistantly spaced or the median nearer each other. The median ocular quadrangle typically is broader than long, but occasionally it is as long as broad or somewhat longer than broad, and usually slightly narrower in front. The legs are strongly spinose, and the front tibiae always bear apical spines.

This is a large, quite uniform genus with about 250 known species from the entire world. The great majority of these occur in the temperate and boreal regions of the Northern Hemisphere. The tropical representation is very meager, with only a few authentic species from high mountains or arid sections. One species is known from Mt. Kilimanjaro in Tanganyika, one from Kenya, and several from subtropical and arid north Africa and adjacent Asia. A single species from New Zealand and about a dozen from Australia have been reported, but these and others from tropical areas are little known and are possibly to be assigned to other genera.

About 70 species are found in North America. Only one of these (*Xysticus laticeps* Bryant, which is also known from the southeastern United States) has penetrated into Cuba, and there are relatively few records from tropical Mexico and Central America. Chickering cites only a single, doubtful

Xysticus from the Canal Zone of Panama, a region that has been quite thoroughly collected. Of the four species so far reported from South America, one [*Xysticus* (*Wechselia*) *steinbachi* Dahl] is from Salta, Argentina, two are from Colombia (*Xysticus gracilis* Keyserling and *X. pulcherrimus* Keyserling), and the last (*Xysticus silvestrii* Simon) is from Santa Cruz, Patagonia. Neither of the Colombian species was listed by Mello-Leitao in his "Catalogo das Aranhas da Colombia" (1941, An. Acad. Brasileira Cien., vol. 13, pp. 294-295). However, most of the then known species for the world were listed by this same author in his earlier work on the "Aphantochilidas e Thomisidas do Brasil" (Mello-Leitao, 1929, Arch. Mus. Nac., Brazil, vol. 31, pp. 315-319).

Only one of the North American species occurs in the Palearctic region; *Xysticus labradorensis* Keyserling has been recorded from northern Sweden. However, other northern Nearctic species undoubtedly will be found living in Siberia when that area is better known. The Nearctic species belong for the most part to the same species groups as those of the Palearctic region. Some are closely allied but seemingly fulfill all requirements of specificity, even though a common origin seems clear. Not one American species can be regarded as being only subspecifically distinct from its Palearctic congener. On the other hand, some of the species groups (notably the *ferox* group and the *concursum* group) seem to be almost entirely, if not exclusively, Sonoran in distribution.

The genus *Xysticus* can be divided into two principal, seemingly natural, series by the following key:

- Bulb of the male palpus armed with one or two apophyses; epigynum typically presenting a more or less distinct median septum of variable form within a well-developed atrium, or with a transverse plate emarginated in front, or only rarely without a septum (*lassanus*) Subgenus *Xysticus*
- Bulb of the male palpus without apophyses; epigynum without a median septum, or with a median lobe or elevation of variable form, in which case the marginal rim of the epigynum is obsolete Subgenus *Spiracme*

SUBGENUS **XYSTICUS**

The presence of one or two apophyses on the bulb of the male palpus distinguishes all members of this subgenus. Correlated with these chitinous spurs, which presumably perform as orienting fingers during mating, is the presence on the female epigynum of a more or less prominent and elevated median septum. In addition, the epigynum in this series is typically provided with a delimiting rim or margin. In one complex of males (*cunctator* group) we can see the progressive reduction in size and final obliteration of the median apophysis of the bulb.

This subgenus is conveniently divided into three groups on the basis of the male genitalia:

1. Embolus without a conspicuous apical sclerite 2
 Embolus with a well-developed apical sclerite
 (except *furtivus*); median apophysis much
 smaller than the distal one or obsolete . . .
 Group C, *cunctator* group
2. Bulb with two subequal, discrete apophyses;
 tibia without an intermediate spur
 Group A, *viaticus* group
- Bulbal apophyses broadly joined at base; tibia
 with an intermediate spur (except *lutzi*) . .
 Group B, *concurus* group

GROUP A

This large series includes the relatively uniform and typical members of the genus in which the bulbal apophyses of the male palpus (assigned to the median and distal elements of the bulb and correspondingly named median apophysis and distal apophysis) are essentially equal in size. The 43 North American species represent about 60 per cent of the total fauna in *Xysticus*. Of these, 16 are described as new in the present paper, seven are from Mexico, and nine from the United States and Canada. In addition, the male of *Xysticus britcheri* Gertsch is described and illustrated for the first time, and the female of *Xysticus lassanus* Chamberlin (previously assigned to *X. coloradensis* Bryant) is properly associated with the male. The most important new synonymy is the identification of the species heretofore well known as *ontariensis* with *Xysticus pallax* O. P. Cambridge, originally described from Amula, Guerrero, and the assignment of Banks's

fissilis from Baja California to the same species. All the known species in this series have been studied except for two from Baja California (*Xysticus apertus* Banks and *X. curtus* Banks), which are inadequately described, and the types have been lost.

The center of distribution of this group is the middle temperate zone of Nearctica. None of the species occurs in Greenland or on the northern Canadian islands of the district of Franklin. However, several of them (notably *britcheri*, *canadensis*, *elegans*, and *emertoni*) press far northward and may live on the continental tundra. A few species are Canadian (*canadensis* and *britcheri*) and little known in the United States, whereas many are restricted to the southern United States. A single species reaches Cuba (*laticeps*), but several occur southward in southern Mexico (*pallax* in Veracruz and *auctificus* and *wagneri* in Chiapas).

Xysticus pallax O. P. Cambridge

Figures 1, 2

Xysticus pallax O. P. CAMBRIDGE, 1894, Biologia Centrali-Americana, Araneida, vol. 1, p. 138, pl. 17, fig. 14; 1900, *op. cit.*, vol. 2, p. 147, pl. 10, figs. 11-12. FRANGANILLO, 1935, Estudios de Belen, no. 29, p. 31. CHAMBERLIN AND IVIE, 1936, Bull. Univ. Utah, biol. ser., vol. 3, no. 5, p. 4. FRANGANILLO, 1936, Los Aracnidos de Cuba, Habana, p. 112 (*Xistitus pallax*).

Xysticus fissilis BANKS, 1898, Proc. California Acad. Sci., ser. 2, vol. 1, p. 258, pl. 16, fig. 5.

Xysticus ontariensis EMERTON, 1919, Canadian Ent., vol. 51, p. 108, fig. 16. GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 355, fig. 164. MUMA, 1945, Bull. Maryland Agr. Exp. Sta., no. A38 (Tech.), p. 50. PROCTER, 1946, Biological survey of the Mount Desert region, pt. 7, p. 527. KASTON, 1948, Bull. Connecticut Geol. Nat. Hist. Surv., vol. 70, p. 423, fig. 1550.

TYPE LOCALITIES: Of *pallax*, Amula, Guerrero, male type in the British Museum (Natural History); of *fissilis*, Tepic, Nayarit, two male cotypes in the Museum of Comparative Zoölogy; of *ontariensis*, Cloyne, Ontario, male type in the Museum of Comparative Zoölogy.

DISTRIBUTION: Eastern United States and Canada (Nova Scotia and Ontario) west to Idaho and Utah, Baja California and Mexico (Veracruz). Franganillo's Cuban record is probably spurious.

OTHER LOCALITIES: *Nova Scotia*: Berwick, September 15, 1947, one female (F. T. Lord). *Ontario*: Point Pelee, July 15, 1938, two males (T. Kurata). *Maine*: Mt. Desert Island, one male (Procter, 1946); Indian Point, Mt. Desert Island, September 26, 1937, one female (W. Procter). *Connecticut*: Bethany, Mt. Carmel, North Haven, Sharon, South Meriden, Storrs, Watertown (Kaston, 1948). *Maryland*: Prince Georges County, Montgomery (Muma, 1945). *Texas*: Seven miles south of Marathon, September 27, 1950, one male (W. J. Gertsch); 20 miles north of Fort Davis, September 26, 1950, one female (W. J. Gertsch); Livingston, October 3, 1950, one male (W. J. Gertsch). *North Dakota*: Willow City, Bottineau County, August 21, 1949, one female (C. and P. Vaurie). *Idaho*: Rexburg, June 23, 1935, one female (C. F. Smith). *Utah*: Kearns, October 29–31, 1944, one female (B. Malkin). *Arizona*: Florida Canyon, Patagonia Mountains, September 6, 1950, one male (W. J. Gertsch); 10 miles north of Bisbee, Mule Mountains, September 7, 1950, male (W. J. Gertsch); Tucson, September, 1940, male (R. H. Crandall). *New Mexico*: Agua Chiquita, August 7, 1935, female (S. Mulaik). *Guerrero*: No specific locality (Chamberlin and Ivie, 1936). *Veracruz*: La Buena Ventura, July, 1909, one male (A. Petrunkevitch). *Cuba*: Camagüey, male (Franganillo, 1935, 1936).

***Xysticus gulosus* Keyserling**

Xysticus gulosus KEYSERLING, 1880, Die Spinnen Amerikas, Laterigradae, vol. 1, pp. 43–45, pl. 1, fig. 21. PROCTER, 1938, Biological survey of the Mount Desert region, pt. 6, p. 459; 1946, *op. cit.*, pt. 7, p. 527. GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 353, figs. 140, 141, 165. KURATA, 1939, Canadian Field Nat., vol. 53, p. 82. CHICKERING, 1940, Papers Michigan Acad. Sci., vol. 25, p. 214, figs. 46–48. CHAMBERLIN AND IVIE, 1941, Bull. Univ. Utah, biol. ser., vol. 6, no. 3, p. 19. TRUMAN, 1942, Proc. Pennsylvania Acad. Sci., vol. 16, p. 28; 1942, Bull. Univ. Pittsburg, vol. 38, p. 4. LOWRIE, 1942, Bull. Chicago Acad. Sci., vol. 6, p. 169. CHAMBERLIN AND IVIE, 1944, Bull. Univ. Utah, biol. ser., vol. 8, no. 5, p. 168. MUMA, 1945, Bull. Maryland Agr. Exp. Sta., no. A38 (Tech.), p. 50. KASTON, 1948, Bull. Connecticut Geol. Nat. Hist. Surv., vol. 70, p. 422, figs. 1529, 1549.

Xysticus lentus BANKS, 1892, Proc. Acad. Nat. Sci. Philadelphia, p. 55, pl. 2, fig. 67.

TYPE LOCALITIES: Of *gulosus*, Georgia, female type in the Muséum National d'Histoire Naturelle, Paris; of *lentus*, near Ithaca, New York, cotypes in the Museum of Comparative Zoölogy.

DISTRIBUTION: Most of the United States and southern Canada (Nova Scotia to British Columbia), southward into Alabama and Georgia in the east and into Texas and northern Mexico (Chihuahua and Durango) in the west.

NEW LOCALITIES: *Ontario*: Toronto (Kurata, 1939); Whetstley, September 25, 1938, one female (R. Tilden); Highland Creek, September 7, 1941, three males, three females (T. Kurata); Beamsville, October 10, 1944, two females (H. R. Boyce); Newburgh, September, 1944, two females (H. B. Herrington). *British Columbia*: Cawston, Yale, March–June, 1920, one female (R. S. Metcalf); Keremeas, July 21, 1928, one female (T. Kurata). *Maine*: Mt. Desert region (Procter, 1938, 1946). *Connecticut*: Numerous records cited from the state (Kaston, 1948). *New York*: Canton, August 29–September 9, 1943, one male. *Pennsylvania*: Western portion of state (Truman, 1942); Presque Isle, Erie (Truman, 1942). *Maryland*: Reported from four counties (Muma, 1945). *Virginia*: Mary's Rock, Shenandoah National Park, 2500–3300 feet, October 5, 1943, one male (B. Malkin); Luray, October 6–7, 1943, one male (B. Malkin). *Indiana*: Dune Acres (Lowrie, 1942). *Illinois*: Waukegan flats, Kankakee dunes (Lowrie, 1942). *Michigan*: "Several localities in both peninsulas," males and females (Chickering, 1939). *Wisconsin*: Madison, fall, 1947, one female (H. W. Levi). *Missouri*: St. Louis County, October 1, 1940, two males (W. Gordon). *Idaho*: Hagerman, June 22, 1947, one female (B. Malkin). *California*: Silver Lake, Los Angeles, November 20, 1929, two females. *Oregon*: Ukiah, Umatilla County, October 26, 1947, one female (V. E. Thatcher); Corvallis, September 5, March 2, 1947, male, immature female (V. Roth). *Washington*: Grand Coulee, June 19–24, 1950, one female (B. Malkin). *Chihuahua*: Catarinas, July 25, 1947, one subadult female (W. J. Gertsch); Primavera, 5500–6000 feet, June 29, 1947, one immature (W. J. Gertsch). *Durango*: Ten miles east of El Salto, August

8, 1947, one female, two subadult females (W. J. Gertsch).

Xysticus apachecus Gertsch

Xysticus apachecus GERTSCH, 1933, Amer. Mus. Novitates, no. 593, p. 22, fig. 24; 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 356, figs. 144, 145, 174.

TYPE LOCALITY: Blanding, Utah, April 17, 1928, female holotype in the University of Utah.

DISTRIBUTION: Southwestern United States, east into Texas (Austin).

NEW LOCALITIES: *Texas*: Austin, April 8, 1948, one female (H. E. Frizzell). *Utah*: Two miles east of Glenwood, Sevier County, June 30, 1940, one female (Gertsch and Hook). *Colorado*: Ward, September 17, 1931, one female; Durango, July 22, 1941, one female (C. and M. Goodnight). *Arizona*: Hualpai Mountain, July 4, 1937, one subadult female (D. J. and J. N. Knull); Santa Catalina Mountains, May 20, 1940, one female (O. Bryant); Santa Catalina Mountains, April 12, 1936, one male, two females (O. Bryant); Pinecrest, Graham Mountain, September 13, 1950, three males, two females (W. J. Gertsch); Carr Canyon, 7500 feet, Huachuca Mountains, July 31, 1949, two females (W. J. and J. W. Gertsch); 10 miles north of Jacob Lake, June 26, 1947, one female, two immatures (B. Malkin); north rim of Grand Canyon, July 5-7, 1940, one female (Gertsch and Hook); Bear Wallow, Santa Catalina Mountains, July 13, 1916, one immature female (F. E. Lutz); Huachuca Mountains, 8000 feet, one male (O. Bryant).

Xysticus locuples Keyserling

Figure 6

Xysticus locuples KEYSERLING, 1880, Die Spinnen Amerikas, Laterigradae, vol. 1, pp. 24-25, pl. 1, fig. 9. GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 357, figs. 142-143.

TYPE LOCALITY: Colorado, male and female cotypes in the Muséum National d'Histoire Naturelle, Paris.

DISTRIBUTION: Western United States and Canada from New Mexico and Colorado to California and northern Mexico (Chihuahua), north into Montana, Oregon, and British Columbia. This species is rare in the Pacific

Northwest, where it is largely replaced by *Xysticus malkini*, new species, a near relative. Many of the published records of *locuples* from this area should be referred to *malkini*.

NEW LOCALITIES: *British Columbia*: Wellington, Vancouver Island, July 1-25, 1950, one female (R. Guppy); Cultus, July 24, 1928, one female (T. B. Kurata); Departure Bay, Vancouver Island, August, 1913, one male, seven females (T. B. Kurata). *Utah*: Brigham City, May 18, 1935, one male (G. F. Knowlton and C. F. Smith). *Colorado*: Fort Collins, 6700 feet, July 28, 1946, one female (C. C. Hoff). *Arizona*: Beaver Creek, 7600 feet, Greenlee County, July 16, 1938, one female (F. F. Jacot); Santa Rita Mountains, May, one female (O. Bryant); Ramsay Canyon, Huachuca Mountains, July 10-15, 1941, one female (A. B. Klots); Garden Canyon, Huachuca Mountains, July 10, 1950, one female (W. S. Creighton); South Fork Cave Creek, Chiricahua Mountains, September 11, 1950, two females (W. J. Gertsch); Santa Rita Mountains, May, 1936, one female (O. Bryant); north rim of Grand Canyon, July 5-7, 1940, two females (Gertsch and Hook). *New Mexico*: Jemez Springs, July 15, 1950, one female (M. Cazier); Sulphur Dam, Jemez Canyon, July 17, 1950, two females (M. Cazier). *California*: Glendale, mixed chaparral, July 17, 1944, one female (V. Shelford); Indian Canyon, San Diego County, May 25, 1948, one female (W. Pearce). *Wyoming*: Garnett Canyon, Grand Teton National Park, July 24, 1950, one female (D. C. Lowrie). *Oregon*: Sisters, Deschute County, July 31, 1950, one female (B. Malkin). *Chihuahua*: Cañon Prieto, near Primavera, June 30, 1947, one female (W. J. Gertsch). *Baja California*: Meling's Ranch, 1800 feet, Sierra San Pedro Martir, May 24, 1952, one male (W. S. Creighton).

Xysticus malkini, new species

Figures 8, 9

FEMALE: Total length, 8.35 mm.

Carapace bright reddish or orange-brown on the sides, medially with a paler stripe nearly as wide as the eye group in front, narrowed to half that width at the edge of the posterior declivity which has a blackish

patch on each side. Sternum orange-brown, flecked with white, the labium, maxillae, and coxae more uniform orange-brown. Legs bright orange-brown, but the patellae paler, all segments flecked with white or yellow. Abdomen orange-brown, the dorsum with a more or less distinct pattern of narrow white chevrons margined with dusty, the venter with some white spots.

Structure typical, in very close agreement with that of *Xysticus locuples* and related species. Carapace (3.15 mm. long, 2.95 mm. wide) typical, the pars cephalica at the second eye row two-thirds of the greatest width, the clothing fine filiform hairs, suberect short spines, and with nine principal spines on the clypeal margin. Anterior median eyes separated by more than two diameters (16/41), half as far from the lateral eyes. Second row recurved, the median separated by more than two diameters (16/42), a little farther from the laterals (16/46). Median ocular quadrangle broader than long (76/60), as broad in front as behind, the eyes subequal. Clypeus equal in height to two diameters of an anterior median eye.

First leg: femur, 2.80 mm.; patella, 1.65 mm.; tibia, 2.00 mm.; metatarsus, 1.70 mm.; and tarsus, 1.15 mm. Tibia and patella of fourth leg 2.50 mm. long. Spines of first leg: femur, prolateral 3, dorsal 1; tibia, prolateral and retrolateral 1, ventral 2-2-2-2; metatarsus, prolateral and retrolateral 1-1-1, ventral 2-2-2-2-2.

Abdomen typical (5.10 mm. long, 4.75 mm. wide), clothed with rows of fine setaceous and somewhat longer filiform spines.

Epigynum as illustrated in figure 8.

MALE: Total length, 4.75 mm.

Coloration as in the female but a bit darker, the median stripe of the carapace more suffused with orange-brown, leaving a conspicuous Y-shaped whitish marking and the all white eye region. Dorsum of abdomen with more conspicuous white pattern of chevrons and white basal area.

Structure typical, very near that of *locuples* and *gosiutus*. Carapace (2.30 mm. long, 2.25 mm. wide) typical, the clypeal margin with nine long setaceous spines. Anterior median eyes separated by two diameters, about a diameter from the lateral eyes. Posterior median eye separated by two

diameters, a little farther (30/36) from the lateral eyes. Median ocular quadrangle broader than long (52/47), as wide in front as behind, the eyes subequal.

First leg: femur, 2.65 mm.; patella, 1.20 mm.; tibia, 2.15 mm.; metatarsus, 2.05 mm.; and tarsus, 1.18 mm. Tibia and patella of fourth leg 2.10 mm. long. Spines of first leg: femur, prolateral 6 or 7, dorsal 3 or 4; tibia, prolateral and retrolateral 1-1-1, ventral 4 pairs; metatarsus like tibia but the distal prolateral and retrolateral are apical in position.

Abdomen typical (2.80 mm. long, 2.25 mm. wide), clothed with rows of fine setaceous spines and fewer filiform spines.

Palpus as illustrated in figure 9.

TYPE LOCALITY: Male holotype from Clackamas, Clackamas County, Oregon, June 25, 1942 (B. Malkin).

OTHER LOCALITIES: All the following specimens have been labeled as paratypes: *British Columbia*: Wellington, Vancouver Island, June 10, 1949, one male (R. Guppy). *California*: Manzanita Lake, Lassen National Park, 5800 feet, October 1, 1944, one female (B. Malkin); Peavine, Sierra County, June 18, 1940, one male, one immature (W. Pearce); south fork of Bishop Creek, Inyo County, 10,000–11,000 feet, August 1, 1941, one female (W. Pearce); Dickson Flat, northeastern Shasta County, July 21, 1941, one female (W. Pearce); Bartle, Siskiyou County, July 21, June 18, 1941, three females (W. Pearce). *Oregon*: Eugene, Lane County, May, 1947, two females, July 1–13, 1941, one male (B. Malkin); Cascadia, May 24, 1947, one female, allotype (V. Roth); 5 miles southeast of Richmond, June 27, 1935, two males (J. Schuh); Cave City, Josephine County, May 17, 1947, one male (B. Malkin); 8 miles north of Belknap Springs, Lane County, 2000 feet, May, 1947, one female (B. Malkin and I. Newell); Sisters, Deschute County, July 31, 1950, one female (B. Malkin). *Washington*: Mt. Ranier, 6000–7000 feet, July 1, 1934, one male (O. Bryant); Olympia, one female (N. Banks collection).

This species has been confused with *Xysticus locuples* Keyserling which is seemingly very rare in the Pacific Northwest. *Xysticus malkini* is bright reddish or orange-brown, whereas *locuples* is pale yellowish

brown with conspicuous blackish markings. The genitalia are very similar, but the ventral branch of the tulaculum is shorter in *malkini* and the epigynal atrium is less expansive. The palpus of *locuples* is illustrated in figure 6.

***Xysticus gosiutus* Gertsch**

Xysticus gosiutus GERTSCH, 1933, Amer. Mus. Novitates, no. 593, p. 20, figs. 17, 21; 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 358, figs. 146, 147, 170. CHAMBERLIN AND IVIE, 1941, Bull. Univ. Utah, biol. ser., vol. 6, no. 3, p. 19.

TYPE LOCALITY: Little Cottonwood Canyon, near Salt Lake City, Utah, male holotype in the University of Utah.

DISTRIBUTION: Western United States and Canada from northern Utah to California and British Columbia.

OTHER LOCALITIES: *Ontario*: Nipigon, June 8, 1913, one female possibly this species (T. B. Kurata). *British Columbia*: Wellington, Vancouver Island, May 24, 1949, one male (R. Guppy); Departure Bay, Vancouver Island, August, 1913, one male (T. B. Kurata); Cawston, Yale, March-June, 1920, three females (W. Metcalf). *California*: Echo Lake, July, 1934, two males, one female (Chamberlin and Ivie, 1941); Carrville, July, 1934, one female (Chamberlin and Ivie, 1941); Sonoma County, June, 1928, one male (Dietz); Pine Crest, Tuolumne County, June 29, 1946, one female (W. Pearce); Mammoth Lakes, Mono County, August 18, 1941, one female (W. Pearce). *Oregon*: Corvallis, May 7, 1947, one female (V. Roth); Damascus, Clackamas County, July 9, 1942, one male (B. Malkin); Eugene, June 27, 1941, one male (B. Malkin); Eugene, February 20, 1942, one female, subadult male (B. Malkin); Oakridge, Lane County, June 6, 1946, one female (B. Malkin); Spencer's Butte, Eugene, Lane County, March 29, 1942, one female (B. Malkin and J. Sadler); Lake of the Woods, 5000 feet, July 1-4, 1934, one female (F. Lawrence); 5 miles southeast of Richmond, June 27, 1935, one male (J. Schuh).

***Xysticus wagneri*, new species**

Figures 21, 22

MALE: Total length, 4.10 mm.

Carapace dark brown on the sides, with a

median yellowish stripe largely suffused with brown in front. Sternum yellowish, the coxae and legs pale yellowish brown in base color, but the femora, patellae, and tibiae overlain with dusky brown. Abdomen dusky brown, with indistinct whitish markings.

Structure typical, in close agreement with that of *Xysticus locuples* and related species. Carapace (2.20 mm. long, 2.10 mm. wide) typical, the pars cephalica of average width, clothed with fine setae and erect setaceous spines, the clypeus with seven principal spines on the margin. Anterior median eyes separated by less than two diameters (14/26), a diameter from the larger lateral eyes. Second row recurved, the median separated by two diameters (13/28), farther from the larger lateral eyes (13/34). Median ocular quadrangle broader than long (29/25), narrowed in front in the same ratio. Clypeus equal in height to more than a full diameter of the anterior median eye (14/20).

First leg: femur, 2.45 mm.; patella, 1.10 mm.; tibia, 2.10 mm.; metatarsus, 2.10 mm.; and tarsus, 0.94 mm. Tibia and patella of the fourth leg 1.70 mm. long. Spines of first leg: femur, prolateral 4, dorsal 5; tibia, prolateral and retrolateral 1-1-1, ventral 4 pairs; metatarsus, prolateral 2, retrolateral 1, ventral 3 pairs.

Palpus as illustrated in figures 21 and 22.

Abdomen (2.35 mm. long, 2.05 mm. wide) oval, typical, clothed with fine setae and erect setaceous spines.

TYPE LOCALITY: Male holotype from San Cristobal, Chiapas, September 13, 1947 (H. Wagner).

This interesting species, so distinct in the details of the bulbal apophyses, is named for Dr. Helmuth Wagner, formerly of Mexico City and now Director of the Bremen Museum in Bremen, Germany.

***Xysticus canadensis* Gertsch**

Figure 13

Oxyptila cinerea EMERTON, 1892, Trans. Connecticut Acad. Arts Sci., vol. 8, p. 366, pl. 29, fig. 6 (not *X. cinereus* C. L. Koch, 1837).

Xysticus canadensis GERTSCH, 1934, Amer. Mus. Novitates, no. 707, p. 5 (new name for *cinerea* Emerton); 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 359, figs. 148, 149, 173.

Xysticus discursans CHICKERING, 1940, Papers

Michigan Acad. Sci., vol. 25, pp. 206–207 (part; incorrect synonymy of *cinerea* and *canadensis*).

TYPE LOCALITY: White Mountains, New Hampshire, male type in the Museum of Comparative Zoölogy.

DISTRIBUTION: Canada from Labrador to British Columbia and Yukon and New Hampshire (White Mountains).

KNOWN LOCALITIES: *Mackenzie*: Sawmill Bay, June 18, 1948, one immature female (D. F. Hardwick). *Labrador*: Battle Harbor, August 4, 1912, one female (Leng). *Ontario*: Kingston, September 28, 1937, one immature (T. B. Kurata); Favourable Lake Mine, latitude 53° N., one male (G. M. Neal); Fort Severn, July 4, 1940, three immature (L. Prince); Mindemoya, Manitoulin Island, June 28, 1939, one male (T. B. Kurata); Franks Bay, Lake Nipissing, July 27, 1931, one female (T. B. Kurata); Nipigon, August 12, 1948, one female, two immature (W. J. Gertsch and T. B. Kurata); Fort Albany, June 10, 1942, one female (F. A. Urquhart). *Manitoba*: The Pas, July 10, 1931, three females (T. B. Kurata). *Alberta*: Edmonton, in a bog forest, one male. *British Columbia*: Takla Landing, summer, 1939, one male (V. Aiken). *Yukon*: Whitehorse, July 1–12, 1948, two females, one immature. *New Hampshire*: White Mountains, one male (Emerton, 1892); White Mountains, June 3, 1918, one male.

In "The Thomisidae of Michigan" Chickering (1940, p. 207) states that "Miss Bryant kindly called my attention to the fact that *Oxyptila cinerea* Emerton is a synonym of *X. discursans* Keyserling; I have confirmed this by examination of Emerton's type." This is an error. Emerton's type is quite distinct from *discursans* in eye relations, color details, and palpal features. *Xysticus canadensis* is a rare species seemingly known from the United States so far only from the White Mountains of New Hampshire (two males, one being Emerton's type of *cinerea*). The species is likewise rare in Canada but widely distributed from Labrador to the Yukon. All the known records for the species are given above.

The bulbal apophyses of the male palpus of *canadensis* are illustrated in figure 13. For comparison with *discursans*, see figures 25 and 26.

Xysticus discursans Keyserling

Figures 25, 26

Xysticus discursans KEYSERLING, 1880, Die Spinnen Amerikas, Laterigradae, vol. 1, p. 20, pl. 1, fig. 7. BANKS, 1898, Proc. California Acad. Sci., ser. 3, vol. 1, p. 259. GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 364, figs. 150–151, 168. CHICKERING, 1940, Papers Michigan Acad. Sci., vol. 25, p. 206, figs. 25–27 (part; not *cinerea* Emerton and *canadensis* Gertsch). MUMA, 1944, Amer. Mus. Novitates, no. 1257, p. 9; 1945, Bull. Maryland Agr. Exp. Sta., no. A38 (Tech.), p. 49. KASTON, 1948, Bull. Connecticut Geol. Nat. Hist. Surv., vol. 70, p. 424, figs. 1542–1543.

Xysticus vernalis BRYANT, 1930, Psyche, vol. 37, p. 139, figs. 13, 15.

TYPE LOCALITIES: Of *discursans*, Colorado, male and female cotypes in the Muséum National d'Histoire Naturelle, Paris; of *vernalis*, Petersham, Massachusetts, male type in the Museum of Comparative Zoölogy.

DISTRIBUTION: Canada from Nova Scotia and Franklin (Baffin Island), west to British Columbia, south to Florida in the east and to Utah and northern Mexico (Baja California) in the west.

NEW LOCALITIES: *Baffin Island*: Bernard Harbor (Emerton, 1914). *Nova Scotia*: Cape Breton, July, 1906, one male (O. Bryant). *Ontario*: Favourable Lake, latitude 53° N., June 19, 1938, male and female (G. M. Neal); Beamesville, October 10, 1941, one male (H. R. Boyce); Wellington, May 25, 1930, one female (J. F. Brimley); Mt. Albert, July 1–15, 1942, one male (S. Harrod); Newmarket, June 15–30, 1942 (S. Harrod); Toronto, May 16, 1931, two males (S. Harrod); Pelee Island, June 4–16, 1950, one male (W. Ivie and T. B. Kurata). *British Columbia*: Cawston, Yale, June–July, 1920, one female (R. S. Metcalf); Kaslo, (Banks, 1916). *Maryland*: Lanham, Prince Georges County, one male (Muma, 1944, 1945). *Georgia*: East of Waycross, April 21, 1938, one male (W. J. Gertsch). *Michigan*: New Baltimore, Macomb County, June 17–30, 1944, two males (B. Malkin); vicinity of Albion, two females (Chickering, 1940); E. S. George Reserve, Livingston County, May 27, 1939, one female (I. J. Cantrall). *Baja California*: Agua Caliente, female (Banks, 1898).

Chickering incorrectly synonymizes *O. cinerea* Emerton and the new name *cana-*

densis Gertsch under this species. For a discussion of this matter, see *Xysticus canadensis* Gertsch.

***Xysticus fervidus*, new species**

Figures 27-30

FEMALE: Total length, 6.15 mm.

Color pattern and appearance almost exactly as in *Xysticus discursans* Keyserling. Sides of carapace pale yellowish brown, flecked with dark brown. Posterior declivity with a small black spot on each side and one at front edge in position of the obsolete median groove. Legs pale yellowish brown, flecked with small brown spots. Abdomen mostly gray above, with indistinct pattern of chevrons behind and three pairs of small black spots.

Structure as in *discursans*. Carapace (2.50 mm. long, 2.35 mm. wide) clothed sparsely with setaceous hairs and weak, subprocumbent, filiform spines; the clypeal margin with seven long principal spines on the margin. Anterior median eyes separated by scarcely three diameters (12/33), nearer the larger laterals (12/20). Posterior row moderately recurved, the median eyes separated by scarcely four diameters (11/40), as far from the larger lateral eyes. Median ocular quadrangle broader than long (60/51), narrowed in front (60/55), the eyes subequal. Clypeus equal in height to two diameters of the anterior median eye.

First leg: femur, 1.85 mm.; patella, 1.10 mm.; tibia, 1.25 mm.; metatarsus, 1.20 mm.; and tarsus, 0.70 mm. Spination of first leg: femur, prolateral 3; tibia, ventral 1-2-2-2; metatarsus, prolateral and retrolateral 0-1-1, ventral 1-2-2-2.

Abdomen (3.85 mm. long and wide) typical, widest behind, sparsely clothed with inconspicuous setaceous hairs and weak filiform spines.

Epigynum as illustrated in figure 30.

MALE: Total length, 4.00 mm.

Coloration and structure in close agreement with those of *Xysticus discursans* Keyserling. Carapace with the sides brown, mottled, with yellowish median band distinct and the usual central and lateral brown patches on the posterior declivity. Legs mostly reddish brown, the basal segments flecked with white. Dorsum of abdomen with

a pattern of brown chevrons on a gray or whitish base, the venter grayish.

Structure essentially as in the female. Carapace as broad as long (1.80 mm.), typical, clothed as in the female. Anterior median eyes separated by scarcely two diameters (12/22), a full diameter from the larger laterals. Posterior eye row moderately recurved, the median eyes separated by two diameters (12/22), farther from the larger lateral eyes (12/29). Median ocular quadrangle broader than long (42/36), as wide in front as behind. Clypeus equal in height to one and one-half diameters of an anterior median eye.

First leg: femur, 1.75 mm.; patella, 0.85 mm.; tibia, 1.35 mm.; metatarsus, 1.30 mm.; and tarsus, 0.70 mm. long. Spination of first leg: femur, prolateral 5, dorsal 3; tibia, prolateral and retrolateral 0-1-0, ventral 2-2-2-2; metatarsus, prolateral 0-1-1, retrolateral 0-1-0, and ventral 2-2-2.

Abdomen (2.00 mm. long, 1.90 mm. wide) typical, clothed sparsely with short filiform hairs and short, erect, filiform spines.

Palpus as illustrated in figures 27, 28, and 29.

TYPE LOCALITY: Female holotype from Rocky Mountain National Park, Colorado, August 3, 1949 (Mont A. Cazier).

OTHER LOCALITIES: *Colorado*: Alamosa, June 14, 1930, male allotype (S. C. Bishop). *British Columbia*: Field, Yoho National Park, August 21, 1949, female paratype (W. J. and J. W. Gertsch).

The present species is a very close ally of *Xysticus discursans* Keyserling and is best separated by features of the genitalia. In ventral view the median apophysis of the bulb in the male palp appears as a thin, subtriangular, longer than broad process, whereas in *discursans* (fig. 26) it is a broad, rounded spur scarcely longer than broad. In the female epigynum the revolved margins of the median septum are subparallel, elevated, and close together in front.

***Xysticus pretiosus* Gertsch**

Xysticus pretiosus GERTSCH, 1934, Amer. Mus. Novitates, no. 707, p. 6, fig. 3; 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 362, figs. 167, 202-203. CHAMBERLIN AND IVIE, 1941, Bull. Univ. Utah, biol. ser., vol. 6, no. 3, p. 19.

TYPE LOCALITY: Forest Grove, Oregon, male holotype in the American Museum of Natural History.

DISTRIBUTION: Pacific Northwest from California to British Columbia.

NEW LOCALITIES: *British Columbia*: Lyton, August 1, 1925, one female (A. Macdougall); Departure Bay, Vancouver Island, July 10, August 3, 1925, 1928, two females (A. Macdougall). *California*: Green Valley Falls, Solano County, April 27, 1941, female (W. Pearce); Big Sur, August 1, 1948, one female (H. Schantz); Green Valley, Solano County, April 27, 1942, one female (W. Pearce). *Oregon*: Eugene, Lane County, June 27, 1941, July, 1942, two males, one female (B. Malkin); Goble, April 22, 1938, males and females; Triangle Lake, Lane County, April 3, 1947, one male (I. Newell); Peavine Ridge, near McMinnville, June 1–July 10, November, December, 1946, July, 1947, May, 1948, three males, two females (K. M. Fender); 5 miles south of Eugene, June 16, 1946, one male (B. Malkin); Philomath, February 17, 1948, female (V. Roth); 27 miles northeast of Sweet Home (1 mile east of Quartzville), March 7, 1948, one male (Berlese funnel in Douglas fir forest) (V. Roth); Roaring River (Fish Hatchery), Linn County, May 15, 1940, female (H. A. Scullen); Corvallis, May 24, 1935, female (N. P. Larson). *Washington*: White Horse Mountain, May 15, 1932, one female (H. E. Exline); Friday Harbor, June 29, 1936, one female (H. Hesemann).

***Xysticus triguttatus* Keyserling**

Xysticus triguttatus KEYSERLING, 1880, Die Spinnen Amerikas, Laterigradae, vol. 1, p. 12, pl. 1, figs. 3, 6. PROCTER, 1938, Biological survey of the Mount Desert region, pt. 6, p. 459; 1946, *op. cit.*, pt. 7, p. 527. GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 362, figs. 169, 178–179. CHICKERING, 1940, Papers Michigan Acad. Sci., vol. 25, p. 216, figs. 49–51. TRUMAN, 1942, Proc. Pennsylvania Acad. Sci., vol. 16, p. 28. LOWRIE, 1942, Bull. Chicago Acad. Sci., vol. 6, p. 169; 1948, Ecology, vol. 29, p. 338. MUMA, 1943, Common spiders of Maryland, p. 112, pl. 14, fig. 19; 1945, Bull. Maryland Agr. Exp. Sta., no. A38 (Tech.), p. 51. CHAMBERLIN AND IVIE, 1944, Bull. Univ. Utah, biol. ser., vol. 8, no. 5, p. 170. MUMA AND JEFFERS, 1945, Ann. Ent. Soc. Amer., vol. 38, p. 250. KASTON, 1948, Bull. Connecticut Geol. Nat. Hist. Surv., vol. 70, p. 423, figs. 1540–1541, 2009.

Xysticus feroculus KEYSERLING, 1881, Ver-

handl. K. K. Zool.-Bot. Gesellsch. Wien, vol. 31, p. 305, pl. 11, fig. 24.

TYPE LOCALITIES: Of *triguttatus*, Boston, Massachusetts, male and female cotypes in British Museum (Natural History); of *feroculus*, Massachusetts, female type in Museum of Comparative Zoölogy.

DISTRIBUTION: United States and Canada east of the Rocky Mountains.

NEW LOCALITIES: *Ontario*: Smokey Falls, Mattagami River, July 8, 1935, one male; Point Pelee, July 25, 1938, one female (F. A. Urquhart); West Hill, May 31, 1934, two males (T. B. Kurata); Sioux Lookout, July 4, 1947, one female (W. Y. Watson). *Maine*: Mt. Desert Island, males and females (W. Procter, 1938, 1946); Lincoln County, June 29, 1948, female (D. J. Borron). *New York*: Great Gull Island, June 14, 1949, males and females (J. C. Pallister); Gull Island, June 15, 1949, male (J. C. Pallister); Plum Island, June 15, 1949, males, female (J. C. Pallister). *Pennsylvania*: Western part of state (Truman, 1942). *Maryland*: Reported from eight counties in the state, males and females (Muma, 1943; Muma, 1945; Muma and Jeffers, 1945; prey of spider wasps). *Florida*: North of Olney, Osceola County, March 27, 1939, two males (W. J. Gertsch); Volusia County, April 1, 1939, one male (H. K. Wallace). *Illinois*: Waukegan flats, Kankakee Dunes (Lowrie, 1942, 1948). *Indiana*: Dune Acres (Lowrie, 1942, 1948); Ogden Dunes (Lowrie, 1948). *Michigan*: "Northern Peninsula," Douglas Lake, males and females (Chickering, 1940). *Wisconsin*: Madison, June, 1946, male, females. *Iowa*: Sioux City, 1939, male (C. N. Ainslie). *Missouri*: Ten miles south of Rolla, June 24, 1950, two males, one female (H. E. and D. L. Frizzell).

***Xysticus apalacheus*, new species**

Figure 24

FEMALE: Total length, 4.60 mm.

Carapace brownish on the sides, mottled, the margins nearly black, the median pale stripe, much invaded by brown in front, flanked by an indistinct black stripe on each side from the lateral eyes to the black spots on the posterior declivity, and with a dark fleck at middle of the declivity. Sternum white, flecked with small black spots; the

labium and coxae pale yellow, the front coxae with a row of small spots. Legs pale yellow to brown, thickly flecked with brown spots, the sides with white flecks and patches. Abdomen milky white above, with a pattern of three broken black chevrons in caudal half and a black stripe on each side from base to join the chevrons, the venter pale, with small gray spots.

Structure in very close agreement with that of *X. triguttatus*, *discursans*, and related species. Carapace as broad as long (2.05 mm.), typical, the pars cephalica of average width, equal at the second eye row to two-thirds of the greatest width, clothed sparsely with fine, setaceous hairs, and set with a few suberect filiform spines, the clypeal margin with seven principal spines. Anterior median eyes separated by two diameters, half as far from the lateral eyes. Second eye row moderately recurved, the median separated by about two diameters (12/26), about three diameters from the larger lateral eyes (12/25). Median ocular quadrangle broader than long (50/44), narrowed in front in the same ratio, the eyes subequal in size.

First leg: femur, 1.73 mm.; patella, 1.05 mm.; tibia, 1.22 mm.; metatarsus, 1.22 mm.; and tarsus, 0.58 mm. Tibia and patella of fourth leg 1.78 mm. long. Spination of first leg: femur, prolateral 3, dorsal 1 weak; tibia, ventral 4 pairs; metatarsus, prolateral 2 or 1, retrolateral 1, ventral 1-2-2-2.

Abdomen typical (2.40 mm. long, 2.55 mm. wide), sparsely set with small filiform hairs and with rows of suberect clavate spines.

Epigynum as illustrated in figure 24.

TYPE LOCALITY: Female holotype from Blountstown, Florida, April 18, 1938 (W. J. Gertsch).

OTHER LOCALITY: *Florida*: Punta Gorda, April 29, 1928, female paratype.

This pretty species resembles *triguttatus* in size and coloration but is distinct in the epigynum which has the median septum broadly joined to the atrial rim in front and the sides revolved into brown elevations narrowly attached behind.

Xysticus variabilis Keyserling

Xysticus variabilis KEYSERLING, 1880, Die Spinnen Amerikas, Laterigradae, vol. 1, p. 40, pl. 1, fig. 19. GERTSCH, 1939, Bull. Amer. Mus. Nat.

Hist., vol. 76, p. 366, figs. 171, 200-201. CHAMBERLIN AND IVIE, 1944, Bull. Univ. Utah, biol. ser., vol. 8, no. 5, p. 171.

TYPE LOCALITY: Georgia, female type in the Muséum National d'Histoire Naturelle, Paris.

DISTRIBUTION: Southeastern United States from North Carolina to Florida and Mississippi.

NEW LOCALITIES: *Georgia*: Six miles south of Valdosta, April 20, 1938, one male (W. J. Gertsch); Waycross, April 21, 1938, one female (W. J. Gertsch); 3 miles southeast of Savannah, April 14, 1943, one male, two immatures (Chamberlin and Ivie, 1944). *Florida*: Blountstown, April 18, 1938, one male (W. J. Gertsch).

Xysticus britcheri Gertsch

Figures 10-12

Xysticus britcheri GERTSCH, 1934, Amer. Mus. Novitates, no. 707, p. 10, fig. 6; 1939, Bull. Amer. Nat. Hist., vol. 76, p. 360, fig. 166. CHAMBERLIN AND IVIE, 1947, Bull. Univ. Utah, biol. ser., vol. 10, no. 3, p. 69. WEBER, 1949, Ent. News, vol. 60, p. 120.

The male, heretofore unknown, is described below.

MALE: Total length, 4.90 mm.

Coloration in close agreement with that of the female. Carapace yellowish to bright reddish brown, the sides dark, mottled brown, the median band largely filled with brown in front but the posterior declivity pale except for the median brown dash and the brown side patches. Sternum reddish brown, the labium, maxillae, and coxae slightly paler, the latter sometimes with a whitish stripe. Basal segments of legs bright reddish brown, with a pale linear stripe above and below, the distal segments yellowish. Abdomen dull to bright reddish brown above, with a narrow basal and lateral whitish band, and three or four more or less distinct narrow whitish transverse lines in distal half, the venter brownish with whitish smudges on each side.

Structure essentially as in the female and very close to that of *chippewa* and *canadensis*. Carapace (2.50 mm. long, 2.35 mm. wide) typical, clothed with fine setaceous hairs and spines, the clypeal margin with seven principal spines and two weak intermediate ones.

Eyes proportionately large, the anterior median pair separated by less than two diameters (16/26), about the full diameter from the larger lateral eyes. Second eye row moderately recurved, the median eyes separated by less than two diameters (16/27), farther from the lateral eyes (16/38). Median ocular quadrangle slightly longer than broad (58/56), a little narrower in front (56/55), the eyes equal in size. Clypeus higher than the full diameter of an anterior median eye (16/22).

First leg: femur, 2.35 mm.; patella, 1.15 mm.; tibia, 1.75 mm.; metatarsus, 1.80 mm.; and tarsus, 0.95 mm. Spination of first leg: femur, prolateral 3 to 8, dorsal 2 or 3; tibia, prolateral 1-(1)-0, retrolateral 1-1-1, ventral 2-2(1)-2(1)-2; metatarsus, prolateral 1-1-1, retrolateral 1-1-0, ventral 2-2-2-2.

Abdomen (2.65 mm. long, 2.10 mm. wide) typical, clothed with fine setaceous hairs and a few stouter setae.

Palpus as illustrated in figures 10, 11, and 12.

TYPE LOCALITY: Onondaga County, New York, female holotype in the American Museum of Natural History.

DISTRIBUTION: Western Canada from Ontario to Mackenzie and into Alaska, and western New York in the United States.

NEW LOCALITIES: *Mackenzie*: Reindeer Station, July–August 6, 1948, four males, six females, four immatures, three subadult males and females (J. R. Vockeroth); Resolution, Great Slave Lake, June 25, 1945, one female (J. R. Vockeroth). *Ontario*: Lake of the Woods, 18 miles north of Rainy River, August 8, 1948, one female (W. J. Gertsch and T. B. Kurata). *Manitoba*: Without specific locality data, one female. *Alberta*: Athabaska, June 15, 1945, one female (P. Larkin). *Alaska*: Lake Telida, Kuskokuim River region, summer, 1949, four males, two females (G. O. Schumann); Kaltag, 4 miles downstream on Yukon River, one male from frog stomach (Hamilton); Anaktuvuk, latitude 68° 20' N., longitude 151° 30' W., August 28, 1948, one female, two immatures (N. A. Weber, 1939); Matanuska, September 22, 1945, one female (Chamberlin and Ivie, 1947).

Xysticus chippewa, new species

Figures 17–20

FEMALE: Total length, 6.65 mm.

Carapace brown on the sides, darkest on the margins, and on each side of the pale median stripe presenting a darker stripe which joins the brown patch on the posterior declivity, the sides with a few white flecks. Median stripe narrower than the eye group. Whitish on the posterior declivity and a tongue of white passing forward on each side to the yellowish ocular area. Sternum dull yellowish brown, with numerous red flecks, the mouth parts and coxae concolorous but with only a few red flecks. Legs pale to dark yellowish brown, thickly marked with red flecks, the dorsa with a narrow white line, the sides, especially of the front pairs, with lateral broken white stripes most conspicuous on the femora. Abdomen creamy white; the dorsum with the median are pale but flanked by an indistinct gray pattern.

Structure typical, essentially as in *Xysticus britheri* and related species. Carapace (2.90 mm. long, 2.80 mm. wide) clothed with setaceous hairs and spines, the clypeal margin with seven principal spines. Anterior median eyes separated by two diameters (17/34), one diameter from the lateral eyes. Posterior eye row moderately recurved, the median separated by two diameters (16/35), farther from the lateral eyes (16/43). Median ocular quadrangle broader than long (65/60), as wide in front as behind, the eyes subequal in size. Clypeus equal in height to less than two diameters (16/26) of an anterior median eye.

First leg: femur, 2.75 mm.; patella, 1.50 mm.; tibia, 2.10 mm.; metatarsus, 1.75 mm.; and tarsus, 1.15 mm. Spination of first leg: femur, prolateral 3; tibia, ventral 6–5, with 4 on each side paired; metatarsus, prolateral 1-1-1, retrolateral 1-1-0, ventral 5 pairs.

Abdomen suboval (4.00 mm. long, 3.35 mm. wide), sparsely clothed with setaceous hairs and set with rows of fine setaceous spines.

Epigynum as illustrated in figure 18.

MALE: Total length, 4.40 mm.

Coloration as in female except as follows: Legs somewhat darker brown and less strongly striped with white. Abdomen creamy white above, each side with a longitudinal

brown stripe which is somewhat broken and joined near apex by transverse brown chevrons; the sides and venter whitish but much flecked with brown. General appearance essentially as in *Xysticus punctatus*.

Structure typical, essentially as in *X. britcheri* and related species. Carapace longer than broad (2.30 mm. long, 2.15 mm. wide), the head of average width (1.35 mm.) at second eye row, the clothing as in the female but the setaceous spines on head and seven principal clypeal spines longer. Eyes as in the female. Median ocular quadrangle broader than long (25/23), the eyes subequal.

First leg: femur, 2.30 mm.; patella, 1.10 mm.; tibia, 1.80 mm.; metatarsus, 1.85 mm.; the tarsus missing. Spination of first leg: femur, prolateral 8, dorsal 3; tibia, prolateral and retrolateral 1-1-1, ventral 4 pairs; metatarsus, prolateral 1-1-1, retrolateral 1-1-0, ventral 1-2-2-2.

Abdomen oval (2.50 mm. long, 1.80 mm. wide), with setaceous spines as in the female.

Palpus as illustrated in figures 17, 19, and 20.

TYPE LOCALITY: Female holotype from Manistique, Michigan, September 2, 1949 (W. J. Gertsch).

OTHER LOCALITIES: *Michigan*: E. S. George Reserve, Livingston County, May 27, 1939, immature male paratype (I. J. Cantrall), July 28, 1951, four female paratypes (H. K. Wallace); Douglas Lake, Cheyboygan County, August 8, 1931, female paratype. *Ontario*: Favourable Lake Mine, latitude 53° N., June 19, 1938, male allotype in the Royal Ontario Museum (F. M. Neal collector).

Xysticus lassanus Chamberlin

Xysticus lassanus CHAMBERLIN, 1925, Bull. Mus. Comp. Zool., vol. 67, p. 218. GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 360, figs. 124, 125.

Xysticus simplicior CHAMBERLIN AND GERTSCH, 1929, Jour. Ent. Zool. Pomona Coll., p. 5, pl. 1, fig. 10.

Xysticus coloradensis BRYANT, 1930, Psyche, vol. 37, p. 133, fig. 7 (female only). GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 380, fig. 199 (female only).

TYPE LOCALITIES: Of *lassanus*, Roberts, Texas, male type in the Museum of Comparative Zoölogy; of *simplicior*, St. George, Utah,

male holotype in the University of Utah.

DISTRIBUTION: Southwestern United States and Mexico (Chihuahua).

NEW LOCALITIES: *Texas*: El Paso, April 5, two females. *Utah*: Hanksville, April 20, 1928, female (W. J. Gertsch). *Colorado*: Fort Reynolds, two females. *Arizona*: Tucson, two males, four females (O. Bryant); Santa Catalina Mountains, May 25, 1936, female (O. Bryant); 15 miles northeast of Yuma, January 5, 1941, female (D. and S. Mulaik); Mt. Lemmon, 6000 feet, January 15, 1936, one female (O. Bryant). *New Mexico*: Las Vegas, one female; Albuquerque, female; Las Cruces, female; Mesilla, female. *California*: Twentynine Palms, May, 1945, one female (J. H. Branch); 7 miles west of El Centro, March 14, 1941, one male (W. Ivie). *Chihuahua*: Santa Barbara, 6300 feet. February 15, 1947, seven females (G. M. Bradt).

Xysticus auctifiscus Keyserling

Xysticus auctifiscus KEYSERLING, 1880, Die Spinnen Amerikas, Laterigradae, vol. 1, p. 25, pl. 1, fig. 10. GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 361, figs. 176, 177, and 188.

Xysticus maculatus KEYSERLING, 1880, Die Spinnen Amerikas, Laterigradae, vol. 1, p. 45, pl. 1, fig. 22.

Xysticus trimaculatus BRYANT, 1933, Bull. Mus. Comp. Zool., vol. 74, p. 179, pl. 2, figs. 12, 13.

Xysticus lemniscatus CHAMBERLIN AND IVIE, 1944, Bull. Univ. Utah, biol. ser., vol. 8, no. 5, p. 169 (locality records).

TYPE LOCALITIES: Of *auctifiscus*, Colorado, male type in the Muséum National d'Histoire Naturelle, Paris; of *maculatus*, Georgia, female type in the Muséum National d'Histoire Naturelle, Paris; of *trimaculatus*, Hope, Arkansas, male holotype in the Museum of Comparative Zoölogy.

DISTRIBUTION: Southern and midwestern states and Mexico (Chiapas, Durango).

NEW LOCALITIES: *Iowa*: Sioux City, 1939, one male (C. N. Ainslie). *Texas*: Navarro County, April 30, 1938, one female (J. H. Robinson); Dallas, one female (J. H. Robinson); Leon County, May 8, 1938, two females (J. H. Robinson); between Grand Prairie and Cedar Hill, Dallas County, May 7, 1942, one male, one female (O. Sanders); 5 miles east of Caldwell, May 3, 1950, one female (R. F. Smith); Franklin, May 2, 1950, three females

(R. F. Smith); Glen Rose, Somervell County, June 15, 1940, one female (O. Sanders); Austin, April 4, May 19, 1946, two males, one female (H. E. and D. L. Frizzell). *South Dakota*: Westport, June 16, 1937, male and female (A. Peterson); Big Badland, August, 1929, one male (G. Lindblad). *Chihuahua*: Primavera, July 1, 1947, one female (W. J. Gertsch); Catarinas, 5800 feet, July 25, 1947, one male (W. J. Gertsch). *Durango*: Santa Maria del Oro, 5700 feet, July 28, 1947, one male (W. J. Gertsch). *Distrito Federal*: Pedregal, August 17, 1947, two immature females (H. Wagner); Parque Nacional Hidalgo, May 16, 1943, one immature (C. Bolivar). *Chiapas*: San Cristobal, September 11, 13, 1947, two males, four females (H. Wagner); Tuxtla Gutierrez, September 9, 1947, two males (H. Wagner).

***Xysticus tampa*, new species**

Figure 3

FEMALE: Total length, 6.65 mm.

Carapace light yellowish brown, flecked with brown, medially with a very indistinct median stripe scarcely visible in front where there are a few whitish flecks, the posterior declivity whitish, the median spot obsolete, and the lateral ones reduced to small brown patches. Sternum pale yellowish brown, with small black and a few white flecks. Coxae concolorous, with a few small brown spots. Legs yellowish brown, with many small brown spots and with white flecks and patches, with indistinct brownish rings. Abdomen dusky yellowish brown, with indistinct pattern of small black spots above, pale below.

Structure typical, in close agreement with that of *discursans* and related species. Carapace (2.55 mm. long, 2.45 mm. wide) typical, the pars cephalica at the second eye row about two-thirds as wide as the greatest width, the clypeal margin with seven principal spines, the clothing mainly filiform hairs and suberect spines. Anterior median eyes separated by one and one-half diameters (13/20), nearly as far from the lateral eyes (13/18). Second eye row strongly recurved, the median separated by two diameters (13/24), three diameters from the lateral eyes (13/39). Median ocular quadrangle broader than long (45/40), narrower in front

(45/41), the eyes subequal in size. Clypeus equal in height to about two diameters (13/24) of the anterior median eye.

First leg: femur, 2.25 mm.; patella, 1.30 mm.; tibia, 1.85 mm.; metatarsus, 1.55 mm.; and tarsus, 0.75 mm. Spination of first leg: femur, prolateral 2, dorsal 1; tibia, ventral 4 pairs; metatarsus, prolateral 0-1-1, retrolateral 1-1-0, ventral 4 pairs.

Abdomen (4.50 mm. long, 4.10 mm. wide) typical, clothed sparsely with inconspicuous filiform hairs and a few weak erect filiform spines.

Epigynum as illustrated in figure 3.

TYPE LOCALITY: Female holotype from McDill Field, Tampa, Florida, March 15-30, 1943 (B. Malkin).

This pale brown species, colored somewhat like *Xysticus funestus* Banks, has the eyes of the median quadrangle close together and quite distant from the lateral eyes of each row. The epigynum is distinct from that of all our species.

***Xysticus bradti*, new species**

Figure 5

MALE: Total length, 4.50 mm.

Carapace dull yellowish brown, medially with a broad pale band the length, enclosing a linear brown spot at the obsolete median groove, and much suffused with brown in front, this pale band flanked by brown stripes from the lateral eye back to and joining the brown spots on the posterior declivity and the lateral margins with a brown marginal stripe. Sternum, mouth parts, and coxae pale yellowish brown, with a few small brown flecks. The first two dull yellowish brown, the femora and patellae thickly flecked with brown, the tibiae dark brown, the distal joints unmarked; the posterior pairs like the front ones but the tibiae with narrow apical and basal brown rings. Abdomen dull yellowish brown above, the margins with an irregular black stripe, the venter paler and with small black flecks.

Structure typical, in quite close agreement with that of *Xysticus texanus* Banks and related species. Carapace (2.45 mm. long, 2.55 mm. wide) set with setaceous spines, the clypeal margin with 11 principal short spines. Eyes typical, the front median sepa-

rated by two full diameters (13/28), nearer the larger lateral eyes (13/17). Second row strongly recurved, the median separated by more than two diameters (13/33), a little farther from the lateral eyes (13/36). Median ocular quadrangle broader than long (57/42), narrowed in front (57/48). Clypeus equal in height to one full diameter of an anterior median eye.

First leg: femur, 2.70 mm.; patella, 1.25 mm.; tibia, 2.05 mm.; metatarsus, 2.05 mm.; and tarsus, 0.97 mm. Spines of first leg: femur, prolateral 4, dorsal 3; tibia, ventral 4 pairs; metatarsus, prolateral 1-1-1, retrolateral 1-1-0, ventral 4 pairs.

Abdomen (2.75 mm. long, 2.15 mm. wide) suboval, covered evenly with short setaceous spines.

Palpus as illustrated in figure 5.

TYPE LOCALITY: Male holotype from San José Babicora, Chihuahua, July 4, 1947 (W. J. Gertsch).

OTHER LOCALITY: Chihuahua: Primavera, 5500-6000 feet, June 29, 1947 male paratype (W. J. Gertsch).

The form of the median apophysis of the bulb, which is flattened and obtusely rounded in front, sets this pretty species apart from its presumed relatives.

This species is named for Mr. and Mrs. George Bradt of Tucson, Arizona, who were companions and good friends during part of the 1947 expedition into Durango and who have since joined us in other profitable field trips.

Xysticus acquiescens Emerton

Xysticus acquiescens EMERTON, 1919, Canadian Ent., vol. 51, p. 107, fig. 15. GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 376, figs. 172, 184-185. TRUMAN, 1942, Proc. Pennsylvania Acad. Sci., vol. 16, p. 28. CHAMBERLIN AND IVIE, 1947, Bull. Univ. Utah, biol. ser., vol. 10, no. 3, p. 69.

TYPE LOCALITY: Saskatchewan, male and female cotypes in the Museum of Comparative Zoölogy.

DISTRIBUTION: New Hampshire and Ontario westward to Alberta and Alaska.

KNOWN LOCALITIES: *Ontario*: Ottawa, one female (Banks). *Saskatchewan*: Saskatoon, male and female cotypes (Emerton, 1919). *Alberta*: Medicine Hat, May 15-June 5,

1930, males and females (Carr). *Alaska*: Eklutna Flats; June 21, 1944, one male (Chamberlin and Ivie, 1947). *New Hampshire*: Chocorua, June 3, 1912, males (E. Bryant). *Pennsylvania*: Western portion (Truman, 1942).

Xysticus funestus Keyserling

Figures 31, 32

Xysticus funestus KEYSERLING, 1880, Die Spinnen Amerikas, Laterigradae, vol. 1, p. 10, pl. 1, fig. 2. GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 367, figs. 162-163, 175. CHICKERING, 1940, Papers Michigan Acad. Sci., vol. 25, p. 212, figs. 40-42. TRUMAN, 1942, Proc. Pennsylvania Acad. Sci., vol. 16, p. 28. MUMA AND JEFFERS, 1945, Ann. Ent. Soc. America, vol. 38, p. 250. MUMA, 1945, Bull. Maryland Agr. Exp. Sta., no. A38 (Tech.), p. 50. KASTON, 1948, Bull. Connecticut Geol. Nat. Hist. Surv., vol. 70, p. 424, figs. 1530-1531, 1551. WRAY, 1950, Insects of North Carolina, suppl. 2, p. 40.

Xysticus nervosus BANKS, 1892, Proc. Acad. Nat. Sci. Philadelphia, p. 55, pl. 3, figs. 8-8a, pl. 4, fig. 84. TRUMAN, 1942, Proc. Pennsylvania Acad. Sci., vol. 16, p. 28.

Xysticus brunneus BANKS, 1892, Proc. Acad. Nat. Sci. Philadelphia, p. 53, pl. 3, fig. 4. KURATA, 1939, Canadian Field Nat., vol. 53, p. 82.

Xysticus crudelis BANKS, 1892, Proc. Acad. Nat. Sci., Philadelphia, p. 53, pl. 3, fig. 5.

Xysticus tumefactus CHAMBERLIN AND IVIE, 1944, Bull. Univ. Utah, biol. ser., vol. 8, no. 5, p. 170.

TYPE LOCALITIES: Of *funestus*, Baltimore, Maryland, male and female cotypes in the Muséum National d'Histoire Naturelle, Paris; of *brunneus*, Ithaca, upper Cayuga Lake basin, New York, female type in the Museum of Comparative Zoölogy; of *nervosus*, upper Cayuga Lake basin, New York, male and female cotypes in the Museum of Comparative Zoölogy; of *crudelis*, upper Cayuga Lake basin, New York, female type in the Museum of Comparative Zoölogy.

DISTRIBUTION: Eastern United States and Canada.

NEW LOCALITIES: *Ontario*: Minaki, July 23, 1931, one immature (T. B. Kurata); Toronto, September 16, 1917, one female (Kurata, 1939); Point Pelee, July 4, 1938, one male (T. B. Kurata); Franks Bay, Lake Nipissing, July 26, 1931, one female (T. B. Kurata). *Connecticut*: "Extremely common

all over the State" (Kaston, 1948). *New York*: Canton, September 27, 1943, female. *Pennsylvania*: Western portion (Truman, 1942). *Maryland*: Reported from four counties, males and females (Muma, 1945; Muma and Jeffers, 1945, prey of wasps); Suitland, September 5, 1943, one male (B. Malkin). *West Virginia*: Wheeling, August, September, 1947, females (K. W. Haller); Minnehaha Springs, July, 1948, female (K. W. Haller); Tomlinson Run State Park, 3 miles north of New Cumberland, September 4, 1948, male (K. W. Haller). *North Carolina*: Raleigh, late October, 1943 (Bryant in Wray, 1950). *Georgia*: Fort Benning, October 23, 1943, male (Chamberlin and Ivie, 1944). *Alabama*: Chickasaw Bogue, Mobile County, November 6, 1940, females (A. F. Archer); Cypress Creek, Lauderdale County, September, 1940, female (A. F. Archer); Riderwood, Choctaw County, 1940, three females (G. A. Reynolds); Monte Sano, Madison County, 1939, two females (A. F. Archer); Mays Gulf, October 13, 1949, male (J. H. Robinson). *Mississippi*: Hattiesburg, January 16–23, 1942, one female (E. L. Bell); State College, November, 1946, one male (V. and W. J. Dobson). *Michigan*: Vicinity of Albion, males and females (Chickering, 1940). *Missouri*: Dry Fork Creek, Rolla, September 23, 1950, two males, one female (D. L. and H. E. Frizzell); Ranken, September 15, 1946, male, female, immature (E. P. Meiners); Jefferson County, May 30, 1944, female (C. F. Adams); St. Louis County, August 10, 1940, female (Gordon). *Texas*: Huntsville, October 2, 1950, male (M. A. Cazier); Victoria, April 2, 1946, female (C. D. Michener); Franklin, May 2, 1950, female (R. F. Smith); 10 miles east of Athens, Henderson County, November 7, 1942, male (A. Sanders); Zilker Park, Travis County, October 26, 1947, male, two females (D. L. and H. E. Frizzell, H. Plummer); Austin, March 4, February 8, November 9, 1945, males and females (D. L. and H. E. Frizzell).

***Xysticus laticeps* Bryant**

Figures 34, 35

Xysticus laticeps BRYANT, 1933, Bull. Mus. Comp. Zool., vol. 74, p. 178, pl. 3, fig. 25; 1940, Bull. Mus. Comp. Zool., vol. 86, p. 415, fig. 198. GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol.

76, p. 370, figs. 182–183, 191. CHAMBERLIN AND IVIE, 1944, Bull. Univ. Utah, biol. ser., vol. 8, no. 5, p. 169.

TYPE LOCALITY: Mobile, Alabama, female type in the Museum of Comparative Zoölogy.

DISTRIBUTION: Southeastern United States and Cuba.

NEW LOCALITIES: *South Carolina*: Charleston, June 15–30, 1943, one female (B. Malkin). *Cuba*: One male (Poey, collector); Sierra de Anafe, Piñar del Rio, February 23, 1947, two males (Manuel Barro). *Florida*: Royal Palm State Park, Dade County, July 17, 1938, one female (F. N. Young); Miami, March 2, 1936, one immature (S. C. Bishop).

***Xysticus luctans* C. L. Koch**

Figures 40, 41

Thomisus luctans C. L. KOCH, 1845, Die Arachniden, vol. 12, p. 63, pl. 311, fig. 98.

Xysticus quadrilineatus KEYSERLING, 1880, Die Spinnen Amerikas, Laterigradae, vol. 1, p. 42, pl. 1, fig. 20. BANKS, 1898, Proc. California Acad. Sci., ser. 3, vol. 1, p. 258 (*X. 4-lineatus*).

Xysticus luctans GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 369, figs. 160–161, 196. PROCTER, 1938, Biological Survey of the Mount Desert region, pt. 6, p. 459; 1946, *op. cit.*, pt. 7, p. 526. LOWRIE, 1942, Bull. Chicago Acad. Sci., vol. 6, p. 169; 1948, Ecology, vol. 29, p. 339. TRUMAN, 1942, Proc. Pennsylvania Acad. Sci., vol. 16, p. 28. MUMA, 1945, Bull. Maryland Agr. Exp. Sta., no. A38 (Tech.), p. 50. KASTON, 1948, Bull. Connecticut Geol. Nat. Hist. Surv., vol. 70, p. 424, figs. 1547–1548.

TYPE LOCALITIES: Of *luctans*, Pennsylvania, female type [presumed to be in C. Koch collection, British Museum (Natural History)]; of *quadrilineatus*, Peoria, Illinois, female type in the British Museum (Natural History).

DISTRIBUTION: Eastern United States and Canada, westward to the Rocky Mountains. The Baja California records are probably erroneous.

NEW LOCALITIES: *Ontario*: Moulden Center, August 22, 1938, two immatures (T. B. Kurata); West Hill, May 31, 1944, one male (T. B. Kurata); Wellington, July 7, 1930, one female (T. B. Kurata); Toronto, October 7, 1942, one female subadult (S. Harrod). *Maine*: Mt. Desert Island (Procter, 1938, 1946). *Connecticut*: Branford, Monroe, New

Haven, Norwalk, Southington, Storrs, Union, Whitneyville, May 29–November 6 (Kaston, 1948). *Pennsylvania*: Western portion (Truman, 1942). *Maryland*: Montgomery (Muma, 1945). *Illinois*: Waukegan flats, Kankakee Dunes (Lowrie, 1942, 1948). *Michigan*: E. S. George Reserve, Livingston County, May 24, 1939, one male (I. J. Cantrall). *Baja California*: La Chuparosa; Sierra Laguna (Banks, 1898).

***Xysticus peninsulanus* Gertsch**

Xysticus peninsulanus GERTSCH, 1934, Amer. Mus. Novitates, no. 707, p. 7, fig. 11; 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 371, figs. 180–181, 194.

TYPE LOCALITY: Punta Gorda, Florida, male holotype in the American Museum of Natural History.

DISTRIBUTION: Florida: Punta Gorda, male, and Gainesville, female.

***Xysticus rockefelleri*, new species**

Figures 37–39

FEMALE: Total length, 10.50 mm.

Carapace reddish brown on the sides, medially with an indistinct pale median band distinct behind but suffused with brown in front. Sternum, labium, maxillae, and coxae pale yellowish brown, thickly flecked with small dark brown spots. Legs pale yellowish brown, very thickly covered with brown flecks on the sides, paler on the upper surfaces. Abdomen pale brown above, with numerous small black spots, the sides and venter a little paler, also flecked with black.

Structure typical, in close agreement with *Xysticus elegans* Keyserling and *funestus* Keyserling. Carapace (4.55 mm. long, 4.20 mm. wide) set with small setaceous spines, with longer ones in the ocular region, the clypeal margin with nine principal spines and several of intermediate size. Eyes typical, the front row narrower than the posterior (21/25), moderately recurved, the median separated by more than two diameters (20/52), nearer the laterals (20/35). Second row strongly procurved, the median separated by three diameters (20/62), farther from the laterals (20/68). Median ocular quadrangle broader than long (50/40), narrowed in front (50/36). Clypeus equal in

height to two and one-half diameters of an anterior median eye.

First leg: femur, 4.10 mm.; patella, 2.25 mm.; tibia, 3.25 mm.; metatarsus, 2.75 mm.; and tarsus, 1.35 mm. First leg spined as follows: femur, prolateral 2, dorsal 1; tibia, ventral 2-1-2-2-2-2; metatarsus, prolateral 7, retrolateral 5, ventral 7 principal pairs.

Abdomen (6.15 mm. long, 5.55 mm. wide) typical in shape, clothed sparsely with weak setaceous spines.

Epigynum as illustrated in figure 37.

MALE: Total length, 7.35 mm.

Carapace light reddish brown, the sides darker brown, marmorate, a brown spot on each side of posterior declivity, the middle with a pale stripe enclosing white flecks, and dark lines in front the eye tubercles whitish. Sternum and coxae pale yellowish brown, thickly spotted with black, the legs concolorous, thickly spotted with black, the first and second tibiae nearly black. Abdomen dark brown above, the sides and edge of dorsum white, the venter light brown, flecked with small black and white spots.

Carapace (3.80 mm. long, 3.65 mm. wide), with thin covering of short setaceous spines, the pars cephalica with erect black spines as usual, the clypeal margin with nine principal ones. Eyes essentially as in the female, the anterior median separated by more than two diameters (18/40), nearer the laterals (18/26). Posterior median eyes separated by two diameters (20/43) farther from the laterals (20/54). Median quadrangle broader than long (40/35), narrowed in front in the same ratio. Clypeus equal in height to slightly than two full diameters of an anterior eye. Abdomen (4.10 mm. long, 3.65 mm. wide) typical, set sparsely with short spines.

First leg: femur, 4.55 mm.; patella, 2.20 mm.; tibia, 3.50 mm.; metatarsus, 3.35 mm.; and tarsus, 1.55 mm. Spination of first leg: femur, prolateral 13, dorsal 5; tibia, prolateral and retrolateral 1-1-1, ventral 9 pairs and 2 single, some rather weak; metatarsus, prolateral 5, retrolateral 3, ventral 8 pairs and 1 single.

Palpus as shown in figures 38 and 39.

TYPE LOCALITY: Male holotype, female allotype, and male and female paratypes from Cañon Prieto, near Primavera, June 30, 1947 (W. J. Gertsch).

OTHER LOCALITIES: The following specimens are all labeled as paratypes: *Chihuahua*: Primavera, 5500–6000 feet, June 29, 1947, one male (W. J. Gertsch); San José Babicora, July 4, 1947, one male (W. J. Gertsch); Matachic, July 10, 1947, one male (W. J. Gertsch); Huejotitlan, July 20, 1947, one male (W. J. Gertsch). *Zacatecas*: Sain Alto, August 15, 1947, one female (W. J. Gertsch).

This species is readily distinguished from *elegans* and allied species by the details of the bulbal apophyses of the palpus. Most of the specimens were collected at night from agave, nolina, and other thorny desert plants in the bases of which the spiders hide.

It is a pleasure to note that this fine species, probably the largest American representative of the genus, is named for Dr. David Rockefeller who sponsored the 1947 expedition into the Mexican plateau region of Chihuahua and Durango.

Xysticus elegans Keyserling

Xysticus elegans, KEYSERLING, 1880, Die Spinnen Amerikas, Laterigradae, vol. 1, p. 31, pl. 1, fig. 14. PROCTER, 1938, Biological survey of the Mount Desert region, pt. 6, p. 459; 1946, *op. cit.*, pt. 7, p. 527. GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 372, figs. 156, 157, 192. CHICKERING, 1940, Papers Michigan Acad. Sci., vol. 25, p. 207, figs. 28–30. LOWRIE, 1942, Bull. Chicago Acad. Sci., vol. 6, p. 169; 1948, Ecology, vol. 29, p. 338. CHAMBERLIN AND IVIE, 1944, Bull. Univ. Utah, biol. ser., vol. 8, no. 5, p. 168; 1947, *ibid.*, biol. ser., vol. 10, no. 3, p. 69. MUMA, 1945, Bull. Maryland Agr. Exp. Sta., no. A38 (Tech.), p. 49. KASTON, 1948, Bull. Connecticut Geol. Nat. Hist. Surv., vol. 70, p. 425, figs. 1525–1528, 1544.

Xysticus limbatus KEYSERLING, 1880, Die Spinnen Amerikas, Laterigradae, vol. 1, p. 35, pl. 1, fig. 16 (not male).

Xysticus borealis KEYSERLING, 1883, Verhandl. K. K. Zool.-Bot. Gesellsch. Wien, vol. 33, p. 668, pl. 21, fig. 17.

TYPE LOCALITIES: Of *elegans*, Georgia, male type in the Muséum National d'Histoire Naturelle, Paris; of *limbatus*, Colorado or Texas, female cotypes in the Muséum National d'Histoire Naturelle, Paris; of *borealis*, Alaska, immature female type in the United States National Museum.

DISTRIBUTION: Eastern United States and Canada, westward to Rocky Mountains and north into Yukon and Alaska.

NEW LOCALITIES: *Mackenzie*: Et-Thead, Great Slave Lake, August 18, 1947, one immature (D. S. Rawson). *Nova Scotia*: Greenwood, April 9, 1945, one female (D. M. Davis). *Quebec*: Lake Mistassini, Rousseau Bay, Tchaphahipave Island, July 23, 1946, one female, two immatures (J. Rousseau); Pas Dangereuse, August 27, 1944, one female, one penultimate male. *Ontario*: Nipigon, August 12, 1948, females, immature male (W. J. Gertsch and T. B. Kurata); Newmarket, September 16, 1942, one immature female; Island 1024, Lake Temagami, August 15–25, females (W. J. Gertsch, W. Ivie, and T. B. Kurata); Highland Creek, June 7, 1941, female (S. Harrod); Smokey Falls, June 8, 1935, one male (R. V. Whellan); Lampton, June 30, 1916, one female (T. B. Kurata); Nakina, June 16, 1947, one female (W. Y. Watson). *Manitoba*: Victoria Beach, June 29, 1931, one female (T. B. Kurata). *Alaska*: Fort Yukon, Marx collection (Keyserling, 1882); Kodiak, July 20, 1899, Trevor Kincaid (Banks, 1900); Popof Island, July 7–18, 1899, Trevor Kincaid (Banks, 1900). *Maine*: Mt. Desert Island (Procter, 1938, 1946). *New Hampshire*: Randolph, September 14–19, 1939, one female (E. L. Bell); West Ossipee, August, 1936, one male (S. Mulaik). *Connecticut*: Numerous localities are cited by Kaston, 1948. *Massachusetts*: West Cummington, July, 1950, one female (S. C. Harriot). *New Jersey*: Ramsey, June 27, 1943, male (W. J. Gertsch). *Pennsylvania*: Milford, June 1, 1941, two females (B. Malkin). *Maryland*: Baltimore, Prince Georges and Montgomery counties (Muma, 1945). *West Virginia*: Minnehaha Springs, Pocahontas County, July, 1948, one female (K. W. Haller). *Georgia*: Gainesville, April 24, 1943, one male, one female (Chamberlin and Ivie, 1944). *Indiana*: Kankakee Dunes (Lowrie, 1942); Smith, Miller (Lowrie, 1948).

Xysticus emertoni Keyserling

Xysticus emertoni KEYSERLING, 1880, Die Spinnen Amerikas, Laterigradae, vol. 1, p. 39, pl. 1, fig. 18. PROCTER, 1946, Biological survey of the Mount Desert region, pt. 7, p. 527. GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 374, figs. 158, 159, 197. CHICKERING, 1940, Papers Michigan Acad. Sci., vol. 25, p. 208, figs. 31–33. CHAMBERLIN AND IVIE, 1944, Bull. Univ. Utah, biol. ser., vol. 8, no. 5, p. 168; 1947, *ibid.*, biol. ser.

vol. 10, no. 3, p. 69. MUMA, 1945, Bull. Maryland Agr. Exp. Sta., no. A38 (Tech.), p. 49. KASTON, 1948, Bull. Connecticut Geol. Nat. Hist. Surv., vol. 70, p. 426, figs. 1545-1546.

TYPE LOCALITY: Georgia, female type in the Muséum National d'Histoire Naturelle, Paris.

DISTRIBUTION: Eastern United States (south to Georgia and Texas) and Canada (Quebec, Ontario), westward into Colorado and Utah, and north into Yukon and Alaska.

NEW LOCALITIES: *Mackenzie:* Fort Smith, June 1, 1946, one female (J. P. Oughton); Resolution, Great Slave Lake, July 4, 1947, one female (D. S. Rawson). *Quebec:* Sainte Luce, August 2, 1940, one female (T. B. Kurata). *Ontario:* Deux Rivier, August 11, 1937, one female (T. B. Kurata); Smokey Falls, May 18, 1939, one male (R. V. Whelan); Sioux Lookout, July 4, 1947, one female (W. Y. Watson); Mer Bleue, June 2, 1931, one female (T. B. Kurata); Nipigon, June 17, 1921, one female (S. Logier); Lake Abitibi, July 10, 1925, two males (N. K. Biglow); Favourable Lake, latitude 53° N., one female (G. M. Neal); Mer Bleue, Hawthorn, May 13, 1937, one immature female (R. A. Urquhart); Gawas Bay, St. Joseph Island, August 2, 1948, one female (W. J. Gertsch and T. B. Kurata); Island 1024, Lake Temagami, August 15-25, 1946, one female (W. J. Gertsch, W. Ivie, and T. B. Kurata). *Saskatchewan:* Waskesiu Lake, 1938, one female (D. S. Rawson). *Alberta:* Calgary, April 28, 1929, one female (O. Bryant); Edmonton, three females (O. Bryant). *Yukon:* Dry Creek, July 25, 1948, one penultimate male; Marsh Lake, Mile 883, August 9, 1948, two females, seven subadult males and females; Champagne, August 4, 1948, one penultimate male; Snag, July 24, 1948, four subadult males and females. *Alaska:* Tolovana, Yukon River, one male from frog's stomach; Fort Yukon, one immature female from frog's stomach (R. D. Hamilton); Shaw Creek, Mile 289, Richardson Highway, May 17-June 6, 1949, two males (W. Fluegel); Fort Yukon, August, 1949, one penultimate male (Mr. and Mrs. J. Melville); McKinley National Park, June 16, 1931, one male; McCarthy, June 15, 1934, one female. *Maine:* Lincoln County, July 10-20, 1948, one male (D. J. Borror); Mt. Desert Island (Procter,

1938, 1946). *Vermont:* Rutland, August 13-20, 1940, one female (C. Stone). *New York:* McLean, July 23, 1937, one female (E. M. Greenspan); Ithaca, July 25, 1937, one female (R. N. Cantrall); Saratoga, May 31, 1941, one female (L. Clausen). *New Jersey:* Ramsey, July, 1944, one male (W. J. Gertsch). *Michigan:* Cheboygan County, males and females (Chickering, 1939). *Nebraska:* Weeping Water River, east of Lincoln, 1941, one female (M. J. Harbaugh). *Arizona:* Baldy Peak, 8800 feet, White Mountains, June 18, 1936, one male, one female (E. D. Ball).

***Xysticus spiethi*, new species**

Figure 23

MALE: Total length, 3.00 mm.

Carapace almost uniform dark brown or blackish, with only vestiges of a pale median stripe represented by pale markings in the eye region and on posterior declivity. Sternum dark brown, with median patch of white spots. Mouth parts and coxae dark brown. Basal segments of legs blackish, the metatarsi and tarsi yellowish brown. Abdomen dark brown above, with white markings on the sides, the venter light brown with white flakes.

Carapace (1.60 mm. long, 1.60 mm. wide) as broad as long, the head portion (0.95 at second eye row) of moderate width, clothed with short procumbent hairs and a few weak spines. Clypeal margin with nine principal spines but the middle one above the margin weak. Eyes typical, the median separated by two diameters, one diameter from the larger lateral eyes. Second row strongly recurved, the median separated by three diameters (7/22), a little farther from the larger laterals (7/25). Median ocular quadrangle as broad as long and as wide in front as behind, the hind eyes smaller. Clypeus equal in height to more than a diameter (9/12) of an anterior median eye.

First leg: femur, 1.35 mm.; patella, 0.77 mm.; tibia, 1.03 mm.; metatarsus, 1.06 mm.; and tarsus, 0.60 mm. Tibia and patella of fourth leg 1.10 mm. long. Spines of first leg: femur, prolateral 2, dorsal 1; tibia, prolateral 1 nearly distal, retrolateral 0-1-1, ventral 2-2-2; metatarsus, retrolateral 1 distal, ventral 2-2-2.

Palpus as illustrated in figure 23.

Abdomen (1.70 mm. long, 1.60 mm. wide) suboval, evenly clothed with short, filiform, subprocumbent hairs and a few longer, suberect setae.

TYPE LOCALITY: Male holotype from Las Canoas, near San José Babícora, July 3, 1947 (W. J. Gertsch).

The bulbal apophyses of this species show superficial similarity to those of *Xysticus emertoni* Keyserling but are distinct in details. The small size of *spiethi* and its very dark coloration further serve to differentiate it.

The present species is named for Dr. Herman Spieth, a member of the Mexican plateau expedition of 1947.

Xysticus bicuspis Keyserling

Xysticus bicuspis KEYSERLING, 1887, Verhandl. K. K. Zool.-Bot. Gesellsch. Wien, vol. 37, p. 478, pl. 6, fig. 38. GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 377, figs. 152-153, 189. MUMA, 1945, Bull. Maryland Agr. Exp. Sta., no. A38 (Tech.), p. 49. CHAMBERLIN AND IVIE, 1947, Bull. Univ. Utah, biol. ser., vol. 10, no. 3, p. 69. KASTON, 1948, Bull. Connecticut Geol. Hist. Surv., vol. 70, p. 426, figs. 1522-1524, 1539.

Xysticus graminis EMERTON, 1892, Trans. Connecticut Acad. Arts Sci., vol. 8, p. 364, pl. 29, fig. 2. CHICKERING, 1940, Papers Michigan Acad. Sci., vol. 25, p. 213, figs. 43-45.

TYPE LOCALITIES: Of *bicuspis*, Montana, male type in the United States National Museum; of *graminis*, Peabody, Massachusetts, male type in the Museum of Comparative Zoölogy.

DISTRIBUTION: Eastern United States and Canada, westward to Montana and Alaska.

NEW LOCALITIES: *Alaska*: Eklutna, June 30, 1945, one female (Chamberlin and Ivie, 1947). *Connecticut*: New Haven; Norwalk; Watertown (Kaston, 1948). *Maryland*: Prince Georges County (Muma, 1945). *Wisconsin*: Roche a Cri Roadside Park, Adams County, August 2, 1949, one female (H. Levi); Madison, Dane County, May, 1946, one male (H. Levi). *Michigan*: Albion, one male (Chickering, 1940); E. S. George Reserve, Livingston County, June 29, July 1 and 5, 1951, three females (H. K. Wallace).

Xysticus bolivari, new species

Figures 14-16

FEMALE: Total length, 7.20 mm.

Carapace dusky brown, darkest on the side margins, mottled just above, the median pale band suffused with brown in front, a narrow brown streak running back to join with a small brown dash at the median groove and two brown spots on the posterior declivity. Sternum yellowish, with white flecks, a black dot at posterior angle and a black dot in front opposite the first coxae. Labium, maxillae, and coxae dull yellowish, mottled with brown. Legs concolorous, mottled with brown, the femora, patellae, and tibiae of first two pairs considerably darker. Abdomen dusky brown above, with an indistinct pattern of white markings, the venter paler.

Carapace (2.40 mm. long and wide) provided with quite long setaceous spines, the clypeal margin with nine principal ones and eight smaller spines. Anterior median eyes separated by more than two diameters (14/36), much nearer the larger lateral eyes (14/25). Second eye row strongly recurved, the median separated by about three diameters (13/40), farther from the larger lateral eyes (13/47). Median ocular quadrangle broader than long (63/45), slightly narrower in front (63/60), the front eyes slightly larger. Clypeus equal in height to more than the diameter of an anterior median eye (14/19).

First leg: femur, 2.25 mm.; patella, 1.25 mm.; tibia, 1.65 mm.; metatarsus, 1.45 mm.; and tarsus, 0.85 mm. Tibia and patella of fourth leg 1.90 mm. long. Spines of first leg: femur, prolateral 3; tibia, ventral 2-2-1-2-2; metatarsus, prolateral 1, retrolateral 2, ventral 4 pairs.

Abdomen (5 mm. long, 4.70 mm. wide) typical, clothed sparsely with short setaceous hairs and a few longer spines.

Epigynum as illustrated in figure 15.

MALE: Total length, 3.80 mm.

Color pattern as in the female, but the carapace is brighter orange-brown and the basal segments of the front pairs of legs are quite uniform reddish brown. The abdomen is brown, with three yellowish chevrons and an indistinct white basal band.

Structure essentially as in *bradti*, *texanus*,

bicuspis, and related species. Carapace (2.05 mm. long, 1.95 mm. wide) sparsely clothed with inconspicuous setaceous hairs and set with a few longer spines, the clypeal margin with nine principal spines. Anterior median eyes separated by more than two diameters (11/25), much nearer the larger lateral eyes (11/17). Second eye row strongly recurved, the median separated by nearly three diameters (11/30), farther from the larger lateral eyes (11/35). Median ocular quadrangle broader than long (50/37), narrowed in front (50/45), the eyes equal in size. Clypeus higher than an anterior median eye (15/11). Abdomen set with short setaceous spines.

First leg: femur, 2.10 mm.; patella, 1.05 mm.; tibia, 1.55 mm.; metatarsus, 1.60 mm., and tarsus, 0.85 mm. Tibia and patella of fourth leg 1.55 mm. long. Spines of first leg: femur, prolateral 5, dorsal 4; tibia, prolateral and retrolateral 1-1-1, ventral 2-1-2-2; metatarsus, prolateral 2, retrolateral 1, ventral 4 pairs.

Palpus as illustrated in figures 14 and 16.

TYPE LOCALITY: Male holotype and female allotype from Tecolutla, Veracruz, October 13, 1947 (H. M. Wagner).

OTHER LOCALITIES: *Veracruz*: Alamo, October 17, 1947, female paratype (H. M. Wagner); Tuxpan, October 15, 1947, male paratype (H. M. Wagner); Papantla, October 12, 1947, male paratype (H. M. Wagner).

This species, which resembles *Xysticus bicuspis* most closely in genitalic features, is easily differentiated by the details of the bulbal apophyses. It gives me great pleasure to name it for Dr. C. Bolivar Pieltain of Mexico City.

Xysticus toltecus, new species

Figure 4

FEMALE: Total length, 6.75 mm.

Carapace brown on the sides, mottled, the median longitudinal stripe yellowish brown, with a darker linear streak, the whitish posterior declivity with a small brown spot on each side. Sternum mostly whitish, with a few black flecks, the labium and maxillae dusky, the coxae whitish, the front ones brown flecked. Front legs light brown, with large blackish marks on dorsa and sides of femora, patellae, and coxae, the distal segment rather uniform brown. Posterior legs yellowish,

with distinct apical black rings or spots. Abdomen gray to white, with an indistinct pattern of small black spots.

Structure in close agreement with that of *Xysticus bicuspis* Keyserling. Carapace (3.15 mm. long and wide) typical, the pars cephalica broad, its width at second eye row 2.20, the clothing small filiform hairs and spines, the clypeal margin with nine principal, long, setaceous spines. Median eyes of front row separated by scarcely three diameters (15/44), much nearer the lateral eyes (16/23). Second eye row moderately recurved, the median separated by nearly three diameters (16/47), farther from the lateral eyes (16/52). Median ocular quadrangle broader than long (78/55), narrowed in front (78/75), the eyes equal in size. Clypeus equal in height to more than the full diameter (16/24) of the anterior median eye.

First leg: femur, 2.60 mm.; patella, 1.60 mm.; tibia, 1.90 mm.; metatarsus, 1.80 mm.; and tarsus, 0.90 mm. Spination of first leg: femur, prolateral 3; tibia, ventral 1-2(1)-2-2; metatarsus, prolateral 0-1-1, retrolateral 0-1-0, ventral 2-2-2-2.

Abdomen (4.20 mm. long, 3.75 mm. wide) typical, suboval, clothed with rows of short filiform hairs and set sparsely with longer filiform spines.

Epigynum as illustrated in figure 4.

TYPE LOCALITY: Female holotype from Tlacotalpan, Veracruz, July 18, 1946 (H. Wagner).

Xysticus texanus Banks

Xysticus texanus BANKS, 1904, Jour. New York Ent. Soc., vol. 12, p. 112. GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 375, figs. 186, 187, 193. CHAMBERLIN AND IVIE, 1948, Bull. Univ. Utah, biol. ser., vol. 8, no. 5, p. 170.

TYPE LOCALITY: San Antonio, Texas, female type in the Museum of Comparative Zoölogy.

DISTRIBUTION: Southeastern states and westward to Texas, Colorado, and north-eastern Mexico (Nuevo Leon).

NEW LOCALITIES: *Texas*: Llano County, July 10-12, 1936, one male (L. Davis). *Nuevo Leon*: Seventy-six miles north of Monterrey, July 7, 1936, one immature female (L. Davis).

***Xysticus ocala*, new species**

Figures 53-56

FEMALE: Total length, 6.65 mm.

Carapace dusky yellowish brown, marked with dark brown longitudinal stripes as follows: a narrow, linear streak from between the median eyes to the posterior declivity; a pair of broader bands from side eyes to the edge of the declivity, and a narrower darker marginal stripe on each side. Posterior declivity pale. Sternum, maxillae, and labium pale yellowish brown, thickly flecked with brown; coxae similar but with few brown flecks. Base color of legs pale yellowish brown but the front pairs nearly black except for the brown tarsi, a whitish patch at base of the metatarsi and extended paler areas at base of the femora. Abdomen mostly gray above, with a series of narrow whitish chevrons in caudal half, the venter grayish.

Structure typical, in close agreement with that of *Xysticus texanus* Banks and related species. Carapace (2.65 mm. long and wide) rather thickly clothed with short setaceous hairs and longer spines, the clypeal margin with nine principal short setae. Eyes typical, the anterior median separated by about three diameters (12/33), nearer the larger laterals (12/22). Second eye row moderately recurved, the median eyes separated by scarcely four diameters (11/38), slightly farther from the larger lateral eyes (11/42). Median ocular quadrangle broader than long (62/42), slightly narrowed in front (62/55). Clypeus equal in height to one and one-half diameters of an anterior median eye.

First leg: femur, 2.25 mm.; patella, 1.35 mm.; tibia, 1.70 mm.; metatarsus, 1.50 mm.; and tarsus, 0.85 mm. Spination of first leg: femur, prolateral 3; tibia, ventral 2-(1)-2-(2)-2-2, 4 principal pairs stronger; metatarsus, prolateral and retrolateral 0-1-0, ventral 1-2-2-2-2, the single basal spine weak.

Abdomen (4.10 mm. long, 3.60 mm. wide) typical, suboval, clothed evenly with short, erect, black setae.

Epigynum as illustrated in figure 56.

MALE: Total length, 5.20 mm.

Color pattern essentially as in the female. Base color of carapace orange-brown, the longitudinal brown bands proportionately broader, the dorsal pair passing back from

the side eyes to the caudal margin, the median pale stripe much invaded in front by brown color. Under side and legs as in the female, but the front femora all dark reddish brown. Abdomen dark brown, with creamy white chevrons as in the female.

Structure essentially as in the female and much like that of *Xysticus texanus*. Carapace clothed with fine, procumbent, setaceous spines, hardly visible because of the dark color pattern, with two long spines just below the side eyes, and nine short principal spines on the clypeal margin. Anterior median eyes separated by more than two diameters (14/32), nearer the lateral eyes (14/22). Second eye row moderately recurved, the median eyes separated by about three diameters (13/37), slightly farther from the lateral eyes (13/40). Median ocular quadrangle broader than long (63/42), narrowed in front (63/53), the eyes subequal in size. Clypeus equal in height to scarcely more than the full diameter of the median eye. Abdomen (2.65 mm. long, 2.35 mm. wide) typical, relatively smooth, the sparse covering of short setaceous hairs inconspicuous.

First leg: femur, 2.45 mm.; patella, 1.30 mm.; tibia, 1.80 mm.; metatarsus, 1.65 mm.; and tarsus, 1.00 mm. Spination of first leg: femur, prolateral 5, dorsal 2; tibia, prolateral and retrolateral 1-1-1, ventral 2-2-1-2-2; metatarsus, prolateral 1-1-1, retrolateral 0-1-1, ventral 1-2-2-2-2-2.

Palpus as illustrated in figures 53 to 55.

TYPE LOCALITY: Male holotype from Ocala, Florida (Sheffield collector).

OTHER LOCALITIES: *Georgia*: Floyd County, August 29, 1949, female allotype (H. K. Wallace); Atlanta, May, 1899, two immatures (J. H. Emerton).

DISTRIBUTION: Known only from the above specimens. The young specimens from Atlanta were recorded erroneously as *X. texanus* by Gertsch (1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 376).

This handsome species is similar to *Xysticus texanus* Banks in structure and general appearance. It is easily distinguished by many details in the color pattern (the marginal and dorsal stripes on the carapace, the dark femora and metatarsi of the front legs, etc.) and by small differences in the genitalia as illustrated.

Xysticus arizonicus Gertsch

Figure 36

Xysticus fissilis BANKS, 1898, Proc. California Acad. Sci., ser. 3, vol. 1, p. 259 (female only).

Xysticus arizonicus GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 377, fig. 195.

TYPE LOCALITY: San Xavier del Bac Indian Reservation, near Tucson, Arizona, female holotype in the American Museum of Natural History.

DISTRIBUTION: Arizona, New Mexico, Baja California and Sonora, Mexico.

NEW LOCALITIES: *Baja California*: Natividad, June 5-6, 1945, two females (B. F. Osorio Tafall). *Nayarit*: Tepic, one female (Banks, 1898).

The mature female cotype of *fissilis* in the Museum of Comparative Zoölogy does not belong with the male (see *Xysticus peltax* Cambridge). It may not have been the "scarcely mature" female mentioned in Banks's description of 1898 and was possibly added to the vial at a later date.

Xysticus orizaba Banks

Figures 48-50

Xysticus orizaba BANKS, 1898, Proc. California Acad. Sci., vol. 1, p. 260, pl. 16, fig. 6. PETRUNKEVITCH, 1911, Bull. Amer. Mus. Nat. Hist., vol. 29, p. 441. GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 378 (not *paiutus* nor any cited records from the United States).

The male and female cotypes in the Museum of Comparative Zoölogy were studied during a recent visit, and the included figures are based on these specimens. The male is 5.00 mm. long. The first leg measurements are as follows: femur, 2.35 mm.; patella, 1.20 mm.; tibia, 1.70 mm.; metatarsus, 1.70 mm.; and tarsus, 1.00. The female is 9.00 mm. long.

TYPE LOCALITY: Orizaba, Veracruz, male and female cotypes originally in California Academy of Sciences, now destroyed, and one male and one female (cotypes) in the Museum of Comparative Zoölogy.

DISTRIBUTION: Veracruz, Chihuahua, Baja California (Agua Caliente).

NEW RECORD: *Chihuahua*: Santa Barbara, 6300 feet, February 15, 1947, one female, probably this species (G. M. Bradt).

Inasmuch as the females of this species

group are difficult to separate, Banks's record of *orizaba* from Agua Caliente, Baja California, must be questioned. This is an allied but quite distinct species from *Xysticus paiutus* Gertsch, which was erroneously placed in synonymy with *orizaba* by Gertsch in 1939.

Xysticus paiutus Gertsch

Figures 42-44

Xysticus paiutus GERTSCH, 1933, Amer. Mus. Novitates, no. 593, p. 17, figs. 16, 20.

Xysticus orizaba GERTSCH, 1934, Amer. Mus. Novitates, no. 707, p. 12 (synonymizes *paiutus*); 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 378, figs. 154, 155, 190 (not *orizaba* Banks).

TYPE LOCALITY: St. George, Utah, male holotype in the University of Utah collection.

DISTRIBUTION: Southwestern United States from southern Idaho and northern Utah into Arizona and Mexico. The male from Brazos County, Texas, previously assigned to this species is now regarded as a different species, *Xysticus robinsoni* Gertsch.

NEW LOCALITIES: *Utah*: Beaver Dam Wash, Washington County, April 18, 1932, male, two females (W. Ivie). *Arizona*: Tucson, 2600 feet, March, April, 1941, two females (H. Ellsworth); Tucson, March 1, 1937, one male, four females (O. Bryant); Mormon Lake, May 1, 1936, one male, one female (O. Bryant). *Nevada*: Las Vegas, February-June, 1945, one female (D. J. Zinn); Bouldorado Ranch, Las Vegas, October 4, 1944, one immature (D. J. Zinn).

Xysticus robinsoni, new species

Figure 46

Xysticus orizaba GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 378 (Texas record only, not *orizaba* Banks).

MALE: Total length, 5.20 mm.

Carapace mostly brown on the sides and with the usual longitudinal pale stripe. Each side patch indistinctly divided into a marginal brown band and a narrow brown stripe which passes back from the side eyes to fuse with the spot on the posterior declivity and continue to the caudal margin. Pale median stripe suffused with brown in front, with a brown spot at the obsolete median groove from which pass forward three linear brown streaks, and at each side a white streak.

Sternum whitish, with a pattern of brownish blotches, the labium mostly brown, the maxillae and coxae flecked with brown. Legs brown, the apical segments paler, the femora, patellae, and tibiae with brown and whitish spots, the dorsa of these segments with a narrow linear stripe running their length, the sides and venters with less distinct paler stripes. Abdomen light brown above, the base and sides whitish, with indistinct brown chevrons margined with white; the venter whitish, but brownish at base and spinnerets brown, pale at apices.

Structure in close agreement with that of *orizaba*, *paiutus*, and related species. Carapace (2.55 mm. long and wide) typical, the pars cephalica at the second eye row three-fifths of the greatest width, set with fine setaceous spines and armed with long setaceous spines in the eye area, the clypeal margin with nine principal spines, the median spine as usual set a little above the others. Anterior median eyes separated by more than two diameters (14/35), nearer the lateral eyes (14/17). Second row moderately recurved, separated by more than two diameters (14/36), a little farther from the lateral eyes (14/40). Median ocular quadrangle broader than long (61/45), as wide in front as behind, the eyes subequal in size. Clypeus higher than the full diameter of an anterior median eye (14/20).

First leg: femur, 2.65 mm.; patella, 1.35 mm.; tibia, 4.00 mm., metatarsus, 4.05 mm.; and tarsus, 1.00 mm. Tibia and patella of the fourth leg 1.90 mm. long. Spines of first leg: femur, prolateral 7-9, dorsal 3, tibia, prolateral and retrolateral 1-1-1, the last not apical, ventral 4 pairs, metatarsus like tarsus but distal prolateral and retrolateral apical in position.

Palpus as illustrated in figure 46.

Abdomen typical (2.85 mm. long, 2.65 mm. wide), set with rows of setaceous hairs and weak spines.

TYPE LOCALITY: Male holotype from Brazos County, Texas, February 23, 1935 (John H. Robinson).

OTHER LOCALITIES: *Texas*: Abilene, July, 1945, male paratype (Mary M. Wills). *San Luis Potosi*: Cueva de los Sabinos, near Valles, March 8-April 4, 1946, immature female paratype, agrees closely in coloration

and structural features with the male (B. J. Dontzin and E. Ruda).

This species differs from both *X. orizaba* and *paiutus* in details of the bulbal apophyses, in the greater length and curve of the embolus which terminates as a small truncated process instead of a thin space. *Xysticus robinsoni* resembles *orizaba* in coloration and is smaller and darker than *paiutus*.

***Xysticus imitarius*, new species**

Figure 45

FEMALE: Total length, 9.20 mm.

Color pattern as in *paiutus* but the tone darker, dusky brown instead of yellowish brown. Brown side spots and the front median spot of the posterior declivity well marked.

Structure typical, in close agreement with that of *paiutus*. Carapace (3.35 mm. long and wide) typical, clothed with setiform hairs and spines, the clypeal margin with 11 principal and several long intermediate spines. Anterior median eyes separated by scarcely three diameters (17/50), much nearer the larger lateral eyes (17/27). Second eye row moderately recurved, the median separated by three diameters (16/56), slightly nearer the larger lateral eyes (16/54). Median ocular quadrangle broader than long (81/60), slightly narrowed in front (81/76).

First leg: femur, 2.80 mm.; patella, 1.65 mm.; tibia, 2.00 mm.; metatarsus, 1.70 mm.; and tarsus, 1.10 mm. Spines of first leg: femur, prolateral 5; tibia, ventral 4 pairs; metatarsus, prolateral 2, retrolateral 1, ventral 4 pairs.

Abdomen typical (6.15 mm. long, 5.60 mm. wide), evenly clothed with setaceous spines.

Epigynum as illustrated in figure 45.

TYPE LOCALITY: Female holotype from Little Cottonwood Canyon, near Salt Lake City, Utah, July 17, 1949 (W. J. Gertsch).

DISTRIBUTION: So far known only from the Wasatch Mountains near Salt Lake City, Utah.

This species has been confused with *paiutus*, from which it differs in its dusky coloration and especially in the epigynum.

***Xysticus cochise*, new species**

Figure 47

FEMALE: Total length, 6.75 mm.

Pattern in very close agreement with that of *imitarius* but the color is a brighter orange-brown.

Structure essentially as in *imitarius*, *paiutus*, and related species. Carapace (3.35 mm. long and wide) typical, convex, broad in front, the width of the pars cephalica at the second eye row 2.25 mm., clothed with setaceous hairs, the clypeal margin with 11 long principal spines and others of intermediate length. Anterior median eyes separated by more than three diameters (15/53), half as far from the lateral eyes. Second row moderately recurved, the median eyes separated by more than three diameters (14/50), a little farther from the larger lateral eyes (14/55). Median ocular quadrangle broader than long (78/56), as broad in front as behind, the eyes subequal in size. Clypeus higher than the diameter of an anterior median eye (14/24).

First leg: femur, 3.10 mm.; patella, 1.75 mm.; tibia, 2.25 mm.; metatarsus, 2.00 mm.; and tarsus, 0.95 mm. Spination of first leg: femur, prolateral 3, tibia, ventral 1-2-2-2, metatarsus, prolateral 0-1-1, retrolateral 0-1-0, ventral 2-2-2-2.

Abdomen (4.50 mm. long and wide) typical, clothed evenly with thin setaceous hairs and weak spines.

Epigynum as illustrated in figure 47.

TYPE LOCALITY: Female holotype from the Chiricahua Mountains, Arizona, August 5, 1933 (O. Bryant).

***Xysticus federalis*, new species**

Figure 7

FEMALE: Total length, 7.15 mm.

Carapace with the sides dark brown, the dorsum mostly dark brown, the usual pale middle stripe largely obscured, the posterior declivity whitish with a brown spot at front edge and one on each side. Base color of sternum, labium, maxillae, and coxae yellowish but all thickly flecked with brown. Legs marked with numerous black and brown spots over a yellowish base and with more or less distinct whitish stripes above and below on the basal segments. Abdomen dusky yellowish brown, with an indistinct black pattern above.

Structure essentially as in *orizaba*, *paiutus*, and related species. Carapace (3.15 mm.

long, 2.95 mm. wide) typical, clothed with setaceous spines, the clypeal margin with seven principal spines and four of intermediate length. Anterior median eyes separated by nearly three diameters (15/43), nearer the lateral eyes (15/24). Second eye row moderately recurved, separated by nearly three diameters (15/44), a little farther from the lateral eyes (15/48). Median ocular quadrangle broader than long (68/53), narrowed slightly in front (68/66), the eyes equal in size. Clypeus higher than the diameter of an anterior median eye (15/22).

First leg: femur, 2.50 mm.; patella, 1.50 mm.; tibia, 1.75 mm.; metatarsus, 1.70 mm.; and tarsus, 1.05 mm. Spination of first leg: femur, prolateral 3; tibia ventral 1-2-2-2; metatarsus, prolateral 0-1-1, retrolateral 0-1-0, ventral 2-2-2-2.

Abdomen (4.70 mm. long, 4.00 mm. wide) typical, clothed with setaceous spines.

Epigynum as illustrated in figure 7.

TYPE LOCALITY: Female holotype from Tlalpam, Distrito Federal, Mexico, May 25, 1946 (J. C. and D. L. Pallister).

This is a darker species than *orizaba* and relatives and is distinct in the details of the epigynum.

***Xysticus curtus* Banks**

Xysticus curtus BANKS, 1898, Proc. California Acad. Sci., ser. 3, vol. 1, p. 260, pl. 16, fig. 8. PETRUNKEVITCH, 1911, Bull. Amer. Mus. Nat. Hist., vol. 29, p. 438.

"Length 5.5 mm.; ceph. 2.3 mm. long, broad 2.3 mm.; femur I 2.1 mm. Cephalothorax whitish above, brown on sides, ending behind in two spots scarcely darker, a median pointed spot, in front a rather darker area, clypeus whitish; mandibles pale, with brown at base; femora pale beneath, mottled above; tibiae and patellae with two brown stripes above, between them a white line; hind pairs slightly mottled; sternum grayish, with brown dots. Abdomen gray, with indistinct transverse brown spots on the posterior part, and two short faint stripes in front. A.M.E. equal to P.M.E., and fully as far apart, plainly nearer to the A.S.E. than to each other; four pairs of spines under anterior tibiae and metatarsi; sternum rather broad. Abdomen small, broadest just behind the middle, broadly rounded behind.

"One female; Cape Region."

TYPE LOCALITY: Cape Region, Baja California, female type originally in California Academy of Sciences collection but destroyed.

***Xysticus apertus* Banks**

Xysticus apertus BANKS, 1898, Proc. California Acad. Sci., ser. 3, vol. 1, p. 259, pl. 16, fig. 7. PETRUNKEVITCH, 1911, Bull. Amer. Mus. Nat. Hist., vol. 29, p. 437.

"Length 7 mm.; ceph. 3 mm. long, broad 3 mm.; femur I 2.8 mm. Cephalothorax brown on the sides, ending in two darker brown spots, a black median point, in front of which it is brownish, two darker median lines, a white band connecting the S.E.; mandibles mottled with brown at base, pale at tip; sternum dotted with brown; a black line on coxae, and a spot on trochanters; anterior legs very thickly mottled with brownish, posteriorly paler on the femora, metatarsi and tarsi paler, a white line above on the patellae and tibiae; hind legs less spotted, a large spot on the middle of femora and a still larger one at the tip, and on the base and tip of patellae and tibiae. The abdomen has a broad dentate whitish stripe in the middle, and pale brownish ones on the sides, formed of the usual spots connected; sides and venter dotted with brown. A.M.E. as large as P.M.E., and fully as far apart, plainly nearer to the A.S.E. than to each other. Four pairs of spines under anterior tibiae and metatarsi; sternum rather narrow, much longer than broad. Abdomen very short, broader than long.

"One female and one young male; Cape Region."

TYPE LOCALITY: Cape Region, Baja California, female and young male cotypes, female originally in California Academy of Sciences collection, destroyed; young male in penultimate instar in the Museum of Comparative Zoölogy.

GROUP B

The tibia of the male palpus has, in addition to the conventional ventral and retrolateral apophyses, a well-developed tubercle or intermediate apophysis (except in *lutzi*). The two bulbal apophyses are broadly joined at the base. The epigynum presents in front

a transverse plate or elevation, which presumably serves the same purpose during mating as does the typical median septum of the previous group.

Additional distribution data are provided for this small series of quite rare species which is known only from the southwestern part of the United States and adjacent Mexico. *Xysticus aprilinus* Bryant is common in the grassland of southern Arizona and northern Chihuahua, but most of the examples so far collected are immature. Full maturity presumably occurs after mid September for both sexes.

The authentic female of *Xysticus coloradensis* Bryant is described and illustrated for the first time, and the female previously assigned to *coloradensis* is associated with *X. lassanus* Chamberlin.

***Xysticus coloradensis* Bryant**

Figure 33

Xysticus coloradensis BRYANT, 1930, Psyche, vol. 37, p. 133, figs. 1 and 3 (male only; see *X. lassanus* for female). GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 38, figs. 206-207 (male only).

The only known female specimen is described below.

FEMALE: Total length, 8.00 mm.

Carapace with the median pale stripe distinct, whitish but tinted somewhat with cinnamon brown, the sides mostly dark brown, with pale spots on the margins, the posterior declivity pale in middle and with a white spot on each side ringed with brown. Under side of carapace whitish, smudged with black. Legs whitish in base color but the basal segments of front legs quite uniformly smudged or stippled with black to give them a dusky, grayish cast, and the hind legs with distinct black spots and rings. Abdomen whitish, the dorsal pattern obscured by poor preservation.

Structure very similar to that of the male, with allowance for the usual sexual differences. Carapace (3.50 mm. long, 3.30 mm. wide) clothed with setaceous hairs, set with longer setae, the clypeal margin with seven principal spines and other shorter ones. Anterior median eyes separated by two diameters (17/35), about a full diameter from the large lateral eyes. Second eye row moderately re-

curved, the median separated by two diameters (17/36), somewhat farther from the lateral eyes. Median ocular quadrangle longer than broad (69/66), narrowed slightly in front (66/63), the eyes equal in size. Clypeus higher than two diameters of the anterior median eye (17/40).

First leg: femur, 3.35 mm.; patella, 1.75 mm.; tibia, 2.35 mm.; metatarsus, 2.35 mm.; and tarsus, 1.15 mm. Spination of first leg: femur, prolateral 3, dorsal 1 strong, 3 weak; tibia, ventral, 2-2(1)-2-2; metatarsus, prolateral 1-1-1, retrolateral 0-1-0, ventral 2(2)-2-(1)-2-4.

Abdomen (5.00 mm. long, 4.65 mm. wide) typical, clothed with rows of long setaceous hairs.

Epigynum as illustrated in figure 33.

TYPE LOCALITY: Fort Collins, Colorado, male holotype in the Museum of Comparative Zoology.

DISTRIBUTION: Rocky Mountains and California (Mono County).

KNOWN LOCALITIES: *Utah*: Tooele County, October, 1928, one male. *Colorado*: Fort Collins, one male. *New Mexico*: Socorro County, October 8, 1949, one female (C. Hoff). *California*: Benton, Mono County, May 11, 1942, one male (W. Pearce).

The specimens enumerated above are the only known records for this rare species. The females of *coloradensis* described by Bryant belong with the male of *Xysticus lassanus* Chamberlin and are assigned to a different section of the genus. The epigynum of *coloradensis* is similar in gross features to that of *Xysticus aprilinus* and of *concurus*. The median ocular quadrangle in both sexes of *coloradensis* is slightly longer than broad.

Xysticus aprilinus Bryant

Xysticus aprilinus BRYANT, 1930, *Psyche*, vol. 37, p. 132, fig. 4. GERTSCH, 1939, *Bull. Amer. Mus. Nat. Hist.*, vol. 76, p. 381, figs. 204, 205.

TYPE LOCALITY: El Paso, Texas, female type in the Museum of Comparative Zoology.

DISTRIBUTION: Western Texas to California, Chihuahua.

NEW LOCALITIES: *Texas*: Toyah, June 22, 1947, one immature (W. J. Gertsch). *Arizona*: Sixteen miles southeast of Dos Cabezas, September 8, 1950, subadult males and females; Lochiel, September 6, 1950, two im-

matures (W. J. Gertsch); Florida Canyon, Patagonia Mountains, September 6, 1950, subadult males and females, many immatures (W. J. Gertsch); Florida Canyon, Patagonia Mountains, November, 1950, two mature males (W. J. Gertsch); Montezuma Pass, Huachuca Mountains, September 7, 1950, 12 immatures (W. J. Gertsch). *California*: Twentynine Palms, June–August, 1945, five immatures (J. H. Branch). *Chihuahua*: Matachic, July 6, 1947, one immature (W. J. Gertsch); Primavera, July 1, 1947, one immature female (W. J. Gertsch); Agua Caliente, west of Santa Barbara, July 23, 1947, one immature female (W. J. Gertsch); Torrecillas, 6900 feet, August 17, 1947, one immature female (G. M. Bradt); Valle de Olivos, 5500 feet, July 20, 1947, one immature female (W. J. Gertsch).

Xysticus lutzi Gertsch

Xysticus lutzi GERTSCH, 1935, *Amer. Mus. Novitates*, no. 792, p. 27; 1939, *Bull. Amer. Mus. Nat. Hist.*, vol. 76, p. 382, figs. 210–211.

TYPE LOCALITY: Kits Peak Rincon, Baboquivari Mountains, Arizona, male holotype in the American Museum of Natural History.

DISTRIBUTION: Arizona and Baja California.

NEW LOCALITIES: *Baja California*: Ten miles north of Domingo Landing, June 27, 1938, one male (E. S. Ross). *Chihuahua*: Huejotitlan, July 20, 1947, one male (W. J. Gertsch). *Arizona*: Forestry Cabin, Baboquivari Mountains, 3500 feet, July 18–29, 1951, one male (W. S. Creighton).

Xysticus concursus Gertsch

Xysticus concursus GERTSCH, 1934, *Amer. Mus. Novitates*, no. 707, p. 9, fig. 13; 1939, *Bull. Amer. Mus. Nat. Hist.*, vol. 76, p. 381, figs. 198, 208–209.

TYPE LOCALITY: Edinburg, Texas, female holotype in the American Museum of Natural History.

DISTRIBUTION: Texas. No additional examples of this rare species have turned up in recent collections.

GROUP C

A notable feature of this group is the development in the male palpus of a heavy, broad embolus with a conspicuous apical sclerite,

except in *furtivus*. The median apophysis is greatly reduced in size in *Xysticus ferox* and its relatives and obsolete in *cunctator* and related species.

In this exclusively American group are found the two commonest members of the genus, *Xysticus ferox* Hentz of the east and *X. cunctator* Thorell of the west. The common, widespread *X. facetus* O. P. Cambridge of Mexico is a close ally of *ferox* and is herein reported from some of our southwestern states. Additional distributional data are provided for all the species except *furtivus* of Edinburg, Texas, which is still known only from a single pair.

Xysticus ferox Hentz

Thomisus ferox HENTZ, 1847, Jour. Boston Soc. Nat. Hist., vol. 5, p. 445, pl. 23, fig. 3.

Xysticus stomachosus KEYSERLING, 1880, Die Spinnen Amerikas, Laterigradae, vol. 1, p. 7, pl. 1, fig. 1.

Xysticus distinctus BANKS, 1892, Proc. Acad. Nat. Sci. Philadelphia, p. 52, pl. 3, fig. 89.

Xysticus transversus BANKS, 1892, Proc. Acad. Nat. Sci. Philadelphia, p. 54, pl. 3, figs. 6, 6a, 6b.

Xysticus ferox GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 385, figs. 212, 213, 225, 233. PROCTER, 1938, Biological survey of the Mount Desert region, pt. 6, p. 459; 1946, *op. cit.*, pt. 7, p. 527. KURATA, 1939, Canadian Field Nat., vol. 53, p. 82. CHICKERING, 1940, Papers Michigan Acad. Sci., vol. 25, p. 210, figs. 34-36. TRUMAN, 1942, Proc. Pennsylvania Acad. Sci., vol. 16, p. 28. LOWRIE, 1942, Bull. Chicago Acad. Sci., vol. 6, p. 169; 1948, Ecology, vol. 29, p. 338. MUMA, 1943, Common spiders of Maryland, p. 111, pl. 8, fig. 1, pl. 14, fig. 18; 1945, Bull. Maryland Agr. Exp. Sta., no. A38 (Tech.), p. 50. KASTON, 1948, Bull. Connecticut Geol. Nat. Hist. Surv., vol. 70, p. 427, figs. 1532-1533, 1554.

Xysticus transversatus CHAMBERLIN AND IVIE, 1944, Bull. Univ. Utah, biol. ser., vol. 8, no. 5, p. 170.

TYPE LOCALITIES: Male and female cotypes of *stomachosus* Keyserling from Baltimore, Maryland (Koch collection); female cotype from Peoria, Illinois, in the University of Breslau. Female type of *Thomisus ferox* Hentz from the "United States," the specimen lost. Female and male cotypes of *X. transversus* Banks from the upper Cayuga Lake basin, New York, in the Museum of Comparative Zoölogy (Banks collection). Female type of *X. distinctus* Banks from

Indian Spring, upper Cayuga Lake basin, New York, in the Museum of Comparative Zoölogy (Banks collection).

DISTRIBUTION: Eastern United States and Canada, west to Utah, Montana, and Alberta.

OTHER LOCALITIES: *Mackenzie*: Reindeer Station, August 7-20, 1948, one immature (J. R. Vockeroth). *Ontario*: York County (Kurata, 1939); Toronto, June 25, 1934, one immature (E. C. Oakley); Sioux Lookout, June-July, 1946, one female (G. S. Cameron); Turkey Point, June 11, 1933, one female (T. B. Kurata); Point Pelee, July 6, 1938, three females (T. B. Kurata); Mer Bleue, June 4, 1931, two females (T. B. Kurata); Nipigon, June 17, 1921, two females (S. Logier); Lake Abitibi, July 12, 1925, two females (N. K. Biglow); Pelee Island, June 4-16, 1950, many males and females (W. Ivie and T. B. Kurata). *Alberta*: Edmonton, one male. *Yukon*: Whitehorse, July 1-12, 1948, one immature female. *Alaska*: Shaw Creek, Mile 289, Richardson Highway, May 17-June 6, 1949, one male (W. Fluegel); Alaska Lodge, 86 miles north of Fairbanks, June 20, 1949, one female (W. Fluegel); Tolovana, Yukon River, one male in frog's stomach (R. H. Hamilton). *Maine*: Mt. Desert Island (Procter, 1938, 1946). *Connecticut*: Kaston (1948) cites numerous records for this species. *Pennsylvania*: Western part of the state (Truman, 1942). *Maryland*: Chevy Chase, September 19, 1945, immature female (J. M. Davis); from nine counties in the state, males and females (Muma, 1943). *Virginia*: Great Potomac Falls, June 6, 1941, two males, one female (B. Malkin). *West Virginia*: Minnehaha Springs, Pocahontas County, July, 1948, two females (K. W. Haller). *South Carolina*: Bethune, June 10, 1935, two immatures (Chamberlin and Ivie, 1944); Aiken, August 22, 1933, immature (Chamberlin and Ivie, 1944). *Georgia*: Gainesville, June, 1939, one male (B. J. Kaston); 8 miles west of Savannah, April 5, 1943, one male (Chamberlin and Ivie, 1944); west of Lavonia, April 29, 1943, one male (Chamberlin and Ivie, 1944); north of Athens, June 16, 1935, two immatures (Chamberlin and Ivie, 1944). *Florida*: Jasper, June 15, 1935, two immatures (Chamberlin and Ivie, 1944). *Alabama*: Cheaha State Park, June, 1940,

one female (A. F. Archer); Black Warrior National Forest, Lawrence County, 1939, one female (A. F. Archer); Hatchet Creek, Coosa County, June, 1940, two males (A. F. Archer); Clear Creek, Jackson County, June, 1940, one female (A. F. Archer); Monte Sano, 1939, male (A. F. Archer). *Indiana*: Smith; Lewis Woods; Richmond (Lowrie, 1948). *Illinois*: Kankakee Dunes (Lowrie, 1942). *Michigan*: Vicinity of Albion, males and females (Chickering, 1940); Saugatuck; Warren's Woods (Lowrie, 1948). *Iowa*: Sioux City, two males, one female (C. N. Ainslie). *Louisiana*: Shreveport, May 8, 1949, one female (J. H. Robinson). *Texas*: Austin, April 1, 1946, male and female (H. J. Plummer); Bull Creek, Travis County, June 21, 1947, female (H. E. Frizzell); Onion Creek, Travis County, May 18, 1947, six females (D. L. and H. E. Frizzell); Austin, May 1, August 20, 1947, May 5, 1945, two males, one female (D. L. and H. E. Frizzell). *Colorado*: Four miles east of Mesa, June 16, 1938, one female (U. Lanham). *Wyoming*: Pacific Creek, Teton County, June 15, 1950, one female (D. C. Lowrie).

***Xysticus advectus* O. P. Cambridge**

Xysticus advectus O. P. CAMBRIDGE, 1890, Biologia Centrali-Americana, Araneida, vol. 1, p. 71, pl. 9, fig. 12. F. P. CAMBRIDGE, 1900, Biologia Centrali-Americana, Araneida, vol. 2, p. 147.

TYPE LOCALITY: Chicoyoito, Guatemala, immature female type in the British Museum (Natural History).

F. P. Cambridge says of *Xysticus advectus*: "I have no doubt that this immature example is the young of the female of *X. pellax*." This is a very doubtful synonymy and emphasizes the fact that *advectus* cannot be placed with any confidence at the present time. I have cited the name here in the belief that the species is most probably the immature female of *facetus*, but I am hesitant to supplant *facetus* with *advectus* without a study of the type.

***Xysticus facetus* O. P. Cambridge**

Figures 51-52

Xysticus facetus O. P. CAMBRIDGE, 1896, Biologia Centrali-Americana, Araneida, vol. 1, p. 179, pl. 22, fig. 1. F. P. CAMBRIDGE, 1900, Biologia Centrali-Americana, Araneida, vol. 2, p. 148, pl. 10, fig. 13.

Xysticus verecundus GERTSCH, 1934, Amer. Mus. Novitates, no. 707, p. 2 (female only, not male holotype).

TYPE LOCALITY: Cuernavaca, Morelos, male type in the British Museum (Natural History).

DISTRIBUTION: Central America (Honduras) and northward through eastern and western Mexico into Utah and New Mexico.

SPURIOUS RECORD: The specimen from Cartago, Costa Rica (Picado collector), referred to *Xysticus advectus* by Banks (1909; Proc. Acad. Nat. Sci. Philadelphia, vol. 61, p. 214), is a species of *Misumenops*. Reimoser (1939, Ann. Nat. Mus. Wien, vol. 50, p. 369) cites Banks's record.

OTHER LOCALITIES: *Utah*: Moab, June 19, 1934, three males (W. Ivie). *New Mexico*: Kirtland, July 23, 1941, one male (C. and M. Goodnight). *Chihuahua*: Catarinas, July 25, 1947, five males (W. J. Gertsch); Las Delicias, 4150 feet, July 12, 1947, two males, one female (W. J. Gertsch). *Durango*: Palos Colorados, 8000 feet, August 5, 1947, one male (W. J. Gertsch); 10 miles east of El Salto, August 8, 1947, one female (W. J. Gertsch). *Jalisco*: Four miles southwest of Guadalajara, June 20, 1941, one male (L. I. Davis); Lake Chapala, two females (allotype and paratype of *verecundus* Gertsch). *Guerro*: Iguala, June 19, 1936, one male, one immature (A. M. and L. I. Davis); Taxco, April, 1946, two immatures (L. Isaacs). *Hidalgo*: Ixmiquilpan, August 15, 1947, one female, two immatures (H. Wagner). *Distrito Federal*: Xochimilco, June 30, 1947, (C. Goodnight). *Morelos*: Cuernavaca, male type, H. H. Smith collector (O. P. Cambridge, 1896), June 20, 1936, one male (L. I. Davis); Oaxtepec, July 4, 1943, two males (Bolivar, Osorio, Diaz, and Pelaez). *Veracruz*: Santa Fé, June 7, 1942, two females (F. Bonet). *Honduras*: Teque, August 4, 1917, one female.

***Xysticus fraternus* Banks**

Xysticus fraternus BANKS, 1895, Jour. New York Ent. Soc., vol. 3, p. 90. GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 384, figs. 214-215, 224. CHICKERING, 1940, Papers Michigan Acad. Sci., vol. 25, p. 211, figs. 37-39. LOWRIE, 1942, Bull. Chicago Acad. Sci., vol. 6, p. 169; 1948, Ecology, vol. 29, p. 338. MUMA, 1945, Bull. Maryland Agr. Exp. Sta., no. A38 (Tech.), p. 50.

KASTON, 1948, Bull. Connecticut Geol. Nat. Hist. Surv., vol. 70, p. 427, figs. 1552-1553.

Xysticus hamatus KEYSERLING, 1884, Verhandl. K. K. Zool.-Bot. Gesellsch. Wien, p. 521, pl. 13, fig. 22.

Xysticus hamatinus BANKS, 1910, Bull. U. S. Natl. Mus., vol. 72, p. 48 (new name for *hamatus* Keyserling, preoccupied name).

TYPE LOCALITY: Male type of *fraternus* from Long Island, New York, in the Museum of Comparative Zoölogy. Male and female cotypes of *hamatus* from Kentucky in the Museum of Comparative Zoölogy.

DISTRIBUTION: United States east of the Rocky Mountains.

OTHER LOCALITIES: *Ontario*: Pelee Island, June 4-16, 1950, one female (W. Ivie and T. B. Kurata). *Connecticut*: Cheshire; Mt. Carmel; New Haven; Norwalk; North Stamford; Orange; Voluntown; Westville (Kaston, 1948). *Massachusetts*: Amherst, May 3, 1938, one female (L. M. Bartlett). *Maryland*: Frederick (Muma, 1945). *West Virginia*: Minnehaha Springs, Pocahontas County, July, 1947, one female (K. W. Haller). *Georgia*: Clarkesville, April 27, two males (Chamberlin and Ivie, 1944); Tallulah Falls, April 27, 1943, female (Chamberlin and Ivie, 1944); Atlanta, July 25, 1943, female (H. Hoogstraal). *Florida*: Alachua County, April 28, 1937, one female (H. K. Wallace). *Alabama*: Clear Creek, Jackson County, June, 1940, one female (A. F. Archer); Black Warrior National Forest, Lawrence County, June, 1939, two females (A. F. Archer). *Tennessee*: Reelfoot Lake, April 14, 1944, one female. *Indiana*: Dune Acres (Lowrie, 1942, 1948); Smith; Ogden Dunes; Lewis Woods, Richmond (Lowrie, 1948). *Illinois*: Waukegan Flats, Kankakee County (Lowrie, 1948). *Michigan*: Vicinity of Albion, males and females (Chickering, 1940); Warren's Woods (Lowrie, 1948).

Xysticus cunctator Thorell

Xysticus cunctator THORELL, 1877, Bull. U. S. Geol. Surv., vol. 3, p. 494. GERTSCH, 1934, Amer. Mus. Novitates, no. 707, p. 11; 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 391, figs. 222-223, 226, 234-235. CHAMBERLIN AND IVIE, 1941, Bull. Univ. Utah, biol. ser., vol. 5, no. 3, p. 19.

Xysticus lenis KEYSERLING, 1880, Die Spinnen Amerikas, Laterigradae, vol. 1, p. 27, pl. 1, fig. 11.

Xysticus californicus KEYSERLING, 1880, Die

Spinnen Amerikas, Laterigradae, vol. 1, p. 37, pl. 1, fig. 17.

Xysticus ancistrophor CHAMBERLIN AND GERTSCH, 1929, Jour. Ent. Zool. Pomona Coll., vol. 21, p. 4, pl. 4, fig. 40.

TYPE LOCALITIES: Of *cunctator*, Boulder, Colorado, female type in the Stockholm Natural History Museum; of *lenis*, Colorado, female type in the Muséum National d'Histoire Naturelle, Paris; of *californicus*, Mariposa, California, male type in the Muséum National d'Histoire Naturelle, Paris; of *ancistrophor*, Verdure, Utah, male holotype in the University of Utah.

DISTRIBUTION: Western United States and Canada and northwestern Mexico.

OTHER LOCALITIES: *Alberta*: Medicine Hat, June, 1930, one female (Carr). *British Columbia*: Departure Bay, Vancouver Island, June 25, 1925, three females; Departure Bay, Vancouver Island, August, 1913, one male (T. B. Kurata); Wellington, Vancouver Island, May 1-July 25, six females (R. Guppy); Lyton, August 1, 1925, one male (A. Macdougall); Victoria, one male (N. Banks). *Montana*: Rainbow Lake, Sanders County, July 2, 1950, one female, two immatures (B. Malkin). *Wyoming*: Yellowstone National Park, July 19, 1945, one female (V. Shelford); Esterbrook, June 17-19, 1950, one male (W. S. Creighton). *Utah*: Parowan, April 26, 1938, one female (Knowlton and Harmston); Logan, May 14, 22, 1941, July 20, 1942, six males, two females (G. H. Knowlton); Fish Lake, July 1, 17, 1949, one male, one female (W. J. and J. W. Gertsch); Brigham, April 20, 1935, two females (G. F. Knowlton and C. F. Smith); Ogden, June 14, 1941, one male; Zion National Park, July 9, 1943, one male (G. F. Knowlton); Willard, May 20, 1937, three males (G. F. Knowlton); Salina, May 28, 1938, one male (G. F. Knowlton); Clarkston, June 11, 1938, male, two females (G. F. Knowlton); 22 miles north of Escalante, August 8, 1950, one female (M. A. Cazier). *Arizona*: Jacobs Lake, July 5-7, 1940, two females (Gertsch and Hook); Nogales, July 20, 1944, one female (V. Shelford); Tucson, male and female (O. Bryant); Lake Mary, April 30, 1939, female (O. Bryant). *California*: Santa Barbara, March 17, 1938, one female; Pine Crest, Tuolumne County, June 29, 1946, male, two

females (W. Pearce); Centerville, Alameda County, March 21, 1938, immature males and females (W. Pearce); Roberts Ferry, Stanislaus County, May 30, 1946, one female (W. Pearce); Isabella, Kern County, June 9, 1941, three males (W. Pearce); McArthur, Sierra County, June 29, 1940, one female (W. Pearce); Peavine, Sierra County, June 9, 1940, one female (W. Pearce); Mt. Diablo, April 8, 1934, male and female (Chamberlin and Ivie, 1941); Livermore Hills, March 14, 1937, male immature (Chamberlin and Ivie, 1941); Benton, Mono County, July 1, 10, 1941, three females (W. Pearce); Benton Station, Mono County, July 10, 1941, one female (W. Pearce); Montgomery Canyon, Mono County, July 13, 1941, five females (W. Pearce); Benton, Mono County, May 26, 1942, one male (W. Pearce); Spring Valley, March 12, 1947, one female (W. Pearce); Riverside, Riverside County, June, 1946, one female (N. L. Krauss). *Oregon*: Corvallis, October 28, 1948, one female (P. Lansing); Corvallis, May 14, 1947, female (V. Roth); Corvallis, June 1, 1935, female (G. Ferguson); Hillsboro, May 25, 1936, males and females; Long Creek Valley, June 23, 1935, male (J. Schuh); Mosier, May 5, 1938, male and female (J. Schuh and K. Gray); Portland, June 15, 1935, female (J. M. Pierson); Nox Valley, July 8, 1947, male (J. Schuh); Summit Prairie, 35 to 40 miles from Prineville, August 3, 1935, males, (J. Schuh); Redmond, May 4, 11, 19, 1939, male (J. Schuh and K. Gray); Bear Valley, July 11, 1935, males and females (J. Schuh); 5 miles south of Eugene, June 3, 1946, one male (B. Malkin); Eugene, July, 1941, June-July, 1942, April, 1947, June-July, 1946, males and females (B. Malkin); 8 miles north of Belknap Springs, Lane County, 2000 feet, May, 1947, two males (B. Malkin and I. Newell); Spencers Butte, 5 miles southwest of Eugene, 800-1200 feet, July 1946, one female (B. Malkin); Scott Lake, Lane County, August 4, 1946, one female (B. Malkin); Glenada, Lane County, July 20, 1941, one female (B. Malkin); Portland, June 24-28, 1942, one male (B. Malkin); near Marchfield, Coos County, August 10, 1941, one female (B. Malkin); McMinnville, June 28, 1942, one female (K. Fender and B. Malkin); Walterville, Lane County,

July 26, 1941, one female (B. Malkin). *Baja California*: Rosarito Beach, April 2-5, 1939, two females (E. S. Ross).

Xysticus banksi Bryant

Xysticus pallidus BRYANT, 1930, Psyche, vol. 37, p. 138, figs. 11, 12, and 14 (not *Xysticus pallidus* Cockerell, 1890).

Xysticus banksi BRYANT, 1931, Bull. Mus. Comp. Zool., vol. 74, p. 178 (new name for *X. pallidus* Bryant). GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 388, figs. 216, 217, 229. LOWRIE, 1942, Bull. Chicago Acad. Sci., vol. 6, p. 169; 1948, Ecology, vol. 29, p. 338. MUMA, 1944, Amer. Mus. Novitates, no. 1257, p. 9; 1945, Bull. Maryland Agr. Exp. Sta., no. A38 (Tech.), p. 49. CHAMBERLIN AND IVIE, 1947, Bull. Univ. Utah, biol. ser., vol. 10, no. 3, p. 69. KASTON, 1948, Bull. Connecticut Geol. Nat. Hist. Surv., vol. 70, p. 428, figs. 155-156.

TYPE LOCALITY: Of *pallidus* Bryant and *banksi* Bryant, Ipswich, Massachusetts, male and female types in the Museum of Comparative Zoölogy.

DISTRIBUTION: Northeastern United States (south into North Carolina) westward to Illinois; Alaska.

NEW LOCALITIES: *Alaska*: College, June 26, 1945, one female possibly this species (Chamberlin and Ivie, 1947). *Connecticut*: Branford, June 28, 1937 (Kaston, 1948); South Meriden, May 30, 1935 (Kaston, 1948). *New York*: Northwestern Long Island, June 30, 1947, one female (R. Latham); Coram, May 30, one female (E. L. Bell). *Maryland*: Churchville, Harford County, one female (Muma, 1944, 1948). *North Carolina*: Seven miles north of Oregon Inlet, Dare County, April, 1947, one female (H. Van Deusen); Kill Devil Hills, July 29, 1950, one female (K. V. Krombein). *Indiana*: Smith (Lowrie, 1948). *Illinois*: Waukegan Flats, July 8, 1936, females (Lowrie, 1942, 1948).

Xysticus quinquepunctatus Keyserling

Xysticus quinquepunctatus KEYSERLING, 1880, Die Spinnen Amerikas, Laterigradae, vol. 1, p. 28, pl. 1, fig. 12. GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 389, figs. 220, 221, 228.

TYPE LOCALITY: Colorado, female type in the Muséum National d'Histoire Naturelle, Paris.

DISTRIBUTION: Rocky Mountains of United States and Canada, westward to

British Columbia and California, south into Chihuahua.

NEW LOCALITIES: *British Columbia*: Departure Bay, Vancouver Island, July, 1913, six females (T. B. Kurata); Cawston, March-June, 1920, one female (R. S. Metcalf). *Colorado*: Akron, July 5, 1949, one female (W. J. and J. W. Gertsch). *Nevada*: Sheldon, Antelope River, July 2, 1945, one male (V. Shelford). *Chihuahua*: Samalayuca, June 25, 1947, one male, one female (W. J. Gertsch).

***Xysticus furtivus* Gertsch**

Xysticus furtivus GERTSCH, 1936, Amer. Mus. Novitates, no. 852, p. 15; 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 388, figs. 218, 219, 227.

TYPE LOCALITY: Edinburg, Texas, male holotype in the American Museum of Natural History.

DISTRIBUTION: Known only from Edinburg, Texas.

SUBGENUS SPIRACME

The absence of apophyses on the bulb of the male palpus distinguishes this subgenus from typical *Xysticus*. It is quite clear that the bulbal apophyses have been lost and that *Spiracme* can be regarded as an advanced line in terms of this character. In many females the epigynum lacks a median septum but presents a distinct rim defining the atrium. In others the rim is obliterated, but the floor is elevated into a more or less prominent tubercle.

This rather small subgenus is conveniently divided into three groups on the basis of the male genitalia.

1. Embolus completing about one and one-half revolutions. Group F, *azteca* group
Embolus much shorter, typically completing about one-half, but occasionally three-fourths, of a revolution 2
2. Tibia of male palpus with three apophyses, a retrolateral, a ventral, and a small intermediate spur Group E, *durus* group
Tibia of male palpus lacking the intermediate apophyses Group D, *sabulosus* group

GROUP D

Most of the American species of *Spiracme* belong to this group, in which the embolus is of normal length and the tibia of the male palpus bears only the two conventional apophyses.

Considerable new distributional data are provided for this series, which is largely boreal but includes a species from Mexico (*verecundus*) and the only Holarctic member of the genus (*labradorensis*). This latter species is largely restricted to the barrens of Canada and Greenland and occurs elsewhere only on high mountains, presumably in tundra areas.

Additional synonymic notes are provided in the placing of *Xysticus ghigii* di Caporiacco as a synonym of *verecundus* Gertsch, both species with essentially the same type locality, and the synonymizing of *X. mysticus* Chamberlin and Ivie with *X. luteiventris* Gertsch. The female of *X. knowltoni* Gertsch is also described and illustrated for the first time.

***Xysticus punctatus* Keyserling**

Xysticus punctatus KEYSERLING, 1880, Die Spinnen Amerikas, Laterigradae, vol. 1, p. 30, pl. 1, figs. 13, 13a. GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 393, figs. 236, 237, 265. PROCTER, 1938, Biological survey of the Mount Desert region, pt. 6, p. 459; 1946, *op. cit.*, pt. 7, p. 527. MUMA AND JEFFERS, 1945, Ann. Ent. Soc. Amer., vol. 38, p. 250. KASTON, 1948, Bull. Connecticut Geol. Nat. Hist. Surv., vol. 70, p. 428, figs. 1520, 1521, 1538.

Xysticus formosus BANKS, 1892, Proc. Acad. Nat. Sci. Philadelphia, p. 56, pl. 3, fig. 9. CHAMBERLIN, 1933, Pan-Pacific Ent., vol. 9, p. 124. TRUMAN, 1942, Proc. Pennsylvania Acad. Sci., vol. 16, p. 28.

TYPE LOCALITIES: Of *punctatus*, North Carolina, male type in the Muséum National d'Histoire Naturelle, Paris; of *formosus*, west of Varna, upper Cayuga Lake basin, New York, female cotypes in the Museum of Comparative Zoölogy.

DISTRIBUTION: Canada from Nova Scotia to British Columbia and the northern United States, south to North Carolina and east Texas in the east, to Colorado and California in the west.

NEW LOCALITIES: *Ontario*: Minaki, July 22, 1931, one female immature (T. B. Kurata); Lake Abitibi, July 2, 1925, one female (N. K. Biglow); Franks Bay, Lake Nipissing, July 27, 1931, one female (T. B. Kurata); Nakina, June 11, 1947, one male (W. Y. Watson); Port Credit, August 1-15, October 24, 1942, one male, one female

(S. Harrod); point west of Ko-Ko-Ko Bay, Lake Temagami, August 15–25, 1946, four immatures (W. J. Gertsch, W. Ivie, and T. B. Kurata). *Manitoba*: Ohna, July 16, 1931, male, females (T. B. Kurata). *Alberta*: Jasper, June 14, 1940, one female (E. H. Brasnet); Banff, June, 1913, one male (T. B. Kurata). *British Columbia*: Fort Nelson, June 10–13, 1948, one female, one subadult female. *Maine*: Mt. Desert Island region (Procter, 1938, 1946). *Connecticut*: Bethany, Colchester, Cornwall, Middletown, Naugatuck, Newton, Norfolk, Putnam, Storrs (Kaston, 1948). *Massachusetts*: Amherst, October 3, 1938, one male. *New York*: Ithaca, July 15, 1938, one female; Chichester, Union County, August 3, 1945, one female (T. Cohn). *Pennsylvania*: Western portion (Truman, 1942). *Maryland*: Prince Georges and Wicomico counties, one male, 11 females, prey of wasps (Muma and Jeffers, 1945). *North Carolina*: Mocksville, April 29, 1950, one male (R. F. Smith). *Texas*: Jacksonville, May 2, 1950, one male (R. F. Smith). *Montana*: Thompson Falls, June 26–30, 1950, two females (B. Malkin). *Colorado*: Long's Peak Valley, Rocky Mountain National Park, 9100 feet, summer, 1937, one female (W. Kiener); Rocky Mountain National Park, August 3, 1948, two females (M. Cazier). *California*: Potter Creek Cave, one male (Chamberlin, 1933).

***Xysticus floridanus* Banks**

Xysticus floridanus BANKS, 1896, Trans. Amer. Ent. Soc., vol. 23, p. 70. GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 394.

TYPE LOCALITY: Punta Gorda, Florida, male type in the Museum of Comparative Zoölogy.

DISTRIBUTION: Punta Gorda and Newberry, Florida. No additional specimens of this rare species have been noted in recent collections.

***Xysticus montanensis* Keyserling**

Xysticus montanensis KEYSERLING, 1887, Verh. K. K. Zool.-Bot. Gesellsch. Wien, vol. 37, p. 479, pl. 6, fig. 40. GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 395, figs. 238–239, 263. CHAMBERLIN AND IVIE, 1941, Bull. Univ. Utah, biol. ser., vol. 6, no. 3, p. 19; 1947, *ibid.*, biol. ser., vol. 10, no. 3, p. 69.

Xysticus hesperus GERTSCH, 1934, Amer. Mus. Novitates, no. 707, p. 6, fig. 11.

TYPE LOCALITIES: Of *montanensis*, Montana, male and female cotypes in the United States National Museum; of *hesperus*, Atherton, California, male holotype in the American Museum of Natural History.

DISTRIBUTION: Western United States, western Canada, and Alaska.

NEW LOCALITIES: *British Columbia*: Wellington, Vancouver Island, September–November, 1950, one male, one female (R. Guppy); Cawston, March–June, 1920, one female (R. S. Metcalf). *Alaska*: Haines, August 25, 1945, one female (Chamberlin and Ivie, 1947). *Montana*: Missoula, July 7, 1950, one subadult female (B. Malkin). *Wyoming*: Yellowstone National Park, July 19, 1945, one male (V. Shelford). *Arizona*: Pinecrest, Graham Mountain, September 13, 1950, two males (W. J. Gertsch); Rustler Camp, Chiricahua Mountains, September 9, 1950, one female (W. J. Gertsch); Jacobs Lake, Kaibab Forest, July 5–7, 1940, one female (W. J. Gertsch). *New Mexico*: Five miles east of La Jara, July 20, 1950, one female (M. A. Cazier). *California*: San Clemente Island, May, 1939, three females, June, 1938, two females (T. D. A. Cockerell); San Clemente Island, May, 1939, one female (K. Raymenton); San Nicolas Island, 1940, one female (C. Henne); Santa Barbara Island, 1939, one female (L. M. Martin); Berkeley, Strawberry Canyon, March 22, 1947, one female (B. Malkin); Clayton, Contra Costa County, November 7, 1939, two females, March 1, 1940, one immature female (E. S. Ross); Peavine, Sierra County, July 18, 1940, one female (W. M. Pearce); Golden Gate Park, San Francisco, March 15, 1941, one male (W. M. Pearce); Stephens Creek, Santa Clara County, March 16, 1941, one immature (E. S. Ross); Benton Station, Mono County, July 15, 1941, one immature female, September 1, 1941, one immature (W. M. Pearce); Convict Creek, Mono County, June 26, 1941, one female (W. M. Pearce); Benton, Mono County, April 8, 1942, one female (W. M. Pearce); Lakeview District, San Diego County, May 15, 1947, one female (W. M. Pearce); El Segundo, Los Angeles County, February 24, 1948, one female (W. M. Pearce); Point Sur, Los Angeles County, April 10, 1937, male and female (Chamberlin and Ivie, 1941). *Nevada*: Reno, April 3, 1941,

one female (I. La Rivers). *Oregon*: Blatchley Lane County, May 17, 1942, one female (B. Malkin); Eugene, Lane County, April 18–19, 1942, two males (B. Malkin); Glenada, Lane County, September 14, 1941, one male (B. Malkin); Springfield, Lane County, May 2, 1942, one male (B. Malkin); Marshfield, Coos County, May 17, 1942, one female (B. Malkin); Goble, April 22, 1938, males and females (B. Malkin); Peavine Ridge, near McMinnville, May–December, 1946–1947, males and females (K. Fender); McCredie Springs, Lane County, April 26, 1947, male (B. Malkin); Triangle Lake, Lane County, April 13, 1947, male (B. Malkin and I. Newell); Cavy City, Josephine County, May 17, 1947, male (B. Malkin); Union Creek, Jackson County, September 1–15, 1950, male (B. Malkin); Scappoose, May 4, 1938, male (K. Gray and J. Schuh).

***Xysticus knowltoni* Gertsch**

Figure 58

Xysticus knowltoni GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 399, figs. 244, 245.

The female, heretofore unknown, is described below.

FEMALE: Total length, 4.60 mm.

Carapace white to grayish, but very thickly spotted with brown so that the usual median pale stripe is nearly obliterated; the whole posterior declivity black. Sternum and under side whitish, thickly spotted with brown. Legs whitish, the basal segments with many larger brown spots and blotches, the apical segments more yellowish brown. Abdomen gray to white, somewhat brownish above, with indistinct blackish chevrons behind, the venter paler.

Structure in close agreement with that of the male of *knowltoni*. Carapace 2.10 mm. long, 2.05 mm. wide, the head of average width, 1.35 mm. at the second eye row. Carapace densely setose, the pars cephalica closely set with clavate to spatulate spines, the sides with fewer, similar spines, the clypeal marginal with seven principal filiform spines. Anterior median eyes separated by scarcely two diameters (12/22), one diameter from the lateral eyes. Second eye row strongly recurved, the median separated by two diameters (12/26), farther from the larger

lateral eyes (12/34). Median ocular quadrangle broader than long (46/43), narrowed in front in the same ratio, the eyes subequal.

First leg: femur, 1.60 mm.; patella, 0.90 mm.; tibia, 2.15 mm.; metatarsus, 1.95 mm.; and tarsus, 0.70 mm. Spination of first leg: femur, prolateral 3; tibia, ventral 1-2-2; metatarsus, prolateral 0-1-1, retrolateral 0-1-0, ventral 2-2-2.

Abdomen nearly round (2.80 mm. long, 2.75 mm. wide), clothed evenly and thickly with clavate hairs and spines.

Epigynum as illustrated in figure 58.

TYPE LOCALITY: Vernon, Utah, male holotype in American Museum of Natural History.

OTHER LOCALITIES: *California*: Convict Creek, Mono County, June 26, 1941, two females (W. M. Pearce).

This small species is characterized by the dense covering of clavate and subspatulate hairs and spines on the carapace and abdomen, by the reduced number of spines beneath the legs of the female, and by the genitalia. The posterior declivity of the carapace is entirely black in the female, a color feature distinct from other species.

***Xysticus benefactor* Keyserling**

Xysticus benefactor KEYSERLING, 1880, Die Spinnen Amerikas, Laterigradae, vol. 1, p. 22, pl. 1, fig. 8. GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 399, figs. 246–247, 260.

Xysticus vernilis KEYSERLING, 1881, Verhandl. K. K. Zool.-Bot. Gesellsch. Wien, vol. 31, p. 304, pl. 11, fig. 23.

TYPE LOCALITIES: Of *benefactor*, Colorado, male and female cotypes in the Muséum National d'Histoire Naturelle, Paris; of *vernilis*, Bridger Basin, Utah, female type in the Museum of Comparative Zoölogy.

DISTRIBUTION: Western United States and Canada.

OTHER LOCALITIES: *Alberta*: Banff (Emerton, 1920). *British Columbia*: Cawston, Yale, June–July, 1920, females (R. S. Metcalf). *Idaho*: Montpelier, one male. *Utah*: Brigham Canyon, June 12, 1937, one female (G. F. Knowlton); Logan, one female. *Colorado*: Pikes Peak, 8000 feet, June 24, 1940, one female (W. J. Gertsch). *Oregon*: Near Ukiah, June 23, 1935, one male (J. Schuh). *New Mexico*: Sandia Mountains, Bernalillo

County, one female (C. C. Hoff). *Arizona*: Baldy Peak, 8800 feet, White Mountains, June 18, 1936, one male (E. D. Ball).

***Xysticus flavovittatus* Keyserling**

Xysticus flavovittatus KEYSERLING, 1880, Die Spinnen Amerikas, Laterigradae, p. 33, pl. 1, fig. 15. PETRUNKEVITCH, 1911, Bull. Amer. Mus. Nat. Hist., vol. 29, p. 439.

TYPE LOCALITY: "Amerika." "In dem Hofcabinet in Wien ein Exemplar aus Amerika, ohne besondere Angabe des Fundortes."

The identity of the above species must remain obscure, until it is possible to study the type or authentic specimens. The palpus, as illustrated by Keyserling, shows considerable similarity to that of *Xysticus lutulentus* Gertsch and also to that of *X. benefactor* Keyserling. Petrunkevitch gives the "United States" as the type locality in his "Catalogue," but the specimen could have come from almost any part of North America.

***Xysticus lutulentus* Gertsch**

Xysticus pulverulentus EMERTON, 1894, Trans. Connecticut Acad. Arts Sci., vol. 9, p. 417, pl. 4, figs. 6, 6a, 6b (not *X. pulverulentus* C. L. Koch, 1837).

Xysticus lutulentus GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 396, figs. 242, 243, 262.

Xysticus mysticus CHAMBERLIN AND IVIE, 1942, Bull. Univ. Utah, biol. ser., vol. 7, no. 1, p. 79, fig. 225.

TYPE LOCALITIES: Of *pulverulentus*, near Laggan, Alberta, male and female cotypes in the Museum of Comparative Zoölogy; of *lutulentus*, Tillamook County, Oregon, female holotype in the American Museum of Natural History; of *mysticus*, Mill Creek Canyon, 8000 feet, 10 miles southeast of Salt Lake City, Utah, University of Utah.

DISTRIBUTION: Canada from Labrador and Ontario to British Columbia, south into Minnesota and western mountain states (Utah, Wyoming, Oregon, etc.)

OTHER LOCALITIES: *Ontario*: Favourable Lake, latitude 53° N., June 19, 1938, one male (G. M. Neal); Lake Opeongo, Algonquin Park, June 26–July 7, 1945, three immatures (W. Ivie and T. B. Kurata). *Manitoba*: The Pas, July 7, 1931, one male (T. B. Kurata). *British Columbia*: Hope, May 30, 1940, one male; Fort Nelson, June 10–13, one

male, one female. *Utah*: Mill Creek Canyon, Wasatch Mountains, October 1, 1939, one female, holotype of *mysticus* (S. Mulaik).

***Xysticus triangulosus* Emerton**

Xysticus triangulosus EMERTON, 1894, Trans. Connecticut Acad. Arts Sci., vol. 9, p. 416, pl. 4, figs. 4, 4a. GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 397, figs. 240, 241, and 261. CHAMBERLIN AND IVIE, 1947, Bull. Univ. Utah, biol. ser., vol. 10, no. 3, p. 69.

TYPE LOCALITY: Near Laggan, Alberta, male type in the Museum of Comparative Zoölogy.

DISTRIBUTION: In Canada from Manitoba to British Columbia, north into Yukon and Alaska, and southward into the Rocky Mountains (Utah and Wyoming).

OTHER LOCALITIES: *Mackenzie*: Reindeer Station, July 1–August 6, 1948, four females, 15 subadult, 13 immature (J. R. Vockeroth); Blanchet Island, Great Slave Lake, August 20, 1945, one female (J. O. Oughton); Pearson Point, Great Slave Lake, August 12–15, 1947, two females (D. S. Rawson). *Manitoba*: Churchill, August 1, 1950, two females (A. G. Edmonds). *Yukon*: Champagne, August 4, 1948, one female; Dry Creek, July 25, 1948, one female, two immature; Snag, July 24, 1948, one male; Marsh Lake, Mile 883, August 9, 1948, one male; Whitehorse, July 1–12, 1948, one male, one female, seven immature and subadult. *Alaska*: Forty-four miles east of Gulkana, July 23, 1944, one male (Chamberlin and Ivie, 1947); McCarthy, May 22, 1934, one male (W. Lloyd).

***Xysticus nicholsi* Gertsch**

Xysticus nicholsi GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 399, fig. 266.

TYPE LOCALITY: North section of Broad Pass, 2400 feet, Cantwell, Alaska, female holotype in the American Museum of Natural History.

DISTRIBUTION: Manitoba to Alaska.

KNOWN LOCALITIES: *Quebec*: Fort Chimo, July 7, 1948, two females. *Manitoba*: Churchill, August 1, 1950, one female (D. W. Jenkins). *Yukon*: Marsh Lake, Mile 883, Alcan Highway, August 9, 1948, one female. *Alaska*: the holotype, as noted above, one female.

***Xysticus labradorensis* Keyserling**

Xysticus labradorensis KEYSERLING, 1887, Verhändl. K. K. Zool.-Bot. Gesellsch. Wien, vol. 37, p. 479, pl. 6, fig. 30. GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 401, figs. 248, 249, 268. TULLGREN, 1944, Svensk Spindelfauna, vol. 3, p. 129, fig. 48. BRAENDEGAARD, 1946, Meddel. om Grønland, vol. 121, no. 15, p. 59. CHAMBERLIN AND IVIE, 1947, Bull. Univ. Utah, biol. ser., vol. 10, no. 3, p. 69. CLOUDSLEY-THOMPSON, 1949, Ann. Mag. Nat. Hist., ser. 12, vol. 2, p. 398. WEBER, 1950, Trans. Amer. Ent. Soc., vol. 76, p. 158.

Xysticus deichmanni SOERENSEN, 1898, Videnskabelige Meddel., vol. 10, p. 228. BRAENDEGAARD, 1940, Meddel. om Grønland, vol. 125, no. 8, p. 22, figs. 20, 21.

Xysticus bimaculatus EMERTON, 1894, Trans. Connecticut Acad. Arts Sci., vol. 9, p. 416, pl. 4, figs. 5, 5a. JACKSON, 1934, Ann. Mag. Nat. Hist., ser. 10, vol. 14, p. 612.

TYPE LOCALITIES: Of *labradorensis*, Ungava Bay, Labrador, female type in the United States National Museum; of *deichmanni* "eastern Greenland," female type in the Stockholm museum; of *bimaculatus*, Laggan, Alberta, female cotypes in the Museum of Comparative Zoölogy.

DISTRIBUTION: Greenland, Canada, and Alaska, and mountains of the western United States. A single male of this species, the only American *Xysticus* definitely known to occur in the Palearctic region, has been taken in northern Sweden.

KNOWN LOCALITIES: *Sweden:* Kiruna, one male (Tullgren, 1944). *Greenland:* Danmarks Havn, latitude 76° 50' N., June, 1908, one female (Braendegaard, 1940); Eskimonaes, latitude 74° 05' N., June 10, 1933, one immature female (Braendegaard, 1940); Moskusokse Fjord, latitude 73° 45' N., July 10, 1930, one immature female (Braendegaard, 1940); Kap Stosch, latitude 74° 05' N., July 19, 1932, one immature male (Braendegaard, 1940); Brogede Dal at Nordfjord, latitude 73° 45' N., July 30, 1932, one female (Braendegaard, 1940); Fulach Dal at Dicksons Fjord, latitude 72° 50' N., August 9, 1934, one immature male (Braendegaard, 1940); Kongeborgen at Kong Oskars Fjord, June 10, 1934, one male, one immature female (Braendegaard, 1940); Kap Hope, latitude 70° 25' N., June 10, 1925, one female (Braendegaard, 1940); Ella O, latitude 72° 50' N., June-August, three immature males (Braen-

degaard, 1940); Heklahavn, latitude 70° 30' N. (Soerensen, 1898); near Rode O, latitude 70° 30' N. (Soerensen, 1898); Gaaseland, latitude 70° 15' N. (Soerensen, 1898); Liverpool Land, Jameson Land, latitude 70° 50' N. (Jackson, 1934); Zackenberg, latitude 74° 28' N., longitude 20° 40' W. (Cloudsley-Thompson, 1949). *Franklin:* Lake Harbor, Baffin Island, August 15, 1935, one female (W. J. Brown); King's Bay, near Ukpilik Lake, Victoria Island, June 16, 1949, one male, two females (Mrs. A. L. Washburn). *Labrador:* Ungava (Ungoa) Bay, one female (Keyserling, 1887); Kangalaksioniuk Bay, August 1-10, 1908, one male, one female (Gertsch, 1939); Goose Bay, July 6, 1948, one immature female. *Quebec:* Fort Chimo, August 7, 1948, one male, one immature; Fort Chomo, July 7, 1948, one female. *Ontario:* Cape Henrietta Maria, August 7, 1948, two females (W. Y. Watson). *Mackenzie:* Kidluit Bay, July 24-29, 1948, six immatures (J. R. Vockeroth); Esquimo Point, July 17, 1932, one female (D. B. Marsh). *Manitoba:* Churchill, July 1, 1937, one female (W. J. Brown). *Alberta:* Above Laggan, 6700-8500 feet, one male, females (Emerton, 1894); Medicine Hat, July 5, 1930, one female (Gertsch, 1939). *Alaska:* Matanuska, August 16, 1945, one female (Chamberlin and Ivie, 1947); Umiat, Colville River, July 11, 1949, one male (N. A. Weber, 1950); Umiat Mountain, 950 feet, one penultimate male (N. A. Weber, 1950); Point Barrow, August 1, 1949, one penultimate male (N. A. Weber); Fort Yukon (Keyserling, 1883); Popof Island, Kodiak, July (Banks, 1900); Kongongevik, Camden Bay, June 27, 1914, one male, one immature female (Emerton, 1919). *Wyoming:* Yellowstone National Park, August, one female (Gertsch, 1939); top of Brooks Peak, Togwotee Pass, 11,000 feet, August 8, 1950, males, females, and immature (D. C. Lowrie). *Colorado:* Fall River Pass, 13,000 feet, Rocky Mountain National Park, August, 1941, two females (C. and M. Goodnight); Mt. Lincoln, 11,000 feet, 1877 (Bowditch). *Washington:* Ashford, August 29, one female (Gertsch, 1939).

***Xysticus verecundus* Gertsch**

Figure 57

Xysticus verecundus GERTSCH, 1934, Amer. Mus. Novitates, no. 707, p. 2, fig. 1 (not female).

Xysticus ghigii DI CAPORACCO, 1938, Atti Soc. Italiana Sci. Nat., vol. 77, p. 272, fig. 4.

TYPE LOCALITIES: Of *verecundus*, Lake Chapala, Jalisco, male holotype in the American Museum of Natural History; of *ghigii*, Ocotlan, Lake Chapala, Jalisco, male type in the University of Bologna collection.

DISTRIBUTION: Only the two males from Lake Chapala are known. The female assigned to this species by Gertsch belongs with *Xysticus advectus* Cambridge in the subgenus *Xysticus*.

GROUP E

Only two American species are included in this group, which differs from the previous one in having a well-developed intermediate apophysis on the tibia of the male palpus. Additional distributional information is furnished for both species, but they remain rare in collections. *Xysticus nigromaculatus* Keyserling has been taken in the Rocky Mountains from New Mexico into Alberta and in adjacent areas. *Xysticus durus* Soerensen has the same distribution but also occurs eastward through Canada into Greenland. Braendegaard has shown that *Oxyptila dura* Soerensen from Greenland is the same as the species previously named *ferrugineus* by Emerton, a preoccupied name, and must supplant the substitute name proposed by Banks in 1910.

Xysticus durus Soerensen

Xysticus ferrugineus EMERTON, 1894, Trans. Connecticut Acad. Arts Sci., vol. 9, p. 415, pl. 4, figs. 3, 3a (not *Xysticus ferrugineus* Menge, 1876).

Oxyptila dura SOERENSEN, 1898, Vidensk. Medd. Dansk Naturh. Foren., p. 230. BRAENDEGAARD, 1937, Meddel. om Grønland, vol. 108, no. 4, p. 14.

Xysticus moestus BANKS, 1910, Bull. U. S. Natl. Mus., vol. 72, p. 48 (new name for *X. ferrugineus* Emerton). GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 403, figs. 252, 253, 267.

Xysticus keyserlingi BRYANT, 1930, Psyche, vol. 37, p. 135, figs. 9-10.

Xysticus durus BRAENDEGAARD, 1946, Meddel. om Grønland, vol. 121, no. 15, p. 57, figs. 37-38.

TYPE LOCALITIES: Of *ferrugineus*, Laggan, Alberta, female type in the Museum of Comparative Zoölogy; of *keyserlingi*, Las Vegas, New Mexico, male holotype in the Museum of Comparative Zoölogy; of *Oxyptila dura*,

eastern Greenland, type in the Stockholm Natural History Museum.

DISTRIBUTION: Rocky Mountains of United States (New Mexico and Colorado) and Canada (Alberta), eastward into Quebec and Greenland.

NEW LOCALITIES: *Greenland*: Tugtulik, latitude 66° 20' N., young female; Angmagsalik, latitude 65° 35' N., young female (Braendegaard, 1937). *West Greenland*: From latitude 59° 55' N. to 66° 55' N. (Braendegaard, 1946). *Quebec*: Fort Chimo, August 13, 1948, one male (N. Smith). *Wyoming*: Amphitheatre Lake, 9800 feet, Grand Teton National Park, July 23, 1950, one female (D. C. Lowrie).

Xysticus nigromaculatus Keyserling

Xysticus nigromaculatus KEYSERLING, 1883, Verhandl. K. K. Zool.-Bot. Gesellsch. Wien, vol. 33, p. 670, pl. 21, fig. 18. GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 402, figs. 250, 251, 264.

TYPE LOCALITY: Colorado, female type in the United States National Museum.

DISTRIBUTION: Rocky Mountains from New Mexico north to Alberta; Washington; Manitoba.

NEW LOCALITY: *Alberta*: Calgary, April 28, 1929, one female (O. Bryant).

GROUP F

A separate group is provided for the following brightly marked species. The front legs are quite long and slender, less robust than in most members of the genus. The hairs and spines are all setaceous and quite long and fine. The embolus of the male palpus is broad at origin, encircles the bulb for one and one-half revolutions, and is a thin spine in its terminal portion. The retrolateral tibial apophysis terminates as a sharp black spine, and there is a small, rounded, transparent spur near its middle on the outside. Only the single male holotype from Puebla, Mexico, is known.

Xysticus aztecus, new species

Figures 59

MALE: Total length, 3.07 mm.

Carapace creamy white on the sides and clypeus, with two irregular, dark brown stripes beginning at lateral eyes and passing

back to join the usual black spots on the posterior declivity, the space between forming a broad pale band interrupted in front by a brown streak through the median quadrangle to the side stripes. Sternum creamy white, with a small purplish spot at center and one on each side by the first coxae. Mouth parts duller, with small spots. Coxae creamy white, with large purplish spots. Legs creamy white, the femora with a ventral band of brown spots and an apical brown ring, patellae with an incomplete apical ring, the tibiae with a narrow basal and wider apical ring, the metatarsi with wide apical ring, and the tarsi also with a brown apical ring nearly half of its length. Abdomen creamy white above, with two stripes, composed of black spots from base to apex, the sides and venter mostly purplish but with a white median stripe at base and white lateral patches.

Carapace (1.53 mm. long, 1.57 mm. wide) broad, well rounded behind, convex, quite smooth, clothed sparsely with short subprocumbent setae and long setaceous spines, the clypeal margin with nine principal spines. Eyes typical, the median separated by less than two diameters (13/23), one diameter from the larger lateral eyes. Second row strongly recurved, the median separated by two diameters (12/25), as far from the larger lateral eyes. Median ocular quadrangle broader than long (43/36), as broad in front as behind, the front eyes slightly larger. Clypeus equal in height to more than a diameter (13/17) of an anterior median eye.

First leg: femur, 2.14 mm.; patella, 0.83 mm.; tibia, 1.80 mm.; metatarsus, 1.65 mm.; and tarsus, 1.03 mm. Second leg: femur, 2.05 mm.; patella, 0.83 mm.; tibia, 1.70 mm.; metatarsus, 1.55 mm.; and tarsus, 0.97 mm. Tibia and patella of fourth leg 1.20 mm. long. Spines of first leg: femur, prolateral 5, dorsal 3; tibia, prolateral and retrolateral 1-2-1, ventral 8 spines irregularly spaced, no apicals, dorsal 2; metatarsus, prolateral 4, retrolateral 3, ventral 8 irregularly spaced; and tarsus with four or five ventral spines near distal end.

Palpus as illustrated in figure 59.

Abdomen (1.80 mm. long, 1.30 mm. wide) suboval, set above with elevated, setaceous spines.

TYPE LOCALITY: Male holotype from Villa Juarez, Puebla, October 10, 1947 (H. M. Wagner).

GENUS *CORIARACHNE* THORELL

Coriarachne THORELL, 1870, On European spiders (Upsala, 1869-1870), p. 186.

Bassania O. P. CAMBRIDGE, 1898, Biologia Centrali-Americana, Araneida, vol. 1, p. 249.

Platyxysticus GERTSCH, 1932, Amer. Mus. Novitates, no. 563, p. 1.

The genus *Coriarachne* is distinguished from *Xysticus* only by the very flat body form and the relatively minor differences in eye relations that are largely a consequence of this flatness. The clypeus is very low and about equal in height to the diameter of an anterior median eye. The anterior eye row is weakly recurved, much straighter than in *Xysticus*, and the posterior eye row is more strongly recurved than in that genus. The very flat carapace is marked by rather conspicuous cephalic sutures.

To the generic synonymy of *Coriarachne* must now be added *Bassania* O. P. Cambridge. This genus was characterized as being intermediate between *Xysticus* and *Oxyptila*, possessing the eye relations of the former and the general appearance of the latter. The genotype, *Bassania aemula* O. P. Cambridge, is a close relative of *Coriarachne versicolor* and its allies.

Simon placed the northern *Coriarachne*, the Australian *Tharpyna*, and later the North African genus *Firmicus* in his special group Coriarachneae. In this series the chelicerae are said largely to lack the wide, dense band of fine, curved hairs or setae along the entire inner border, which is present in the Misumeneae and Diaeae, and to have instead a narrow, poorly defined band occupying only the apical portion of the chelicera. This is a difficult feature to observe and evaluate, sets apart the Coriarachneae from what are seemingly near relatives, and implies a different origin for the group. The quite obvious relationship of the genus *Coriarachne* to *Xysticus* and other genera of the Diaeae indicates that the character used by Simon to isolate these groups has little validity.

In his "Histoire naturelle des araignées" Simon restricted the genus *Coriarachne* to the European species *depressa*, the genotype,

to one or two species in "Indochina," and to others in North America. In a footnote he stated that many of the species assigned to the genus did not belong there and that the American *versicolor* and three additional Oriental species without much doubt should be referred to *Xysticus*. These doubtful or transitional species are exactly those that most closely ally the group to *Xysticus* and make quite plausible the recent derivation of *Coriarachne* from the *sabulosus* group of *Xysticus*. The European *depressa* and its American ally *brunneipes* are in many respects the most derivative species of the genus *Coriarachne*. In these the terminal portion of the embolus is curved to form a hook, and the tutaculum is modified to support the thin spine. The bulb of the male palpus is without apophyses, and the epigynum of the female, which lacks an elevated rim delimiting a more or less deep atrium, consists of an elevation surmounted by a weakly sclerotized septum flanked by a pair of suboval orifices. The most generalized of the American species is quite probably *versicolor*, which has a long spiniform embolus curved evenly around the margin of the cymbium (fig. 60). In *utahensis* and *floridana* the embolus is considerably shortened. In the *versicolor* group the prolateral tibial apophysis bears a thin spur, which is largely obsolete in *depressa* and *brunneipes*, but the presence of even a rudiment further serves to ally the two series.

The few known species of *Coriarachne* are found in the boreal and temperate regions of the Holarctic life zone. The only European species is the genotype, *Coriarachne depressa* C. L. Koch, which occurs in the northern and central portions and is ordinarily found on conifers. It is said to be rare in France. Although known from European Russia and presumed to occur far eastward into Siberia, the exact limits are unknown. Almost nothing seems to be known about the two or three Oriental species assigned to the genus. The American representatives live on and under the bark of trees, on fences, buildings, bridges, and similar structures, and occasionally are found under stones, in rock piles, or under ground debris. They are often common on houses and slide into the narrow spaces between boards, shingles, and tiles.

The American species belong to two species groups, which can be separated as follows:

- Hairs and spines mostly filiform, clavate, or, more rarely, subspatulate; epigynum with narrow septum; terminal portion of embolus not curved, evenly curved around margin of cymbium Group A, *versicolor* group
- Hairs and spines of entire body all setaceous; epigynum with a very broad median septum (fig. 76); terminal portion of embolus of male palpus curved to form a hook Group B, *brunneipes* group

GROUP A

In this species complex the carapace is somewhat more convex than in the *depressa* group, and the eyes of the posterior row are more equidistantly spaced. The invariable presence of a thin spine on the prolateral tibial apophysis and the relatively straight terminal portion of the embolus are diagnostic features of the males. The female epigynum presents a median septum which is relatively narrow.

The most disjunctive species of the group is *Coriarachne floridana* Banks, which is somewhat flatter than the others and quite distinctive in color pattern. The male palpus is similar to that of *utahensis*, with the following palpal formula: bulb broad, embolus short, tibial spur straight (fig. 65). The remaining species are very similar in coloration and seemingly are separable mainly by differences in the genitalia. Typical females are easily differentiated, but in some females of *utahensis* and *versicolor* the epigynal differences are so obscured as to make certain identification difficult. *Coriarachne versicolor* is essentially eastern in distribution and *C. utahensis* largely western, but the species have overlapping ranges in the coniferous forest areas of Maine, New Hampshire, Ontario, and northern Minnesota. From that area have come specimens, chiefly males, that are in some respects intermediate in genitalic features between the two species. The palpal formula for *versicolor* is as follows: bulb broad, embolus very long, tibial spur reclining; for *utahensis*: bulb suboval, embolus short, tibial spur straight. In some males of *utahensis* from northern Minnesota and Ontario the tibial spur is only suberect.

In males assigned to *versicolor* the tibial spur is suberect or only moderately curved laterad and the embolus is proportionately shorter. A specimen of that type (from northern Michigan) is shown in figure 64. These atypical specimens from a zone where two populations are in contact or overlap can be regarded as hybrids or intergrades between two subspecies or between distinct species. Until further material is available, I am adhering to the customary practice and listing the populations as distinct species. *Coriarachne versicolor* Keyserling ranges southward into southern Texas and overlaps the range of the Mexican representative of the group, *C. aemula* O. P. Cambridge, which is known from few specimens and may prove to be only a subspecies of *versicolor*. The single male, assigned to *aemula* with some doubt, has the following palpal formula: bulb broad, embolus short, tibial spur suberect.

The following key will be found useful in separating the species:

1. Females 2
Males 5
2. Median ocular quadrangle much broader than long (80/57); dark patches of posterior declivity of carapace nearly confluent at middle *floridana* Banks
Median ocular quadrangle broader than long (about 70/60); dark patches of posterior declivity usually well separated. 3
3. Median septum of epigynum (fig. 67) twice as long as broad, the sides subparallel, the orifices long and narrow; eastern Mexico and southern Texas *aemula* O. P. Cambridge
Median septum of epigynum subtriangular, much wider behind 4
4. Median septum of epigynum typically broader in front and the orifices narrowly elliptical (fig. 62); western United States; Canadian Zone of eastern United States *utahensis* Gertsch
Median septum typically more narrowed in front and the orifices elliptical (fig. 61); eastern United States and Canada *versicolor* Keyserling
5. Embolus thickened and curved at the middle, the terminal portion long and acuminate; tibial spur directed laterad *versicolor* Keyserling
Embolus less thickened and not so curved at middle, the terminal portion short; tibial spur straight or suberect. 6
6. Lower edges of eyes of first row in a straight

- line; first two pairs of legs almost uniform brown; Florida to Louisiana, rare along east coast to Long Island, New York *floridana* Banks
Lower edges of eyes in a slightly recurved line; legs usually speckled with white 7
7. Tibial spur inclined laterad; southern Texas and Mexico. *aemula* O. P. Cambridge
Tibial spur straight; a western and northern species *utahensis* Gertsch

Coriarachne versicolor Keyserling

Figures 60, 61, 64

Coriarachne versicolor KEYSERLING, 1880, Die Spinnen Amerikas, Laterigradae, vol. 1, p. 53, pl. 1, fig. 27. GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 405, figs. 254, 255, 269. CHICKERING, 1940, Papers Michigan Acad. Sci., vol. 25, p. 192, figs. 1-3 (part). MUMA, 1943, Common spiders of Maryland, p. 106, pl. 14, figs. 10-11; 1945, Bull. Maryland Agric. Exp. Sta., no. A38 (Tech.), p. 45. MUMA AND JEFFERS, 1945, Ann. Ent. Soc. Amer., vol. 38, p. 250. LOWRIE, 1942, Bull. Chicago Acad. Sci., vol. 6, p. 169; 1948, Ecology, vol. 29, p. 338. PROCTER, 1938, Biological survey of the Mount Desert region, pt. 6, p. 460; 1948, *op. cit.*, pt. 7, p. 525. CHAMBERLIN AND IVIE, 1947, Bull. Univ. Utah, biol. ser., vol. 10, no. 3, p. 66. KASTON, 1948, Bull. Connecticut Geol. Nat. Hist. Surv., vol. 70, p. 418, figs. 1490-1491, 1514. SIMON, 1932, Les arachnides de France, vol. 6, pt. 4, pp. 785, 867.

Coriarachne lenta CHAMBERLIN AND IVIE, 1944, Bull. Univ. Utah, biol. ser., vol. 8, no. 5, p. 156.

Xysticus versicolor KURATA, 1939, Canadian Field Nat., vol. 53, p. 82.

TYPE LOCALITY: Cotypes from Boston, Massachusetts; Georgia; Peoria, Illinois; Mariposa, California, in Muséum National d'Histoire Naturelle, Paris.

DISTRIBUTION: United States and Canada east of the Rockies; eastern Mexico.

NEW LOCALITIES: *France*: Landes, one male, presumably introduced by accident (Simon, 1932). *Mackenzie*: Fort Smith, May 27-June 7, 1946, one female. *Quebec*: Aylwin, August 28, 1937, one immature (T. Kurata). *Ontario*: Toronto (Kurata, 1939); Seaside, Toronto, May 17, 1936, one female; Beltline, Toronto, February 28, 1937, one immature; Pottageville, York County, June 16, April 9, one female, one subadult female (T. B. Kurata); High Park, Toronto, April 5, 1934, one male immature (T. B. Kurata); Pednersville, Prince Edward County, July 16, 1930,

one immature (T. B. Kurata); Beamsville, October 10, 1941, six immatures (H. R. Boyer); Holop Point, Minaki, July 23, 1931, one female, one immature (T. B. Kurata); Portland, June, 1937, two males; Mindemoya, Manitoulin Island, July 24, 1939, one immature (T. B. Kurata); Pelee Island, July 4-16, 1950, one male, one female (W. Ivie, T. B. Kurata). *Manitoba*: Jackhead, June 15, 1938, one female; Dauphin, June 21, 1913, one female (T. B. Kurata). *Alaska*: Fairbanks, September 21, 1943, immature (Chamberlin and Ivie, 1947); Matanuska, August 23-31, May 27-June 2, female, male, immature (Chamberlin and Ivie, 1947). *Maine*: Lincoln, July 1942, one female (L. P. Grey); Jefferson, Lincoln County, September 11, 1941, one female (A. F. Archer); Mt. Desert Island region (Procter, 1938, 1946). *New Hampshire*: Randolph, September 17, 1940, one immature female (E. L. Bell). *Connecticut*: New Canaan, June 1-11, 1950, one male (M. Statham); "extremely common all over state" (Kaston, 1948). *Massachusetts*: Amherst, April 4, 1938, one male (L. M. Bartlett). *New York*: Greenport, Long Island, November 12, 1949, one female (R. Latham). *Maryland*: Reported from four counties in the state (Muma, 1943, 1945); Prince Georges County, prey of wasps, six females (Muma and Jeffers, 1945). *West Virginia*: Wheeling, Ohio County, 15 subadult males and females (Karl W. Haller). *North Carolina*: Clay County, April 29, 1938, one male (T. H. Hubbell). *Georgia*: Three miles southeast of Savannah, May 3, 1943, female (neotype) (Chamberlin and Ivie, 1944); Thomasville, April, 1940, female (Chamberlin and Ivie, 1944); Fort Benning, November 20, 1943, immature (Chamberlin and Ivie, 1944). *Florida*: Duval County, March 30, 1949, one immature female; Polk County, June 27, 1935, immature male, female (H. K. Wallace); Ocala, two males, two females, Gainesville, Alachua County, October 16, 1948, one male (H. K. Wallace). *Louisiana*: Kisatchie National Forest, Grant Parish, June, 1941, four females (Jones and Archer). *Alabama*: Cleburne County, September 9, 1946, one immature female (H. K. Wallace). *Indiana*: Dunes Acres (Lowrie, 1942, 1948); Ogden Dunes (Lowrie, 1948). *Illinois*: Kankakee County (Lowrie, 1948). *Michigan*: "Several

localities in Southern Peninsula" (Chickering, 1940); Marquette (Chickering, 1939). *Wisconsin*: Coon Valley, La Crosse County, May 22, 1949, one male (H. Levi); Copper Falls, Ashland County, July 22, 1949, one female (H. Levi); Sunset Point, Madison, May 15, 1948, one male (H. Levi). *Arkansas*: Forest City, April 11, 1946, male (C. D. Michener). *Texas*: Palestine, May 2, 1950, one male (Ray F. Smith); Austin, March 23, 1946, one female (S. Martin). *Arizona*: Santa Cruz River Valley, May 9, 1940, one male (R. H. Crandall).

Coriarachne aemula O. P. Cambridge

Figures 67, 68

Bassania aemula O. P. CAMBRIDGE, 1898, Biologia Centrali-Americana, Araneida, vol. 1, p. 249, pl. 31, figs. 5, 5a-5f. F. P. CAMBRIDGE, 1905, Biologia Centrali-Americana, Araneida, vol. 2, p. 148. PETRUNKEVITCH, 1911, Bull. Amer. Mus. Nat. Hist., vol. 29, p. 402.

TYPE LOCALITY: Orizaba, Mexico, female type in the British Museum (Natural History).

DISTRIBUTION: Eastern Mexico and southern Texas.

NEW LOCALITIES: *Veracruz*: Fifteen miles west of Jalapa, June 23, one female (A. M. and L. I. Davis). *Texas*: South of Pharr, April 5, 1936, one female (S. Mulaik); Edinburg, April 23, 1938, one male (D. Mulaik).

SPURIOUS RECORD: The specimen from Turrialba, Costa Rica, assigned to *Bassania aemula* by Banks (1909, Proc. Acad. Nat. Sci. Philadelphia, vol. 61, p. 214) belongs in the genus *Misumenoides*. Reimoser (1939, Ann. Naturhist. Mus. Wien, vol. 50, p. 368) cites Banks's record.

This species is a close ally of *Coriarachne versicolor* and distinguished from it in the female by the much longer and narrower septum of the epigynum. The single male assigned to *aemula* is closely allied in palpal features to *utahensis*. The bulb of the palpus is proportionately broader than in *utahensis*, and the pale spur on the prolateral tibial apophysis is gently bent. Until additional material becomes available, the association of the single male with the species must remain doubtful.

***Coriarachne utahensis* Gertsch**

Figures 62, 63

Platyxysticus utahensis GERTSCH, 1932, Amer. Mus. Novitates, no. 563, p. 5, fig. 2.

Coriarachne utahensis GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 408. CHAMBERLIN AND IVIE, 1941, Bull. Univ. Utah, biol. ser., vol. 6, no. 3, p. 19.

?*Coriarachne versicolor* CHICKERING, 1940, Papers Michigan Acad. Sci., vol. 25, p. 192, figs. 1-3 (part).

TYPE LOCALITY: Salt Lake City, Utah, male holotype in the American Museum of Natural History.

DISTRIBUTION: Entire western United States from Rocky Mountains to Pacific Coast, north into Alaska, south into western Mexico, eastward in Canada to Nova Scotia and adjacent states of Maine, New York, and Minnesota.

NEW LOCALITIES: *Ontario:* Port Arthur, August, September, October 1934, two sub-adult males, four females (L. S. Dear); Port Arthur, August, September, 1945, one female (L. S. Dear); Nakina, June 16, 1947, two males (W. Y. Watson); Lake Opeongo, Algonquin Park, June 26-July 7, 1945, one female, one female immature (W. Ivie, T. B. Kurata); Lake Opeongo, Algonquin Park, August 17, 1948, one female (W. J. Gertsch, T. B. Kurata); Algonquin Park, June 28, 1948, one female (D. Denny); Island 1024, Lake Temagami, August 15-25, 1946, four females (Gertsch, Ivie, and Kurata); point west of Ko-Ko-Ko Bay, Lake Temagami, August 15-25, 1946, three immatures (Gertsch, Ivie, and Kurata); Bear Island, Lake Temagami, August 15-25, 1946, one female (Gertsch, Ivie, and Kurata); Lake Temagami, September 5, 1938, one female; Island 227, Lake Temagami, August 25, 1938. *Saskatchewan:* Beaver Lake, August 4, 1947, one male immature (T. Kurata). *British Columbia:* Cawston, Yale, March-June 1920, two females (W. R. S. Metcalfe); Cultus, July 24, 1928, one female (T. B. Kurata); Wellington, Vancouver Island, May 31, 1949, June 1-15, September, 1950, one male, two females (R. Guppy); Kelowna, April, 1940, one male (H. Leech); Fort Nelson, June 10-13, 1948, one male. *Maine:* Lincoln, July 1942, one female (L. P. Grey); Jefferson, Lincoln County, September 11, 1941, one female (A. F.

Archer); many, if not all, of the records for Mt. Desert Island (Procter). *New Hampshire:* Woodstock, June 24-28, one male (L. Bartlett); Randolph, September 17, 1940, two females (E. L. Bell); Randolph, one male, one female (J. H. Sherman); West Ossipee, August, 1936, one male (S. Mulaik). *Vermont:* Passumpsic, one male (Granger). *Michigan:* Some of Chickering's records for *versicolor* may belong with this species. His figure of the male palpus more closely resembles *utahensis* than *versicolor*. *Minnesota:* Minneapolis, May 17, 1931, two males (W. J. Gertsch). *Montana:* Koo-Koo Sint Ridge, 3800 feet, Cabinet National Forest, July 5, 1950, one female (B. Malkin); Custer County, male, females. *Utah:* Benson, January 26, 1937, one female (G. F. Knowlton). *Arizona:* Seventeen miles northeast of White-river, July 8-10, 1940, one female (J. M. Gertsch); Douglas, June 4, 1946, two immature females (Wyatt W. Jones); Sabino Canyon, Santa Catalina Mountains, August 18, 1950, one female (M. A. Cazier); Manzanita Camp, Oak Creek Canyon, July 26, 1950, one female (M. A. Cazier); south fork of Cave Creek, Chiricahua Mountains, September 11, 1950, two females (W. J. Gertsch); Pinecrest, Graham Mountain, September 12, 1950, one female (W. J. Gertsch). *California:* Carville, July, 1934, female (Chamberlin and Ivie, 1941); Mt. Diablo, March 25, 1947, one penultimate male; Bryte, June 12, 1945, one female (C. M. Herman); Cedar Creek Camp, Tulare County, April 26, 1950, one female (Evert Schlinger); Manzanita Lake, Lassen National Park, 5800 feet, October 1, 1944, one female (B. Malkin); Murphys, Calaveras County, May 1, 1940, one female (Blaisdel); 4 miles east of Loyalton, July 17, 1940, three females (W. Pearce); Castro Valley, Alameda County, March 16, 1941, one female (W. Pearce); Stevens Creek, Santa Clara County, April 20, 1941, one female (W. Pearce); Indian Canyon, San Diego County, July 22, 1948, one immature (W. Pearce); McArthur, Shasta County, June 16, 1942, one female (W. Pearce); Truckee, Nevada County, October 25, 1945, one female (W. Pearce). *Oregon:* Little Applegate River, 2300 feet, Jackson County, July, 1948, one male, five females (V. E. Thatcher); Rogue River, near Camp White, July 5, 1947, one male (V. E.

Thatcher); Butte Falls, Jackson County, October, 1947, two females (V. E. Thatcher); Spencer Butte, Eugene, Lane County, 700–1100 feet, September 13, 1941, one female (B. Malkin); Spencer Butte, Eugene, Lane County, 700–1100 feet, March 29, 1942, one female (J. Sadler, B. Malkin); Eugene, April, May, 1947, four females and immature (B. Malkin); Eugene, August 21, 1941, male (B. Malkin); Medford, April, 1947, four immatures (V. Thatcher); Medford, July–August, 1944, male and female (V. Thatcher); Corvallis, March 15, 1947, male (V. Roth); Corvallis, March 11–15, 1935, female (K. Gray); 4 miles southeast of Corvallis, February 12, 1948, one female, one immature; Ochoco Ranger Station, March 12, 1939, one female (K. Gray, J. Schuh).

***Coriarachne floridana* Banks**

Figures 65, 66

Coriarachne floridana BANKS, 1896, Trans. Amer. Ent. Soc., vol. 23, p. 71. GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 409, figs. 256, 257, 270.

TYPE LOCALITY: Punta Gorda, Florida, male and female cotypes in the Museum of Comparative Zoölogy.

DISTRIBUTION: Southeastern United States.

KNOWN LOCALITIES: *New York*: Riverhead, June 5, June 16, 1949, three males (R. Latham); Hempstead Plains, Long Island, June 23, 1936, one male. *New Jersey*: Lakehurst, one male. *Florida*: Marion County, January 19, 1948, one immature female (H. K. Wallace); Baker County, May 1, 1949, one female; Polk County, June 27, 1935, one female, one immature (H. K. Wallace); Cleveland, November 14, 1911, one male (Gertsch, 1939); Lake Placid, February 8, 1943, one female (M. Cazier); Gainesville, March 6, 1934, one female, male (H. K. Wallace); Gainesville, November 25, 1935, one female "on trunk of longleaf pine" (Gertsch, 1939); Enterprise, one female (Gertsch, 1939); Punta Gorda, male and female cotypes, Slosson collector (Banks, 1896). *Alabama*: Hatchet Creek, Coosa County, June, 1940, one female (A. F. Archer). *Mississippi*: Vernal, one female (Gertsch, 1939). *Louisiana*: Rodessa, May 22, 1949, one male (J. H. Robinson). *Tennessee*: University of Tennessee Farm, Knox

County, June 3, 1951, one male (H. B. Reed).

GROUP B

In this series the carapace is very flat and the median eyes of the posterior row are much nearer each other than the lateral eyes. In the male palpus the thin tibial spine of the *versicolor* group is represented only by a tiny rudiment not easily visible in ventral view (see fig. 70). The terminal portion of the embolus forms a distinct curl. The female epigynum is provided with a broad median septum.

This group very probably originated from the same stem as the *versicolor* group or from some similar ancestor in the Oriental region. The European *Coriarachne depressa* is a close ally of the American *brunneipes*, but is smaller and has a somewhat different embolus (fig. 73). The American representatives can be separated as follows:

Carapace typically slightly broader than long (in female 3.75 mm./3.65 mm.); second femur longer than the breadth of carapace (4.05 mm.); western United States and Canada
 *brunneipes* Banks
 Carapace slightly longer than broad (in female 2.50 mm./2.45 mm.); second femur as long as breadth of carapace; Ontario
 *nakina*, new species

***Coriarachne brunneipes* Banks**

Figures 74–76

Coriarachne brunneipes BANKS, 1893, Jour. New York Ent. Soc., vol. 1, p. 133. GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 410, figs. 258, 259, 271. CHAMBERLIN AND IVIE, 1941, Bull. Univ. Utah, biol. ser., vol. 6, no. 3, p. 19; 1947, *ibid.*, biol. ser., vol. 10, no. 3, p. 66.

TYPE LOCALITY: Olympia, Washington, male and female cotypes in the Museum of Comparative Zoölogy.

DISTRIBUTION: Western United States and Canada from Colorado and Arizona north into Montana, British Columbia, and Alaska.

NEW LOCALITIES: *British Columbia*: Wellington, Vancouver Island, May 1–October 20, 1950, males and females (R. Guppy); Williamhead, August 28, two females (J. E. Cornwell). *Alaska*: Haines, August 25, 1945, male (Chamberlin and Ivie, 1947). *Wyoming*: Yellowstone National Park, July 20, 1945, one immature female (V. Shelford). *Colorado*:

Pikes Peak, 8000 feet, June 24, 1940, one penultimate male (W. J. Gertsch). *Arizona*: McKay's Peak, White Mountains, July 10, 11, 1940, one female (W. J. Gertsch, L. Hook). *California*: Mammoth Lakes, Mono County, June 26, 1941, two females (W. Pearce); Ben Lomond, May 1934, male and female (Chamberlin and Ivie, 1941). *Oregon*: Eugene, Lane County, September 4, August 26, 1941, male and penultimate male (B. Malkin); summit of Willamette Pass, Lane County, 5128 feet, September 28, 1941, one female (B. Malkin); Winchester Bay, Douglas County, June, 1942, one male (V. Zahn); near South Sister, Deschutes County, 5450 feet, August 31, 1941, penultimate male, four females (B. Malkin); Gresham, August 1, 1947, female (V. Roth); Corvallis, October 20, 1947, female (L. Wallace); Corvallis, April 18, September 5, 1947, females (V. Roth); Corvallis, March 11-15, 1935, female (K. Gray); Portland, July 13, 1935, female (A. S. Pierson); St. Helens, May 22, 1938, female (K. Gray, J. Schuh). *Washington*: Yakima Park, August 20, 1947, three males (G. Gulion).

***Coriarachne nakina*, new species**

Figures 69-72

FEMALE: Total length, 6.75 mm.

Coloration (fig. 69) in close agreement with that of *Coriarachne brunneipes* Banks. Carapace dark reddish brown, with a small whitish patch at middle, with a few whitish streaks on the side and a whitish band across the front enclosed by the eyes. Sternum brown, the coxae yellowish brown, the legs light to dark brown, with whitish mottling above on the femora and patellae. Abdomen dark brown above, with a diffuse pattern of creamy white spots and streaks.

Structure in close agreement with that of *brunneipes*. Carapace longer than broad (2.50 mm./2.45 mm.), typical, quite flat, the head at the second eye row more than half of the greatest width (1.65 mm.), set with setaceous hairs, the clypeal margin with seven principal and four intermediate setaceous spines. First row of eyes recurved, the lower edges of the median only slightly above a line along the lower edges of the lateral eyes. Anterior median eyes separated by less than two diameters (15/26), much

nearer the larger laterals (15/17). Second eye row strongly recurved, the median eyes separated by three diameters (10/33), farther from the larger lateral eyes (10/44). Median ocular quadrangle broader than long (53/44), as wide in front as behind. Clypeus equal in height to the diameter of an anterior median eye.

First leg: femur, 2.40 mm.; patella, 1.20 mm.; tibia, 1.65 mm.; metatarsus, 1.50 mm.; and tarsus, 0.80 mm. long. Second femur, 2.50 mm. Tibia and patella of fourth leg, 1.90 mm. Spination of first leg: femur, prolateral 6, dorsal 1; tibia, ventral 2-2-2-1-2; metatarsus, prolateral 2, retrolateral 3 or 4, ventral 2-2-2-2.

Abdomen (4.35 mm. long, 3.80 mm. wide) typical, clothed evenly with inconspicuous setaceous hairs and weak spines.

Epigynum as illustrated for *brunneipes* (fig. 76).

MALE: Total length, 4.15 mm.

Coloration and structure essentially as in the female. Carapace 2.05 mm. long, 1.95 mm. wide, clothed with setaceous spines and hairs. Lower edges of eyes of front row in a transverse line, the median eyes separated by more than the diameter (15/20), scarcely the diameter from the very large lateral eyes (15/12). Second eye row strongly recurved, the median eyes separated by more than two diameters (10/24), farther from the larger lateral eyes (10/35). Median ocular quadrangle broader than long (47/37), slightly wider in front than behind (47/45), the front eyes considerably larger.

First leg: femur, 2.10 mm.; patella, 0.85 mm.; tibia, 1.35 mm.; metatarsus, 1.40 mm.; and tarsus, 0.90 mm. Second femur, 2.20 mm. Tibia and patella of fourth leg, 1.75 mm. Spination of first leg: femur, prolateral 7 weak, dorsal 5; tibia, retrolateral 1 or 2, ventral 2-2-2-2; metatarsus, prolateral 1 or 2, retrolateral 2 or 3, ventral (2)-2-2-2.

Palpus as illustrated in figures 70, 71, and 72.

TYPE LOCALITY: Male holotype from Alto-wopiskat, Ontario, August 17, 1939, in the Royal Ontario Museum.

OTHER LOCALITIES: *Ontario*: Nakina, June 1, 1947, female allotype; Cheaney's Bay, Abitibi, July 19, 1925, female paratypes.

The present species is a very close ally of

Coriarachne brunneipes Banks. It is smaller in size and exhibits slight proportional differences in the carapace (which is somewhat longer than broad) and the legs. The male palpi are very similar, but in *brunneipes* the enlargement from the base of the embolus is wider and angled as seen in ventral view. It is possible that *nakina* is only an Ontario subspecies of *brunneipes* which has a wide distribution from the Rocky Mountains to the west coast and from Arizona and New Mexico north into Alberta and British Columbia.

GENUS *OXYPTILA* E. SIMON

Oxyptila E. SIMON, 1864, Histoire naturelle des araignées, p. 439.

Oxyptila E. SIMON, 1892-1895, Histoire naturelle des araignées, ed. 2, p. 1035.

The carapace is about as broad as long, convex, of average height, and the clypeus is vertical. The spines and covering hairs are filiform, clavate, or spatulate and not infrequently setaceous, especially in the males. Clypeus equal in height to about two diameters of an anterior median eye. The eyes are essentially as in *Xysticus* except for the median ocular quadrangle which, in the typical species, is clearly longer than broad. The legs are strongly spinose and typically lack apical spines beneath the front tibiae.

This is a rather large genus of about 70 species, most of which are from temperate or boreal areas of the Northern Hemisphere. A small number of species occur in the Mediterranean region of North Africa, and others are known from Japan and Peking, China. Of the few that reach the tropics, perhaps the most interesting is *Oxyptila heterophthalma*, described by Berland in 1938 from the New Hebrides Islands east of Australia. The eyes of the median quadrangle are reduced in size, the anterior median being moderately reduced and the posterior median so extremely small and punctiform that they are difficult to discern.

The genus *Oxyptila* comprises small, drab, brown or grayish crab-spiders that live on the ground, where they hide beneath stones and debris. Although locally quite common in pine detritus and deciduous leaf mold, especially in northern areas, the oxyptilas are more generally scarce over most of the United

States and Mexico. This scarcity is reflected in the quite small North American fauna which, even after the addition of six previously undescribed species in this paper, reaches a total of only 19 or 20 for the entire continent. Many of these are still known from single specimens or very small series. By contrast, almost an equal number is known to occur in France alone, and more than 40 species live in the European Palearctic region. A male of one of the common European species (*praticola*) has been collected recently in the state of Washington.

Additional species are assigned to both of the principal groups of *Oxyptila* found in North America.

KEY TO THE SUBGENERA OF *Oxyptila*

Quadrangle of median eyes forming a much broader than long figure; front tibiae often with apical spines beneath; bulb of male palpus without apophyses Subgenus *Modysticus*
 Quadrangle of median eyes forming a longer than broad figure; front tibiae without apical spines beneath except in *hardyi*; bulb of male palpus usually with apophyses. . Subgenus *Oxyptila*

MODYSTICUS, NEW SUBGENUS

Two new species are added to this exclusively American series (group A of my 1939 revision) in which the eyes of the median quadrangle form a much broader than wide figure. Both conform closely to the previously known species and present characters that further serve to bridge the slight gap between the typical oxyptilas and the species of *Xysticus*.

GENOTYPE: *Oxyptila modesta* Sheffer.

KEY TO THE SPECIES OF *Modysticus*

1. Males 2
 Females 4
2. First tibia with apical spines, the formula 1-2-2-2; palpus (figs. 77 and 78) with thin embolus *imitata*, new species
 First tibia without apical spines, the formula 2-2-0; palpus with apically broad embolus . 3
3. Embolus truncated at end, the apical sclerite produced into a distinct, pointed spur *modesta* Scheffer
 Embolus rounded apically, the sclerite a linear fold lying on the pars pendulum *floridana* Banks
4. First tibia with well-developed apical spines; first metatarsus with 2-2-2-2 ventral spines . 5

First tibia without apical spines; first metatarsus with 2-2-2 ventral spines 6

5. Ventral spine formula of first tibia 2-2-2 . . .

. *peon*, new species

Ventral spine formula of first tibia 1-2(1)-2-2-2

. *okefenokensis* Gertsch

6. Epigynal ridges (the hood and the W-shaped caudal margin) forming a longer than broad figure *floridana* Banks

Epigynal ridges forming a triangular figure as broad as long. *modesta* Scheffer

***Oxyptila modesta* Scheffer**

Figure 82

Xysticus modestus SCHEFFER, 1904, Industrialist, vol. 30, p. 3; 1904, Ent. News, Philadelphia, vol. 15, p. 257, pl. 17, fig. 1.

Oxyptila marshalli BARROWS, 1919, Ohio Jour. Sci., vol. 19, p. 357, pl. 15, fig. 2.

Oxyptila modesta GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 340, figs. 104, 105, 127, 128. CHAMBERLIN AND IVIE, 1944, Bull. Univ. Utah, biol. ser., vol. 8, no. 5, p. 161.

TYPE LOCALITIES: Of *Xysticus modestus*, Manhattan, Kansas, female cotypes, all lost except one in the Museum of Comparative Zoölogy; of *Oxyptila marshalli*, Sugar Grove, Ohio, male type in the Ohio State Museum.

DISTRIBUTION: Central and southeastern United States. This is the commonest and most widely distributed of the species of this group and occurs from Ohio and Wisconsin southward to Kansas and Missouri and eastward into Virginia and Georgia.

NEW LOCALITY: *West Virginia:* Minnehaha Springs, Pocahontas County, July, 1948, one male (Karl W. Haller).

***Oxyptila floridana* Banks**

Oxyptila floridana BANKS, 1895, Psyche, vol. 7, p. 243. GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 341, figs. 106, 107, 129.

Oxyptila infumata CHAMBERLIN AND IVIE, 1944, Bull. Univ. Utah, biol. ser., vol. 8, no. 5, p. 161.

TYPE LOCALITY: Punta Gorda, Florida, female type in the Museum of Comparative Zoölogy.

DISTRIBUTION: Florida, Georgia, and Tennessee.

NEW LOCALITIES: *Georgia:* Eight miles west of Savannah, April 5, 1943, two females (Chamberlin and Ivie, 1944). *Florida:* White Springs, June 15, 1935, one female (Chamberlin and Ivie, 1944); Winter Park, March, 1939, one female (F. E. Lutz).

***Oxyptila imitata*, new species**

Figures 77, 78

MALE: Total length, 3.15 mm.

Carapace reddish brown, the margins with a narrow brown seam, an irregular supramarginal brown band on each side, the middle with a broad pale stripe much suffused with brown streaks and spots. Sternum dusky brown, with bright yellowish spots, the mouth parts and coxae dusky brown, marked with some black and white flecks. Legs orange-brown, the femora, patellae, and tibiae dark brown with yellowish spots. Abdomen orange-brown above, with blackish chevrons, the base and sides somewhat whitish, the sides and venter dusky brown, with black flecks.

Structure in close agreement with that of *Oxyptila modesta* Scheffer. Carapace (1.85 mm. long, 1.73 mm. wide) typical, clothed sparsely with inconspicuous filiform hairs and set sparsely with setaceous spines, the clypeus with seven principal spines and six of intermediate length on the margin. Anterior median eyes separated by two diameters (10/24), one diameter from the lateral eyes. Second eye row recurved, the median separated by two diameters (10/19), much farther from the larger lateral eyes (10/26). Median ocular quadrangle broader than long (41/31), broader in front than behind (41/34), the eyes subequal in size. Clypeus equal in height to more than the full diameter of an anterior median eye (13/10).

First leg: femur, 1.60 mm.; patella, 0.78 mm.; tibia, 1.18 mm.; metatarsus, 1.10 mm.; and tarsus, 0.70 mm. Tibia and patella of fourth leg, 1.34 mm. Spines of first leg: femur, prolateral 4; tibia, ventral 1-2-2-2; metatarsus, prolateral and retrolateral 1, ventral 2-2-2.

Palpus as illustrated in figures 77 and 78.

Abdomen (1.80 mm. wide and long) typical, clothed with fine setaceous hairs, especially below, and evenly set with linear to clavate spines above.

TYPE LOCALITY: Male holotype from 10 miles north of Victoria, Tamaulipas, April 13, 1941 (A. M. Davis).

OTHER LOCALITY: *Nuevo Leon:* Cañon de las Anahuas, Linares, July 19, 1942, an immature male in the penultimate stage (F. Bonet and D. Peláez).

Oxyptila peon, new species

Figure 79

FEMALE: Total length, 4.25 mm.

Coloration essentially as in *imitata*, *modesta*, and related species. Base color of carapace dull yellow, the dorsal pattern dark brown, consisting of a supramarginal, irregular band on each side and a pair above running back to the edge of the posterior declivity. Legs dull yellow, spotted with black, and with numerous white flecks. Sternum yellowish, with a Y-shaped black maculation, the coxae yellowish, with a small black spot. Abdomen dull yellowish brown, paler beneath.

Structure in close agreement with that of *modesta*. Carapace (2.06 mm. long and wide) set with small linear and clavate hairs and with rather long clavate spines, the clypeal margin with nine principal long filiform spines. Anterior median eyes separated by scarcely three diameters (8/23), nearer the much larger lateral eyes (8/15). Second eye row recurved, the median eyes separated by two diameters (8/20), much farther from the larger lateral eyes (8/30). Median ocular quadrangle broader than long (38/35), wider in front in the same ratio, the eyes subequal in size. Clypeus equal in height to two diameters of an anterior median eye.

First leg: femur, 1.75 mm.; patella, 0.93 mm.; tibia, 1.36 mm.; metatarsus, 1.15 mm.; tarsus, 0.75 mm. Tibia and patella of fourth leg, 1.55 mm. Spines of first leg: femur, prolateral 3; tibia, ventral, 2-2-2; metatarsus, prolateral and retrolateral 1, ventral 2-2-2-2.

Abdomen (2.40 mm. long, 2.60 mm. wide) typical, the dorsum evenly covered with linear to clavate spines, the venter with setaceous hairs.

Epigynum as illustrated in figure 79.

TYPE LOCALITY: Female holotype from Huatusco, Veracruz, October 11, 1945 (M. Cardenas).

This species differs from *Oxyptila floridana* Banks in possessing apical spines beneath the first tibiae, and in the additional pair (four) beneath the metatarsi.

Oxyptila okefenokensis Gertsch

Oxyptila okefenokensis GERTSCH, 1934, Amer. Mus. Novitates, no. 707, p. 13; 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 342, figs. 130, 138

(*Oxyptila*). CHAMBERLIN AND IVIE, 1944, Bull. Univ. Utah, biol. ser., vol. 8, no. 5, p. 161 (*Oxyptila*).

TYPE LOCALITY: Billy's Island, Okefenokee Swamp, Georgia, female holotype in the collection of the American Museum of Natural History.

DISTRIBUTION: Georgia. Only the type of this very rare species is known.

SUBGENUS **OXYPTILA**

This subgenus is divided into two sections on the basis of differences in the spinal armature of the front tibiae as follows:

- Front tibiae with two pairs of ventral spines . . .
- . . . Group A (*Oxyptila brevipes* Hahn, type)
- Front tibiae with four pairs of ventral spines . .
- . . . Group B (*Oxyptila hardyi*, new species, type)

GROUP A

In this series, which comprises most of the species from temperate America and Eurasia, the median ocular quadrangle forms a longer than broad figure, usually considerably so and only rarely essentially as broad as long. The carapace is correspondingly at least slightly longer than broad, and the pars cephalica is quite narrow, sometimes equaling only half of the greatest width of the carapace. The first and second legs are of about the same length and stoutness, and the tibiae, which lack the apical pair, are provided below with two pairs of stout spines. Twelve American species, of which three are described as new in this paper, correspond fully to the above typical generic diagnosis.

The typical oxyptilas are very similar in appearance and are best differentiated by comparison of the palpal and epigynal features. Therefore, no key is here provided, inasmuch as one would inevitably be based on differences best depicted by illustrations.

In the males of three of the species (*Oxyptila conspurcata*, *formosa*, and *gertschi*) the retrolateral tibial apophysis is a slender spine as long as the tibia itself and extends forward well beyond the middle of the cymbium. In the remaining seven species of which males are known, the retrolateral tibial process is a spine or spur far shorter than the tibia and does not extend forward beyond the middle of the cymbium.

In my revision of 1939 females of *Oxyptila barrowsi* Gertsch were confused with those of

O. americana Banks, as will be noted in the synonymies found in this paper. For the most part the records herein cited for the various species are new.

***Oxyptila formosa* Bryant**

Oxyptila formosa BRYANT, 1930, *Psyche*, vol. 37, p. 381, figs. 5, 7, 17. GERTSCH, 1939, *Bull. Amer. Mus. Nat. Hist.*, vol. 76, p. 344, figs. 118, 119, 136. KASTON, 1948, *Bull. Connecticut Geol. Nat. Hist. Surv.*, vol. 70, p. 420, figs. 1495, 1537 (*Oxyptila*).

TYPE LOCALITY: Royal Palm Park, Florida, male type in Museum of Comparative Zoölogy.

DISTRIBUTION: Florida and Long Island, New York. No additional specimens of this very rare species have come to light during recent collecting.

***Oxyptila americana* Banks**

Oxyptila americana BANKS, 1895, *Psyche*, vol. 7, p. 242. CROSBY AND ZORSCH, 1935, *Canadian Ent.*, vol. 67, p. 39. GERTSCH, 1939, *Bull. Amer. Mus. Nat. Hist.*, vol. 76, p. 345, figs. 100, 101, 114, 115, 126, 134, 139 (not fig. 133). CHICKERING, 1940, *Papers Michigan Acad. Sci.*, vol. 25, p. 199 (part; figs. 16-17, not 18). PROCTER, 1946, *Biological survey of the Mount Desert region*, pt. 7, p. 526. LOWRIE, 1948, *Ecology*, vol. 29, p. 338. KASTON, 1948, *Bull. Connecticut Geol. Nat. Hist. Surv.*, vol. 70, p. 420, figs. 1493, 1519, 1535 (*Oxyptila*).

TYPE LOCALITY: Ithaca, New York, female, cotypes in Museum of Comparative Zoölogy.

DISTRIBUTION: Eastern United States and Canada.

NEW LOCALITIES: *Quebec*: Lac St. Jean region (Crosby and Zorsch, 1935). *Ontario*: Island 1024, Bear Island and point west of Ko-Ko-Ko Bay, all in Lake Temagami, August 15-25, 1946, females, immature males and females (W. J. Gertsch, W. Ivie, and T. B. Kurata); Island 1024, Lake Temagami, August 30, 1939, one female (J. P. Oughton); Sproule Bay, Lake Opeongo, Algonquin Park, June 26-July 7, 1945, four females (W. Ivie, T. B. Kurata); South Tea Lake, Algonquin Park, July 3-10, 1945, one female (W. Ivie, T. B. Kurata); Lake Opeongo, Algonquin Park, August 17, 1948, females, immature males and females (W. J. Gertsch, T. B. Kurata); Deux Rivier, August 7, 1937, one female (T. B. Kurata); Mazineau

Lake, July 19, 1945, two females (H. B. Harrington). *Maine*: Mt. Desert Island region (Procter, 1946). *Connecticut*: Norwalk, May 5, 1933 (W. J. Gertsch); Washington, June 30, 1937 (Kaston, 1948). *New Jersey*: High Point State Park, June 19, 1945, one female (C. and M. Goodnight). *Indiana*: Smith (Lowrie, 1948). *Michigan*: No specific localities cited, but some females probably are *americana* (Chickering, 1940). *Wisconsin*: Madison, April 24, 1935, to June 28, 1935, five females (Field); Milton Rock County, June 10, 1936, one female (Field).

***Oxyptila barrowsi* Gertsch**

Figure 80

Oxyptila barrowsi GERTSCH, 1939, *Bull. Amer. Mus. Nat. Hist.*, vol. 76, p. 348, figs. 120, 121.

Oxyptila americana GERTSCH, 1939, *Bull. Amer. Mus. Nat. Hist.*, vol. 76, p. 348 (part: fig. 133). CHICKERING, 1940, *Papers Michigan Acad. Sci.*, vol. 25, p. 199 (part: fig. 18).

TYPE LOCALITY: Pine, Indiana, male holotype in the Museum of Comparative Zoölogy.

DISTRIBUTION: Northeastern United States and Canada; Texas.

NEW LOCALITIES: *Ontario*: Newburgh, July 3, November 2, two females (H. B. Harrington); Point Pelee, August 1-11, 1938, one male, two females, one immature (T. B. Kurata). *Connecticut*: Norwalk, June 5, 1933, two females previously recorded as *americana* (W. J. Gertsch). *Michigan*: Winnipeg Lake, October 15, 1932, one female; no specific localities cited, females (Chickering, 1940). *Texas*: Dallas, one female (J. H. Robinson).

***Oxyptila monroensis* Keyserling**

Oxyptila monroensis KEYSERLING, 1883, *Verhandl. K. K. Zool.-Bot. Gesellsch. Wien*, vol. 33, p. 671, pl. 21, fig. 19. GERTSCH, 1939, *Bull. Amer. Mus. Nat. Hist.*, vol. 76, p. 346, figs. 110, 111, 131. CHAMBERLIN AND IVIE, 1944, *Bull. Univ. Utah, biol. ser.*, vol. 8, no. 5, p. 161. MUMA, 1945, *Bull. Maryland Agr. Exp. Sta.*, no. A38 (Tech.), p. 46. *Oxyptila neglecta* BRYANT, 1930, *Psyche*, vol. 37, p. 386, figs. 11, 14.

TYPE LOCALITIES: Of *monroensis*, Fort Monroe, Virginia, female and immature male cotypes in the United States National Museum; of *neglecta*, Hayden Falls, Columbus, Ohio, male holotype in the Museum of Comparative Zoölogy.

DISTRIBUTION: Central United States and Canada (Ontario) south to Alabama and Georgia in the east and to Missouri and Nebraska in the midwest. The record of this species from Key West, Florida, based on a female in the Marx collection, is probably spurious.

NEW LOCALITIES: *Ontario:* Pelee Island, June 4-16, 1950, three males, eight females (W. Ivie, T. B. Kurata). *Georgia:* Gainesville, April 24, 1943, two immatures (J. C. Chamberlin, W. Ivie); Clarkesville, April 27, 1943, immature (J. C. Chamberlin, W. Ivie, 1944).

***Oxyptila bryantae* Gertsch**

Oxyptila bryantae GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 348, figs. 108, 109. MUMA, 1945, Bull. Maryland Agr. Exp. Sta., no. A38 (Tech.), p. 46. KASTON, 1948, Bull. Connecticut Geol. Hist. Surv., vol. 70, p. 420, figs. 1494, 1536 (*Oxyptila*).

TYPE LOCALITY: Norwalk, Connecticut, female holotype in the American Museum of Natural History.

DISTRIBUTION: Northeastern United States (New Jersey, Maryland) and Canada (Quebec and Newfoundland) westward through Canadian provinces into Alaska and southward into Colorado.

NEW LOCALITIES: *Newfoundland:* Spruce Brook, August 8-12, two females, probably this species (C. W. Leng). *Ontario:* Favourable Lake Mine, latitude 53° N., June 9, 1938, one male (G. M. Neal); Sandstone Lake, Port Arthur, July 17, 1946, two females, probably this species (J. S. Speakman); Lake Petersson, 35 miles east of Kenora, August 8, 1948, one female (W. J. Gertsch, T. B. Kurata); Nipigon, August 12, 1948, females (W. J. Gertsch, T. B. Kurata). *Manitoba:* Aweme, one female. *Saskatchewan:* Saskatoon, one female. *Alberta:* Edmonton, June 4, 1945, one female; Fawcett, one female. *Alaska:* Fort Richardson, April 16, 1948, one female (R. Sailer); Tolovana, Yukon River, one male from frog's stomach (R. H. Hamilton). *New Jersey:* White's Bog, near Brown's Mills, June 11, 1921, one male (F. E. Lutz). *Minnesota:* Minneapolis, October 5, 1930, one female (W. J. Gertsch). *Colorado:* Rocky Mountain National Park, 10 miles west of Estes Park, July 8, 1949, one female (W. J. Gertsch).

***Oxyptila belma*, new species**

Figure 81

FEMALE: Total length, 3.30 mm.

Coloration in the specimen much faded from poor preservation. Sides of the carapace brownish but with a supramarginal pale band as in *bryantae*. Median pale stripe as wide as and including the eyes in front, narrowed to less than half of that width at the posterior declivity. Under side of carapace and appendages orange-brown, with contrasting markings. Abdomen dull yellowish above, marked with a few small dark spots, all pale below.

Structure essentially as in *bryantae* and related species. Carapace with fine clavate hairs, the clypeal margin with eight principal filiform spines, of which the four median are much longer, and a median spine above the margin. Head broader than in *bryantae*, the width at the second eye row seven-elevenths of the total width. Anterior median eyes separated by more than the diameter (12/20), half as far from the much larger lateral eyes. Second eye row recurved, the median separated by more than the diameter (12/20), much farther from the larger lateral eye (12/36). Median ocular quadrangle longer than broad (51/44), about as wide in front as behind, the eyes equal in size.

First leg: femur, 1.15 mm.; patella, 0.65 mm.; tibia, 0.75 mm.; metatarsus, 0.70 mm.; and tarsus, 0.45 mm. Spines of first leg: femur, prolateral 1; tibia, ventral 2-2-0; metatarsus, prolateral 1, ventral 2-2-2.

Abdomen typical (1.85 mm. long and wide), nearly round, clothed with fine clavate hairs.

Epigynum as illustrated in figure 81.

TYPE LOCALITY: Female holotype from Montreal, Quebec.

The epigynum is of the same general type as in *Oxyptila bryantae* Gertsch, but the details of the lateral elevated ridges are distinctive.

***Oxyptila nevadensis* Keyserling**

Figure 84

Oxyptila nevadensis KEYSERLING, 1880, Die Spinnen Amerikas, Laterigradae, vol. 1, p. 50, pl. 1, fig. 25. GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 347, figs. 112, 113, 132.

The following description is based on a female from near McMinnville, Oregon.

FEMALE: Total length, 3.35 mm.

Sides of the carapace dusky brown except for a few pale supramarginal spots. Median band indistinct (the whole front and eye region being dusky brown) except for a narrow whitish band behind which continues down the posterior declivity. Sternum yellowish brown, dusky on sides and behind, the labium and maxillae dusky, the coxae paler but dusky on the sides. Legs yellow to dusky orange-brown, the hind pairs spotted, the front pairs darkest, the femora with pale markings. Abdomen dusky yellowish brown above, with black chevrons in caudal portion, the venter paler. Carapace set evenly with rows of procumbent, spatulate hairs, the clypeal margin with eight principal clavate spines, the middle four larger. Anterior median eyes separated by nearly two diameters (14/22), nearer the larger lateral eyes (14/12). Second eye row recurved, the median separated by scarcely two diameters (14/23), farther from the larger lateral eyes (14/37). Median ocular quadrangle broader than long (53/50), as wide in front as behind. Clypeus a little less than two diameters of an anterior median eye.

First leg: femur, 1.20 mm.; patella, 0.70 mm.; tibia, 0.80 mm.; metatarsus, 0.83 mm.; and tarsus, 0.60 mm. Spination of first leg: femur, prolateral 1; tibia, ventral 2-2-0; metatarsus, prolateral 1, ventral 2-2-2.

Abdomen typical (2.00 mm. long, 2.25 mm. wide), widest behind, clothed evenly with rows of spatulate hairs and weak spines.

Epigynum as illustrated in figure 84.

TYPE LOCALITY: Nevada, female type in the Muséum National d'Histoire Naturelle, Paris.

DISTRIBUTION: Western United States from Rocky Mountains (New Mexico and Colorado) into California and Oregon. Occasional in the east (Illinois and North Carolina).

NEW LOCALITIES: *Colorado*: Fort Collins, 6700 and 6300 feet, July 28, August 17, 1946, one male, one female, one immature female (C. Hoff); Buckhorn Mountain, Rist Canyon, west of Fort Collins, September 2, 1946, one female under rocks in pine woods (C. Hoff). *Illinois*: Five miles northeast of La Prairie, Adamo County, April 19, 1946, one female (B. Patterson). *Texas*: Raven

Ranch, December, 1939, one female (S. Mulaik). *North Carolina*: Tryon, November 27, 1946, one female from "yellow-pine stump" (L. Eisenach). *Oregon*: Peavine Ridge, near McMinnville, November, 1946, one female (K. M. Fender).

Oxyptila pacifica Banks

Oxyptila pacifica BANKS, 1895, Psyche, vol. 7, p. 243. GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 349, figs. 122, 123, 137.

TYPE LOCALITY: Olympia, Washington, female and immature male cotypes in the Museum of Comparative Zoölogy.

DISTRIBUTION: Pacific Northwest and Colorado.

No specimens of this distinctive species have been noted in recent collections.

Oxyptila bison, new species

Figures 85-87

MALE: Total length, 2.85 mm.

Sides of the carapace orange-brown, interrupted by an irregular, supramarginal yellowish band. Median pale band as wide as the eye group in front, where it is masked with brown, and narrowing gradually to half of the width on the posterior declivity. Sternum yellowish brown, with a brownish streak in caudal half and less conspicuous lateral streaks. Labium dusky, the maxillae and coxae yellowish brown, the latter with a smudgy brown spot at apices. Legs yellowish brown, the hind pairs with brown spotting, the front pairs quite uniform orange-brown. Abdomen mostly orange-brown above, with a narrow white stripe around the base and indistinct black chevrons, the venter paler, with white side lines.

Appearance and structure (fig. 87) in close agreement with those of *Oxyptila pacifica*, *nevadensis*, and related species. Carapace clothed with clavate to spatulate hairs and with eight principal claviform spines on the clypeal margin, the four middle ones much larger. Anterior median eyes separated by more than the diameter (15/22), half as far from the lateral eyes. Second eye row of typical recurvature, the median separated by more than the diameter (15/20), much farther from the lateral eyes (15/35). Median ocular quadrangle longer than broad (51/47), narrower in front (47/44), the eyes subequal in

size. Clypeus equal in height to one and one-half diameters of the anterior median eye.

First leg: femur, 1.05 mm.; patella, 0.65 mm.; tibia, 0.75 mm.; metatarsus, 0.70 mm.; and tarsus, 0.50 mm. Spination of first leg: femur, prolateral 1; tibia, ventral 2-2-0; metatarsus, ventral 2-2-2.

Abdomen (1.60 mm. long and wide) typical, clothed sparsely with small clavate hairs and a few small spatulate spines.

Palpus as illustrated in figures 85 and 86.

TYPE LOCALITY: Male holotype from Buffalo Lake, 11,000 feet, near Victor, Colorado, July, 1941 (C. and M. Goodnight).

This species is easily distinguished from its relatives by details of the palpus as illustrated. The median ocular quadrangle is narrower in front, whereas in *pacifica* and *nevadensis* this quadrangle is as wide in front as it is behind, or even wider than it is behind.

***Oxyptila creola*, new species**

Figure 88

FEMALE: Total length, 4.15 mm.

Coloration in close agreement with that of *Oxyptila bison*.

Structure essentially as in *conspurcata* and related species. Carapace clothed rather sparsely with clavate and spatulate hairs, the clypeal margin with eight principal clavate spines. Anterior median eyes separated by more than the diameter (15/22), half as far from the larger lateral eyes. Second row procurved, the median separated by more than the diameter (15/22), much farther from the lateral eyes (15/37). Median ocular quadrangle longer than broad (51/47), as broad in front as behind. Clypeus equal in height to more than the diameter of an anterior median eye (15/24).

First leg: femur, 1.30 mm.; patella, 0.75 mm.; tibia, 0.80 mm.; metatarsus, 0.75 mm.; and tarsus, 1.10 mm. Spination as in *bison* but first metatarsus with a prolateral spine.

Abdomen (2.35 mm. long, 2.50 mm. wide) typical, widest behind.

Epigynum as illustrated in figure 88.

TYPE LOCALITY: Female holotype from Tallulah Falls, Georgia, June 18, 1930, in the American Museum of Natural History.

The epigynum of this species resembles that of *Oxyptila conspurcata* Keyserling. It is distinct in the more rounded, instead of

deeply cleft, caudal edge of the atrium, in the smaller receptacula seminis, and in other details as figured.

***Oxyptila conspurcata* Thorell**

* *Oxyptila conspurcata* THORELL, 1877, Bull. U. S. Geol. Surv., p. 496. GERTSCH, 1939, Bull. Amer. Mus. Nat. Hist., vol. 76, p. 343, figs. 116, 117, 135. CHICKERING, 1940, Papers Michigan Acad. Sci., vol. 25, p. 201, figs. 19-20. CHAMBERLIN AND IVIE, 1944, Bull. Univ. Utah, biol. ser., vol. 8, no. 5, p. 160; 1947, *ibid.*, biol. ser., vol. 10, no. 3, p. 67 (*Oxyptila*). KASTON, 1948, Bull. Connecticut Geol. Nat. Hist. Surv., vol. 70, p. 419, figs. 1492, 1517-1518, 1534.

Oxyptila georgiana KEYSERLING, 1880, Die Spinnen Amerikas, Laterigradae, vol. 1, p. 52, pl. 1, fig. 26.

TYPE LOCALITIES: Of *conspurcata*, Manitou Springs, Colorado, female type in the Stockholm Natural History Museum; of *georgiana*, Georgia and Peoria, Illinois, female cotypes in the Muséum National d'Histoire Naturelle, Paris.

DISTRIBUTION: Eastern United States (Georgia, New Jersey) and Canada (eastern Ontario), westward through Iowa, Michigan, and central Canadian provinces into Alberta and British Columbia, and the Rocky Mountains of Colorado. A re-investigation of the specimens on which the above distribution pattern is based may prove that many are spurious.

NEW LOCALITIES: *Alaska*: Fairbanks, September 21, 1943, one female, one immature, J. C. Chamberlin (Chamberlin and Ivie, 1947). *Connecticut*: Norwalk, June 23, 1933, W. J. Gertsch (Kaston, 1948); Cheshire, June 8, 1935, H. L. Johnson (Kaston, 1948); Killingworth, January, 1938 (Kaston, 1948); South Meriden, June-July, 1937, H. L. Johnson (Kaston). *New Jersey*: Ramsey, July, 1944, one male, one immature male (Gertsch). *Georgia*: Millen, April 16, 1943, one immature, W. Ivie (Chamberlin and Ivie, 1944). *Michigan*: No specific locality mentioned, one male (Chickering, 1940). *Wisconsin*: Madison, October 10, 1935, one female (Field); Prairie du Sac, Sauk County, July 4, 1935, one female (Field); Trout Lake, Vilas County, September 5, 1932, one female (Field).

Oxyptila praticola C. L. Koch

Figures 92, 93

Xysticus praticola C. L. KOCH, 1837 Übersicht des Arachnidensystems, Nuremberg, vol. 1, p. 26.

Oxyptila praticola LOCKET AND MILLIDGE, 1951, British spiders (Ray Society), vol. 1, p. 190, figs. 96A, 97C.

MALE: Total length, 2.70 mm.

Carapace orange-brown, mottled, the sides of the pars thoracica black, the head and middle dorsum paler brown. Sternum pale with a median dark streak and small darker spots opposite the coxae. Palpus black or dusky. First leg with femur black, the patella and tibia dusky brown, the apical joints paler. Second leg like first but only apical half of femur black. Posterior legs paler, with one-third of femora black and with brown spotting on the patella and tibia. Abdomen orange-brown above, with a few blackish marks and marginal pale spots, the venter basally brown, dusky behind.

Carapace 1.50 mm. long and wide, clothed sparsely with setaceous and filiform hairs and spines; the clypeal margin with eight principal setaceous spines. Anterior median eyes separated by more than the diameter (10/14), half as far from the lateral eyes. Second eye row typically recurved, the median separated by more than the diameter (10/11), much farther from the lateral eyes (10/12). Median ocular quadrangle longer than broad (33/30), narrower behind (30/27), the eyes subequal in size. Clypeus equal in height to one and one-half diameters of an anterior median eye.

First leg: femur, 1.25 mm.; patella, 0.65 mm.; tibia, 0.90 mm.; metatarsus, 0.93 mm.; and tarsus, 0.57 mm. Spination of first leg: femur, prolateral 1; tibia, ventral 2-20; metatarsus, ventral 2-2-2.

Abdomen (1.50 mm. long, 1.63 mm. wide) typical, clothed sparsely with small filiform to subclavate hairs.

Palpus as illustrated in figures 92 and 93.

TYPE LOCALITY: Europe.

DISTRIBUTION: Europe, and presumably temperate Asia; the state of Washington in North America.

NEW LOCALITY: *Washington*: Seattle, June 1-13, 1952, one male (Borys Malkin).

The present species is easily differentiated from all American forms by details of the palpus. The principal ventral apophysis of

the tibia is deeply bifid and the long dorsal apophysis is curved ventrad to nearly a right angle with the tarsus.

This is the first record of a Palearctic *Oxyptila* from North America. The single male agrees in detail with specimens from Finland. Whether the species is established in Washington or is a casual introduction must still be ascertained.

Oxyptila gertschi Kurata

Figures 89-91

Oxyptila gertschi KURATA, 1944, Occas. Papers Roy. Ontario Mus. Zool., no. 8, p. 1, figs. 1-2, 5-6.

FEMALE: Total length, 3.75 mm.

Carapace orange-brown, the sides with darker brown stripes passing back from the side eyes, the margins with large brown spots; the median pale stripe with white in the eye area and a conspicuous V-shaped creamy white maculation behind the middle. Sternum and under side yellowish brown. Legs orange-brown, the basal segments flecked with dark brown, the metatarsi and tarsi unmarked. Abdomen dusky yellowish brown above, with white markings around the sides and inconspicuous blackish chevrons above, the sides blackish, the venter dusky behind but yellowish at base.

Structure typical, essentially as in *conspurcata* and related species, the carapace clothed with clavate hairs, the clypeal margin with only two long filiform spines, the others weak. Carapace as long as broad (1.65 mm.), the head of typical width, 0.93 mm. at second eye row. Anterior median eyes separated by more than the full diameter (9/12), about the diameter from the lateral eye. Second eye row moderately recurved, the median separated by more than the diameter (9/14), farther from the lateral eyes (9/20). Median ocular quadrangle longer than broad (34/32), narrowed in front (32/28), the eyes equal in size. Clypeus higher than the diameter of an anterior median eye (9/17).

First leg: femur, 1.30 mm.; patella, 0.75 mm.; tibia, 0.86 mm.; metatarsus, 0.80 mm.; and tarsus, 0.50 mm. Spination of first leg: femur, prolateral 1; tibia, ventral 2-2-0; metatarsus, prolateral and retrolateral, 0-1-0, ventral 2-2-2.

Abdomen (2.25 mm. long, 2.15 mm. wide)

typical, clothed with clavate hairs and a few weak clavate spines.

Epigynum as shown in figure 91.

MALE: Total length, 3.00 mm.

Coloration in close agreement with that of the female, but the legs are bright yellowish brown, unmarked except for some inconspicuous spots beneath the front femora. Sides and venter of the abdomen all brown, the dorsum with creamy white spots and streaks which accentuate the darker pattern.

Structure typical, the spines of the carapace (1.30 mm. long, 1.25 mm. wide) setaceous or filiform, the clypeal margin with four long principal spines and two weaker ones. Anterior median eyes separated by a little more than the diameter (10/12), half as far from the lateral eyes. Second eye row moderately recurved, the median eyes separated by more than the diameter (10/13), farther from the lateral eyes (10/20). Median ocular quadrangle longer than broad (34/30) narrowed in front (30/25), the eyes equal in size. Clypeus higher than the full diameter of an anterior median eye (10/15).

First leg: femur, 1.20 mm.; patella, 0.65 mm.; tibia, 0.87 mm.; metatarsus, 0.90 mm.; and tarsus, 0.53 mm. Leg spines as in the female but the first femur with two prolateral and the metatarsus without lateral spines.

Abdomen (1.60 mm. long, 1.45 mm. wide) typical, clothed with thin filiform hairs and weak spines.

Palpus as illustrated in figures 89 and 90.

TYPE LOCALITY: Fort Albany, James Bay, Ontario, male type in the Royal Ontario Museum of Zoology.

DISTRIBUTION: Northern Ontario and Alberta.

KNOWN LOCALITIES: *Ontario*: Fort Albany, June, 1942, three males (F. A. Urquhart). *Alberta*: Medicine Hat, July 5, 1930, one female (Carr).

The female of this recently described and seemingly rare species is described above for the first time. The conspicuous V-shaped white maculation on the carapace and the features of the genitalia in both sexes characterize this distinct species.

Oxyptila beaufortensis Strand

Oxyptila beaufortensis STRAND, 1915, Arch. Naturgesch., vol. 81, div. A, no. 9, p. 124.

Oxyptila modesta BRYANT, 1930, Psyche, vol. 37, pp. 383-384 (part; not *modesta* Scheffer).

TYPE LOCALITY: Beaufort, North California (Carolina), two male cotypes in the Seckenberg museum, Frankfurt, Germany.

The proper placing of this species must remain uncertain until an opportunity arises to see the types or authentic specimens. If *beaufortensis* proves to be the species to which it was assigned by Miss Bryant in 1930, then the name will ultimately replace *barrowsi* Gertsch. However, for the present it seems best to reserve final judgment.

GROUP B

Although clearly allied to the typical oxyptilas of the previous group, *Oxyptila hardyi*, new species, possesses features that make necessary its segregation into a special group. Only the female is known.

The body is liberally provided with clavate and spatulate hairs, of which some are considerably enlarged and very broadly spatuliform. The carapace is broader than long and the pars cephalica very narrow, equaling less than half of the greatest width of the carapace. The median ocular quadrangle is longer than broad and considerably narrower in front. The first leg is longer and considerably stouter than the second, and the tibia and metatarsus are incrassated. The four pairs of ventral spines beneath the first tibia are set on strongly elevated tubercles, and the apical pair (weak hairs in the typical oxyptilas) are enlarged to virtual stature of spines.

Oxyptila hardyi, new species

Figure 83

FEMALE: Total length, 2.20 mm.

Carapace light dusky brown except for a narrow white marginal seam, white markings in the eye region, and a median whitish stripe indistinct in front but creamy white on the posterior declivity. Sternum yellowish, with a blackish marking consisting of a median band running to the caudal end and a band along each side to the second coxa. Labium and maxillae dusky, pale apically, the coxae dusky on sides. Legs yellowish, the first femur brown in distal two-thirds, the others with broad apical brown ring, the

distal segments with scattered whitish spots. Abdomen dusky yellowish, the dorsum with a median whitish hastate maculation and scattered white and black spots, the sides marmorate, the venter dull yellow.

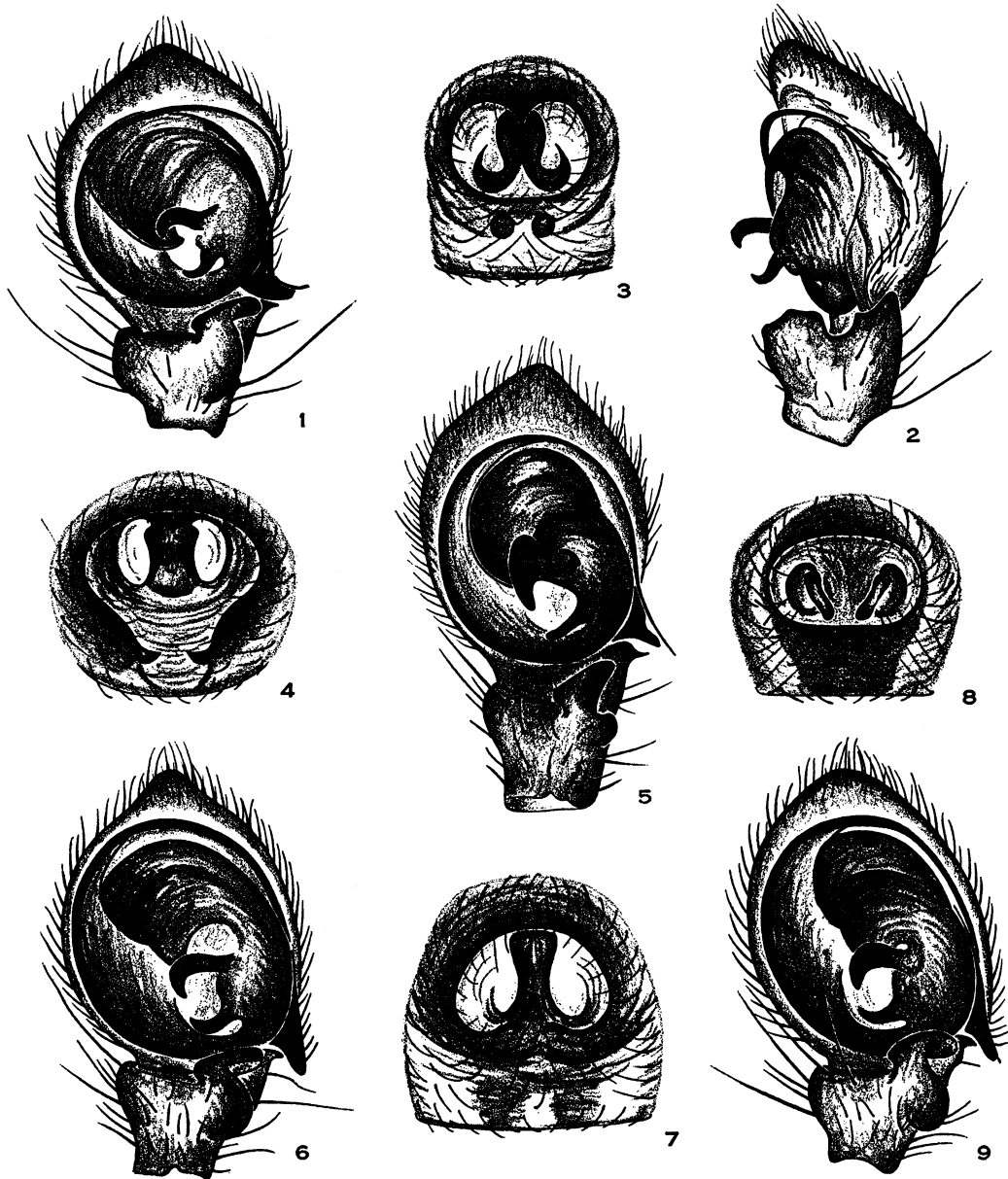
Structure (fig. 83) somewhat atypical as compared with the known American species. Carapace (1.00 mm. long, 1.10 mm. wide) broader than usual, the sides broadly rounded the head portion narrow, the width at the second eye row less than half of the greatest width of the carapace (0.48/1.10). Carapace rather thickly covered with clavate and spatulate hairs, the clypeal margin with about a dozen spatulate spines. First eye row very strongly recurved, the median entirely below a line along the lower edges of the large laterals. Anterior median eyes separated by scarcely two diameters (5/9), nearer the laterals (5/8). Second row moderately recurved, the median eyes separated by more than diameter (7/10), farther from the larger lateral eyes (7/13). Median ocular quadrangle longer than broad (30/25), narrower

in front than behind (20/25), the front eyes smaller. Clypeus higher than the diameter of an anterior median eye (7/5).

Legs and palpi liberally clothed with filiform, clavate, and spatulate hairs. First leg: femur, 0.93 mm.; patella, 0.46 mm.; tibia, 0.73 mm.; metatarsus, 0.73 mm.; and tarsus, 0.54 mm. First leg longer and more robust than the second, the tibia and metatarsus somewhat incrassated. Ventral leg spines set on strongly elevated tubercles, the tibia and metatarsi with four ventral pairs each and several of intermediate size.

Abdomen (1.30 mm. long, 1.70 mm. wide) much broader than long, the dorsum ridged or wrinkled on the sides and behind, and each ridge set with a row of broad spatulate hairs, the venter ridged except at center where the hairs are setaceous.

TYPE LOCALITY: Female holotype and paratype from nest of *Neotoma micropus*, Laguna Madre, 25 miles southwest of Harlingen, Texas, August 22, 1945 (Hardy and Wooley).

PALPI AND EPIGYNIA OF *Xysticus*

FIGS. 1-2. *Xysticus pallax* O. P. Cambridge. 1. Ventral view of left palpus. 2. Retrolateral view of left palpus.

FIG. 3. *Xysticus tampa*, new species, epigynum.

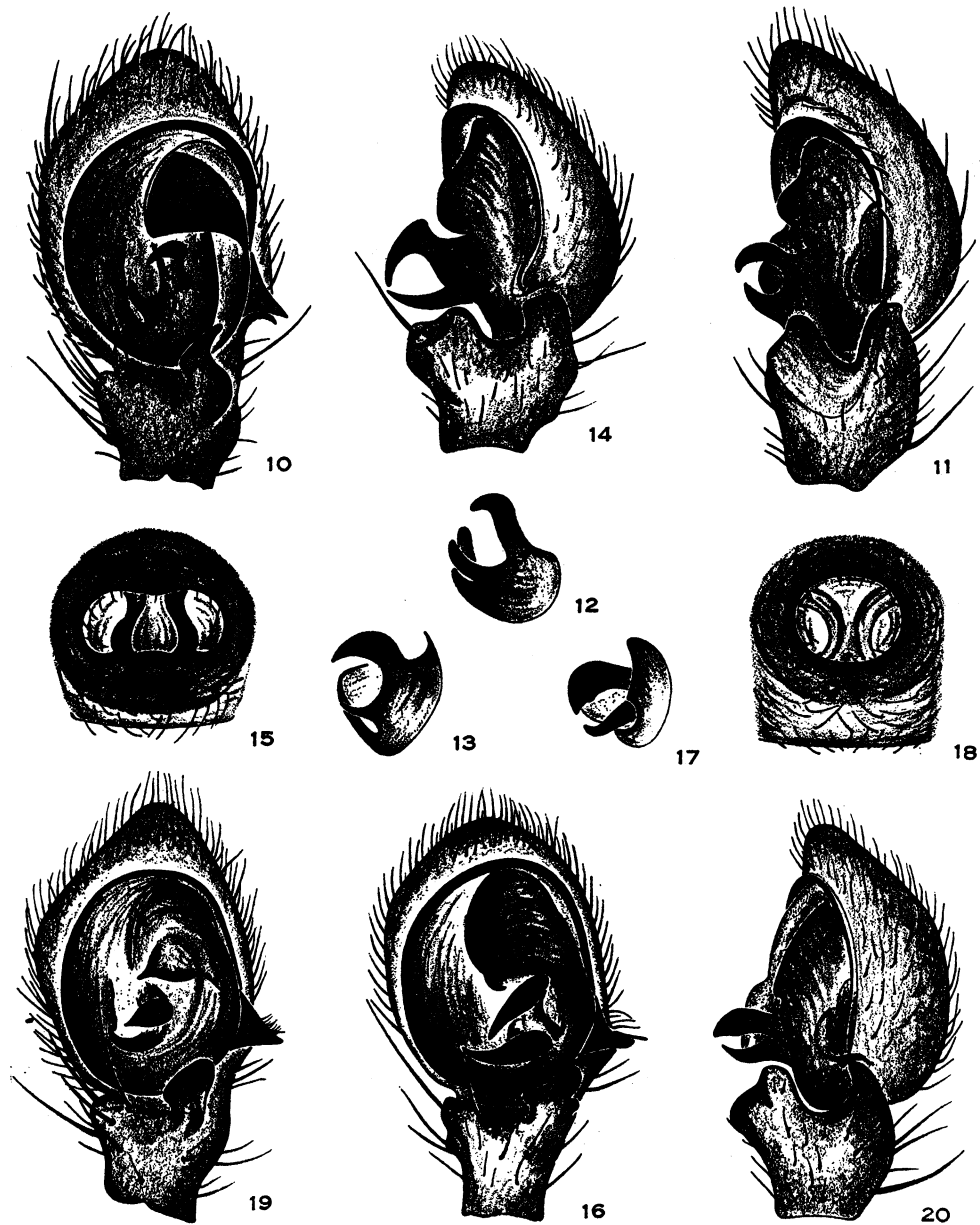
FIG. 4. *Xysticus toltecus*, new species, epigynum.

FIG. 5. *Xysticus bradti*, new species, ventral view of left palpus.

FIG. 6. *Xysticus locuples* Keyserling, ventral view of left palpus.

FIG. 7. *Xysticus federalis*, new species, epigynum.

FIGS. 8-9. *Xysticus malkini*, new species. 8. Epigynum. 9. Ventral view of left palpus.

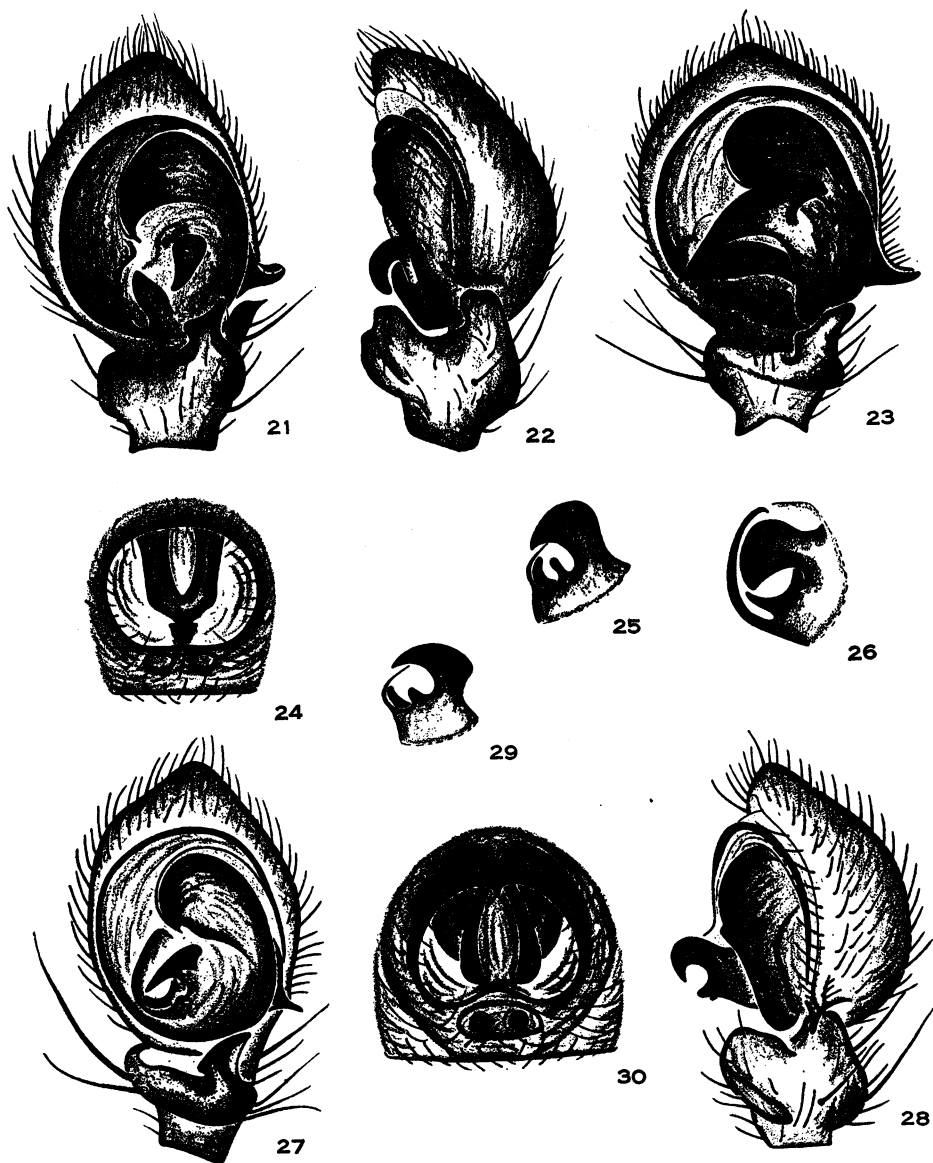
PALPI AND EPIGYNA OF *Xysticus*

FIGS. 10-12. *Xysticus britcheri* Gertsch. 10. Ventral view of left palpus. 11. Retrolateral view of left palpus. 12. Caudal view of bulbal apophyses.

FIG. 13. *Xysticus canadensis* Gertsch, caudal view of bulbal apophyses.

FIGS. 14-16. *Xysticus bolivari*, new species. 14. Retrolateral view of left palpus. 15. Epigynum. 16. Ventral view of left palpus.

FIGS. 17-20. *Xysticus chippewa*, new species. 17. Caudal view of bulbal apophyses. 18. Epigynum. 19. Ventral view of left palpus. 20. Retrolateral view of left palpus.



PALPI AND EPIGYNA OF *Xysticus*

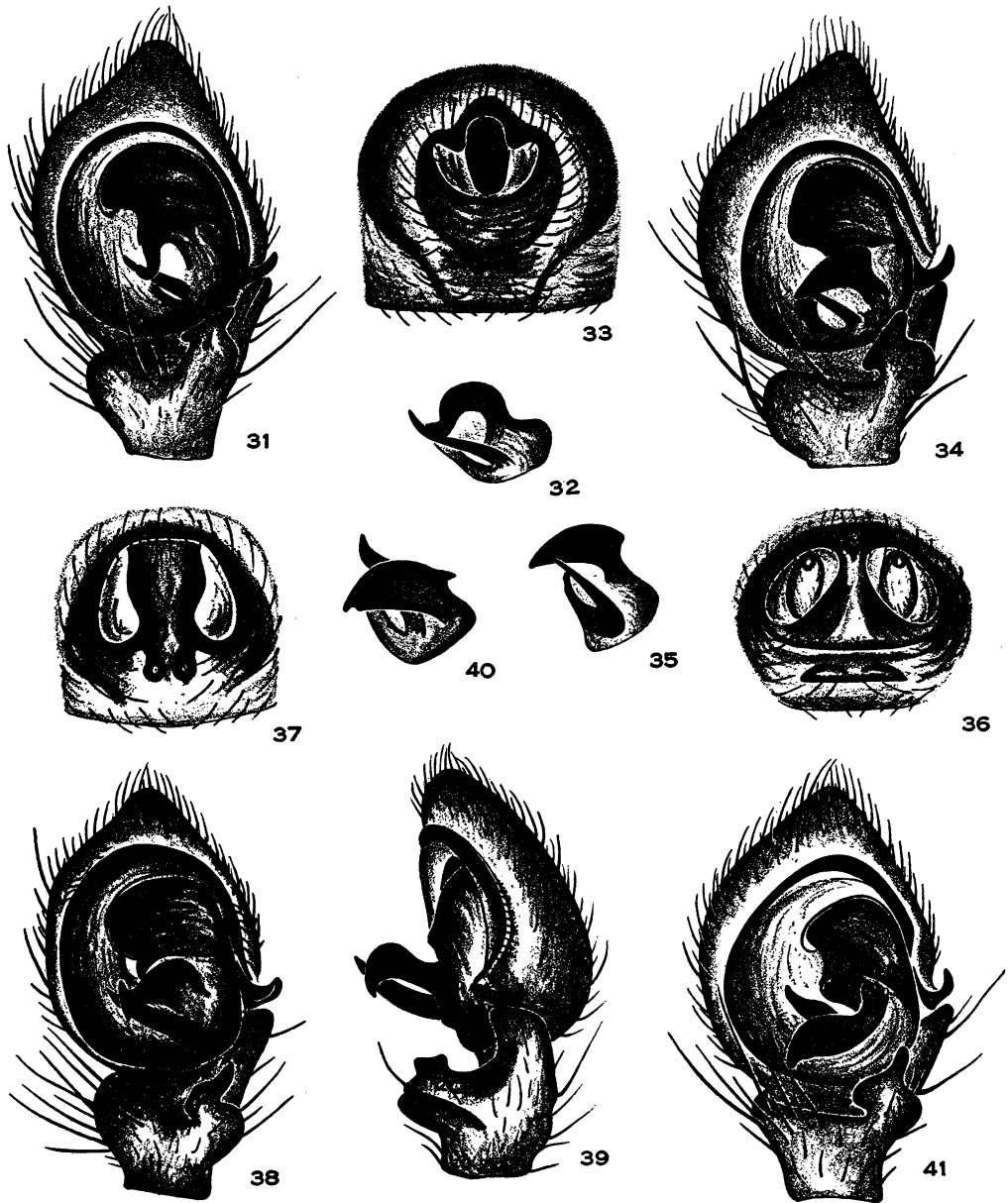
FIGS. 21-22. *Xysticus wagneri*, new species. 21. Ventral view of left palpus. 22. Retrolateral view of left palpus.

FIG. 23. *Xysticus spiethi*, new species, ventral view of left palpus.

FIG. 24. *Xysticus apalacheus*, new species, epigynum.

FIGS. 25-26. *Xysticus discursans* Keyserling. 25. Sublateral view of bulbal apophyses. 26. Ventral view of bulbal apophyses.

FIGS. 27-30. *Xysticus fervidus*, new species. 27. Ventral view of left palpus. 28. Retrolateral view of left palpus. 29. Sublateral view of bulbal apophyses. 30. Epigynum.

PALPI AND EPIGYNA OF *Xysticus*

FIGS. 31-32. *Xysticus funestus* Keyserling. 31. Ventral view of left palpus. 32. Caudal view of bulbal apophyses.

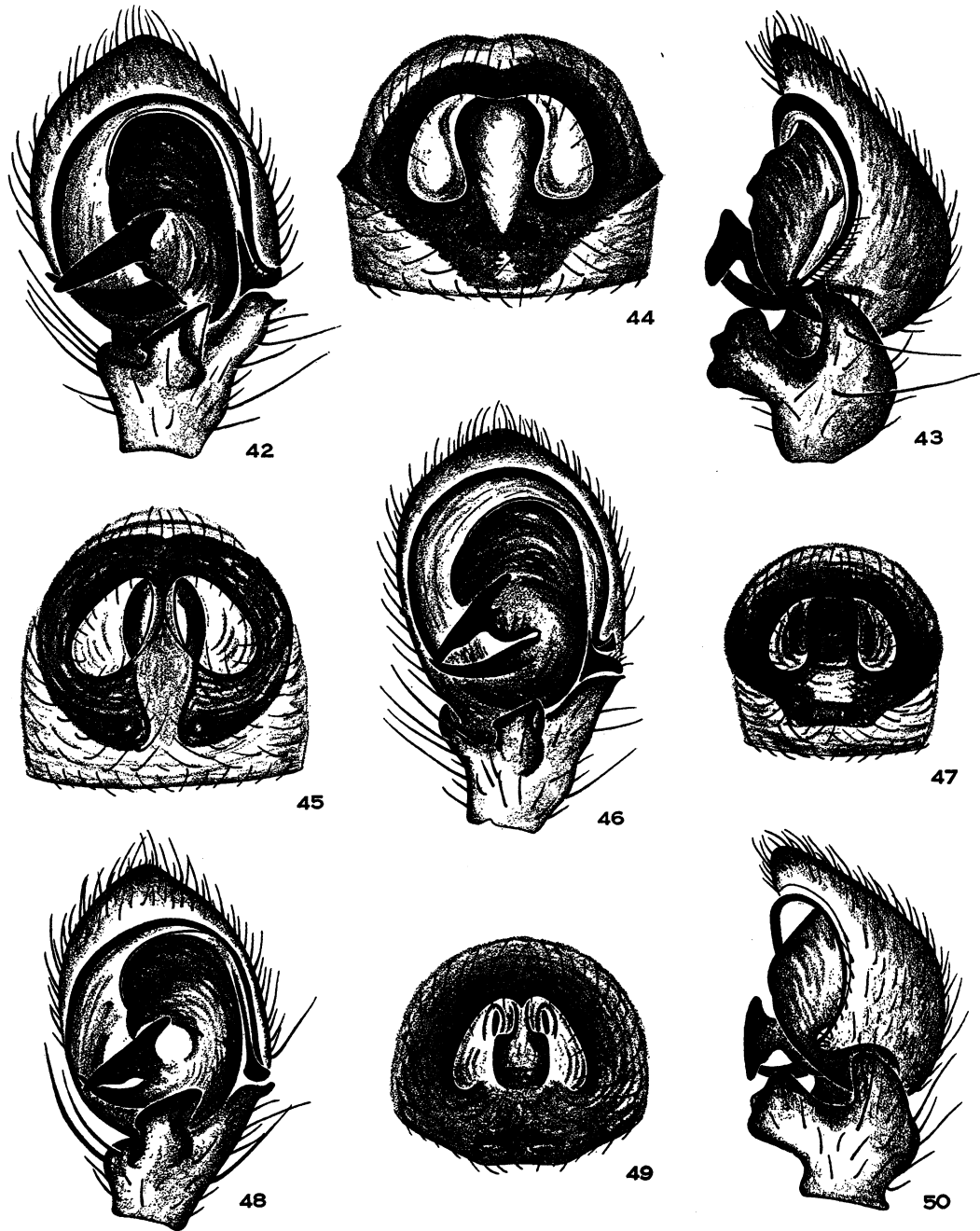
FIG. 33. *Xysticus coloradensis* Bryant, epigynum.

FIGS. 34-35. *Xysticus laticeps* Bryant. 34. Ventral view of left palpus. 35. Caudal view of bulbal apophyses.

FIG. 36. *Xysticus arizonicus* Gertsch, epigynum.

FIGS. 37-39. *Xysticus rockefelleri*, new species. 37. Epigynum. 38. Ventral view of left palpus. 39. Retrolateral view of left palpus.

FIGS. 40-41. *Xysticus luctans* C. L. Koch. 40. Caudal view of bulbal apophyses. 41. Ventral view of left palpus.



PALPI AND EPIGYNA OF *Xysticus*

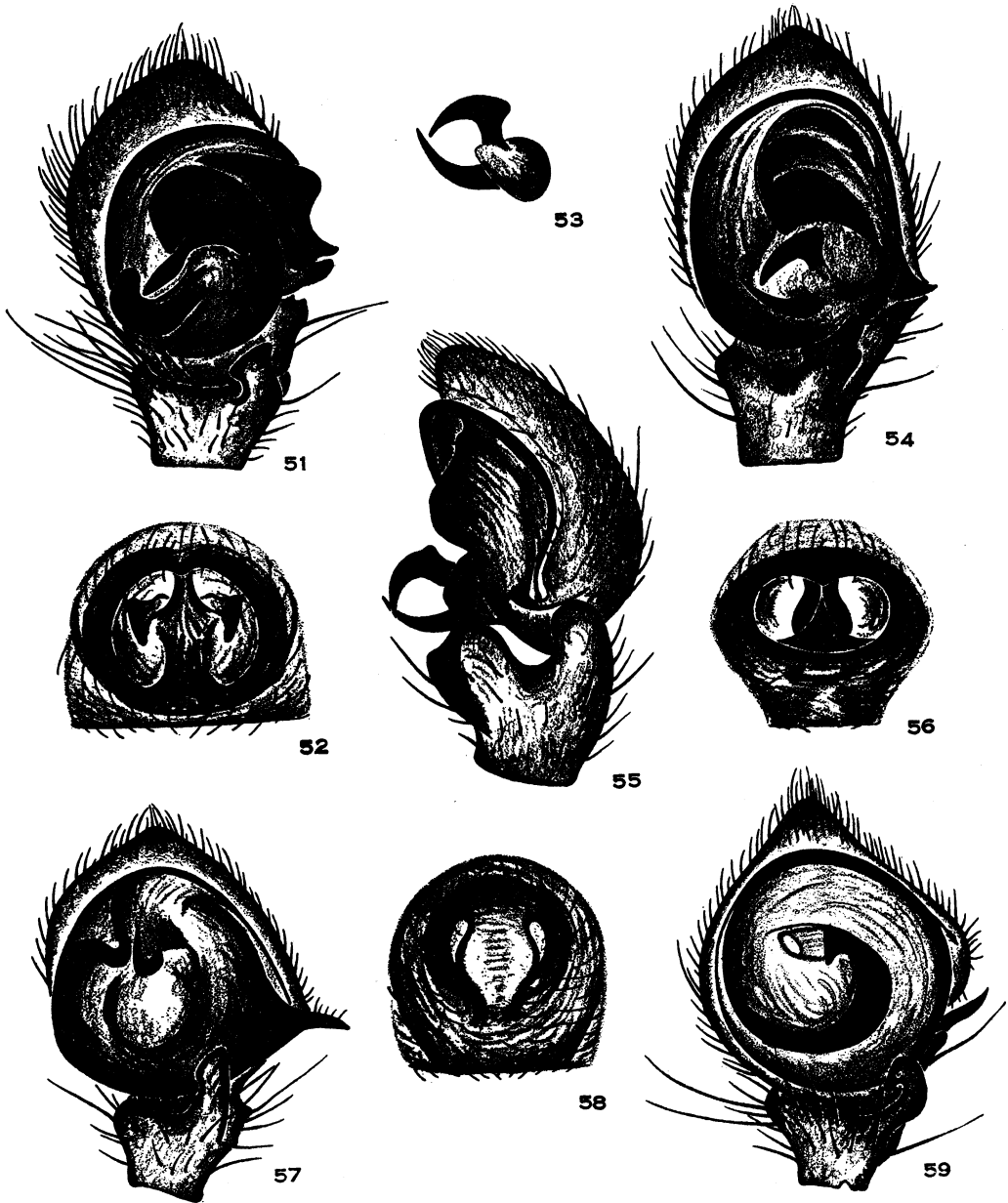
FIGS. 42-44. *Xysticus paiutus* Gertsch. 42. Ventral view of left palpus. 43. Retrolateral view of left palpus. 44. Epigynum.

FIG. 45. *Xysticus imitarius*, new species, epigynum.

FIG. 46. *Xysticus robinsoni*, new species, ventral view of left palpus.

FIG. 47. *Xysticus cochise*, new species, epigynum.

FIGS. 48-50. *Xysticus orizaba* Banks. 48. Ventral view of left palpus. 49. Epigynum. 50. Retrolateral view of left palpus.

PALPI AND EPIGYNA OF *Xysticus*

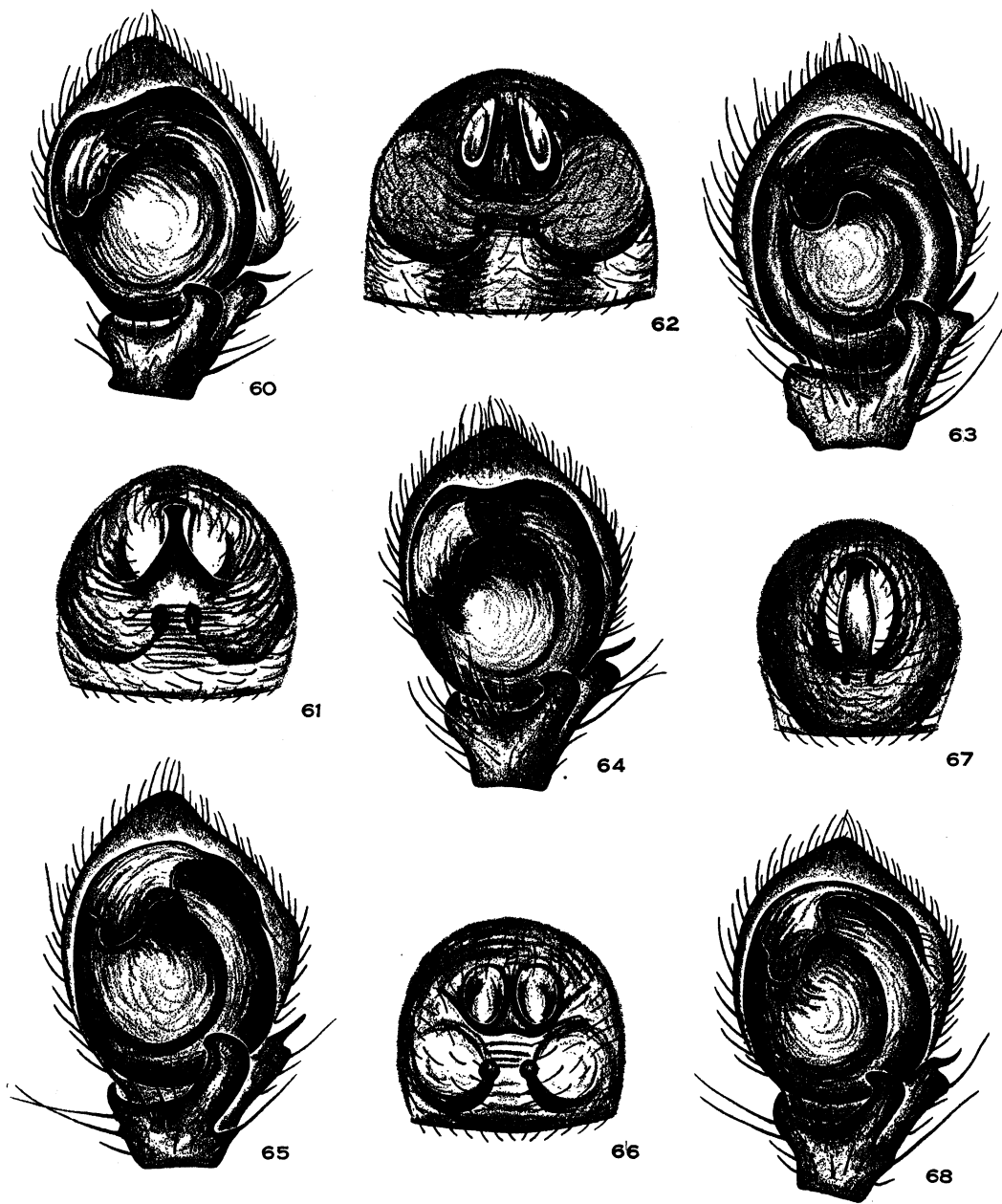
FIGS. 51-52. *Xysticus facetus* O. P. Cambridge. 51. Ventral view of left palpus. 52. Epigynum.

FIGS. 53-56. *Xysticus ocala*, new species. 53. Caudal view of bulbal apophyses. 54. Ventral view of left palpus. 55. Retrolateral view of left palpus. 56. Epigynum.

FIG. 57. *Xysticus verecundus* Gertsch, ventral view of left palpus.

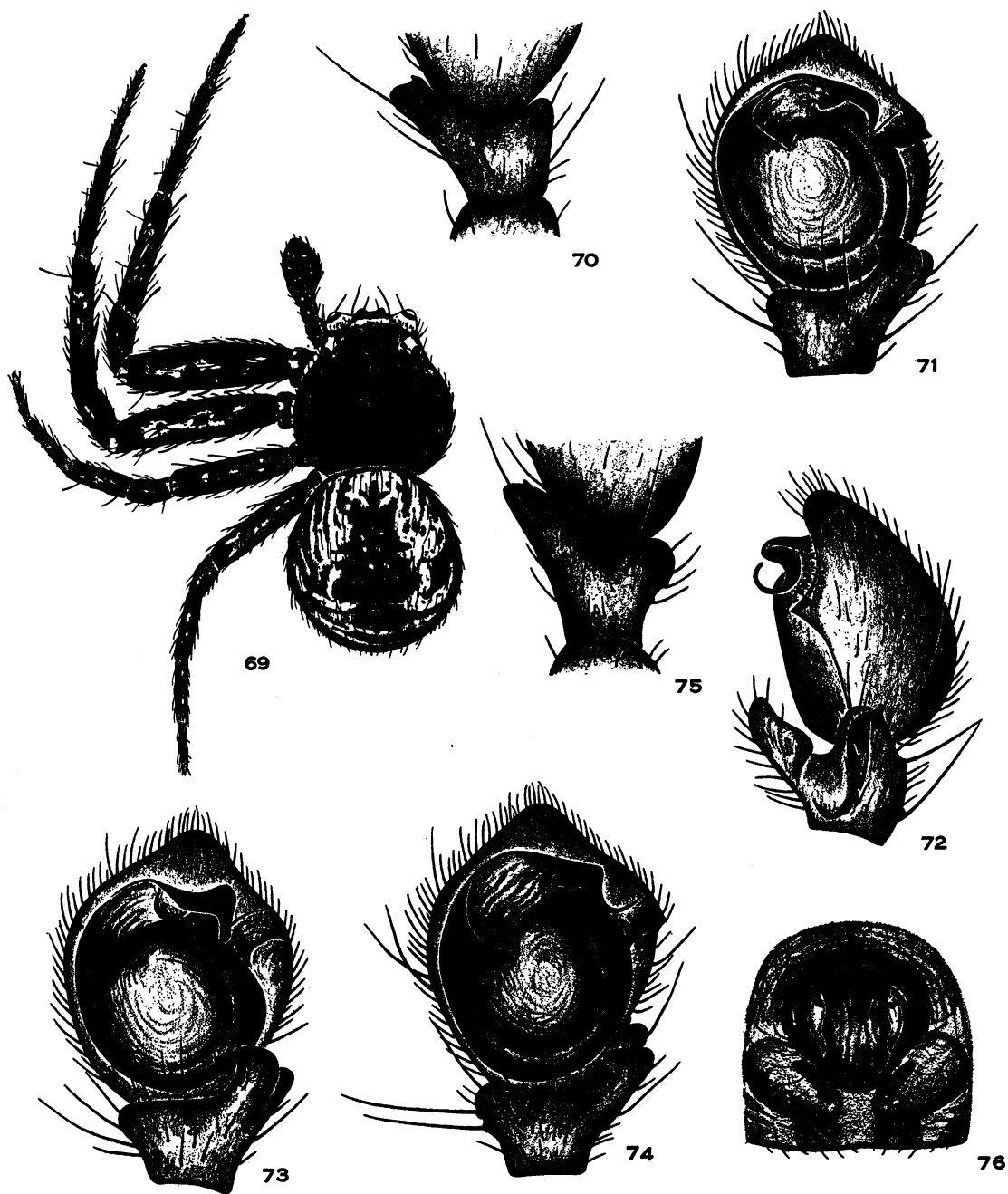
FIG. 58. *Xysticus knowltoni* Gertsch, epigynum.

FIG. 59. *Xysticus aztecus*, new species, ventral view of left palpus.



PALPI AND EPIGYNA OF *Coriarachne*

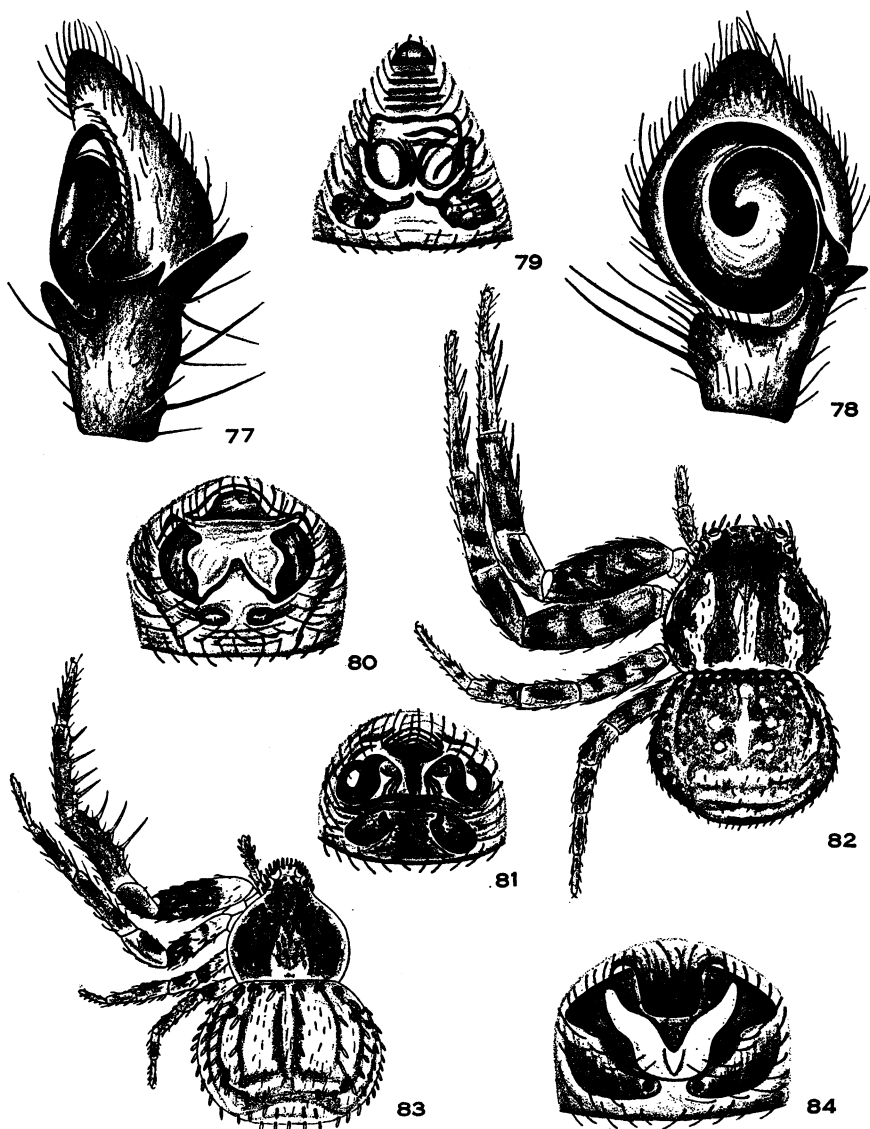
FIGS. 60-61. *Coriarachne versicolor* Keyserling. 60. Ventral view of left palpus. 61. Epigynum.
 FIGS. 62-63. *Coriarachne utahensis* Gertsch. 62. Epigynum. 63. Ventral view of left palpus.
 FIG. 64. *Coriarachne versicolor* Keyserling, ventral view of left palpus.
 FIGS. 65-66. *Coriarachne floridana* Banks. 65. Ventral view of left palpus. 66. Epigynum.
 FIGS. 67-68. *Coriarachne aemula* O. P. Cambridge. 67. Epigynum. 68. Ventral view of left palpus.

PALPI AND EPIGYNA OF *Coriarachne*

FIGS. 69-72. *Coriarachne nakina*, new species. 69. Dorsal view of male, appendages of right side omitted. 70. Dorsal view of palpal tibia. 71. Ventral view of left palpus. 72. Retrolateral view of left palpus.

FIG. 73. *Coriarachne depressa* C. L. Koch, ventral view of left palpus.

FIGS. 74-76. *Coriarachne brunneipes* Banks 74. Ventral view of left palpus. 75. Dorsal view of palpal tibia. 76. Epigynum.



PALPI AND EPIGYNA OF *Oxyptila*

FIGS. 77-78. *Oxyptila imitata*, new species. 77. Retrolateral view of left palpus. 78. Ventral view of left palpus.

FIG. 79. *Oxyptila peon*, new species, epigynum.

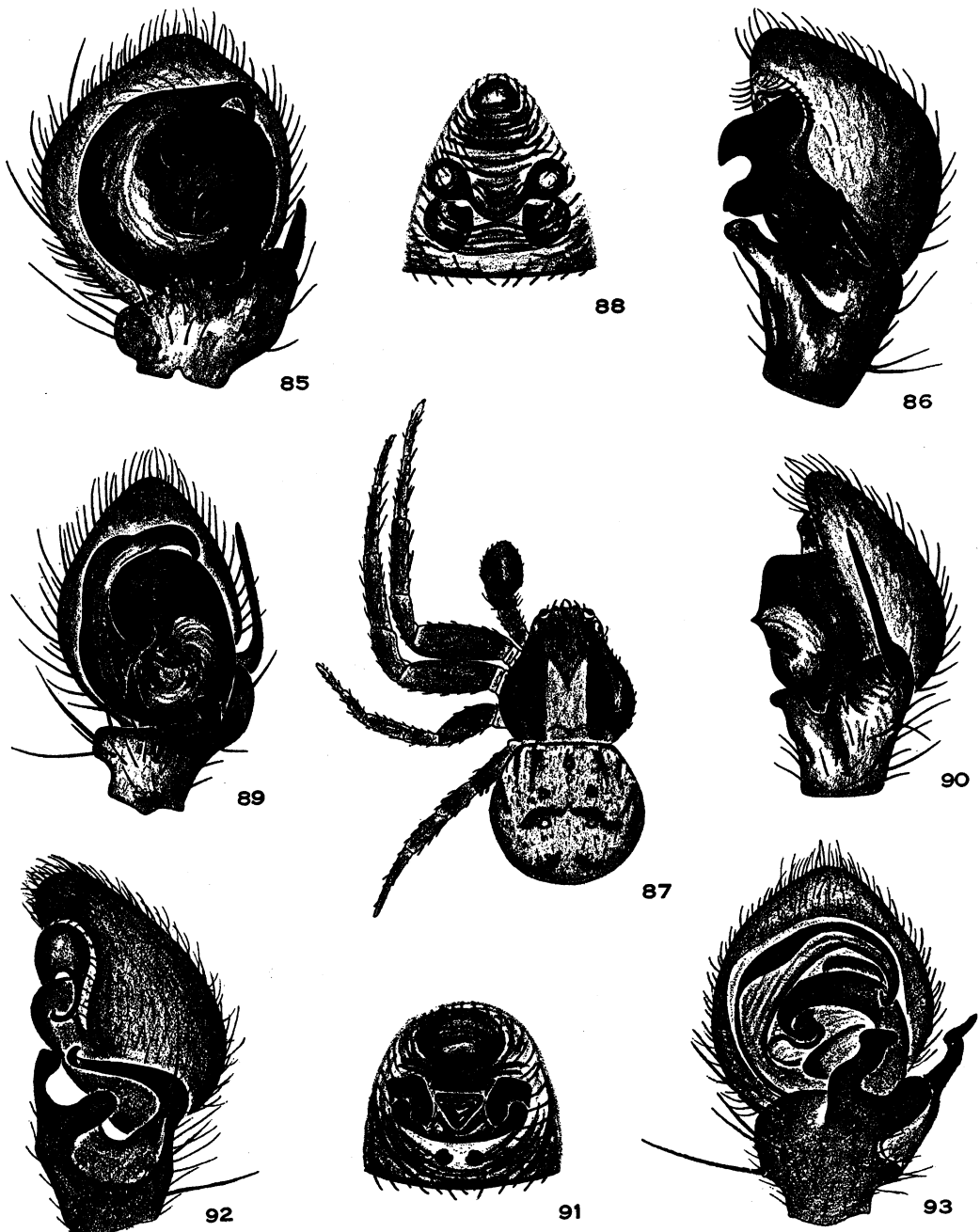
FIG. 80. *Oxyptila barrowsi* Gertsch, epigynum.

FIG. 81. *Oxyptila belma*, new species, epigynum.

FIG. 82. *Oxyptila modesta* Scheffer, dorsal view of female, appendages of right side omitted.

FIG. 83. *Oxyptila hardyi*, new species, dorsal view of female, appendages of right side omitted.

FIG. 84. *Oxyptila nevadensis* Keyserling, epigynum.



PALPI AND EPIGYNIA OF *Oxyptila*

FIGS. 85-87. *Oxyptila bison*, new species. 85. Ventral view of left palpus. 86. Retrolateral view of left palpus. 87. Dorsal view of male, appendages of right side omitted.

FIG. 88. *Oxyptila creola*, new species, epigynum.

FIGS. 89-91. *Oxyptila gertschi* Kurata. 89. Ventral view of left palpus. 90. Retrolateral view of left palpus. 91. Epigynum.

FIGS. 92-93. *Oxyptila praticola* C. L. Koch. 92. Retrolateral view of left palpus. 93. Ventral view of left palpus.

