

SUPPLEMENT TO THE SPIDERS OF CONNECTICUT

B. J. Kaston

Department of Zoology
San Diego State University
San Diego, California 92115

ABSTRACT

Sixty-eight species not recorded from the southern New England region in the 1948 monograph (Kaston, 1948) are now included. References are cited to all revisions of all taxa included in the work, and to all other papers which may give additional biological and natural history data for any of the spiders included here. The major contribution consists of giving the new names and additional information for those species where recent studies have shown the necessity for change, either because they are synonyms, or have been moved to a different genus.

INTRODUCTION

More than a quarter century has gone by since the appearance of the original monograph (Kaston, 1948). Much research on spiders has been done during this interval; certainly more than in any previous quarter century. Of course, to a great extent the work on anatomy, physiology, and especially ethology, has concerned spiders in general, but in many cases species of our region have been the subject of these researches. A great many changes of a taxonomic nature have been made necessary by the studies of a whole host of workers, both in the United States and abroad, particularly the continued efforts of W. J. Gertsch, H. W. Levi, and students of the latter.

There have been many name changes, synonymies, shifts to genera other than those in which the species appeared in 1948; and some erroneous determinations are here corrected. One of the most significant sets of changes concerns the acceptance by the Commission on Zoological Nomenclature of the Clerckian names. This legalization of the pre-Linnean names was effected (through the untiring efforts of Professor Pierre Bonnet) at the meeting held in Paris in July 1948 only a month or so after the appearance off the press of my volume (see *Bull. Zool. Nomencl.* 4(10-12):315-319). Where the credit for the family names is being changed this is in accordance with Article 36 of the new International Code of Zoological Nomenclature.

Wherever possible comments will be supplied, where applicable, in the same order that was followed in the original work. In addition, just preceding the Literature Cited will be found a list of Errata, for the benefit of those readers who may wish to enter corrections in the original volume.

p. 12, re: eyes, Homann's continued studies of the eyes have led him to suggest changes in family position for a number of spiders. In particular he has studied the nature of the tapetum in the indirect eyes. He considered the terms "homogeneous" and

“heterogeneous” too imprecise and that they should be discarded. The direct eyes (AME) are always dark; it is the other six (the indirect eyes) which may be all light, all dark, or some of each. He introduced the terms “concolorous” and “discolorous” and the meaning is obvious.

p. 15, re: carpothem, Hull’s term for the principal tibial apophysis on the male pedipalp has not caught on. It seems that the term tibial apophysis is too well established.

p. 16, re: legs, it would be preferable if araneologists could consider that there is a two-segmented tarsus (as is done with some non-aranean anachnids), the proximal being called the basitarsus (rather than metatarsus) and the distal called the telotarsus, as is logical. These terms have already been so used by Schick (1965). For a discussion of the notch and related structures on the ventral surface of the trochanter see Roth (1964).

p. 19, re: anomalies of external structure see Kaston (1961, 1962, 1963a, 1963b). For details on newer findings about the internal anatomy reference should be made to Millot (1949) and Legendre (1959, 1965).

p. 20, re: endoskeleton, see the account by Firstman (1973). For the nervous system see Legendre (1959).

Re: footnote, a review of the hydraulic effect was published by Parry (1960).

p. 21, re: trichobothria, Görner (1965) presented evidence to indicate that these may function as mechanoreceptors.

Re: slit organs, the studies of Walcott (1970), of Liesenfeld (1961), and Barth (1967) have shown that at least some of these organs serve as vibration receptors.

Re: eyes, for further details on structure, especially of the tapetum in the indirect eyes, see the various papers by Homann, summarized in 1971. It has been shown that at least some spiders can perceive polarized light, and use it in directing their locomotion. For details see the work of Papi (1955), Görner (1962), and Papi and Tongiorgi (1963), summarized by Kaston (1965).

p. 23, re: excretion, see the study by Anderson (1966).

p. 24, re: silk glands, for the newer contributions by Sekiguchi, and others see the summary by Kaston (1964). It should also be noted that males have been shown to possess special silk glands opening by fusules on the venter in front of the epigastric furrow. A discussion and excellent summary concerning these epiandric (=epigastric) glands were published by Legendre and Lopez (1971) and Legendre (1972). For further details on the arterial system see Firstman (1973).

p. 26, re: respiratory system, Merrett (1961) has shown that at least for some Linyphiidae (and Micryphantidae) the larger species have more, and the smaller species have fewer, leaves in the book lungs.

p. 27, re: internal organs, we may now add the relatively new studies on the endocrine and neurosecretory tissues, a good summary of which appears in Legendre (1971).

Re: habits, a summary of some of the little known aspects of behavior was published by Kaston (1965).

p. 30, re: silk and its uses, a discussion of the evolution of webs was published by Kaston (1964). Extensive studies have been published by Tilquin (1942), and especially by Witt and his coworkers. Much of the latter group's work appears summarized in their volume "A Spider's Web" (1968).

p. 32-33, re: courtship behavior, Rovner has shown (1966, 1967a) that the charging of the palpal organs is not a necessary prelude to courtship. An excellent review of the evolution of courtship behavior was published by Platnick (1971). From studies on the epiandric glands it would appear that the sperm web is undoubtedly constructed, at least in part, from these.

p. 33, re: ejaculation of semen, Cooke (1966) considered that at least in *Dysdera* hydrostatic pressure plays no part. Rather, the emptying of the semen "was found to be under hormonal control, presumably by a neurosecretory mechanism. It is brought about by the secretion of surrounding glands emptying through minute pores into the lumen of the reservoir."

p. 35, re: fecundity, I have since had a female of *Araneus trifolium* which produced a sac that contained 2652 eggs, which I believe to be a record.

Re: parthenogenesis, contrary to what had previously been supposed it now appears that parthenogenesis does occur, at least in some species. This has been shown by Monterosso (1947a, 1947b) for species of *Tetragnatha*, *Teutana*, *Thomisus* and *Tegenaria*; by Braun (1956) for *Teutana*; and by Machado (1964) for *Theotima*.

p. 36, re: molting, a good summary was given by Legendre (1971), according to whom molting and growth are in some way correlated with endocrine activity.

p. 38, re: insect parasites and predators, see Kaston (1959) and the excellent summary by Eason et al. (1967).

p. 43, re: venom, one must now add members of the genus *Loxosceles* to those producing a venom with a gangrenous action. *L. reclusa* has been the subject of much attention and study in the United States since 1957.

p. 45, re: collecting techniques, a very useful one that has become quite popular is the pit trap, of which an excellent model has been described by Muma (1970). Various modifications of this and a valuable lengthy discussion of virtually every other collecting method were published by Duffey (1972). Likewise, Turnbull (1973) discussed all these methods.

p. 47, re: study methods, a superior method for holding a specimen in a desired position is that suggested by Dr. Bruce Cutler. A layer of fine clean sand is placed at the bottom of the dish, then preserving fluid added. The specimen is gently pushed into the sand and wedged into the desired position, being held by the weight of the sand.

p. 48, re: names of higher categories, see Kaston (1974). As to the list of families, my present view is that there is reason for considering a larger number. As far as our region is concerned I recognize the Zoridae and Philodromidae as distinct from the Clubionidae and Thomisidae in which they had formerly been placed.

p. 49 and 51, re: Cribellatae and Ecribellatae, many modern authors do not consider the presence or absence of a cribellum of sufficient significance for family separation. Lehtinen (1967), and others, have placed cribellate and ecribellate members in the same family.

p. 52, re: the Clerckian names, these are now valid as I have already indicated. As to the names given by Walckenaer, further comments were published by Levi (1961) so that it becomes a matter of deciding whether the interpretation supplied by him, rather than that of Chamberlin and Ivie in their Georgia paper, is the correct one.

p. 53, re: chromosomes, in spiders the male is the heterogametic sex, females having paired X chromosomes, males having unpaired. Of the 179 species of which the situation had been studied up to 1954 Suzuki found that only 19 showed the familiar XO type; in 152 species the males were of the $X_1 X_2 0$ type, and in 8 species the $X_1 X_2 X_3 0$ type. For further details one is referred to the publications of Hackman (1948), Sharma et al. (1959, 1960), Bole-Gowda (1960), and Mittal (1963, 1964).

p. 54, re: collection records, new additional records are given for only those species that are not very common. No collector's name is given if the collecting was done by the author, otherwise the collector's name is supplied.

p. 55-57, re: key to families, note the following changes. Members of the Antrodiaetidae will key out at 1a, but are separated from the Atypidae thus: the labium is fused to the sternum and the endites are strongly developed in the latter, while in the former the endites are only weakly developed and the labium is free. Couplet 1b should be altered to begin "Only one pair of lungs or none." *Mysmena guttata* of the family Symphytognathidae, will key out here on the basis of lacking lungs completely, though because of its small size this may be difficult to ascertain. Members of the family Philodromidae will key out at 17a, but can be separated from the Thomisidae sens. str. with the key to the then considered subfamilies supplied on p. 410. Our sole member of the family Prodidomidae will key out at 18a, but can be separated from the Gnaphosidae thus: The eyes in the latter are definitely in two rows and the tarsal claws are toothed, while in the Prodidomidae the posterior row is so strongly procurved as to present two rows, so that one can speak of three rows all together, 4-2-2 (Fig. 35), and the tarsal claws are not toothed. Our member of the Zoridae will key out at 18b, but can be separated from the Clubionidae sens. str. in that the posterior eye row is so strongly recurved as to present an additional row, the three being arranged as 4-2-2. As regards couplet 20, the tarsal comb is absent from some of the smaller theridiids (e.g., *Conopistha*) making them difficult to key.

p. 57, re: Orthognatha, according to Homann (1971) these all have the primitive type of tapetum in the indirect eyes. We now know three species from our region.

p. 58, insert at top: Family ANTRODIAETIDAE Gertsch

As is the case with the other trap-door spiders each chelicera is provided with a row of strong spines, the rastellum, up front. The labium is about as long as wide, and is free. The abdominal dorsum may have up to as many as three sclerotized tergites.

Genus *Antrodiaetus* Ausserer 1871

These spiders have only four spinnerets. A revision of the genus was published by Coyle (1971). One species occurs in our region.

Antrodiaetus unicolor (Hentz)

Mygale unicolor Hentz 1841, Proc. Boston Soc. Nat. Hist., 1:42. *Antrodiaetus unicolor* :Coyle 1971, Bull. Mus. Comp. Zool. 141:335, f. 113, 120, 130, 138, 145, 146, 158, 173-174, 188-194, 234-240, 270-279, 313, 315, 318.

Length of female 20 mm, of male 17 mm. The male shows three distinct abdominal tergites, but the female has only one, which is apparently the homolog of the middle one of the male. This is a southern species but is included here on the basis of a specimen collected in the Bronx Park in the northeastern portion of New York City.

Re: the family name Atypidae, must now be credited to Thorell. A detailed description of the spinning apparatus in this family was published by Glatz (1973).

Re: the genus *Atypus*, I have learned from Dr. Gertsch (personal communication) that we now have two species from our region. The one previously cited by me as *milberti* he now considers to be *niger*, and *milberti* Walckenaer he considers a synonym of *bicolor*.

Atypus niger Hentz

Atypus niger Hentz 1842, J. Boston Soc. Nat. Hist. 4:224, pl. 8, f. 1. *Atypus milberti*: Kaston 1948 [not *milberti* Walckenaer 1837].

We now have Connecticut records:

Clinton 28 July 1973 (Jean Krny); Hamden 21 November 1952 (S. C. Ball); Middlefield 23 May and 20 July 1951 (P. F. Bellinger).

p. 59, add: Atypus bicolor Lucas

Atypus bicolor Lucas 1836, Ann. Soc. Entomol. France 5:213, pl. 5, f. 5. :Comstock 1940 Spider Book, rev. ed., p. 251. :Gertsch 1936, Amer. Mus. Novitates 895, p. 13, f. 7, 13, 24-25, 28-29. *Sphodros milberti* Walckenaer 1837, Hist. Nat. Ins. Apt. 1:249.

Length of female (including chelicerae) 22.5 mm, of male 14.5 mm. This species can readily be separated from *niger*, by the reddish legs in the male and in having the carapace and sternum longer than broad. In *niger* the male's legs are brown to black, and the female has the carapace and sternum as broad as or broader than long.

While this species has not been recorded from Connecticut it is known from Rhode Island, and from Long Island, N.Y.

Re: Haplogynae, a study by Glatz (1972) of the spinning apparatus of various members of this group has led him to the conclusion that the group is polyphyletic, and should not be maintained as a unit in the phylogenetic system of Araneae. According to Homann all have the primitive type of tapetum in the indirect eyes.

p. 61, re: *Orchestina saltitans*, additional records include:

New Britain 19 November 1950 and 4 August 1951.

Re: *Tapinesthis inermis*, a redescription was provided by Kraus (1967) who also supplied some biological data as well. He gave the length of the female as 2.35 mm, and of the male as 1.83 mm.

p. 62, re: *Dysdera crocata*, Cloudsley-Thompson (1949b) reported a mating taking place in April and a cocoon containing 26 eggs. Bristowe (1958) reported females laying eggs in June and July. Details of morphology were supplied by Cooke (1965) and of the genitalia in particular (1966).

p. 63, re: the family Segestriidae, the name must now be credited to Simon.

Re: *Ariadna*, a revision of the genus was published by Beatty (1970)

p. 65, re: *Scytodes thoracica*, one female collected at New Britain on 4 July constructed an egg sac on 10 July. The sac was 3.9 mm in diameter, of very sparse silk, so that the eggs showed through. The female held the sac close to her sternum as she walked about in an inverted position on the threads of the webbing constructed. There were

40 whitish, non-agglutinate eggs, each about 0.9 mm in diameter. Bristowe (1958) found that females mature after six molts and males after five or six. Many details on the natural history of this species were published by Dabelow (1958) who found that seven molts are required to maturity, that males live from one and a half to two years, and females from two to three. Egg sacs contained from 4 to 44 eggs, usually fewer than 25 and averaging 22.

p. 66, re: Pholcoidea, Homann (1971) has shown that another affinity with the haplogynes is the primitive structure of the tapetum in the indirect eyes.

p. 67, re: Pholcidae, there are now three species in our region, two of them in the genus *Pholcus*. According to Lopez (1973) at least some members of this family show in the cheliceral portion of the venom gland a resemblance to what appears in *Scytodes* as the gum producing portion.

p. 68, re: *P. phalangioides*, Kovoov and Zylberberg (1971) published their studies on the cheliceral gland.

Add **Pholcus opilionoides** (Schrank)
Aranea opilionoides Schrank 1781, Enum. Ins. Austriae indig., p. 530 *Pholcus manueli* Gertsch 1937, Amer. Mus. Novitates 936, p. 1. f. 6-7. *Pholcus opilionoides* :Wiehle 1953, Tierw. Deutschland, Teil 42, Spinnentiere 9:39, f. 93-99.

Length of female 4.3 to 5 mm, of male 3.3 to 4.5 mm. This species may be distinguished from the much larger *phalangioides* in having the PME much closer together, the separation being much less than two diameters. Also, the AME are much closer to the ALE. The sternum is grayish brown with a much lighter longitudinal mark in the middle, while in *phalangioides* it is concolorous. In the female the epigynum is only slightly wider than long while in *phalangioides* it is twice as broad as long. In the male the spur on the palpal trochanter is here curved, though straight in *phalangioides*. This species has not been recorded from Connecticut, but is known from Long Island, N.Y.

p. 69, re: *Spermophora meridionalis*, a male was collected from forest floor litter at: Middlefield 13 July 1951 (P. F. Bellinger).

Re: superfamily Epeiroidea; this should now be known as Araneoidea.

Re: the family Theridiidae; this has been studied by Levi, and a large number of papers have appeared. A summary appears in Levi and Levi (1962).

p. 70, re: characters of the family, Homann (1971) has shown that the tapetum in the indirect eyes is of the "canoe type." A few members of the family do not show the tarsal comb on leg IV.

p. 71, re: genera, there are now considered to be 18 genera distributed among six of the subfamilies of Petrunkevitch, although in the opinion of Levi they cannot "be split into subfamilies."

Re: the footnote, there are now eight species known from northern New England, which do not occur in the southern portion.

Re: mating habits, extensive studies on the habits of theridiids have been published by Braun (1963).

Re: key to genera, the following is based to a great extent on the work of Levi and Levi (1962).

- 1a. Spinnerets occupying a circular space limited by a thick flange in the form of a tube or ring. Abdomen far overhanging the cephalothorax and raised into a series of humps *Phorincidia*
- 1b. Spinnerets not surrounded by a flange; at most with an annular scutum. Abdomen not as indicated above 2
- 2a. Carapace with a broad and deep transverse furrow on the thoracic part. Abdomen prolonged above and behind the spinnerets so that the spinnerets are at least as far from the distal end as from the pedicel 3
- 2b. Carapace without a transverse furrow on the pars thoracica. Abdomen not greatly prolonged beyond the spinnerets 4
- 3a. Posterior eyes in a procurved line with PME much farther from each other than from PLE. Metatarsus I shorter than tibia I. Clypeus almost horizontal. Head of male not provided with horns. Abdomen long and vermiform *Rhomphaea*
- 3b. Posterior eyes in an almost straight line and almost equidistant. Metatarsus I not shorter than tibia I. Clypeus almost vertical. Head of male with two cephalic horns. Abdomen not vermiform *Conopistha*
- 4a. Abdomen triangular as seen from above, pointed behind *Euryopis*
- 4b. Abdomen ovoid, globose, or rhomboidal 5
- 5a. Colulus present, and its length at least half as long as its setae 6
- 5b. Colulus lacking or replaced by two setae 11
- 6a. Chelicerae without teeth. Lateral eyes well separated, at least a diameter of one apart. (Abdomen of female globose, black and shining, with red, or red and white spots, seldom lacking) *Latrodectus*
- 6b. Chelicerae with one or more teeth or denticles. Lateral eyes closer together . . . 7
- 7a. Retromargin of cheliceral fang furrow with one or more teeth 8
- 7b. Retromargin without teeth 9
- 8a. Retromargin of cheliceral fang furrow with two denticles. Cymbium elongate. Dorsum of abdomen unicolorous, without a pattern *Ctenium*
- 8b. Retromargin with one tooth in female. Chelicerae of male enlarged and with several teeth on the retromargin. Cymbium ovoid. Dorsum of male with a pattern of pigment *Enoplognatha*
- 9a. Cephalothorax with numerous small crescent-shaped elevations, each at one side of a puncture *Crustulina*
- 9b. Cephalothorax without the crescent-shaped elevations 10
- 10a. Metatarsi shorter than tarsi. Abdomen unicolorous. Body usually less than 1.5 mm in length *Theonoe*
- 10b. Metatarsi longer than tarsi. Abdomen with a white line around anterior part of dorsum, and with other markings too. Usually more than 2 mm body length *Steatoda*
- 11a. Colulus replaced by two setae 15
- 11b. Colulus absent entirely 12

- 12a. Abdomen of female wider than long, with a hump or tubercle on each side, at about the middle of its length. Tibia of male palp enormously developed and overlapping tarsus considerably *Theridula*
- 12b. Abdomen of female without lateral tubercles, and usually not wider than long. Tibia of male palp not unusually developed 13
- 13a. Abdomen usually higher than long, often with dark patches on sides
. *Achaearanea*
- 13b. Abdomen usually longer than high, or suboval 14
- 14a. Less than 2.5 mm in length. Uniformly colored, except for discrete black spots or gray marks. Patella plus tibia I usually less than 1½ times the length of carapace. (Abdomen in some species with scuta) *Thymoites*
- 14b. Usually more than 2.5 mm in length. Usually with a band or pattern of white and black pigment on abdominal dorsum. Patella plus tibia I usually longer than 1½ times the length of carapace. (Abdomen without scuta.) *Theridion*
- 15a. Males with dorsal and epigastric scuta. Females with parts of epigastric scutum above pedicel and over each lung cover, but dorsal scutum lacking . . *Pholcomma*
- 15b. Both sexes entirely without scuta 16
- 16a. Clypeus high and concave. Cheliceral margins without teeth. Abdomen usually subspherical and usually wider than long *Dipoena*
- 16b. Clypeus of the usual type. Teeth present on either the pro- or the retromargin of the cheliceral fang furrow. Abdomen ovoid or rhomboidal as seen from above .17
- 17a. PME two or three times the diameter of one apart. Abdomen rhomboidal and widest anterior to the middle. Retromargin of cheliceral fang furrow without any teeth *Spintharus*
- 17b. PME no more than twice the diameter of one apart. Abdomen ovoid. Retromargin of cheliceral fang furrow with two to five denticles *Anelosimus*

p. 73, re: *Asagena*, Levi has synonymized this under *Steatoda*.

***Steatoda americana* (Emerton)**

Asagena americana :Kaston 1948. *Steatoda americana* :Levi 1957, Bull. Mus. Comp. Zool. 117:400, f. 66-69.

Roewer (1942) considered this a synonym of *dubia* Hentz 1847.

p. 74, re: *Crustulina*, the genus was revised by Levi (1957).

p. 76, re: *C. sticta*, an additional record:

Hartford 21 May 1961 (J. F. Anderson).

Re: *Enoplognatha*, a revision was published by Levi (1957).

p. 77, re: the footnote, Levi agreed with Chamberlin and Ivie that two species were included by me under *marmorata*, but what they called *puritana* he indicated is *tecta*. In addition, we must now include *ovata* (from page 111). A revised key to species follows:

- 1a. Color gray, brown or black 2
- 1b. Color white or yellow, with black or red lines *ovata*
- 2a. Males 3
- 2b. Females 5

- 3a. Chelicera with one large tooth *intrepida*
 3b. Chelicera with two subequal teeth on retromargin of fang furrow 4
 4a. Pattern on abdominal dorsum spotted (1948: Fig. 43) *marmorata*
 4b. Pattern foliate (1948: Fig. 36) *tecta*
 5a. Epigynum with openings indicated by distinct marks *intrepida*
 5b. Epigynum with diffuse dark markings 6
 6a. Swelling of epigynum divided by a transverse groove. Pattern on abdominal dorsum spotted (1948: Fig. 43) *marmorata*
 6b. Epigynal swelling undivided, with only a slight depression posteriorly. Pattern foliate (1948: Fig. 36) *tecta*

Enoplognatha tecta (Keyserling)

Lithyphantes tectus Keyserling 1884, Spin. Amerikas, Therid., 1:138, pl. 6, f. 86. *Enoplognatha marmorata* :Kaston 1948 (in part). *Enoplognatha tecta* :Levi 1957, Bull. Amer. Mus. Nat. Hist. 112:13, f. 11, 25, 28-29, 34-37.

Following Emerton I had confused the two species *marmorata* and *tecta*. My Figs. 36, 41 and 42 belong to *tecta*, and Figs. 35 and 37 to *marmorata*. Both species occur throughout the State.

Re: *E. rugosa*, this is a synonym of *intrepida*.

Enoplognatha intrepida (Sorensen)

Theridion intrepidum Sorensen 1898, Vidensk. Meddel. Naturhist. Foren. Copenhagen, ser. 5, 10:190. *Enoplognatha rugosa* :Kaston 1948. *Enoplognatha intrepidum* :Levi 1957, Bull. Amer. Mus. Nat. Hist. 112:17, f. 40-41, 48, 51-52.

We now have a record from Connecticut:

Norwalk 27 May 1933 (W. J. Gertsch).

from p. 111: Enoplognatha ovata (Clerck)

Araneus ovatus Clerck 1757, Svenska Spindlar, p. 58, pl. 3, f. 8. *Theridion redimitum* :Kaston 1948. *Enoplognatha ovata* :Levi 1957, Bull. Amer. Mus. Nat. Hist. 112:7, f. 1-10.

The post embryonic development was studied by Seligy (1971). Further data on polymorphism were published by Geyer (1967).

p. 78, re: *Lithyphantes*, Levi has synonymized this under *Steatoda*.

p. 79, re: *L. septemmaculatus*, this is a synonym of *erigoniformis*.

Steatoda erigoniformis (O. P.-Cambridge)

Theridion erigoniforme O.P.-Cambridge 1872, Proc. Zool. Soc. London, p. 284. *Lithyphantes septemmaculatus* :Kaston 1948. *Steatoda erigoniformis* :Levi 1957, Bull. Mus. Comp. Zool. 117:402, f. 70-73. :Levi 1962, Psyche 69:125.

Re: *Ctenium*, since at the present writing the Commission of the International Code of Zoological Nomenclature has under consideration the status of the name *Robertus* (vs. *Ctenium*) those who may wish to use it in preference to *Ctenium* may do so legally.

p. 84, re: *C. spiniferus*, add the collecting records:

Middlefield 24 October 1950 and 23 May 1951 (P. F. Bellinger).

p. 85, re: *Steatoda*, a revision of this genus was published by Levi (1957b, 1962). Because of generic synonymies there are now considered to be six species of this genus in our region, as well as one from northern New England. In addition to *borealis*, we now have *albomaculata* and *erigoniformis* moved in from *Lithyphantes*, *americana* from *Asagena*, and from *Teutana*, *triangulosa* and *grossa*.

Re: *S. borealis*, Levi gave measurements for males down to 4.3 mm, and for females down to 3.8 mm. An egg sac made on 17 May contained 51 lavender eggs. The same female later produced a sac with yellow eggs!

Re: *Teutana*, Levi has synonymized this under *Steatoda*.

p. 86, re: *T. triangulosa*, many aspects of the biology of this species, including reports of parthenogenesis, were published by Braun (1956).

Additional record: New Britain 17 October 1953.

Re: *T. grossa*, while I am unable to add any Connecticut records I am able to verify from many southern California specimens observed in recent years, that the pattern on the abdominal dorsum varies considerably in the intensity of the pigmented areas. Additional life history notes were published by Branch (1943).

p. 87, re: *Conopistha*, since at the present writing the Commission of the International Code of Zoological Nomenclature has under consideration the status of the name *Argyrodes* (vs. *Conopistha*) those who may wish to use it in preference to *Conopistha* may do so legally. A revision was published by Exline and Levi (1962).

p. 88, re: *C. trigona*, Bonnet (1955: 708) considered this a synonym of *argyrodes* (Walckenaer) 1841.

p. 89, re: *Rhomphaea*, Exline and Levi included this genus as a synonym of the preceding.

p. 90, re: *Spintharus*, this genus was revised by Levi (1954c).

Re: *Dipoena*, this genus was revised by Levi (1953, 1963b). There are now only two species, *pallida* having been removed by Levi first (1957a) to *Paidisca*, then (1959) to *Sphyrotinus*, and finally (1962) to *Thymoites*.

p. 91, re: *Latrodectus*, much has been written about these widow spiders in recent years, and a summary may be found in my 1970 paper. We now know two species from our region. They had been confused for years, and much of what I wrote under *mactans* in 1948 pertains to *variolus*. The differences between the two, as well as comparison of morphology and many aspects of their biology are supplied in great detail in my 1970 paper and need not be repeated here.

p. 92, re: *L. mactans*, although Levi doubts that this species occurs in New England it is merely less common than the other. The specimen from Westville cited and one collected at Milford in November 1954, are definitely this species. Moreover, I have seen large numbers taken from that part of New York City which is not more than 15 miles from the Connecticut-New York boundary line.

***Latrodectus variolus* Walckenaer**

Latrodectus variolus Walckenaer 1837, Hist. Nat. Ins. Apt., 1:648. *Latrodectus mactans* :Kaston 1948 (in part). *Latrodectus curacaviensis* :Levi 1959, Trans. Amer. Micros. Soc. 78:38 (in part). *Latrodectus variolus* :McCrone and Levi 1964, Psyche 71:13. :Kaston 1970, Trans. San Diego Soc. Nat. Hist. 16:38, f. 4b, 5c, 6a-f, 7, 14a, b, f.

Most of the specimens collected in New England belong not to *mactans* but to this species.

p. 93, re: *Mysmena*, although Petrunkevitch indicated that he could not separate this from the Dipoeninae the genus is now considered by Levi, by Gertsch, and by Forster to belong to the family Symphytognathidae (see p. 17).

p. 94, re: *Theonoe stridula*, the female was described for the first time by Levi (1955a), when he transferred the species to *Coressa*. It was later placed back in *Theonoe*. *Coressa stridula* :Levi 1955, Amer. Mus. Nov. 1718, p. 4, f. 2-6.

Length of female 0.97 mm. The epigynum is similar to that of the European *minutissima* O.P.-Cambridge 1879. Levi's males measured 0.8 to 0.9 mm.

Re: *Ancylorrhaxis*, Levi considered this to be a synonym of *Pholcomma* Thorell 1869, and revised the genus (1957c).

p. 95, re: *Paidisca*, the genus was revised by Levi (1957a), who in 1959 then considered it to be a synonym of *Sphyrotinus* Simon 1894, and then in 1962 placed both names as synonyms of *Thymoites* Keyserling 1884. There are three species in our region, and the following key is modified from Levi.

- | | | | |
|-----|--|-------|---------------------|
| 1a. | Females | ..... | 2 |
| 1b. | Males | ..... | 4 |
| 2a. | Abdominal dorsum with sclerotized spots | ..... | <i>marxi</i> |
| 2b. | Dorsum without sclerotized spots | ..... | 3 |
| 3a. | Epigynum with distinct bordered depression and median septum | ..... | <i>pallidus</i> |
| 3b. | Epigynum without a depression | ..... | <i>unimaculatus</i> |
| 4a. | Abdominal dorsum with a scutum | ..... | <i>marxi</i> |
| 4b. | Abdominal dorsum without a scutum | ..... | 5 |
| 5a. | Tip of embolus coiling around conductor | ..... | <i>pallidus</i> |
| 5b. | Tip of embolus straight | ..... | <i>unimaculatus</i> |

Re: *P. marxi*

Thymoites marxi (Crosby)

Paidisca marxi :Levi 1957, Bull. Amer. Mus. Nat. Hist. 112:111, f. 393-395, 401, 418-419.
Sphyrotinus marxi :Levi 1959, Bull. Mus. Comp. Zool. 121:148. *Thymoites marxi* :Levi 1964, Bull. Mus. Comp. Zool. 130:449.

from p. 91, re: *D. pallida*,

Thymoites pallida (Emerton)

Paidisca pallida :Levi 1957, Bull. Amer. Mus. Nat. Hist. 112:99, f. 358, 366. *Sphyrotinus pallida* :Levi 1959, Bull. Mus. Comp. Zool. 121:158. *Thymoites pallida* :Levi 1964, Bull. Mus. Comp. Zool. 130:470.

The female was described for the first time by Levi. The body length varied from 1.5 to 2.9 mm while the males varied from 1.3 to 1.8 mm. We now have records from Massachusetts as well as from Rhode Island.

from p. 107, re: *Theridion unimaculatum*

Thymoites unimaculatum (Emerton)

Paidisca unimaculatum :Levi 1957, Bull. Amer. Mus. Nat. Hist. 112:106, f. 388-392, 406-413.
Thymoites unimaculatum :Levi 1964, Bull. Mus. Comp. Zool. 130:449.

p. 96, re: *Ulesanis*, Levi indicated that this is a synonym of *Phoroncidia* Westwood 1835, and revised the genus (1964b).

Phoroncidia americana (Emerton)

Oronota americana :Levi 1955, Ann. Soc. Entomol. Amer. 48:334, f. 1-8. *Phoroncidia americana* :Levi 1964, Bull. Mus. Comp. Zool. 131:74.

Re: *Euryopsis*, this genus was revised by Levi (1945b, 1963b). There are now five species known from our region.

p. 97, re: *E. argentea*

***Euryopsis argentea* Emerton**

Euryopsis argentea :Levi 1954, Amer. Mus. Novitates 1666, p. 11, f. 4-7, 11-14.

According to Levi only the male as described by me belongs here; the female belongs to his new species, *gertschi*. Males studied by Levi measured 2 to 2.6 mm in length, while females were 2.8 to 3.2 mm. The pars cephalica is black, darker than the pars thoracica.

***Euryopsis gertschi* Levi**

Euryopsis gertschi Levi 1951, Amer. Mus. Novitates 1501, p. 6, f. 1-4. Levi 1954, Amer. Mus. Novitates 1666 p. 9, f. 3, 6, 15-16.

Males average 2.4 mm in length, and females 2.5 mm. This species has larger eyes than *argentea*, and also differs in the arrangement of the silvery abdominal marks. Moreover, the pars cephalica is not black.

p. 98, re: *Theridula*, the genus was revised by Levi (1954a), who has shown that my remarks under *opulenta* actually apply to his new species, *emertoni*.

p. 99, insert:

***Theridula emertoni* Levi**

Figs. 1-2

Theridula opulenta :Kaston 1948 [not *opulenta* Walckenaer]. *Theridula emertoni* Levi 1954, Trans. Amer. Micros. Soc. 73:333, f. 1-5. Levi 1966, Psyche 73:125.

***Theridula opulenta* (Walckenaer)**

Figs. 3-4

Theridula opulenta :Levi 1954, Trans. Amer. Micros. Soc. 73:334, f. 9-13.

This species is mostly southern. It is somewhat smaller than the northern *emertoni*, males ranging from 1.2 to 1.7 mm, and females from 1.6 to 2.6 mm in length. The epigynum has a posterior area which is heavily sclerotized and dark brown. This area is lacking in *emertoni*. The palpal organ of *emertoni* has the embolus shorter and undulating near the tip, while that of *opulenta* is straight, and with a notch at the tip as illustrated here.

Norwalk 2 July 1933 (W. Ivie).

Re: *Anelosimus*, the genus was revised by Levi (1965b, 1963a).

***Anelosimus studiosus* (Hentz)**

Anelosimus studiosus :Levi 1956, Trans. Amer. Micros. Soc. 75:418, f. 21-23, 37-39.

Levi very definitely disagrees with the suggestion of Chamberlin and Ivie that this is Walckenaer's *textrix*. In Florida I collected a female that was guarding two egg sacs with her front legs. Each sac was about 2.4 mm in diameter and 3.1 mm long, of grayish silk, and each contained 19 pale blue non-agglutinate eggs each about 0.5 mm in diameter.

p. 100, re: footnote, according to Opinion 517 of the ICZN (30 May 1958) the correct orthography is as here given, the form "*Theridium*" being rejected.

As presently constituted from the studies of Levi, who revised the genus (1957a), we now know 14 species from our region. Into *Achaearanea* have been shifted *tepidariorum*, *globosum* and *rupicola*, while *redimitum* has been moved into *Enoplognatha*, and *unimaculatum* into *Thymoites*. Moreover, species added to our region include: *sexpunctatum*, *antonii*, and *berkeleyi*.

Key to species:

- 1a. Males 2
 1b. Females 15
- 2a. Embolus coiled in a very long spiral making two or three circles (as in 1948: Fig. 149) *glaucescens*
 2b. Embolus very much shorter than above 3
- 3a. Chelicerae in front with distinct mastidia near the clypeal edge 4
 3b. Chelicerae without mastidia, at most with a low rounded knob 5
- 4a. Palpal organ with the median apophysis deeply cleft (1948: Fig. 1968)
 *frondeum*
 4b. Palpal organ with the median apophysis less deeply cleft (1948: Fig. 170)
 *albidum*
- 5a. Palpal organ with the median apophysis U-shaped and the embolus elbowed at its apex (1948: Fig. 175) *pennsylvanicum*
 5b. Palpal organ not as above 6
- 6a. Cymbium thin and with one or two stout spines at the apex; palpal organ with two stout distal apophyses *crispulum*
 6b. Palp not as above 7
- 7a. Abdomen gray, with numerous small white spots (as in 1948: Fig. 133)
 *punctosparsum*
 7b. Abdomen not as above 8
- 8a. Epigastrium strongly developed, the distance from petiole to epigastric furrow exceeding that from the latter to the spinnerets, and the central part of it strongly sclerotized and greatly arched 10
 8b. Epigastrium of the usual type, shorter than the distance from furrow to spinnerets, and not unduly sclerotized or arched 9
- 9a. Chelicera long and with a large tooth at the middle of the retromargin (Fig. 10)
 *sexpunctatum*
 9b. Chelicerae not strongly developed and lacking the tooth *lyricum*
- 10a. Chelicerae small and weak, not divergent distally 11
 10b. Chelicerae divergent distally, with margins oblique 13
- 11a. Cephalothorax bright orange; abdomen with a notched median band 12
 11b. Cephalothorax grayish yellow; abdomen gray with a faint light median area, not notched (1948: Fig. 143). Palp as in 1948: Fig. 165 *alabamense*
- 12a. Folium notched (as in 1948: Fig. 124) *differens*
 12b. Folium more distinctly notched than in Fig. 124, but less so than in Fig. 126
 *antonii*
- 13a. Chelicerae projecting forward at the base 14
 13b. Chelicerae not projecting forward *murarium*
- 14a. Embolus long, its distal portion extending beyond the expanded base, and longer than the basal portion (Fig. 7) *ornatum*

- 14b. Embolus short, its distal portion extending behind the basal portion, shorter than the basal portion (Fig. 8) *berkeleyi*
- 15a. Epigynum a concave plate 16
- 15b. Epigynum not a concave plate 17
- 16a. Epigynum with a pair of receptacula often visible anterior to the opening. Abdomen with a broad light band with lateral extensions (1948: Fig. 128) *ornatum* and *berkeleyi*
- 16b. Epigynal plate with the receptacula toward the sides and narrower behind than in front (1948: Fig. 177). Abdomen with four or five pairs of small black dots *crispulum*
- 17a. Epigynum with a large central opening or fossa (within which may be seen openings to the canals) 18
- 17b. Epigynum without a large opening or fossa; with either one or two openings on the surface of the plate itself 21
- 18a. With two distinct openings visible inside the epigynal fossa 19
- 18b. With the openings not distinctly visible *punctosparsum*
- 19a. The fossa as long as wide, and the epigynum as a whole longer than wide, with the tubules leading in from the openings darkly pigmented (as in 1948: Fig. 153) *lyricum*
- 19b. Fossa wider than long 20
- 20a. Epigynal openings close together *antonii*
- 20b. Openings farther apart (as in 1948: Fig. 166) *alabamense*
- 21a. Epigynum with a single opening, and that in the median line 22
- 21b. Epigynum with two openings leading into the canals 23
- 22a. Epigynum with its posterior border thickened, darkly pigmented, and raised slightly behind the crescent-shaped opening (which is generally dark as in 1948: Fig. 167) *frondeum*
- 22b. Epigynum with the posterior border not as broad and thick, with a dark dumb-bell shaped structure (sometimes divided into two at the middle) behind the opening (which is generally light as in 1948: Fig. 171) *albidum*
- 23a. The epigynal openings more than twice their diameter apart 24
- 23b. Epigynal openings less than twice their diameter apart 25
- 24a. Epigynal canals extending toward the median plane as in 1948: Fig. 174 *pennsylvanicum*
- 24b. Canals parallel for the first portion, then in a U-shaped curve (as in 1948: Fig. 147) *murarium*
- 25a. Epigynal openings more than a diameter apart, and sunk below the surface of the plate so that there is a broad ridge between them *differens*
- 25b. Openings less than a diameter apart, and not sunk below the surface of the plate (1948: Fig. 148) 26
- 26a. The two epigynal openings contiguous (Fig. 9) *sexpunctatum*
- 26b. The openings separated (as in 1948: Fig. 148) *glaucescens*

p. 102, re: *T. tepidariorum*, see *Achaearanea*.

p. 105, re: *T. spirale*, Levi has shown this to be a synonym of *glaucescens*.

***Theridion glaucescens* Becker**

Theridion glaucescens Becker 1879, Ann. Soc. Entomol. Belgique 22:81, pl. 1, f. 11. :Levi 1957, Bull. Amer. Mus. Nat. Hist. 112:44, f. 152-153, 155-156. *Theridion spirale* :Kaston 1948.

p. 106, re: *Theridion albidum*, females may produce egg sacs earlier than in August. One was taken with its sac on 16 July 1962, in New Britain.

Re: *T. lyra*, Levi has shown that this is a synonym of *lyricum*.

***Theridion lyricum* Walckenaer**

Theridion lyricum Walckenaer 1841, Hist. Nat. Ins. Apt. 2:288. :Levi 1957, Bull. Amer. Mus. Nat. Hist. 112:189, f. 322-323, 329-331. *T. lyra* :Kaston 1948.

p. 107, re: *T. unimaculatum*, moved to *Thymoites*.

p. 108, re: *T. globosum*, see *Achaearanea*.

p. 109, insert: *T. antonii* after *T. punctosparsum*

***Theridion antonii* Keyserling**

Fig. 5

T. antonii Keyserling 1884, Spinn. Amerikas, Therid. 1:54, pl. 2, f. 31: Levi 1957, Bull. Amer. Mus. Nat. Hist. 112:60, f. 196-197, 205, 215-216, 219-220.

Length of female 2.3 to 3 mm; of male 1.95 to 2.7 mm. The general appearance is similar to that of *T. punctosparsum*, with a folium somewhat like that of *differens*, but with the notches of the median band deeper. The epigynum is similar to that of *punctosparsum* but the receptacula are spherical while those of *punctosparsum* are oval. "The lighter coloration and the indistinct leg bands, broken on the dorsal surface of the legs, differentiate most females from those of *T. punctosparsum*."

Levi records a specimen from Norwalk (W. J. Gertsch).

Re: *T. rupicola*, see *Achaearanea*.

Re: *T. zelotypum*, Levi has shown this to be a synonym of *ornatum*.

***Theridion ornatum* Hahn**

Figs. 6-7

T. ornatum Hahn 1831, Monogr. d. Spinnen, Hefte 6, pl. 3, f. c. :Levi 1957, Bull. Amer. Mus. Nat. Hist. 112:50, f. 164-165, 168-170. *T. zelotypum* :Kaston 1948 [in part, not f. 151].

This species is similar to *berkeleyi*, and rather difficult to distinguish from it in the female sex. *T. ornatum* is a more northern species and presumably is known from Massachusetts.

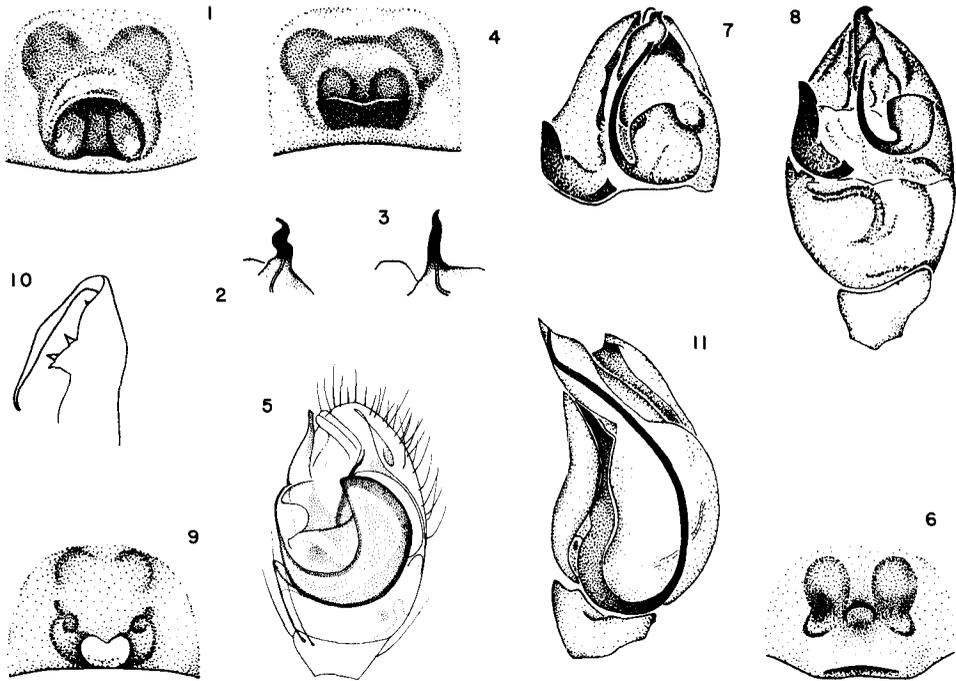
***Theridion berkeleyi* Emerton**

Fig. 8

T. berkeleyi Emerton 1924, Pan-Pac. Entomol. 1:30, f. 8. :Levi 1957, Bull. Amer. Mus. Nat. Hist. 112:52, f. 166-167. *T. fieldi* Levi 1951, Amer. Mus. Novitates 1501, p. 3, f. 46.

Length of female is 2.3 to 4.5 mm; of male 2.4 mm. The general appearance is like that of *ornatum*, but the pattern is less distinct, and the embolus is shorter. The females are "difficult to separate from *ornatum*." The records that were listed for *zelotypum* belong to this species.

p. 110, re: *T. blandum*, Levi has shown that what I included here is actually *crispulum*.



Figs. 1-11.—1, *Theridula emertoni*, epigynum (after Levi); 2, *Theridula emertoni*, embolus (after Levi); 3, *Theridula opulenta*, embolus (after Levi); 4, *Theridula opulenta*, epigynum (after Levi); 5, *Theridion antonii*, palp; 6, *Theridion ornatum*, epigynum (after Levi); 7, *Theridion ornatum*, distal portion of palp (after Levi); 8, *Theridion berkeleyi*, palp (after Levi); 9, *Theridion sexpunctatum*, epigynum (after Levi); 10, *Theridion sexpunctatum*, chelicera of male (after Levi); 11, *Achaearanea porteri*, palp (after Levi).

Theridion crispulum Simon

T. crispulum Simon 1895, Ann. Entomol. Soc. France 64:142. :Levi 1959, Bull. Mus. Comp. Zool. 121:113. *T. blandum* :Kaston 1948. *T. intervallatum* :Levi 1957, Bull. Amer. Mus. Nat. Hist. 112:64, f. 222-224, 229-231.

Levi considered that *blandum* Hentz is not recognizable.

Add: *Theridion sexpunctatum* Emerton
Figs. 9-10

T. sexpunctatum Emerton 1882, Trans. Connecticut Acad. Sci. 6:12, pl. 2, f. 5. :Levi 1957, Bull. Amer. Mus. Nat. Hist. 112:91, f. 340-349.

Length of female 2.1 to 2.7 mm; of male 1.95 to 2.2 mm. This is one of the species in which the chelicerae of the male are strongly developed, being twice as long as those of the female. The species name refers to the six irregular black patches on an otherwise yellow abdominal dorsum.

While previously known from northern New England, and hence listed on p. 561, it is being included here now because of a Massachusetts record.

p. 111, re: *T. redimitum*, see *Enoplognatha ovata*.

Add: Genus *Achaearanea* Strand 1929

A revision was published by Levi (1955a, 1959). There are four species in our region, all having been removed from *Theridion*. The abdomen is usually higher than long

without a mid-dorsal white stripe. The palpal organ is simpler than that in *Theridion*, lacking a radix.

from p. 103: *Achaearanea tepidariorum* (C. L. Koch)

A. tepidariorum :Levi 1955, Amer. Mus. Novitates 1718, p. 32, f. 69-70, 83-84.

Kullmann has shown that this species may occupy the webs of other spiders as a parasite.

from p. 108: *Achaearanea globosum* (Hentz)

A. globosum :Levi 1955 Amer. Mus. Novitates 1718, p. 9, f. 19-25.

A female with two egg sacs was taken on 2 July. The sacs tapered at both ends as observed by Hentz, one end tapering more than the other, papery in texture, and light tan in color. One measured 3.7 mm in length by 1.52 mm at the widest part, and contained 20 white non-agglutinate eggs each about 0.37 mm in diameter. The other measured 3.9 mm in length by 1.83 mm at the widest part, and contained 35 eggs.

Hartford 2 July 1960 and 20 August 1961 (J. F. Anderson).

from p. 109: *Achaearanea rupicola* (Emerton)

A. rupicola :Levi 1955 Amer. Mus. Novitates 1718, p. 21, f. 47-52, 56.

From Levi's data it appears that the length of females may be down to 1.8 and of males to 1.4 mm.

Insert: *Achaearanea porteri* (Banks)

Fig. 11

Theridion porteri Banks 1896, In: Blatchley's Ann. Rpt. Indiana Geol. Surv. 21:203. *A. porteri* :Levi 1955, Amer. Mus. Novitates 1718 p. 30, f. 71-75, 80-82.

Length of female 2.2 to 4.9 mm; of male 1.6 to 2.8 mm. Levi found this species to be quite variable not only with respect to genitalia, but also in that some have a tubercle on the abdomen (as in *rupicola*) and some do not. This species is southern, but is included here on the basis of a record for Long Island, N.Y.

Insert: Family SYMPHYTOGNATHIDAE Hickman

Although Petrunkevitch (1958:150) indicated that he could not separate the Mysmeninae from the Dipoeninae, Forster's studies (1958, 1959) indicated that there were sufficient reasons (as previously suggested by Archer, see footnote p. 93) for separation, and in fact for moving the former from the Theridiidae to this family. Gertsch (1960) concurred in this, as did also H. W. and L. R. Levi (1962). The members of this family are all of minute size. They lack the tarsal comb characteristic of the theridiids in general; many lack book lungs (i.e., leaf tracheae), having only the tubular tracheae. The labium is rebordered; and according to Homann (1971) the tapetum in the indirect eyes is of the "canoe" type. The family is represented in our region by only the one genus, with a single species. The genus *Misumena* was revised by Levi (1956a).

Misumena guttata (Banks)

M. guttata :Levi 1956, Amer. Mus. Novitates 1801, p. 8, f. 20-30.

Some females studied by Levi measured as much as 1.3 mm in length. The species may yet be found in Connecticut since it is known from Long Island, N.Y. and from Massachusetts. Loksa (1973) suggested that our species is the same as the *leucoplagiata* Simon of Europe, but Levi indicated otherwise.

p. 112, re: Nesticidae, Bristowe (1958) gave additional support to the maintenance of this as a separate family. According to Homann (1971) the tapetum is of the "canoe" type.

Re: Nesticus cellulanus (Olivier)

N. cellulanus :Wiehle 1953, Tierw. Deutschland, Teil 42, Spinnentier 9:53, f. 122-127.

Females measured by Wiehle were up to 5.5 mm in length, and males up to 5 mm. One of his illustrations shows that in the web there are, attached to the substratum, gum-footed threads similar to those known for *Steatoda* and other theridiids.

Re: *N. pallidus*, this is now placed in *Eidmanella* Roewer 1935

p. 114, re: Linyphiidae, relationships based upon palpal structure were indicated by Merrett (1963). For an interesting note on courtship see Rovner (1967). According to Homann (1971) many members of this family show a tapetum of the "canoe" type in the indirect eyes. As here considered there are 22 genera in our region.

p. 115, re: key to genera, the following modifications should be made. If the specimen keys out at couplet 7a to *Linyphia*, proceed as follows:

- 8a. PME closer to each other than to the PLE, and only scantily surrounded by pigment. Femora I and II without dorsal and lateral spines. (Male with a single mastidion on each chelicera.) *Prolinyphia*
- 8b. PME closer to the PLE than to each other, and with a thick ring of black pigment around them. Femur I with dorsal and prolateral spines 9
- 9a. Femur I with two dorsal and one (or two) prolateral spines. Male with two mastidia on each chelicera *Neriena*
- 9b. Femur I with only one dorsal (and two prolateral) spines. Male with only one mastidion on each chelicera *Microlinyphia*

Couplet 10a should be considered as keying out to *Bathyphantes*. Delete couplet 11. If the specimen keys out at 15b and 16 proceed as follows:

- 16a. Cymbium usually angulate. Epigynum with a median lobe between two oval or crescentic areas (as in 1948: Fig. 2079) *Meioneta*
- 16b. Cymbium not angulate, though some may have a horn near the base. Epigynum not as above 17
- 17a. All tibiae with two dorsal spines, but at least tibia I and II without lateral spines 18
- 17b. Tibia I with at least a prolateral spine. (Epigynum without a scape. Palpal tibia without an apophysis.) 19
- 18a. Metatarsi spineless. Chelicera of male with a mastidion. Epigynum without a scape *Ostearius*
- 18b. Metatarsi I and II with a dorsal spine which may be small and slender. Chelicera of male without a mastidion. Epigynum with a scape *Centromerus*
- 19a. Length about 1.5 mm. Tibia I with both a prolateral and a retrolateral spine. AME small, separated from each other by at least a diameter, and much more than this from the ALE *Porrhomma*
- 19b. Length 2 to 2.5 mm. Tibia I with a prolateral spine, but no retrolateral. AME not more than a diameter apart or from the ALE *Hillhousia*

p. 117, re: *Tapinopa bilineata*, this is one of those exceptional linyphiids in that the clypeus height is less than the length of the median ocular area.

We now have a Connecticut record:
Hartford 2 July 1960 (J. F. Anderson).

p. 118, re: *Drapetisca alteranda*. Although it is indicated that the web of this species is unknown it may be that the situation is similar to that reported by Kullmann (1961) for the European *D. socialis*. In that species the web fibers are simply placed flat over the bark, and although very fine and thus difficult to see they may be revealed by coating the threads with ammonium chloride, or by some other technique to make the fibers show up.

Re: *S. lineata*, Gertsch has shown that our species is not the same as the European.

Insert: **Stemonyphantes blauveltae** Gertsch
S. blauveltae Gertsch 1951, Amer. Mus. Novitates 1514, p. 1, f. 4-5.

p. 119, re: *P. costatus* (Hentz), a female which mated in the laboratory on 20 April 1962, constructed an egg sac on 9 May. The sac had the shape of a plano-convex lens, 4.5 mm in diameter and 1.4 mm thick, fastened to the substratum. The egg mass was 2.4 mm in diameter and consisted of 35 orange eggs each about 0.63 mm diameter.

p. 121, re: the genus *Linyphia*, from the studies of van Helsdingen (1969, 1970) it would appear that we do not have in our region any members of this genus *sens. str.* Rather, he considers that they belong to *Neriene*, though some may also be considered as belonging in *Prolinyphia* and *Microlinyphia*. For a discussion of the relation of these to each other see also Wiehle (1956).

p. 122, re: **Genus Prolinyphia** Homann 1952

Homann has shown that in this genus the indirect eyes are concolorous, while in those species belonging to *Linyphia* proper (and also *Neriene*) the indirect eyes are discolorous.

Re: *L. marginata* **Prolinyphia marginata** (C. L. Koch)

P. marginata :Wiehle 1956, Tierw. Deutschlands, Teil 44, Linyphiidae, p. 298, f. 486-494. *Neriene radiata* :van Helsdingen 1969, Zool. Verh. Rijksmus. Nat. Hist. Leiden, 105, p. 223, f. 315-324.

Roewer had considered this to be a synonym of *triangularis*, but van Helsdingen has shown the latter to be a different species. Since van Helsdingen placed the species in the genus *Neriene*, which already contained Blackwall's *N. marginata* described one year before Koch's *L. marginata* it was necessary because of the homonymy for van Helsdingen to replace the name *marginata* with that of Walckenaer's *radiata*. The quotation I supplied from Blackwall concerning the egg sac really indicates the situation in Blackwall's species, which, following Thorell and van Helsdingen, is actually *clathrata* Sundevall. Wise (1973) has shown that the sacs are not laid on an exposed surface but under leaf litter. The sac is approximately 7 mm in diameter and 4 mm thick. The number of eggs in five sacs ranged from 63 to 93, and the diameter of an egg was about 0.6 mm.

p. 123 add: genus *Neriene* Blackwall 1833.

Neriene clathrata (Sundevall)

Linyphia clathrata :Kaston 1948. *Neriene clathrata* :van Helsdingen 1969, Zool. Verh. Rijksmus. Nat. Hist. Leiden, 105, p. 84, f. 79-91.

As indicated under *P. marginata* (above) the data on egg sacs, quoted from Blackwall, really belong here, since his *marginata* is a synonym.

p. 124, re: *L. maculata*, which is a synonym of *variabilis*.

Neriene variabilis (Banks)

Linyphia variabilis Banks 1892, Proc. Philadelphia Acad. Nat. Sci. [44]:42, pl. 2, f. 28. *L. maculata* :Kaston 1948. *Neriene variabilis* :van Helsdingen 1969, Zool. Verh. Rijksmus. Nat. Hist. Leiden, 105, p. 130, f. 155-166.

Additional record: a pair taken together at New Britain 19 June 1961 (J. F. Anderson).

Although Gerhardt set up his new genus *Microlinyphia* 1928 on behavioral grounds there are morphological grounds too. The chelicerae in males are long, more than half the length of the cephalothorax, and inclined backwards at an angle of about 45 degrees. The embolus is long and thread-like forming a large conspicuous loop. The epigynum is small and inconspicuous, barely more heavily sclerotized than the surrounding area.

Re: *L. pusilla* it has been shown that our species is not the same as the European.

Microlinyphia mandibulata (Emerton)

Linyphia mandibulata Emerton 1882, Trans. Connecticut Acad. Sci. 6:64, pl. 19, f. 2-2d. *Microlinyphia mandibulata* :van Helsdingen 1970, Zool. Verh. Rijksmus. Nat. Hist. Leiden 111, p. 39, f. 28-33, 35-37.

p. 125, re: *Estrandia nearctica*, is a synonym of *grandaeva*.

Estrandia grandaeva (Keyserling)

Linyphia grandaeva Keyserling 1886, Spinn. Amerikas, Ther. 2:92, pl. 14, f. 185.

p. 126, re: *Lepthyphantes*, a detailed discussion of the structure of the female genitalia was published by Wanless (1973).

p. 128, re: *Lepthyphantes nebulosa*, this species is one of those that is active in winter, according to Tretzel (1954).

Re: *L. leprosa*, the sexual behavior was described in great detail by van Helsdingen (1965), who also gave an extended discussion of the function of the different parts of the genitalia.

p. 130, re: the genus *Bathyphantes*, of which a revision was published by Ivie (1969). The latter publication also contains a most useful list of 103 species names of spiders that have been at one time or another placed in this genus but belong elsewhere. There are five species in our region, including *brevis*, which I previously placed in *Bathyphantoides*. Hackman (1954), and also Ivie, have shown that the position of the spiracle is variable, removing the justification for maintaining the latter genus.

Revised key to species (mostly after Ivie):

- | | | |
|-----|--|-----------------|
| 1a. | Males | .2 |
| 1b. | Females | .6 |
| 2a. | Embolus in the form of a long, stout, coil on the distal half of the tarsus | .4 |
| 2b. | Embolus not of this form | .3 |
| 3a. | Embolus long, arising from the base of the palpal organ, with its tip looped. Abdomen light gray to brown without markings | <i>concolor</i> |
| 3b. | Embolus much shorter, and tip not looped. Abdomen with a pattern of black and white | <i>pullatus</i> |
| 4a. | Lobe of palpal tegulum with a distinct bulge on the ectal side | <i>pallidus</i> |
| 4b. | Lobe not so bulged on ectal side | .5 |

- 5a. Distal extension of palpal lamella bifid, the ectal branch the longer one and very sharp (Fig. 12) *brevis*
 5b. Distal extension of palpal lamella with tip notched, and enclosed in a fold of the median apophysis (Fig. 13) *albiventris*
 6a. Scape absent, though parmula is slender and quite elongate *pullatus*
 6b. Scape present 7
 7a. Scape longer than wide 8
 7b. Scape short, its length not greater than its width at base 9
 8a. Abdominal dorsum black, without a pattern *concolor*
 8b. Abdominal dorsum with a banded pattern *pallidus*
 9a. Venter dark gray *brevis*
 9b. Venter whitish *albiventris*

p. 132, re: *B. conicus*, is a synonym of *pullatus*.

Bathyphantes pullatus (O. P.-Cambridge)

Linyphia pullata O. P.-Cambridge 1863, Zoologist 21:8580. *B. pullatus* :Ivie 1969, Amer. Mus. Novitates 2364 p. 57, f. 116-121.

Ivie gave the length of a female as 2.1 mm. In my 1948 description I erroneously mistook the elongated parmula of the epigynum for a scape, which is absent in this species.

Re: *B. brevis*, I have already indicated that this goes back into *Bathyphantes*.

Bathyphantes brevis (Emerton)

Fig. 12

B. brevis :Ivie 1969, Amer. Mus. Novitates 2364 p. 16, f. 15-21, 110.

Insert: **Bathyphantes albiventris** (Banks)

Figs. 13-14

Diplostyla alboventris Banks 1892, Proc. Philadelphia Acad. Nat. Sci. [44]:43, pl. 5, f. 31. *B. albiventris* :Ivie 1969, Amer. Mus. Novitates 2364 p. 18, f. 10-14, 22.

Length about 2.5 mm in both sexes. With the characters as given in the key. Newington 18 April 1961 (J. F. Lienisch).

p. 134, Re: *A. olivacea*, is a synonym of *cauta*.

Agyneta cauta (O. P.-Cambridge)

Microneta cauta O. P.-Cambridge 1902, Proc. Dorset Field Club 23:31, f. 2.

p. 135, re: *Centromerus*, some synonymy, notes, and comments were published by van Helsdingen (1973). We now have six species recognized from our region.

Re: *C. sylvaticus*, according to Tretzel (1954) this species is one which is active in winter. Buche (1966) supplied many data on the biology of the species. It matures in the fourth instar in 73 days at 15°C. The egg sac is white, 3.5 to 4 mm in diameter, and may contain from 34 to 74 eggs.

Re: *C. persoluta* add record:

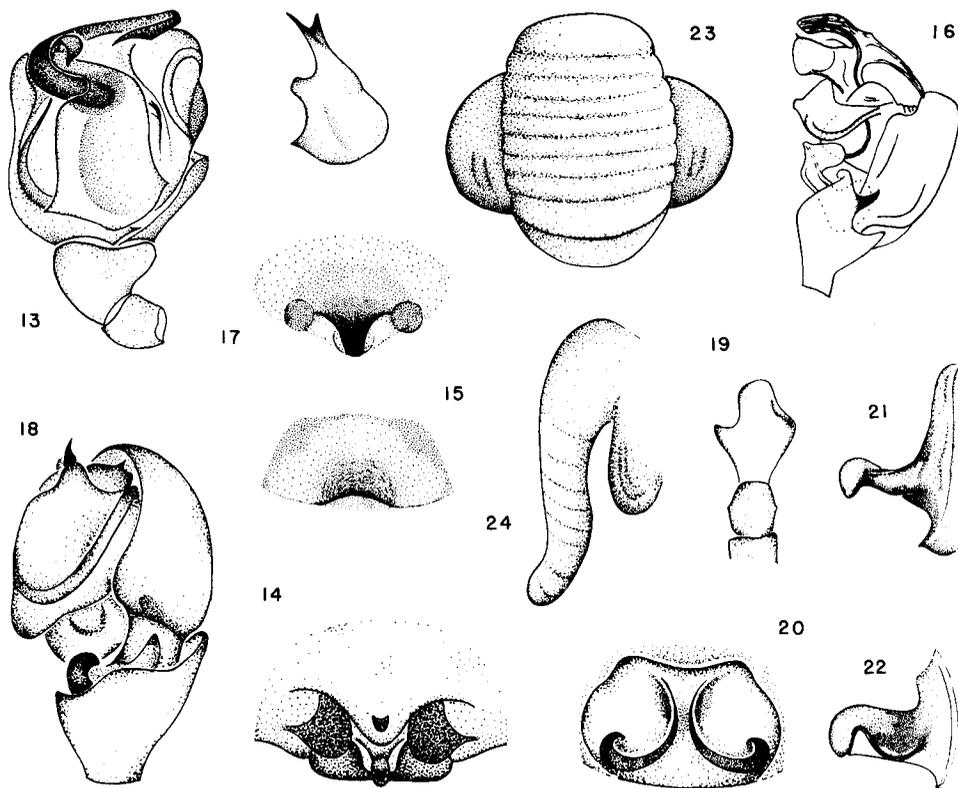
Middlefield 30 January 1951 (P. F. Bellinger).

p. 136, re: *C. cornupalpis*, additional records:

Bethany October 1950 (P. F. Bellinger); Middlefield 24 October 1950, February 1951, and April 1951 (P. F. Bellinger).

p. 137, re: *C. denticulata*, now known from Connecticut.

Bethany 18 April 1951 (P. F. Bellinger).



Figs. 12-24.—12, *Bathyphantes brevis*, lamella of palp (after Ivie); 13, *Bathyphantes albiventris*, palp (after Ivie); 14, *Bathyphantes albiventris*, epigynum (after Ivie); 15, *Hillhousia misera*, epigynum (after Locket and Millidge); 16, *Ostearius melanopygius*, palp (after Wiehle); 17, *Ostearius melanopygius*, epigynum (after Locket and Millidge); 18, *Ceratinops obscura*, palp (after Chamberlin and Ivie); 19, *Ceratinops obscura*, palpal tibia and patella (after Chamberlin and Ivie); 20, *Hypsosinga singaeformis*, epigynum (after Levi); 21, *Neoscona domiciliorum*, conductor of palpal organ (after Berman and Levi); 22, *Neoscona hentzii*, conductor of palpal organ (after Berman and Levi); 23, *Araneus pratensis*, epigynum ventral aspect; 24, *Araneus pratensis*, epigynum lateral aspect.

Re: *Meioneta*, some synonymy, notes and comments were published by van Helsdingen (1973) in his *Centromerus* paper. There are 8 species now known from our region.

Re: *Centromerus serrata*, belongs in *Meioneta*.

***Meioneta serrata* (Emerton)**

M. beaufortensis Barnes 1953, Amer. Mus. Novitates 1632 p. 4, f. 1-2. *M. serrata*: van Helsdingen 1973, Zool. Verh. Rijksmus. Nat. Hist. Leiden 124, p. 9. *Centromerus emertoni* Kaston 1972, Entomol. News 83:105.

Barnes described the female and illustrated the epigynum. His specimen was 1.42 mm in length. His males measured down to 1.37 mm. Van Helsdingen showed that this species belongs in *Meioneta*, not *Centromerus*, so the name *emertoni* that I assigned to it in 1972 (because the name *serrata* had been given in 1875 by O. P.-Cambridge to another species) is not needed.

from p. 211, re: *Sciastes terrestris*, according to Ivie (1967) this belongs in *Porrhomma* Simon 1884. We have one species.

also from p. 211, re: *Sciastes concavus*, it has been shown by Holm (1968) that this belongs in the genus *Hillhousia* F. O. P.-Cambridge 1894, and is a synonym of *misera*.

***Hillhousia misera* (O. P.-Cambridge)**

Fig. 15

Linyphia turbatrix O. P.-Cambridge 1879, Ann. Mag. Nat. Hist. (5) 4:206. *L. misera* O. P.-Cambridge 1882, Ann. Mag. Nat. Hist. (5) 9:262 [new name for *turbatrix* preoc.]. *Hillhousia misera* :F. O. P.-Cambridge 1894, Ann. Mag. Nat. Hist. (6) 13:90, pl. 1, f. 13. :Locket and Millidge 1953, British Spiders 2:327, f. 198, A, B, C. :Wiehle 1956 Tierw. Deutschlands, Spinnentiere, 44:246, f. 410-415.

Length of female 2 to 2.5 mm; of male 1.8 to 2 mm.

p. 142, insert: Genus ***Ostearius*** Hull 1911

This genus is considered by some to be midway between the Linyphiidae and the Micryphantidae, but by most workers is placed definitely with the linyphiids.

***Ostearius melanopygius* (O. P.-Cambridge)**

Figs. 16-17

Linyphia melanopygius O. P.-Cambridge 1879, Proc. Zool. Soc. London p. 696, pl. 53, f. 13. *Erigone matei* Keyserling 1885, Spinnen Amerikas, Therid. 2:159. *Oedothorax melacra* Chamberlin 1916, Bull. Mus. Comp. Zool. 60:236, pl. 17, f. 6-7. *Scolopembolus melacrus* :Bishop and Crosby 1938, J. New York Entomol. Soc. 46:64, pl. 3, f. 16. *Ostearius melanopygius* :Locket and Millidge 1953, British Spiders 2:326, f. 197 D, E, F, G. :Wiehle 1960, Zool. Jahr. Abt. Syst. 88:201, f. 8-15.

Length of female 2.3 to 2.5 mm; of male 1.9 to 2.4 mm. The general color is brownish on the carapace, and reddish on the abdomen, but, as indicated by its specific name, the posterior end is black around the spinnerets. Femur I is shorter than the carapace. Metatarsus I is about twice as long as tarsus I, but the metatarsi are shorter than the tibiae. The clypeus is slightly concave, and the chelicera of the male has a mastidion about one fourth the distance up from the fang. The chelicera is thickened at the base and provided with conspicuous stridulating striae on the lateral aspect. The tibial apophysis has two rami, and the epigynum lacks a free scape.

This species has been collected from sandhills, in gardens, sometimes in rubbish heaps, and occasionally indoors. At times it has been considered a pest in Great Britain, and I have found this to be the case in Cromwell, where on 30 January 1951 I was called by a greenhouse keeper to examine the messy webbing placed over the plants.

Braun (1961) supplied much information on its natural history. He noted that, unlike most linyphiids which stand under the web, these stand in a retreat. He described the courtship and mating (with occurs in position I). The egg sacs were not placed in the retreat. Up to four may be made, each with 30 to 50 eggs. Additional data on the biology of this species were published by Felton (1972).

Re: Micryphantidae. During the past two decades the European workers have used the relative position of the leg trichobothria as a character for generic placement. Crosby and Bishop had made no use of this, and it is to be hoped that some future American student of this difficult family will see what can be done in this regard. Wilton Ivie was working on these spiders when he met his untimely death in an automobile accident, and American araneology suffered a sad loss.

For relationships based upon a study of palpal structure see Merrett (1963). According to Homann (1971) the members of this family have a tapetum of the "canoe" type in the indirect eyes.

Much of the synonymising I have done here is based on the studies of Ivie (1967), Holm (1968), and Hackman (1954).

p. 147, re: *Ceraticelus*, we have only 14 species, *rugosus* having been removed by Ivie (1967) to *Idionella* Banks 1893.

p. 157, insert: **Idionella rugosus** (Crosby)
Ceraticelus rugosus :Kaston 1948.

p. 158, re: *C. brunnea*, an additional record:
Cathedral Pines State Park 27 July 1951 (P. F. Bellinger).

p. 159, re: *C. sphaerica* is a synonym of *parvula*, according to Ivie (1967).

Ceratinella parvula (Fox)

Erigone parvula Fox 1891, Proc. Entomol. Soc. Washington 2:45 *Ceraticelus parvulus* :Crosby and Bishop 1925, Bull. New York State Mus. 264, p. 40.

p. 164 (and 169, 206) re: the genera *Cornicularia*, *Prosopotheca*, and *Walckenaëra*, Locket and Millidge (1953:191) suggest that "the species of these three genera are all closely related, and in spite of the variations in the secondary sex characters of the male, and in the position of the trichobothria, it is possible they should be united in one genus."

p. 174, re: *Tunagyna debilis*, van Helsdingen (1973) notes, "In Massachusetts the species is very common and very frequently collected from leaf-litter samples in deciduous or mixed forest, especially in the swampy parts." He also described and illustrated the epigynum.

p. 175, re: *Aulacocyba*, in his Bibliographia Bonnet considered this a synonym of *Microctenonyx* Dahl 1886, but Wunderlich (1970) considered it a synonym of *Tapinocyba* Simon 1884.

p. 176, re: *Ceratinops*, we now have six species in our region.

p. 178, add: **Ceratinops obscura** (Chamberlin and Ivie)
Figs. 18-19

Masonetta obscura Chamberlin and Ivie 1939, Verh. VII Intern. Congr. Entomol. [for 1938] 1:64, pl. 2, f. 17-18.

Length of male 1.2 mm. The female has not been described. In lacking cephalic lobes and pits this species is similar to *rugosa*. It has not been taken in Connecticut, but is known from Bronx, N.Y.

p. 181, re: *Cochlembolus*, is a synonym of *Caledonia* O. P.-Cambridge 1894 according to Holm (1950).

Re: *T. pallidus*, we now have a record from Connecticut.
Middlefield 23 November 1950, 21 September 1951 (P. F. Bellinger).

p. 183, re: *H. florens*, a female was collected as late as 17 October.

p. 184, re: *M. arenarius*, according to Dondale and Redner (1972) this belongs in the genus *Perimones* Jackson 1932.

Perimones arenarius (Emerton)

Maso britteni Jackson 1913, Rep. Trans. Nottingham Nat. Soc. 60:27 *P. arenarius* :Dondale and Redner 1972, Canad. Entomol. 104:1643.

Re: *Mythoplastoides*, according to Hackman (1954) is a synonym of *Entelecara* Simon 1884.

p. 186, re: *Hormathion*, is a synonym of *Thyreosthenius* Simon 1884.

p. 187, re: *H. limnatum*, according to Hackman (1954) this is a synonym of *T. parasiticus*.

Thyreosthenius parasiticus (Westring)

Erigone parasitica Westring 1851, Goteborgs Kongl. Vet. Handl. 2:45.

p. 196, re: *Eperigone simplex*, we now have a Connecticut record. Killingworth January 1938 (M. P. Zappe).

p. 197, re: *Catabrithorax*, Holm (1950) has shown this to be a synonym of *Collinsia* O. P.-Cambridge 1913.

p. 198, re: *C. oxypaederotipus*, an additional record: Cornwall 16 May 1951 (P. F. Bellinger).

Re: the genus *Grammonota*, some remarks were published by Dondale (1959). We now have seven species in our region.

p. 201, re: *G. bidentata*, according to Dondale this is a synonym of *ornata*, and not of *maculata*, as I had indicated had been suggested by Bishop and Crosby.

p. 205, re: *Islandiana*, a revision was published by Ivie (1965). We now have three species from our region, and two others are known from northern New England.

Add: **Islandiana flavoides** Ivie

Islandiana flavoides Ivie 1965, Amer. Mus. Novitates 2221, p. 16, f. 27-29.

Length of female 1.8 mm; of male 1.5 mm. "Very close to *flaveola* in color and structure. . . . no obvious structural differences in the epigynum. The dorsal point on the tibia of palpus shorter and blunter than in *flaveola*."

This species is not known from Connecticut, but has been taken on Long Island, N.Y.

p. 206, re: *Walckenaëra*, see the comment in connection with *Cornicularia* and *Prosopotheca*, page 24.

Re: *W. vigilax*, Dondale and Redner have shown that our American species is not the same as the European, so that Emerton's name is to be resurrected.

Walckenaëra spiralis (Emerton)

Spiropalpus spiralis Emerton 1882, Trans. Connecticut Acad. Sci. 6:39, pl. 10, f. 6. *Walckenaëra spiralis*: Dondale and Redner 1972, Canad. Entomol. 104:1644.

p. 211, re: *S. concavus* and *S. terrestris*, these have been removed to *Hillhousia* and *Porrhomma* respectively (see above in the Linyphiidae). Thus there are but two species remaining in the genus *Sciastes*, for our region.

p. 214, re: *Tmeticus ornatus*, Roewer (1942) places this in *Micryphantes*.

Add: Genus *Scyletria* Bishop and Crosby 1938

Scyletria jona Bishop and Crosby

S. jona Bishop and Crosby 1938, J. New York Entomol. Soc. 46:90, f. 75-76.

Length of female 0.7 mm; of male 0.68 mm. This is the smallest spider known from our region. The cephalothorax is pale orange yellow, slightly darker towards the cephalic part. The abdomen is dull yellowish white. There are no special features in the head region. The ARE is slightly recurved, the AME are smaller than the ALE, and the PRE is straight, with the eyes subequal.

Middlefield 2 December 1950 and 7 February 1951 (P. F. Bellinger).

Re: family Epeiridae, since I now consider *Epeira* a junior synonym of *Araneus* the family name to be used is Araneidae Latreille.

p. 215, **re:** the making of an orb web, see Tilquin (1942), Savory (1952), Witt (1956), Witt et al. (1968), and Jackson (1973).

p. 217, **re:** the function of the stabilimentum, Ewer (1972) considered that it may serve to make the spider less visible to predators, but M. H. and B. Robinson (1970) reported that this is improbable, at least in *Argiope argentata*, in view of the fact that two thirds of the webs seen did not include the structure.

p. 219, **re:** *Micrathena gracilis*, one web about five inches in diameter, had 54 radii, and 20 spiral threads.

Re: *M. sagittata*, for our New England representatives Archer (1951) set up the new subspecies *emertoni*.

p. 221, **re:** *Argiope*, a revision of the genus was published by Levi (1968).

Argiope aurantia (Lucas)

A. aurantia :Levi 1968, Bull. Mus. Comp. Zool. 136:338, f. 43-57.

Although I reported the females having their front legs entirely black I have seen many with a short band of orange on femur I. One female brought into the laboratory 1 September produced egg sacs on 15 September, 30 September, and 15 October. Babu (1973) reported that females mature in five to six months after having molted seven to nine times. A study on habitat selection was published by Enders (1973).

p. 222, **re:** *A. trifasciata*

Argiope trifasciata (Forsk.)

A. trifasciata :Levi 1968, Bull. Mus. Comp. Zool. 136:340, f. 58-72.

One female brought into the laboratory produced egg sacs on 11, 25 and 29 September. These were hemispherical, and measured 10 to 15 mm along the flat surface, which was uppermost. One sac contained 775 yellow non-agglutinate eggs, each about 0.6 mm in diameter.

p. 223, **re:** the subfamily Metinae, I now consider that *Leucauge* should be placed here, rather than in the Tetragnathidae where Petrunkevitch put it. Homann (1971) has shown that in eye structure it differs from the members of that family but is similar to that of *Meta*, with a "canoe" type of tapetum.

Re: *Meta*, Wiehle (1967) has shown that the epigynum lacks fertilization canals, and is less complicated than the epigynum of the true entelogyne. However, he considered that it was nevertheless more complicated than in the haplogynes, so referred to it as a "semi-entelogyne" form.

Re: *Meta menardii*, on 19 August 1951, in the dark recesses of an old barn at Bristol I found large numbers of females guarding their egg sacs. Observations by Dresco-Derouet (1960) indicate that the males mature after seven, and the females after eight or nine molts. Maturity is attained in eight months when the temperature is maintained at 24°C; in 15 to 20 months at 13° to 14°, and about 9 to 12 months additional at 9°.

from p. 265, re: *Leucauge venusta*, I found a female with an egg sac, which was globular, about 11 mm in diameter, of loose silk. The egg mass itself was 3.7 mm long by 2.6 mm in diameter, and contained 223 yellow, slightly agglutinated eggs, each 0.45 mm in diameter.

p. 224, re: the name of the subfamily. It should now of course be Araneinae. During the years since 1948 I had come to recognize the genera *Araniella*, *Neosconella* and *Conepeira*. But the recent studies of Levi indicate that it seems best to simply consider all our species placed in these groups as belonging in *Araneus*. I had previously followed Petrunkevitch in considering *Epeira* separate from *Araneus*. To the end of his life he kept them separate maintaining (1958:259) that “for some arachnologists the genera *Araneus* and *Epeira* are synonyms, but to others, myself included, they are distinct genera.” The presence or absence of shoulder humps (=humeral tubercles) for separating the two genera is too variable a character, even in the same species. Some have the tubercles so reduced or even absent, others have them quite enlarged. Bonnet published lengthy remarks (1950, 1953) showing to my satisfaction that the genus *Epeira* cannot be maintained. We now have 16 genera in our region.

p. 228, re: *L. borealis*, Grasshoff (1971) placed this in *Drexelia*. We now have a Connecticut record:
Norwalk 6 June 1937 (W. J. Gertsch).

p. 229, re: *Verrucosa arenata*, Archer (1951) reported that this species, contrary to the usual, stands in its web with the head end up! In Florida I collected a female guarding her egg sac attached to a leaf. The mass of whitish silk was about 7.8 mm by 5.5 mm. There were 81 yellow, partly agglutinated eggs each about 0.67 by 0.81 mm.

p. 230, re: *Mastophora*, the genus was revised by Gertsch (1955).

p. 231, re: *M. cornigera*, which is a southern species; what we actually have in Connecticut is *hutchinsoni*.

***Mastophora hutchinsoni* Gertsch**

M. cornigera: Kaston 1948. *M. hutchinsoni* Gertsch 1955, Bull. Amer. Mus. Nat. Hist. 106:236, pl. 6, f. 3, textfigs. 10-14, 39, 47-48.

p. 233, re: *Eustala anastera*, Archer (1951) supported Chamberlin and Ivie in considering *emertoni* a distinct species.

***Eustala emertoni* (Banks)**

Epeira emertoni Banks 1904, J. New York Entomol. Soc. 12:111. *Eustala anastera*: Kaston 1948 [in part].

Length of female 6 mm; of male 3 mm. This is quite similar to *anastera*, with which it has been confused, but the posterior tip of the abdomen is not raised as much, and the folium does not extend as far forward on the abdomen. The epigynum lacks the anterior notch in the lobed portion of the atrium, and the palpal organ shows slight differences in the median apophysis. It has not been recorded from Connecticut but is known from Rhode Island, and from Long Island, N.Y.

p. 235, re: *Acacesia hamata*, in New Britain during the evening of 4 August 1952, I noticed a female in its web among bushes in a wooded area. The web was close-meshed, about six inches in diameter, and about five feet above the ground level. A male was resting on a leaf just above the web. An additional record can be included:
New Britain 12 August 1961 (J. F. Anderson).

p. 240, re: *Singa*, this and the related *Hypsosinga* were revised by Levi (1972).

The genus *Hypsosinga* Ausserer 1871 differs from *Singa sens. str.* in that the PME are the largest of the eyes, being one and a fifth to twice the size of the AME. As indicated by the name, the clypeus is high, being one and a half to three times the diameter of an

AME, as compared with just its diameter in *Singa*. The male lacks the spur on coxa I, and the epigynum lacks a scape. “*Hypsosinga* differs from all other genera of Araneidae in having a large transparent scale attached to the base of the embolus; the scale breaks off in mating and lodges in the epigynum.”

Re: *S. pratensis*, Levi removed this to *Araneus*. In reexamining my material I found that the epigynum has a scape, as is usual for *Araneus*. However, this is easily broken off after mating and most specimens in collections lack it. It was not seen by Emerton who drew what I too used for an illustration. See below under *Araneus*.

p. 241, re: *S. variabilis*

***Hypsosinga variabilis* (Emerton)**

Hypsosinga variabilis :Levi 1971 Psyche 78:242, f. 44-57.

p. 242, re: *S. truncata* footnote, Levi’s studies show that my supposition is correct, and that this is a synonym of *rubens*.

***Hypsosinga rubens* (Hentz)**

Epeira rubens Hentz 1847, J. Boston Soc. Nat. Hist. 5:477, pl. 31, f. 18. *Hypsosinga rubens* :Levi 1971, Psyche 78:248, f. 72-88.

Add:

***Hypsosinga singaeformis* (Scheffer)**

Fig. 20.

Araneus singaeformis Scheffer 1904, Entomol. News 15:259, pl. 17, f. 4-6. *Singa orotes* Archer 1951, Amer. Mus. Novitates 1487 p. 41, f. 36-37, 61. *Hypsosinga singaeformis* :Levi 1971, Psyche 78:246, f. 58-71.

Length of female 2.9 to 5.0 mm; of male 2.4 to 4.5 mm. The general appearance is similar to that of *rubens*. The epigynum shows a concave margin on each side of the median septum, while in *rubens* the margins are straight and diverge considerably toward the rear, so that the septum is quite triangular. The embolus of the male palpal organ is much shorter than that of *rubens*.

Rowayton 16 June 1909 (C. W. Johnson)[det. H. W. Levi]

p. 242, re: *Zygiella*, the genus was revised by Gertsch (1964a). A third species was added to our region. Some notes on the behavior of these spiders were published by B. J. and M. J. Marples (1971).

Revised key

- 1a. Males2
- 1b. Females4
- 2a. Pedipalp as long as the entire body, the tibia much longer than the cybium *atrica*
- 2b. Pedipalp shorter, and the tibia not longer than the cymbium3
- 3a. Pedipalp as long as the carapace, and tibia much shorter than the cymbium *x-notata*
- 3b. Pedipalp shorter than the carapace, but the tibia is almost as long as the cymbium *nearctica*
- 4a. Epigynum a broad elevated lobe, much wider than the width of the labium *nearctica*
- 4b. Epigynum a small lobe about as wide as the labium5
- 5a. Epigynum not showing a pair of lateral openings *atrica*
- 5b. Epigynum showing a pair of lateral openings *x-notata*

p. 243, re: *Z. litterata*, now to be called *x-notata*.

Zygiella x-notata (Clerck)

Z. x-notata :Gertsch 1964, Amer. Mus. Novitates 2188 p. 12, f. 2, 15-17.

I have observed mature females of this species in August on the north shore of Long Island, with their webs on the outside of houses. Also, in August I have seen their webs amongst rocks of a jetty in eastern Massachusetts. For five snares a count showed 25, 27, 28, 33, and 37 radii respectively. The web with 33 radii was 12 inches in diameter and had 18 spiral threads in the upper and 26 in the lower half. The other snares were 10 inches in diameter with 20 spiral threads in the upper and 27 below; 15 above and 20 below; and 30 both above and below. The web with 37 radii had no clear sector, but was a "complete" orb. Many details on behavior and web structure may be obtained from LeGuelte (1966).

Re: *Z. atrica*, Witt and Reed (1965) indicate that this species lives about eight months, and constructs a new web each day. I have seen the webs in Maine in September, and noted that occasional ones lack the missing sector, i.e., are "complete" orbs.

Add:

Zygiella nearctica Gertsch

Zilla montana Emerton 1884, Trans. Connecticut Acad. Sci. 6:323, pl. 34, f. 14, pl. 37, f. 22-23, 26, 28 [not *montana* Koch]. *Zygiella nearctica* Gertsch 1964, Amer. Mus. Novitates 2188 p. 4, f. 1, 3-6.

Length of female 6 to 7 mm; of male 4.8 mm. With the characters as given in the key to species. Levi (*in litt.*) indicated to me that this is really *dispar* Kulczynski, but Gertsch considers the latter to be a much larger species differing in features of the epigynum and palpal organ. It has not been reported from Connecticut, but is known from Long Island, N.Y., as well as from northern New England.

p. 244, re: *Neoscona*, the genus was revised by Berman and Levi (1971). In addition to our four species *N. oaxacensis* was recorded, once, from Providence, R.I. It is western, and has not established itself in New England.

Revised portion of the key to species (after Berman and Levi):

- 3a. Epigynum with more or less distinct lateral bulges. Abdomen subtriangular above. Total length usually more than 8.5 mm, carapace more than 3.7 mm . . .4
- 3b. Epigynum without lateral bulges. Abdomen above suboval. Total length usually less than 8.2 mm, and carapace less than 2.8 mm *arabesca*
- 4a. Epigynum with one pair of lateral bulges. Abdomen contrastingly marked.
 *domiciliorum*
- 4b. Epigynum with two pairs of lateral bulges. Abdomen without contrasting markings *hentzii*
- 5a. Terminal apophysis of palpal organ with sides more or less parallel, and with a wide notch on the distal end *arabesca*
- 5b. Terminal apophysis of a different shape6
- 6a. Conductor of palpal organ in lateral view S-shaped (Fig. 22) *hentzii*
- 6b. Conductor in lateral view elongated, with tip and base only slightly curved (Fig. 21) *domiciliorum*

p. 245, re:

Neoscona arabesca (Walckenaer)

N. arabesca :Berman and Levi 1971, Bull. Mus. Comp. Zool. 141:474, f. 1-3, 5-6, 8, 10, 14-42.

I have seen mature females active on their webs as late as the first week in November.

Re: *N. minima*, from the studies of Berman and Levi it would appear that what I have been placing here are varieties of *arabesca*.

p. 246, re: *N. benjamina*, this is considered a *nomen dubium* by Berman and Levi, and that actually two species are represented in our Connecticut fauna, and which have been called by this name.

Neoscona domiciliorum (Hentz)

Fig. 21

Epeira domiciliorum Hentz 1847, J. Boston Soc. Nat. Hist. 5:469, pl. 30, f. 7. *Neoscona domiciliorum* :Berman and Levi 1971, Bull. Mus. Comp. Zool. 141:477, f. 43-50, 127.

Length of female 7.2 to 16.2 mm; of male 8 to 9 mm. The scape of the epigynum is relatively short, as in *arabesca*, and there is a pair of lateral bulges near the base. The abdomen is contrastingly marked.

Neoscona hentzii (Keyserling)

Fig. 22

Epeira hentzii Keyserling 1864, Sitz-ber. Isis, Dresden [for 1863] p. 97, pl. 5, f. 10-11. *Neoscona sacra* :Chamberlin and Ivie 1944, Bull. Univ. Utah 35 (9): Biol. Ser. 8 (5):108. *N. hentzii* :Berman and Levi 1971, Bull. Mus. Comp. Zool. 141:478, f. 51-58.

Length of female 8.5 to 19.7 mm; of male 4.5 to 15 mm. A distinct pattern, like that in *domiciliorum* is here much less conspicuous. The scape is very long. Tibia II in the male has fewer spines than is the case in *domiciliorum*. A correspondent, E. G. Fields of Atlanta, Georgia, who had studied the habits of this spider had noted that it makes a fresh web each night, and eats the old one in early morning. The diameter is somewhat less than two feet, there are 27 radii and 63 spiral threads. The spider hides in the daytime, but sits at the hub at night.

p. 247, re: *Aranea*, as previously explained this name has been supplanted by *Araneus* Clerck 1757. Levi has been studying this genus for a number of years and has so far published two large revisionary papers (1971, 1973). His studies have revealed that we now have 24 species in our region, compared with the 16 previously known. (In 1951 Archer described *A. kisatchia*, and listed a paratype from Hempstead, Long Island, which would put it in our region. However, Dr. Gertsch has informed me that this was an error for Hempstead, Texas.) At this writing there are still some well known species which have not been considered yet by Levi so I am unable to prepare a satisfactory key to them all. Readers are referred to Levi's 1971 paper for keys to the larger members (i.e., the *diadematus* group) and to the 1973 paper for the smaller species. As I have already explained I no longer keep separate *Epeira*.

from p. 240, re: *S. pratensis*, now in *Araneus*.

Araneus pratensis (Emerton)

Figs. 23-24

Araneus pratensis :Levi 1973, Bull. Mus. Comp. Zool. 145:492, f. 2, 21-31.

As indicated above, the epigynum in this species *has* a scape, though most specimens in collections have it broken off. The scape is quite broad along its entire length, and is relatively short. New illustrations are here supplied to replace the incorrect Fig. 759 used in 1948.

Araneus bivittatus (Walckenaer)

Fig. 25

Epeira bivittata Walckenaer 1841, Hist. Nat. Ins. Apt. 2:78. *Araneus bivittatus* :Levi 1973, Bull. Mus. Comp. Zool. 145:519, f. 221-230.

Length of female 3.6 to 5 mm; of male 3.5 to 4.3 mm. The abdomen has a median anterior conical projection and, as in *pratensis*, a pair of longitudinal bands. These bands are red or green, and Levi points out that they may change from green to red just before maturity is attained. While not recorded from Connecticut it has been taken in Massachusetts.

p. 249, re: *Araneus diadematus* Clerck

A. diadematus :Levi 1971, Bull. Mus. Comp. Zool. 141:147, f. 34-41, 95, 184-186.

Witt and Reed (1965) found that specimens in the laboratory may live as long as 18 months. Grasshoff (1968) supplied many additional data on sexual behavior, as well as morphological comparisons with related species.

p. 250, re: *A. solitaria*, Wiehle has shown this to be a synonym of *saevus*.

***Araneus saevus* (L. Koch)**

Epeira saeva L. Koch 1872, Zeits. Ferd. f. Tirol u. Vorarlberg (3) 17:323. *Araneus saevus* :Wiehle 1963, Zool. Jahrb. Abt. Syst. 90:276. :Levi 1971, Bull. Mus. Comp. Zool. 141:148, f. 7-8, 42-51, 55-60.

Add: *Araneus bicentenarius* (McCook)

Fig. 26

Epeira bicentaria McCook 1888, Proc. Philadelphia Acad. Nat. Sci. [40]:195, *Aranea bicentaria* :Archer 1951, Amer. Mus. Novitates 1487, p. 27, f. 69. *Araneus bicentenarius* :Levi 1971, Bull. Mus. Comp. Zool. 141:143, f. 15-26.

Length of female 13 to 28 mm; of male 7 mm. The general appearance is similar to that of *saevus*. This species has been found in wooded areas, but is not common. No records exist for Connecticut, but it undoubtedly occurs there, for it has been taken both to the north in Massachusetts and to the south on Long Island, N.Y.

p. 251, re: *A. cavatica*

***Araneus cavaticus* (Keyserling)**

Araneus cavaticus :Levi 1971, Bull. Mus. Comp. Zool. 141:170, f. 187-194.

While this had been known in Connecticut from only the northern tier of towns we now have a record from farther south. A student of mine brought in a female taken in New Britain in October 1958.

Several webs seen by me in late August in New Hampshire were about two feet in diameter, with a light mesh hub. One had 24 radii, 30 spirals above and 43 below; a second had 23 radii, with 28 spirals above and 45 below; a third had 21 radii with 24 spirals above and 38 below. It was noted that early in the morning some females were already in retreat, but some were still at the hub. In northern Vermont I observed a female guarding two egg masses as late in the year as 7 October.

p. 252, re: *A. corticaria*

***Araneus corticarius* (Emerton)**

A. corticarius :Levi 1971, Bull. Mus. Comp. Zool. 141:158, f. 114-122.

Levi has observed that the epigynal scape "usually breaks off during mating."

Re: *Araneus miniatus* (Walckenaer)

Araneus miniatus :Levi 1973, Bull. Mus. Comp. Zool. 145:506, f. 158-171.

Archer (1951b) had considered that *miniata* was a southern species, and that what I had called by this name was a different one, which he called *atlantis*. But according to Levi *miniatus* is known from the north, and *atlantis* is a synonym of *partitus*. The female "differs from that of *partitus* by having a wrinkled scape" and from *alboventris* in lacking

Keyserling's species was called *albiventer*. According to the present ICZN the two names are not synonyms. This species is similar to both *partitus* and *miniatus*, but can be differentiated as indicated under the latter.

p. 254, re: *Epeira foliata*, now to be known under the name *Araneus cornutus* Clerck, some observations on overwintering were published by Kirchner (1965).

p. 255, re: *Epeira dumetorum*, now to be known under the name *Araneus patagiatus* Clerck. Bonnet (1955) prefers to consider *ocellatus* as the name to use, apparently because Clerck described this latter on p. 36 of his work, two pages in advance of that for *patagiatus*. But the latter name has been used by araneologists generally far more often than *ocellatus*.

p. 256, re: *Epeira undata*, now to be known under the name *Araneus sericatus* Clerck. Witt and Reed (1965) reported that in this species a new web is constructed every *other* day. Females guarding egg sacs were taken in Torrington as late as 5 November 1950. One egg mass 5.9 mm in diameter contained 101 eggs, each 1.13 mm in diameter. A second sac 15 mm in diameter had an egg mass 8 mm in diameter and 6 mm thick, and contained 125 eggs. A third the same size had 120 eggs. A fourth had 75 already hatched spiderlings.

Additional records (besides Torrington): New Britain 28 August 1948; 4 April 1950; 25 September 1950; 3 August 1953; 22 May 1957; and 18 September 1958.

p.257, re: *Epeira raji*, now to be known under the name *Araneus marmoreus* Clerck. An egg sac collected at Southington 8 October 1948 was enclosed between two leaves fastened together. It was an oval mass 25 mm long by 20 mm thick and contained 1663 eggs. Additional biological data and comparisons with related species have been supplied by Grasshoff (1968).

p. 258, re: *Epeira trifolium*, now to be known under the name *Araneus trifolium* (Hentz). One female was observed in my back yard in New Britain through August and September 1951. It was seen to gradually change color from a pale green through tan, to russet brownish red, with the pattern becoming more distinct toward the end of that period. An egg sac taken in October measured 18 mm in diameter with the egg mass itself 10 mm in diameter. There were 950 eggs, each 0.82 mm in diameter. Another sac in October was 22 mm long by 19 mm in diameter, of yellow silk. The egg mass itself was 13 mm in diameter and 16 mm long and contained 2652 yellow semi-agglutinate eggs. I believe this to be the largest number of eggs ever reported from a spider's egg sac!

Add: **Araneus iviei (Archer)**

Aranea iviei Archer 1951, Amer. Mus. Novitates 1487 p. 33, f. 53. *Aranea sachimau* Archer 1951, Amer. Mus. Novitates 1487 p. 33, f. 55. *Araneus iviei* :Levi 1971, Bull. Mus. Comp. Zool. 141:162, f. 138-151.

Length of female 10 to 12 mm; of male 6.7 mm. The general appearance is like that of *trifolium* but the legs are not annulate. "This species has been collected from a cedar swamp; sweeping old fields in open forest vegetation." It has not been recorded from Connecticut, but is known from Massachusetts.

Re: *Epeira displicata*, now to be known under the name *Araneus displicatus*. Additional life history notes have been supplied by Dondale (1961a).

Add: **Araneus gadus Levi**

Conepeira marilandica Archer 1951, Amer. Mus. Novitates 1502 [in part, f. 11, 72, female; not male]. *Araneus gadus* Levi 1973, Bull. Mus. Comp. Zool. 145:520, f. 231-247.

Length of female 4.2 to 5 mm; of male 4.2 mm. The abdomen shows four pairs of black spots on the posterior half, each spot surrounded by a light ring. The general ground color is yellow to pale green. It has not been recorded from Connecticut, but is known from Massachusetts.

Add: ***Araneus cingulatus* (Walckenaer)**

Epeira cingulata Walckenaer 1841, Hist. Nat. Ins. Apt. 2:40. *Conepeira marilandica* Archer 1951, Amer. Mus. Novitates 1502 [in part, f. 40, 50 male; not female]. *Araneus cingulatus*: Levi 1973, Bull. Mus. Comp. Zool. 145:526, f. 301-313, 455-462.

Length of female 4.6 to 6.0 mm; of male 2.7 to 3.5 mm. The general color is green with several pairs of red spots. It has not been recorded from Connecticut, but is known from Massachusetts.

p. 259, re: *Epeira thaddeus*, now to be known under the name of *Araneus thaddeus*.
Re: *Epeira pegnina*, now to be known under the name *Araneus pegnina*.

p. 261, re: *Epeira juniperi*, now to be known under the name *Araneus juniperi*.

***Araneus juniperi* (Emerton)**

Epeira juniperi: Kaston 1948 in part [f. 830 female; not f. 811 male]. *Araneus juniperi*: Levi 1973, Bull. Mus. Comp. Zool. 145:522, f. 248-264, 447-452.

Archer (1951b) described as new: *bivittata*, *mumai*, *llano*, and *sarasota*, all of which, in whole or in part, Levi considers as invalid and as synonyms of *juniperi*. Additional record: New Canaan September 1951 (M. Statham).

Add: ***Araneus guttulatus* (Walckenaer)**

Epeira guttulata Walckenaer 1841, Hist. Nat. Ins. Apt. 2:78. *E. sanguinalis* Hentz 1847, J. Boston Soc. Nat. Hist. 5:476, pl. 31, f. 15. *E. juniperi* Emerton 1909, Trans. Connecticut Acad. Sci. 14:200, f. 1 [not *juniperi* of Emerton 1884]. Kaston, 1948 [in part, f. 811 male]. *Araneus guttulatus*: Levi 1973, Bull. Mus. Comp. Zool. 145:530, f. 332-361.

Length of female 3.8 to 6 mm; of male 3.9 to 4.8 mm. The pattern is variable as given by Levi. It has not been recorded from Connecticut, but is known from Massachusetts.

Add: ***Araneus nashoba* Levi**

Conepeira juniperi: Archer 1951, Amer. Mus. Novitates 1502 p. 25, f. 54, 78 [not *juniperi* Emerton]. *Araneus nashoba* Levi, 1973 Bull. Mus. Comp. Zool. 145:534, f. 380-397.

Length of female 3.6 mm; of male 3.0 mm. Levi indicates the differences in the genitalia which enable this species to be distinguished from *juniperi*.

While no records exist for Connecticut the species undoubtedly occurs there, for it has been taken both in Massachusetts and from Long Island, N.Y.

Re: Family Theridiosomatidae, the name should be credited to Simon.

p. 262, re: *Theridiosoma*, studies on this genus were published by Archer (1953). It is now considered that our species is different from the European *gemmosum*.

***Theridiosoma radiosa* (McCook)**

Epeira radiosa McCook 1881, Proc. Philadelphia Acad. Nat. Sci. [43]:163.

p. 263, re: the subfamilies of the family Tetragnathidae, Petrunkevitch (1952, 1958) had elevated the Glenognathinae to family rank. This was based upon internal anatomy and the forward position of the spiracle. But Homann has shown that the eye structure of *Mimognatha* places it with *Pachygnatha*, and Roewer placed both of these genera in his subfamily Pachygnathinae. Roewer also considered as separate subfamilies the

Tetragnathinae and Leucauginae, but as I have already indicated I think *Leucauge* best fits with *Meta* in the Araneidae.

p. 267, re: *Pachygnatha autumnalis*, additional records:

New Britain 23 September 1951; Hartford 13 and 25 August 1961 (J. F. Anderson); Wethersfield 2 April 1960 (J. F. Anderson).

Re: *P. brevis*, Dr. Gertsch advised me (*in litt.*) that this is a synonym of *xanthostoma*.

Pachygnatha xanthostoma C. L. Koch

Pachygnatha xanthostoma Koch, 1845 Die Arachniden 12:148.

p. 268, re: *Tetragnatha*, we now have 10 species in our region. Wiehle (1963) considered this a composite of three genera. The spider that keys out at 6a because of the distinct caudal extension, *caudata*, he placed in *Eucta* Simon 1881. The others which key out at 1a, because the lateral eyes are farther apart than the medians, he placed in *Arundagnatha*, a new name for *Eugnatha*, which was preoccupied.

p. 269, re: the key to species. Two species will key out at 4a. These are *harrodi* and *guatamalensis* (formerly called *seneca*). Females having five teeth on each margin of the cheliceral fang furrow, and males having the paracymbium rounded distally are *harrodi*. If the female has more than five teeth on each margin and the male has the paracymbium terminating in a long slender extension it is *guatamalensis*.

p. 270, re: *T. elongata*. A female in the laboratory constructed an egg sac the night of 5-6 September 1948. The sac was an irregular mass, 10 mm long, 5 mm wide, and 3 mm thick. There was a dense white silk obscuring the eggs themselves, and over this was a flat sheet of greenish webbing, on which the spider rested.

p. 271, re: *T. straminea*, this would fit into Wiehle's *Arundagnatha*.

Re: *T. seneca*, according to Chickering (1959) this is a synonym of *guatamalensis*, and it has been confused with *harrodi*.

Tetragnatha guatamalensis O. P.-Cambridge

Fig. 27

T. guatamalensis O. P.-Cambridge 1889, Biol. Centrali Americana, Arachn. Ar. 1:8, pl. 2, f. 6-7. *T. banksi* McCook 1894, Amer. Spiders, 3:262, pl. 25, f. 6, pl. 28, f. 4. *T. seneca*:Kaston 1948 [in part].

This species and the following are about the same size and general appearance. The differences are indicated in the discussion of the key. Both species occur in Connecticut.

Add: *Tetragnatha harrodi* Levi

Fig. 28

T. harrodi Levi 1951 Amer. Mus. Novitates 1501 p. 17, f. 32-37. :Chickering 1959, Bull. Mus. Comp. Zool. 119:484, f. 22-25. *T. seneca*:Kaston 1948 [in part].

See remarks under the preceding species. The record for *seneca* from Storrs actually belongs here.

p. 272, re: *T. pallescens* and *T. vermiformis*, both would go into Wiehle's *Arundagnatha*.

p. 273, re: *T. caudata*, as already indicated this would go into *Eucta*.

Re: Family Mimetidae, according to Homann (1971) the tapetum is of the "canoe" type. From the observations of Cutler (1972) it would appear that on occasion, at least, some members of the family do eat insects, contrary to our previous supposition.

p. 274, re: *E. furcata*, it is now considered that our species is different from the European.

Ero leonina (Hentz)

Theridion leoninum Hentz 1850, J. Boston Soc. Nat. Hist. 6:227, pl. 9, f. 12.

p. 275, re: the genus *Mimetus*, I do not believe that the egg sac of any member of this genus has been described. A female of the western *M. hesperus* Chamberlin was found with one (in southern California). The sac resembled that known for *Ero*, hanging on a thread 20 mm long. The sac itself was of loose threads, bright orange, 7 mm long by 5 mm in diameter. About 40 spiderlings were emerging.

p. 277, re: *M. puritanus*, additional records:
New Britain 17 August 1961 (J. F. Anderson), Newington 23 July 1961 (J. F. Anderson).

p. 278, re: the family Agelenidae, a discussion of the family characters, and a key to all the Nearctic genera, were provided by Roth and Brame (1972). According to Homann (1971) the tapetum in the indirect eyes is of the "canoe" type. Gering (1953) published an extensive discussion of genitalia studies. I now recognize eight genera in our region, although Lehtinen (1967) moved *Cicurina* and *Cybeota* to the Dictynidae, and *Cryphoeca* to the Hahniidae.

Re: the footnote, for a thorough discussion of the *Agelena-Agalena* problem see Bonnet (1953a), who shows conclusively that the former orthography must be used.

p. 279, re: the key to genera, the following is a revision:

- 1a. Anterior spinnerets contiguous, longer than the posterior, which consist of a stout basal segment, terminated by a short, indistinct, hemispherical segment. (Body length less than 2.5 mm) *Cybaeota*
- 1b. Anterior spinnerets separated, shorter than the posterior, which consist of a stout basal segment and a distinct elongated segment. (Body length more than 2.5 mm) 2
- 2a. Hind spinnerets with apical segment much shorter than the basal. Labium as wide as, or wider than, long. Posterior coxae well separated 3
- 2b. Hind spinnerets with apical segment at least as long as the basal. Labium longer than wide. Posterior coxae contiguous 4
- 3a. Height of clypeus less than the diameter of an ALE (Fig. 29). ALE much larger than the AME, the diameter at least twice that of an AME. Retromargin of cheliceral fang furrow with three teeth *Cryphoeca*
- 3b. Height of clypeus about equal to the diameter of an ALE. Diameter of an ALE less than twice that of an AME. Retromargin with a series of minute denticles. *Cicurina*
- 4a. Both eye rows very strongly procurved so that the PLE and the AME form a nearly straight line *Agelenopsis*
- 4b. Eye rows not thus strongly curved 5
- 5a. Retromargin of cheliceral fang furrow with two teeth. Cymbium of male with two horns or processes extending proximad toward the tibia. Epigynum with scape free at its posterior end *Wadotes*

- 5b. Retromargin of cheliceral fang furrow with more than two teeth. Cymbium lacking the two horns or processes at the proximal end. Epigynum lacking the free scape6
- 6a. AME as large as or larger than the ALE. Male palp with an apophysis on the patella as well as on the tibia. Epigynum with a caudally projecting tooth at the anterolateral corners7
- 6b. AME as large as or smaller than the ALE. Male palp with an apophysis on the tibia only. Epigynum without a tooth at the anterolateral corners . . . *Tegenaria*
- 7a. Females with the epigynum having a single anterior septum, and having the anterolateral teeth robust and abruptly pointed at the apex. Male palp showing a concavity on the ectolaterodorsal surface of the tibia, and with the tibia elongated basally into a tubercle. The conductor of the embolus is spatulate, or subspatulate at the tip*Coras*
- 7b. Females with the epigynum showing two median septa, which may arise from either the anterior, or the posterior, margin, or lie between the margins. The anterolateral teeth are slender and taper gradually toward the apex. Male palp shows a tubercle near the distal end of the tibia on the ectolaterodorsal surface. The conductor of the embolus is not spatulate or subspatulate*Coelotes*

Re: *Tegenaria*, a revision of the genus was published by Roth (1968).

Re: *T. derhami*, this is now to be called by Clerck's name, *domesticus*. For a discussion of the numerous and varied names that have been applied to this species by different authors see Bonnet (1954).

Re: the footnote, for *Cryphoea* Thorell 1870.

***Cryphoea montana* Emerton**

Figs. 29-30

C. montana Emerton 1909, Trans. Connecticut Acad. Sci. 14:222, pl. 8, f. 4. :Comstock 1912, Spider Book p. 597, f. 680-681.

Length of female 3.2 to 3.5 mm; of male 2.5 to 3 mm. The carapace is yellow with dusky blotches and a gray marginal stripe. The legs are yellow, and the abdomen gray and yellow with a pattern of chevrons.

Re: the footnote, for *Cybaeota* Chamberlin and Ivie 1933.

***Cybaeota calcaratum* (Emerton)**

Figs. 31-32

Liocranum calcaratum Emerton 1911, Trans. Connecticut Acad. Sci. 16:402, pl. 5, f. 4. *Cybaeota calcaratum* :Chamberlin and Ivie 1933, Bull. Univ. Utah 24 (5): Biol. Ser. 2(3):3, f. 1-10.

Length of female 2 to 2.5 mm; of male about the same. The general appearance is like that of *Cryphoea montana*, but it can be separated from that by the characters given in the key. Also, it has five pairs of long spines under tibia I, and three pairs under metatarsus I.

p. 280, re: the genus *Coras*, as here restricted we have in our region three species separable by genitalia characters. Muma (1946) published a revision.

Re: footnote

***Coras parallelis* Muma**

Fig. 33

Coras parallelis Muma 1944, Amer. Mus. Novitates 1257 p. 4, f. 6. Muma 1946, Amer. Mus. Novitates 1329 p. 5, f. 4-5.

Length of female 9.57 to 11.13 mm. The male is unknown.

Coras aerialis Muma

Fig. 34

C. aerialis Muma 1946, Amer. Mus. Novitates 1329 p. 7, f. 8, 31-32.

Length of female 9.49 to 13.39 mm; of male 11.69 mm. This species has not been recorded from Connecticut, but is known from Massachusetts.

p. 281, re: *C. medicinalis*, Muma's more abundant material indicates that the length of females varies from 9.45 to 13.33 mm; and that of males 9 to 12.68 mm.

Re: *juvenilis* and *montanus*, according to Muma (personal communication) these belong in *Coelotes* Blackwall 1841.

Coelotes juvenilis Keyserling

Coras juvenilis :Muma 1946, Amer. Mus. Novitates 1329 p. 13, f. 13-15, 51-52.

Muma's specimens ranged more widely in size than did mine; down to 6.66 mm for females and from 6.09 to 9.23 for males.

Coelotes montanus Emerton

Coras montanus :Muma 1946, Amer. Mus. Novitates 1329 p. 10, f. 16-17, 43-46.

Length of female 9.7 to 13.13 mm; of male 8.23 to 9.73 mm.

p. 283, re: *Cicurina*, there are now four species known from our region.

p. 284, add: **Cicurina placida** Banks

C. placida Banks 1892, Proc. Philadelphia Acad. Sci. [49]:27, f. 77.

Length of female 3.9 to 5 mm; of male 3.7 mm. The general appearance is much like that of *brevis*. In the female the anterior lip of the atrium in the epigynum is evenly rounded, and not provided with a backwardly projecting point at the middle of its length, which is present in *brevis*. In the male the tibial apophysis is intermediate in length between that of *brevis* and that of *robusta*, extending about two-thirds the length of the cymbium.

This species has not been recorded from Connecticut, but is known from Long Island.

p. 288, re: *A. pennsylvanica*, a pair was taken *in copula* at Hartford 28 August 1961 (J. F. Anderson).

p. 291, re: *A. potteri*, we now have a Connecticut record: Hartford 20 August 1950 (C. Behrsing).

p. 293, re: Key to species of *Neoantistea*, delete from both 1a and 1b the reference to the number of teeth on the cheliceral fang furrow.

p. 294, re: *N. agilis*, a pair was collected *in copula* at Wethersfield 30 April 1961 (J. F. Anderson). In the list of collecting records that for Macedonia 1 August 1936 belongs to *N. radula*.

Re: *N. radula*, add the Macedonia record from under *N. agilis*.

Re: the family Pisauridae, Homann (1971) suggests that the Pisauridae should be combined with the Lycosidae into one family (in which he would also include the Ctenidae). It has been shown that spiderlings of at least *Pisaura* construct webs, as do some lycosids even as adults. Details for *Pisaura mirabilis* are supplied by Lenler-Eriksen (1969). I myself (1972b) have indicated that something similar occurs in the related family Oxyopidae.

p. 295, re: key to genera, I have found some specimens of *Pisaurina* to have three teeth on one cheliceral retromargin but four on the other. Here is a different key:

- 1a. Height of clypeus equal to the length of the MOA. Lorum of pedicel with the anterior sclerite notched behind to receive a projection of the posterior sclerite. *Dolomedes*
- 1b. Height of clypeus less than the length of the MOA. Lorum of pedicel with a transverse or slightly procurved suture between the two sclerites *Pisaurina*

Re: *Pisaurina*, a revision of the genus was published by Carico (1972).

p. 296, re: *P. mira*, a female with an egg sac was collected in late June, and the spiderlings emerged on 4 July. Another sac was made on 18 July and the second brood emerged on 2 August.

p. 297, re: *Dolomedes*, a revision was published by Carico (1973). Lehtinen (1967) made this genus the type of his new family Dolomedidae.

p. 300, re: *D. t. sexpunctatus*, according to Chamberlin and Ivie this name belongs to a southern species; that in the north is *scapularis*.

Dolomedes scapularis C. L. Koch

D. scapularis Koch 1848, Die Arachniden, 14:119. *D. scopularis* [sic!] :Chamberlin and Ivie 1946, Bull. Univ. Utah 36 (13):Biol. Ser. 9(5):4, f. 3.

p. 301, re: *D. striatus*, additional record:
Hartford 10 October 1960 (J. F. Anderson).

Re: *D. vittatus*, additional record:
New Britain 16 October 1952; Hamden 19 June 1962 (J. F. Anderson).

p. 302, re: *D. urinator*, considered by Carico a synonym of *vittatus*, additional records:
Hamden 16 August 1962 (J. F. Anderson); New Britain 1 June 1953.

Re: Lycosidae, according to Homann (1971) the tapetum in the indirect eyes is of the "grate" type.

p. 303, re: family Lycosidae relationships, an important paper discussing all the genera in the family, and in which Roewer's numerous new genera are commented upon, was published by Guy (1966).

For a discussion concerning the use of the names *Lycosa*, *Tarentula*, and *Pardosa*, see Bonnet (1951).

Comparative data on the biology and ecology of many species of wolf spiders are supplied by Whitcomb (1967). It has been shown by Rovner et al. (1973) that as an adaptation for carrying the spiderlings the integument of the mother is provided with a special kind of knobbed hairs. These hairs show prominent longitudinal rows of curved spinules along their length. The hairs are not present on males or immature females, only on mature females, and apparently are absent from members of the Pisauridae.

p. 304, re: the key to genera, a revision is given, somewhat modified from that published by Leech (1969), to include the part after *Trabea* and *Pirata* are taken out.

- 3a. Retromargin of cheliceral fang furrow with two teeth *Tarentula*
- 3b. Retromargin with three teeth 4

- 4a. No true spines above on tibia IV *Geolycosa*
 4b. At least one, usually two or three, spines above on tibia IV 5
 5a. Tibia IV above with the basal spine (or bristle) usually thinner and more drawn out than the distal 6
 5b. Tibia IV with the two dorsal spines about equally stout 7
 6a. Carapace glabrous or very nearly so *Arctosa*
 6b. Carapace hirsute *Trochosa*
 7a. Labium wider than long, with the basal articular notches about one fourth its length. Metatarsus IV usually longer than, or at least not shorter than, tibia plus patella IV. Sides of face vertical or almost so *Pardosa*
 7b. Labium longer than wide, or as long as wide, with the basal articular notches about one third its length. Metatarsus IV shorter than, or at least not longer than, tibia plus patella IV. Sides of face usually slanting so that the pars cephalica is narrower above than below 8

Couplet 8 is the same as old couplet 9.

p. 305, re: *T. aurantiaca*, Roewer (1955) put this into his new genus *Pardosops*.

p. 307, re: *P. minutus*, Roewer (1955) put this into *Piratessa*, but later, finding this name preoccupied, changed it to *Piratosia*. Guy (1966) considered this latter a subgenus in *Arctosa*. A female with an egg sac was taken as late as 22 September.

p. 308, re: *P. montanus*, Roewer (1955) put this into *Hogna*.

p. 309, re: *P. marxi*, Roewer (1955) put this into *Piratessa*, then *Piratosia*.

Re: *P. piratica*, Roewer (1955) followed Dahl in considering this species different from the European [which may now be called *piratica* (Clerck)] and uses Dahl's name, *emertoni*, for our American species.

p. 310, re: *P. insularis*, Roewer (1955) puts this into *Allocosa*. H. K. Wallace has found that some males (in Michigan) show brushes of hairs on leg I.

p. 311, re: *P. arenicola*, Roewer (1942) first put this into *Piratula*, then (1955) moved it to *Allocosa*.

Re: *P. maculatus*, Roewer (1955) put this into *Allocosa*.

p. 312, re: *Tarentula*, Bonnet and Roewer both prefer to use *Alopecosa* Simon to avoid possible confusion with *Tarantula*.

p. 313, re: *Schizocosa*, with the transfer of *Lycosa avida* to this genus we now have five species in our region. Gertsch and Wallace (1937) had placed *avida* here only "tentatively, but besides the differences in morphology Rovner (1973) has shown that there are behavior patterns that distinguish the members of this genus from *Lycosa*."

p. 314, re: *S. bilineata*, Roewer (1955) put this into *Lycosa*.

Re: *S. crassipes*, Roewer (1955) put this into *Hogna*.

p. 315, re: *S. crassipalpis*, Roewer (1955) considered that this name is preoccupied (sub *Lycosa crassipalpis* Purcell 1903) and so supplied the new name, *crassipalpata*.

Re: *S. saltatrix*, Whitcomb (1967) has published life history data.

Add: (from p. 326) *S. avida*.

p. 317, re: *G. pikei*, I have observed that the mouths of the burrows are not closed in winter. However, specimens kept in the laboratory closed their burrows when getting ready to molt, then opened them to discard the exuviae, and left them open.

p. 319, re: *Arctosa rubicunda*, Roewer (1955) put this into *Crocodilosa* Caporiacco 1947, which Guy (1966) considered a subgenus of *Ocyale*.

Re: *A. emertoni*, Roewer (1955) put this into *Crocodilosa*, then in 1961 moved it to his own genus *Trochosoma*. A female with an egg sac was collected at Bakersville 10 June 1961 (J. F. Anderson). The sac measured 8.4 mm in diameter and 6.9 mm thick. It contained 118 yellow, non-agglutinate eggs, each about 1.15 to 1.27 mm in diameter.

p. 320, re: *A. littoralis*, Roewer (1955) considered this species the same as the European *cinerea*. I have already (1972a) indicated that in all probability it was an aberrant specimen of this species which was at hand when Rafinesque in 1821 described what he called *Tessarops maritima*.

p. 322, re: *L. carolinensis*, Roewer (1955) put this into *Hogna*. On 7 August 1954 I collected a female with a brood of 125 spiderlings on her back. This would seem to indicate that females make more than one egg sac per year. Eason's studies (1964) indicate that the young are carried by the mother for from 7 to 14 days. Additional details on the biology are supplied by Whitcomb (1967).

p. 323, re: *L. aspersa*, Roewer (1955) put this into *Hygrolycosa*. Whitcomb (1967) has published details on the biology.

p. 324, re: *L. baltimoreana*, Roewer (1955) put this into *Geolycosa*.

Re: *L. rabida*, Roewer (1955) put this into his new genus *Rabidosa*. Eason (1964) reported one egg sac containing 1035 eggs. This is a rather high figure for a wolf spider. The spiderlings may remain on the mother's back for as long as 50 days. Whitcomb (1967) supplied data on sperm induction and mating. Rovner (1966, 1967b) made this species the object of a very intensive study on sexual behavior.

p. 325, re: *L. punctulata*, Roewer (1955) put this into his new genus *Isohogna*. Life history studies were published by Eason (1964), Eason and Whitcomb (1965), and Whitcomb (1967).

p. 326, re: *L. avida*, as already indicated (see above) this has been transferred to *Schizocosa*. Life history studies were published by Eason (1964), Whitcomb and Eason (1964), and Whitcomb (1967). The copulatory behavior was studied by Rovner (1973).

p. 327, re: *L. helluo*, Roewer (1955) put this into *Hogna*. Life history notes were published by Eason (1964). Nappi (1964) published details on courtship and mating. A female was seen carrying an egg sac on 20 August, and one female was taken as late as 12 November still with spiderlings on her back.

Re: *L. modesta*, Roewer (1955) put this into *Allocosa*.

p. 328, re: *L. gulosa*, Roewer (1955) put this into *Varacosa*. Life history data were given by Whitcomb (1967).

Re: *L. frondicola*, Roewer (1955) put this into *Allocosa*.

p. 329, re: *L. avara*, Roewer (1955) put this into *Varacosa*.

p. 330, re: *T. pratensis*, Roewer (1955) put this into his new genus *Allohogna*. It seems

now to be generally accepted that *pratensis* is a synonym of the European *terricola*, which Roewer put into *Trochosina*.

Trochosa terricola Thorell

T. terricola Thorell 1856, Nova Acta Reg. Soc. Sci. Upsaliensis (3) 2:171.

Hackman (1954) supplied many additional biological data, as well as a detailed discussion concerning the variation in the number of retromarginal cheliceral teeth.

A female carrying an egg sac was collected on 4 June. The sac was 7.3 mm in diameter and 6 mm thick. It contained 105 yellow non-agglutinate eggs, each about 1.0 by 1.25 mm. Another carrying a sac was taken on 11 May. From its blueish color it was apparently freshly made. Two days later in the laboratory she ate the eggs (presumably because they were infertile?).

p. 331, re: *Pardosa*, notes on the preferred habitats of members of this genus (including some of our species) were published by Lowrie (1973).

p. 334, re: *Pardosa milvina*, Roewer considered this and *nigropalpis* to be two different species. Eason (1964) reported spiderlings remaining with the mother for only 4 to 6 days. Whitcomb (1967) published additional life history data.

p. 335, re: *P. saxatilis*, a female with eggs was collected as late in the year as 9 November.

p. 336, re: *P. floridana*, Wallace has shown that this is a synonym of *longispinata*.

Pardosa longispinata Tullgren

P. longispinata Tullgren 1901, Bih. Svensk Vet.-akad. Handl. 27:23, f. 13.

p. 337, re: *P. lapidicina*, further details on the morphology of this and related species were published by Barnes (1959). He found females ranging down to 6.37 mm in length, and males up to 9.3 mm. Notes on the life history and habits were published by Whitcomb (1967) and by Eason (1969).

Re: *P. xerampelina*, the courtship behavior was described by Dumais et al. (1973).

p. 338, re: family Oxyopidae, a revision was published by Brady (1964). It has been shown by Brady, and also by Whitcomb and Eason (1965) that the mating position is not strictly that of Gerhardt's II, for the partners are supported from above by silken threads from which they hang. According to Homann (1971) the tapetum in the indirect eyes is "grate"-shaped.

p. 339, re: *O. salticus*, Whitcomb (1967) described the courtship, mating, and egg sac construction. In the laboratory females constructed up to five egg sacs, with a mean of 47 eggs in the first, and down to a single egg in the fifth sac. The eggs measured 0.74 by 0.66 mm.

p. 341, re: superfamily Gnaphosoidea, with the addition of the Prodidomidae there are now two families in our region.

Add: Family PRODIDOMIDAE Simon

The spiders have eight eyes arranged in three rows, 4-2-2, with the tapetum of the indirect eyes of the "canoe" type. The chelicerae lack boss and scopula, and have their margins unarmed. The palp of the female lacks a claw. The leg tarsi have two claws, which are similar and without teeth, and there are claw tufts. The trichobothria are in two rows

on tibiae and tarsi, and in one row on the metatarsi. The abdomen is oval, the anterior spinnerets are far apart, and a colulus is lacking. The tracheal system extends into the cephalothorax.

This is a small family of rare spiders, only one species inhabiting our region. A revision was published by Cooke (1964).

Genus Prodidomus Hentz 1847

Prodidomus rufus Hentz

Fig. 35

P. rufus Hentz 1847, J. Boston Soc. Nat. Hist. 5:466, pl. 30, f. 4. :Bryant 1935, Psyche 42:3, f. 1. :Bryant 1949, Psyche 56:22, f. 1. :Cooke 1964, Proc. Zool. Soc. London 142:266, f. 15, 29-30.

Length of female 5 mm; of male 3 mm. The chelicerae are widely divergent. The carapace is yellowish, and the abdominal dorsum is pinkish and unmarked. It has not been collected in Connecticut, but is known from Long Island, N.Y.

Re: family Gnaphosidae, according to Homann (1971) the tapetum of the indirect eyes is of the “canoe” type.

p. 343, re: *C. imbecilla*, Roewer (1955) puts this into *Pterotricha*. Dr. Platnick has informed me (*in litt.*) that what we have in our region is not *imbecilla*, but *pluto*.

Callilepis pluto Banks

Callilepis pluto Banks 1893, Trans. Amer. Entomol. Soc., 23:60. *C. imbecilla* :Kaston 1948 [not *imbecilla* Keyserling].

A female in the act of ovipositing was taken on 25 June.

p. 344, re: *Gnaphosa muscorum*, a male was collected as early in the season as 22 June, and a female guarding eggs was collected on 13 June.

p. 345, re: *G. fontinalis*, mature specimens of both sexes were taken as early as April.

p. 346, re: *G. parvula*, a female guarding her eggs was found under a piece of loose bark on the ground. The sac was lenticular, 10 mm in diameter and 6 mm thick, and contained 67 already hatched spiderlings. Additional records: New Britain May 1951 (L. Rosene), and 13 June 1961.

p. 347, re: key to genera of Drassodinae, the following is based to a large extent on the one set up by Roth and Brown (1973). They have used as one character the presence or absence of a ventral metatarsal comb on the hind legs. This comb is composed of about 12 or 15 straight fine bristles whose length is slightly greater than the thickness of the metatarsus at this level. Undoubtedly, as Berland (1932:260) has indicated, the comb is used for preening.

- 1a. Distal end of metatarsus III and IV provided with a ventral comb (Fig. 37)2
- 1b. No such comb present3
- 2a. PME hardly, if at all, larger than the PLE, and circular in most (rarely oval). PRE straight (rarely procurved) and the eyes equidistant*Zelotes*
- 2b. PME larger than the PLE, oval in most, the PRE slightly procurved and the PME closer to each other than to the PLE*Drassyllus*
- 3a. All trochanters deeply notched (Fig. 38)*Drassodes*
- 3b. Trochanters not, or only slightly, notched4

- 4a. Females with an epigynum bearing a scape5
 4b. Males; and females with an epigynum devoid of a free scape6
- 5a. Retromargin of cheliceral fang furrow with one tooth. PME larger than PLE and almost contiguous*Sostogeus*
 5b. Retromargin with 2 or 3 teeth. Eyes of posterior row subequidistant and the PME smaller than the PLE*Sosticus*
- 6a. Retromargin of cheliceral fang furrow with 2 or 3 teeth7
 6b. Retromargin with one tooth or none8
- 7a. Tibia IV without any median dorsal spine*Haplodrassus*
 7b. Tibia IV with two median dorsal spines*Sosticus*
- 8a. Abdominal dorsum with pale transverse markings*Poecilochroa*
 8b. Abdominal dorsum lacking pale transverse markings, though it may be spotted or have longitudinal stripes9
- 9a. Two black longitudinal bands running the entire length of body, alternating with three white bands*Cesonia*
 9b. Body not so marked10
- 10a. Trochanters not notched*Sostogeus*
 10b. Trochanters slightly notched (Fig. 39)11
- 11a. Tibia IV without a dorsal spine. PME contiguous or almost so, oval in most, and larger than PLE. Retromargin of cheliceral fang furrow devoid of teeth
*Litopyllus*
 11b. Tibia IV with one dorsal spine. PME circular, separated by the diameter of one and about the same size as PLE. Retromargin with one tooth*Herpyllus*

For the most part I have followed the synonymies indicated in the list by Ubick and Roth (1973).

p. 349, re: *H. vasifer*, this should be called *ecclesiastica*.

***Herpyllus ecclesiastica* Hentz**

H. ecclesiastica Hentz 1832, Amer. J. Sci. 21:102.

p. 350, re: *Drassodes*, with the synonymizing of *Geodrassus* we now have five species in the genus.

p. 353, re: *G. gosiutus* and *G. phanus*, these are now to be known as *Drassodes gosiutus* Chamberlin and *D. phanus* (Chamberlin) respectively.

p. 354, re: *Zelotes*, we now have seven species in our region.

p. 357, re: *Z. hentzi*, a female with egg sac was collected on 5 May. The sac was hemispherical, about 20 mm in diameter, and attached along its flat surface to a piece of loose bark. It contained 37 spiderlings ready to emerge.

p. 360, re: *Drassyllus creolus*, additional record:
 Rocky Hill April 1949 (L. Gonthier).

Re: *D. femoralis*, this is a synonym of *rusticus*.

Drassyllus rusticus (L. Koch)

Zelotes rusticus L. Koch Zeits. Ferd. f. Tirol u. Vorarlberg (3) 17:309. *Prothesima blanda* Banks 1892 Proc. Philadelphia Acad. Nat. Sci. [44]:18, f. 57-57a. *Z femoralis* Banks 1904 Proc. California Acad. Sci. (3) 3:336, pl. 38, f. 1.

Additional record: New Britain 23 March 1949 (a male inside a building).

p. 361, re: *Sergiolus*, is here considered a synonym of *Poecilochroa* Westring 1874.

p. 362, re: *S. variegatus*, additional record:
New Britain 26 July 1953.

p. 364, add: after the material about *S. insularis*:

Genus **Sostogeus** Chamberlin and Gertsch 1940

With the characters as given in the key to genera. One species, also known from Europe, occurs in our region.

Sostogeus loricatus (L. Koch)

Figs. 36, 40-41

Drassus loricatus Koch 1866, Die Arachniden Fam. Drassiden p. 131, pl. 5, f. 82-84. *Scotophaeus loricatus* :Simon 1914, Ar. France 6:145. *Sostogeus zygethus* Chamberlin and Gertsch 1940, Amer. Mus. Novitates 1068, p. 1, f. 1-4.

Length of female 9 to 11 mm; of male 6 to 8 mm. The general color is yellow to orange. In the male a scutum is present covering almost a third of the dorsum and somewhat more darkly pigmented. The epigynum shows a free scape widened distally as illustrated. The tibial apophysis of the male pedipalp is short, with two rami of equal length, the upper broad and rounded, while the lower is narrow and pointed.
New Britain 11 August 1948.

p. 365, re: *Litopyllus rupicolens*, now known to be a synonym of *temporarius*, although Roewer (1951) proposed the new name *barrowsi*.

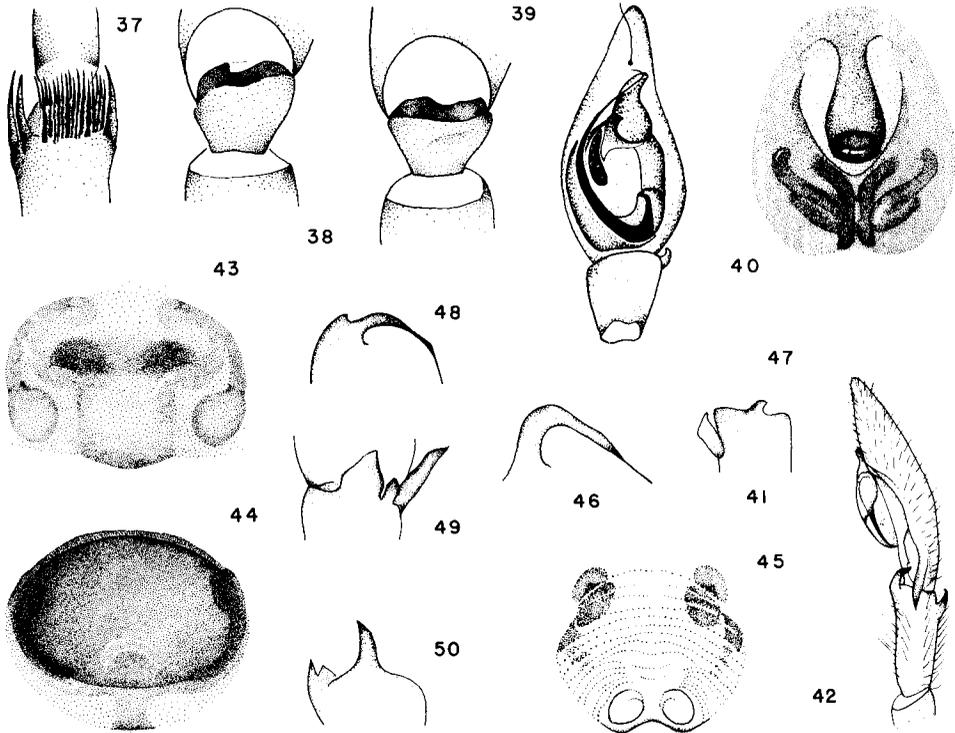
Litopyllus temporarius Chamberlin

L. temporarius Chamberlin 1922, Proc. Biol. Soc. Washington 35:155.

Re: superfamily Clubionoidea, with the addition of the Zoridae we now have three families in our region.

p. 366, re: Clubionidae, Petrunkevitch erroneously credits the name to Simon 1895, but in my 1938 paper it is shown that the name was first used by Wagner in 1888. Lehtinen (1967) elevated to family rank the subfamilies Liocraninae and Corinninae. He also followed Bristowe, and others, in removing *Micaria* to the Gnaphosidae, and included in the latter both *Scotinella* and *Phrurotimpus* as well. Homann (1971) on the basis of the eye structure likewise placed these three genera in the Gnaphosidae. Reiskind (1969) also removed *Micaria* from the Clubionidae and proposed the name Castianeirinae for the group of genera still left in the old Micariinae. I am retaining these three, but have removed *Zora* to its own family. With the addition of *Clubionoides* and *Myrmecotypus* we now have 12 genera in our region.

p. 367, re: the key to genera, *Clubionoides* will key out at line 6a, but can be separated from *Clubiona* in having two distal prolateral spines on femur I, instead of one, and in having the dorsum of the abdomen usually with dark grey stripes and spots, instead of being concolorous pale yellow-brown to orange.



Figs. 37-50.—37, Preening comb on metatarsus IV of *Zelotes*. The bristles are so close together at the base as to appear fused there; 38, Trochanteric notch in *Drassodes*; 39, Trochanteric notch in *Herpyllus*; 40, *Sostogeus loricatus*, epigynum; 41, *Sostogeus loricatus*, palp (after Chamberlin and Gertsch); 42, *Chiracanthium mildei*, palp; 43, *Chiracanthium mildei*, epigynum; 44, *Chiracanthium inclusum*, epigynum; 45, *Clubiona nicholsi*, epigynum (after Edwards); 46, *Philodromus keyserlingi*; embolus (after Dondale); 47, *Philodromus keyserlingi*, lateral tibial apophysis (after Dondale); 48, *Philodromus cespitum*, embolus (after Dondale); 49, *Philodromus cespitum*, ventral tibial apophysis (after Dondale); 50, *Philodromus cespitum*, lateral tibial apophysis (after Dondale).

Myrmecotypus will key out at line 8a, but can be separated from *Castianeira* in that the thoracic groove is lacking, and in the proportions of the pars cephalica and sternum as indicated in couplet 3a on page 394.

p. 368, re: subfamily Clubioninae, a revision was published by Edwards (1958), although much of what appears in Edward's paper is quite obviously the work and writing of H. W. Levi.

Re: *Marcellina*, this is a synonym of *Strotarchus* Simon 1888.

Re: *S. piscatorius* (Hentz), an additional record:

New Britain 20 May 1954.

p. 369, re: *Chiracanthium*, there are now two species known from our region, and in recent years both of them have been involved in envenomation of humans.

Re: *C. inclusum*, detailed studies on the biology were published by Peck and Whitcomb (1970). The majority of males mature in the sixth or seventh instar, and of females in the eighth. A female may produce up to five egg sacs, with a mean number of eggs per sac of 38. Data are supplied on mating and a correction is given for my Fig. 2007 (which was based on the work of Gerhardt).

Add: Chiracanthium mildei L. Koch

Figs. 42-43

Chiracanthium mildei L. Koch 1864, Abh. Naturh. Ges. Nürnberg, p. 144. :Bryant 1951 Psyche 58:120, f. 1-3. :Edwards 1958, Bull. Mus. Comp. Zool. 118:371, f. 7-9, 14-16, 203.

Length of female 7.7 to 12 mm; of male 7 to 9 mm. This species is easily differentiated by the genitalia, as shown in the illustrations. The epigynum of *inclusum* presents a simple elliptical depression (Fig. 44) while that of *mildei* (Fig. 43) shows canals and spermathecae quite distinctly. The tibia of the male pedipalp is provided with a single long apophysis in *inclusum* but with two short ones in *mildei* (Fig. 42).

It is remarkable that not a single record for this species was had for the 1948 volume, yet from 1949 to 1961 numerous specimens were collected, many times within buildings. Mature males have been taken from May through August, and females from May through October. Females with egg sacs were observed from July to September. One sac in a rolled leaf measured 6.5 by 4 mm. For four sacs the number of eggs was 16, 49, 50, and 70. Spiderlings emerged from one on 30 July and from another 14 August.

Records: Avon 27 July 1954 (B. Fritz); Cornwall 28 September 1951 (P. F. Bellinger); Hartford 30 June 1954 (B. Fritz), and 13 August 1961 (J. F. Anderson); West Hartford July 1952 (J. Weiman); Newington July 1953 (D. Rugh); and New Britain on numerous dates.

p. 370, re: *Clubiona*, with the removal of *pallens* and *elizabethae* there are now only 17 species from our region.

p. 373, re: *C. pallens*, Edwards showed that this is a synonym of *excepta*, and belongs to the genus *Clubionoides* Edwards 1958.

Clubionoides excepta (L. Koch)

Clubiona excepta L. Koch 1866, Die Arachniden Fam. Drassiden, p. 300, pl. 22, f. 191. *Clubiona pallens* Hentz 1847 [not *pallens* Hahn 1834]. *Clubionoides excepta* :Edwards 1958, Bull. Mus. Comp. Zool. 118:377, f. 19, 31, 33, 211.

p. 375, re: *C. tibialis*, is a synonym of *maritima*.

Clubiona maritima L. Koch

C. maritima Koch 1867 Die Arachniden Fam Drassiden p. 310, pl. 12, f. 198.

p. 377, re: *C. elizabethae*, it has been shown that the type (and only) specimen lacks internal genitalia, it being only a subadult female. Edwards considered it to belong to *C. rileyi*.

p. 379, re: *C. plumbi*, Edwards considered that this and *pikei* are separate.

Clubiona plumbi Gertsch

C. plumbi :Kaston 1948 [for the most part]. :Edwards 1958, Bull. Mus. Comp. Zool. 118:411, f. 60-61, 95, 250.

Length of female 3.6 mm; of male 2.95 to 4.1 mm. Besides averaging smaller than *pikei*, the PME are less than one and a half diameters apart, while in *pikei* they are three diameters apart. Known from Massachusetts, and Long Island, N.Y.

Clubiona pikei Gertsch

C. plumbi :Kaston 1948 [in part]. *C. pikei* :Edwards 1958, Bull. Mus. Comp. Zool. 118:420, f. 56-57, 91, 189, 249.

Length of female 3.54 to 6.2 mm; of male 3.54 to 5.6 mm. Similar to *plumbi*, but averaging larger, and with the other differences as indicated above. All the Connecticut records listed for *plumbi* belong to *pikei* instead.

Re: *C. johnsoni*, Edwards reported collecting on 3 August a female with an egg sac containing 22 eggs.

p. 380, re: *C. nicholsi*, the female, hitherto unknown, was described for the first time by Edwards (1958:424). Length of female 4.86 mm. The epigynum is very similar to that of *plumbi* and *pikoi*, but the receptacles are farther apart than in those two (Fig. 45). This species had previously been recorded from Long Island, N.Y., but is now known from Massachusetts as well. The habitat appears to be the drift straw of salt marshes.

p. 381, re: *T. tranquillus*, while I had come to favor the suggestion put forward by Chamberlin and Ivie that *tranquillus* is southern and our northern species is really *ruber* Keyserling, I am informed by Dr. Platnick, who is currently studying the genus, that this is not the case (see Platnick and Shadab, 1974).

p. 385, re: *Zora*, although Homann, on the basis of eye structure, placed this genus with the Ctenidae, I now agree with Bristowe (1958) that it does not fit comfortably in the families into which it has been placed, and should be in a family by itself (see below).

p. 386, re: *Phrurotimpus*, Petrunkevitch (1958) considered it merely a subgenus and Lehtinen (1967) transferred it to the Gnaphosidae.

p. 389, re: *P. borealis*, a female with an egg sac was collected at New Britain on 13 August 1954.

p. 390, re: *Phrurolithus*, our species do not belong in this European genus but rather in *Scotinella* Banks 1911.

p. 391, re: *S. formica*, additional record:
Newington 11 March 1962 (J. F. Anderson).

p. 393, re: *Castianeira*, the genus was revised by Reiskind (1969) who placed it in his newly named subfamily, the Castianeirinae.

p. 394, re: *lineata*, we now have seven species in our region, *lineata* having been removed.

p. 395, re: *C. descripta*, according to Reiskind the reference to *crocatu* Hentz should be deleted, as the latter is a different (and southern) species.

p. 396, re: *C. longipalpus*, additional records:
A male at Hartford 13 August 1961, and a female with eggs 20 August 1961 (both J. F. Anderson); a male at New Britain 2 September 1951.

Re: *C. variata*, additional records:
New Britain a male 27 June 1954, and a female 15 September 1957, both indoors.

p. 397, re: *C. gertschi*, additional record:
New Britain a male just matured 6 October 1961 (J. F. Anderson).

Re: *C. trilineata*, additional record:
New Britain 13 October 1952.

p. 398, re: *C. lineata*, transferred to the genus *Myrmecotypus* O.P.-Cambridge 1894.

Myrmecotypus lineatus (Emerton)

Castianeira lineata Emerton 1909, Trans. Connecticut Acad. Sci. 14:216, pl. 10, f. 5-5b. *M. lineatus* :Reiskind 1969, Bull. Mus. Comp. Zool. 138:272, f. 111-112, 153-155.

The male still remains undescribed.

p. 401, re: *M. montana*, this has been shown to be a synonym of the European *pulicaria*.

Micaria pulicaria (Sundevall)

Clubiona pulicaria Sundevall 1831, Handl. Kongl. Svenska Vet. Acad., p. 140.

Bristowe (1958) reported that the female encloses herself in a silken retreat under a stone, or under loose bark. Inside this cell she may make as many as three egg sacs.

p. 404, re: family Anyphaenidae, a revision was published by Platnick (1974).

p. 406, re: *Anyphaenella*, is a synonym of *Wulfila* O. P.-Cambridge 1895.

p. 409, add: before Thomisoidea:

Family ZORIDAE F. O. P.-Cambridge

As indicated above *Zora* should be placed here in its own family.

Re: the family Thomisidae, as here used the family is restricted to what had been just the Misumeninae, i.e., the Thomisinae. According to Homann (1971) the structure of the eyes is like that in the Lycosidae, differing from that in the Philodromidae (which lack the tapetum).

p. 411, re: *Misumena calycina*, this should now be known under the Clerckian name, *vatia*.

p. 415, re: *Misumenops celer*, notes on various aspects of the biology of this species were published by Muniappan and Chada (1970).

p. 417, re: *Synema*, this genus should be deleted from the work since the only species concerned (*bicolor*) has been shown by Turnbull et al. (1965) to belong in *Xysticus* (see below).

p. 418, re: *Coriarachne*, the genus was revised by Gertsch (1953). We now know two species from our region (and an additional one from northern New England).

p. 419, add:

Coriarachne floridana Banks

C. floridana Banks 1896, Trans. Amer. Entomol. Soc. 23:71. :Gertsch 1939, Bull. Amer. Mus. Nat. Hist. 76:409, f. 256-257, 270. :Gertsch 1953, Bull. Amer. Mus. Nat. Hist. 102:461, f. 65-66.

Length of female 5.2 to 5.8 mm; of male 4.3 mm. The male can be distinguished from that of *versicolor* in that the embolus is less thickened and not so curved in the middle, with the terminal portion short. Also, the tibial spur is straight. In *versicolor* the embolus is thickened and curved at its middle, the terminal portion being long and acuminate, and the tibial spur is directed laterad. The female has the MOA much broader than long; the dark patches on the posterior declivity of the carapace are nearly confluent at the middle; and the atriobursal openings of the epigynum are separated by less than their width. In *versicolor* the MOA is only slightly broader than long; the carapace dark patches are well separated; and the epigynal openings are separated by more than their width.

Re: *Oxyptila*, the genus was revised by Gertsch (1953).

Re: *O. conspurcata*, additional record:

New Britain 3 July 1954.

p. 420, re: *O. americana*, additional records:

Hartford 2 July and 26 November 1960 (J. F. Anderson).

Re: *Xysticus*, the genus was revised by Gertsch (1953) and by Turnbull, Dondale and Redner (1965). With the addition of *alboniger* there are now 14 species known from our region.

p. 422, add: *alboniger* before *X. gulosus*

***Xysticus alboniger* Turnbull, Dondale and Redner**

Synema bicolor :Kaston 1948. *X. alboniger* :Turnbull, Dondale and Redner 1965, Canad. Entomol. 97:1259, f. 72, 75, 149, 152. [*bicolor* preoc. by L. Koch 1867].

As indicated by Turnbull et al., this species is easily recognized, "no other American species having a uniformly dark carapace and off-white, un-patterned abdomen."

Re: *X. gulosus*, a female with egg sac was collected at New Britain 3 June 1961. (J. F. Anderson). The sac was fastened to the under surface of a log, was lenticular in shape, measured 9.4 mm in diameter by 5.1 mm in thickness and contained 125 spiderlings.

p. 423, re: *X. ontariensis*, this has been shown to be a synonym of *pellax*.

***Xysticus pellax* O. P.-Cambridge**

X. pellax O. P.-Cambridge 1894, Biol. Centrali Americana, Arachn. Ar. 1:138.

p. 424, re: *X. luctans*, additional records:

Wethersfield 24 April 1960 and 20 June 1961 (both J. F. Anderson).

The latter record pertains to two females collected with their egg sacs under a log. The sacs were lenticular about 11 mm in diameter and 7 mm thick. One had 88 and the other 91 yellow eggs, each about 1.2 to 1.3 mm in diameter.

p. 429, re: subfamily Philodrominae, now considered by me as the family Philodromidae Thorell. Holm (1940) had already shown that there are many differences between the members of this family and those of the Thomisidae *sens. str.* These include the nature of the egg sac, the embryological development, the sex chromosome constitution, etc. Homann (1971) has shown that the eye structure is different, the indirect eyes lacking a tapetum so that all eyes are dark like the AME.

Re: *Ebo* the genus was revised by Sauer and Platnick (1972). Two species are now known from our region.

p. 430, add: after *E. latithorax*:

***Ebo iviei* Sauer and Platnick**

E. iviei Sauer and Platnick 1972, Canad. Entomol. 104:41, f. 3-4, 16.

Length of female 2.78 mm; of male 2.04 mm. This may be distinguished from *latithorax* in that the palp segments show a mid-dorsal reddish brown stripe. The middle loop of the duct in the palpal organ lies near the descending loop. The retrolateral tibial apophysis is more narrowly pointed. The spermathecae in the epigynum are separated by more than the width of one.

Mature males were collected from late April through early June; mature females from late April through late August.

Records given by Sauer and Platnick (1972) include: New Canaan, Norwalk, Portland, and Seymour.

Re: *Philodromus*, the genus was revised by Dondale (1961) and Dondale and Redner (1968, 1969). We now know 12 species from our region.

p. 431, re: *P. pernix*, Dondale (1961b) has shown that what I have been calling *pernix*, is actually *vulgaris*, *pernix* being found in northern, but not southern New England.

Philodromus vulgaris (Hentz)

Thomisus vulgaris Hentz 1847, J. Boston Soc. Nat. Hist. 5:444, pl. 23, f. 1.

Re: *P. washita*, Dondale (1961b) considered this a synonym of *keyserlingi*.

Philodromus keyserlingi Marx

Fig. 46-47

P. keyserlingi Marx 1890, Proc. United States Natl. Mus. 12:259. :Dondale 1961, Canad. Entomol. 93:209, f. 5, 12, 28, 35.

p. 434, re: *P. rufus*, Dondale (1964, 1967) discussed an interesting situation in which some members, those of the subspecies *vibrans*, show a different behavior pattern from the others. The males of this subspecies vibrate their front legs during courtship.

p. 435, re: *P. satullus*, Dondale and Redner (1968) have shown that our eastern species is actually *minutus*, distinct from *satullus*, which is western.

Philodromus minutus Banks

P. minutus Banks 1892, Proc. Philadelphia Acad. Nat. Sci. [44]:62, pl. 5, f. 85.

p. 436, re: *P. aureolus*, Dondale (1961b) has shown that what we in America have been calling *aureolus* is actually *cespitem*.

Philodromus cespitem (Walckenaer)

Figs. 48-50

Aranea cespitem Walckenaer 1802, Faune Parisienne Insecta 2:230. *P. cespiticolis* :Dondale 1961, Canad. Entomol. 93:216, f. 6-7, 10, 27, 40.

I am in agreement with Locket (1967) in preferring the use of *cespitem* over *cespiticolis*.

p. 437, re: *P. infuscatus*, Dondale and Redner (1969) add Massachusetts to the New York records already supplied.

Add: before *Thanatus*:

Philodromus praelustris Keyserling

Figs. 51-53

P. praelustris Keyserling 1880, Spinnen Amerikas, Later., p. 208, pl. 5, f. 114. :Dondale 1961, Canad. Entomol. 93:207, f. 1, 18-22, 29, 41.

Length of female 6.9 to 9.1 mm; of male 4.8 to 7 mm. This species has a pattern more like that of *vulgaris*, but is intermediate between that species and *pernix*. Dondale reported an egg sac made on 2 July with 33 eggs, and the spiderlings emerging on 20 July. The following are records of specimens that I had previously identified to *pernix*:

Cornwall 2 August 1936; New Haven 15 May 1935 (R. B. Burrows); South Windham 8 July 1936; West Cornwall 2 July 1935; West Haven 2 July 1935.

Add:

Philodromus barrowsi Gertsch

Fig. 54-56

P. barrowsi Gertsch 1934, Amer. Mus. Novitates 707, p. 17, f. 16. :Dondale 1961 Canad. Entomol. 93:212, f. 3, 8-9, 30, 37.

Length of female 7 to 9.3 mm; of male 4.5 to 6.5 mm. In general this species is quite similar to *praelustris*. It has not been taken in Connecticut, but is southern and is known from Long Island, N.Y.

Re: *Thanatus*, the genus was revised by Dondale, Turnbull and Redner (1964). We now know four species from our region. The additional species, *rubicellus*, will key out at line 2a, but can be separated from *formicinus* readily. In the latter the embolus is straight except for a slight curve at the tip, and lacks a notch in the ectal margin at base. The palpal tibia has two to four long dorsal spines. In the epigynum of the female the spermathecae show a reticulated surface not subdivided by transverse grooves. On the other hand, in *rubicellus* the embolus is curved throughout its length with a small notch in the ectal margin near the base. The palpal tibia has only one dorsal spine. The surface of the spermathecae is not reticulated and is usually subdivided by transverse grooves.

Thanatus rubicellus Mello-Leitao

T. rubicundus Keyserling 1880, Spin. Amerikas, Later., p. 204, pl. 5, f. 112. [not *rubicundus* L. Koch 1875]. *T. rubicellus* Mello-Leitao 1929, Arch. Mus. Nac. Rio de Janeiro 31:271. :Dondale et al. 1964, Canad. Entomol. 96:648, f. 5-13, 45-54.

Length of female 5 to 7 mm; of male 4 to 6 mm. Connecticut records include: Bethany 30 May 1939; New Britain 20 June 1954; and New Canaan (reported by Dondale et al.).

p. 439, re: *T. peninsulanus*, this has been shown to be a synonym of *vulgaris*.

Thanatus vulgaris Simon

T. vulgaris Simon 1870, Mém. Soc. Roy. Sci. Liège 3:328. :Dondale et al. 1964, Canad. Entomol. 96:653, f. 3-4, 41-42.

p. 440, re: *T. oblongus*, Thomas (1949) published some notes on the biology of this species. Ballooning does not occur. Females stand guard over their eggs, and may in late summer make a second egg sac.

p. 442, re: Salticidae, I am unable to understand why Petrunkevitch (1955, 1958) credited this name to F. O. P.-Cambridge 1900, when, as I had shown in my 1938 paper the name dates back to Blackwall 1841. According to Homann (1971) the small eyes composing the second row are actually the posterior lateral (not median) eyes, and the third row consists of the posterior median (not lateral) eyes. There is no tapetum in any of the indirect eyes, and this is correlated with the diurnal habit of the spiders, not any of them hunting at night. We still have 28 genera represented in our region, but there have been a number of changes. These include the removal of *Hycitia* and *Onondaga*, and the addition of *Tutelina* and *Metacyrba*.

p. 444 and 447 re: the following changes should be made in the key to genera:

line 11b keys out to *Marpissa* (in part, *lineata* and *dentoides*);

line 21a keys out to *Metacyrba*;

line 22b keys out to *Tutelina* (not *Icius*);

line 23a keys out to *Marpissa* (in part, *pikoi* and *formosa*);

line 27b, insert "two or" after the word "with";

change line 28a to read: Ocular quadrangle slightly wider behind than in front.

Size over 3 mm 31

p. 447, continue the key as follows:

31a. Height of carapace more than half its width. Ocular quadrangle occupying only two-fifths the length of carapace *Metaphidippus*

- 31b. Height of carapace half its width or less. Ocular quadrangle occupying half the length of the carapace *Icius*

p. 448, re: *Synemosyna*, the genus was revised by Galiano (1966).

p. 449, re: *Myrmarachne*, it has been shown that we have no representatives of this genus in North America. What we do have, and have been placing here, belongs in *Sarinda* G. and E. Peckham 1892 which was revised by Galiano (1965).

***Sarinda hentzi* (Banks)**

S. hentzi :Galiano 1965, Rev. Mus. Argentina Cienc. Nat. (Entomol.) 1:282, pl. 3, f. 6; pl. 7, f. 8-9.

A female, taken on 28 July, was guarding her egg sac which was rolled in a leaf. The silken mass was about 30 mm long by about 15 mm wide, and contained 12 already hatched spiderlings.

p. 452, re: *Peckhamia picata*, additional record:
Newington 22 June 1961 (J. F. Anderson).

p. 453, re: *Marpissa*, regarding the use of this name see the discussion by Bonnet (1952). This and related genera were revised by Barnes (1958). According to Barnes the carapace is very variable as to width, length and height, and the small eyes are variable in position.

p. 454, re: *Marpissa undata*, Barnes places this in *Metacybra* F. O. P.-Cambridge 1901.

***Metacybra undata* (DeGeer)**

M. undata :Barnes 1958, Amer. Mus. Novitates 1867 p. 36, f. 55-56, 62, 65, 67, 69.

Re: *Hycitia*, Barnes places this as a synonym of *Marpissa*. See also *Onondaga*, p. 494.

***Marpissa pikei* (G. & E. Peckham)**

M. pikei :Barnes 1958, Amer. Mus. Novitates 1867, p. 15, f. 16-21.

p. 456, re: *H. bina*, Barnes considered this to be a southern species, and what we have in New England he considers to be *formosa*.

***Marpissa formosa* (Banks)**

Icius formosus Banks 1892, Proc. Philadelphia Acad. Nat. Sci. [44]:76, pl. 5, f. 31. *M. formosa* :Barnes 1958, Amer. Mus. Novitates 1867, p. 4, f. 4-11.

p. 458, re: *Sitticus* we now have five species in our region.

Add:

***Sitticus fasciger* (Simon)**

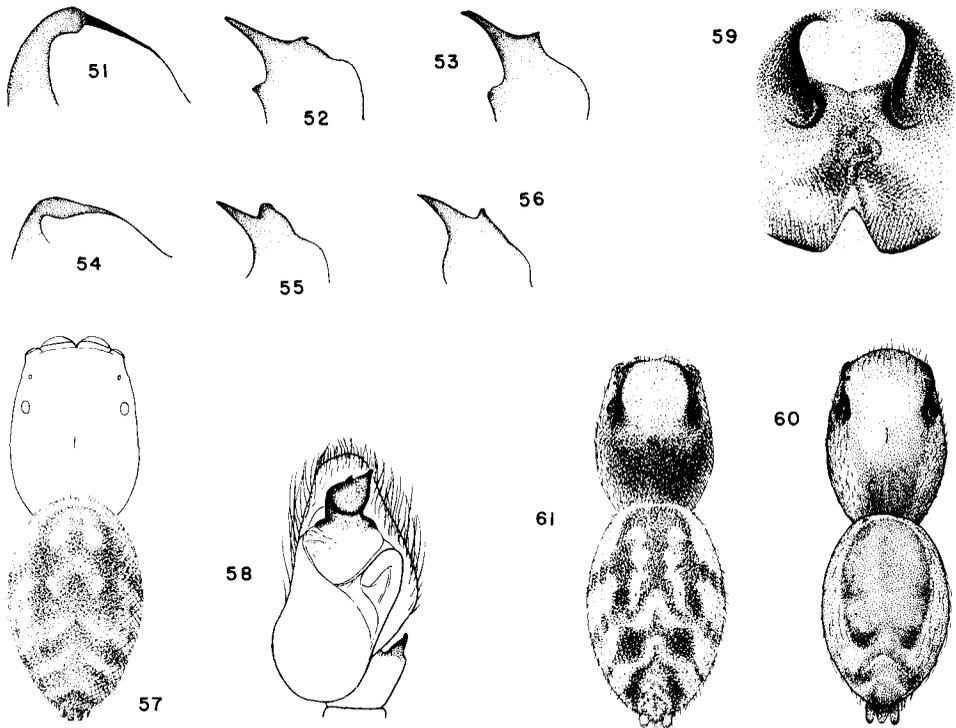
Attus fasciger Simon 1880, Ann. Entomol. Soc. France, sér. 5, 10:98. *S. barnesi* Cutler 1965, J. New York Entomol. Soc., 73:140, f. 1-3. *S. fasciger* :Cutler 1973 J. Minnesota Acad. Sci., p. 39.

Length of female 4.5 to 5.3 mm; of male 3.6 to 4.5 mm. In general appearance this species resembles *palustris* in its abdominal pattern. The epigynum, however, has a single median opening. In the male the embolus is longer and extends farther to the lateral edge of the bulb. This species has not been recorded from Connecticut but is known from New York, N.Y.

p. 459, re: *S. floridanus*, has been shown to be a synonym of *cursor*.

***Sitticus cursor* Barrows**

S. cursor Barrows 1919, Ohio J. Sci. 19:359, f. 8.



Figs. 51-61.—51, *Philodromus praelustris*, embolus (after Dondale); 52, 53, *Philodromus praelustris*, varieties of tibial apophysis (after Dondale); 54, *Philodromus barrowsi*, embolus (after Dondale); 55, 56, *Philodromus barrowsi*, varieties of tibial apophysis (after Dondale); 57, *Metaphidippus peckhamorum*, dorsum of female; 58, *Metaphidippus peckhamorum*, palp; 59, *Metaphidippus peckhamorum*, epigynum; 60, *Metaphidippus flaviceps*, dorsum of male; 61, *Metaphidippus flaviceps*, dorsum of female.

p. 460, re: *S. pubescens*, Roewer (1955) considered this to be a synonym of *truncorum* (Linnaeus), but Bonnet disagreed. We now have Connecticut records. Hartford 13 March 1960 and Wethersfield 22 May 1960 (both J. F. Anderson).

p. 463 and 469, re: *Habronattus* and *Evarcha*, Lowrie and Gertsch (1955) gave reasons for placing the species of these two genera back into *Pellenes*.

p. 469, re: *E. hoyi*, Roewer (1955) considered this a synonym of *Evarcha leucophaea* (C. L. Koch) 1846.

p. 472, re: *A. tibialis*, mature females have been found overwintering among the lichens covering the bark of elm trees near the base. Additional records: Rocky Hill December 1960; Meriden February and April 1961 (J. F. Lienisch).

p. 473, re: *Metaphidippus*, a discussion of the relations of Eastern species was published by Kaston (1973). We now know 8 species from our region. Of the two additions *peckhamorum* is similar to *protervus* and *galathea*; the other, *flaviceps*, is similar to *flavipedes* and *exiguus*.

p. 474, re: *M. protervus*, additional life history notes were given by Dondale (1961a).

p. 475, re: *M. galathea*, complete details on the bionomics of this species were published by Horner and Starks (1972). "The egg sacs were oval, measuring ca. 8 by 15 mm and 3 mm thick." The "number of eggs per sac ranged from 9 to 31" each about 0.81 mm in diameter. Maturity in both sexes is attained at the eighth instar.

p. 476, add: before *M. insignis*

Metaphidippus peckhamorum Kaston

Figs. 57-59, 62

M. peckhamorum Kaston 1973, Trans. Amer. Micros. Soc. 92:115, f. 39-42.

Length of female 4.5 to 5.8 mm; of male 3.2 to 4.5 mm. This species is similar in appearance to *protervus* and *galathea*. The females of the latter are the darkest, of *protervus* the lightest, and those of *peckhamorum* intermediate. The legs are most conspicuously ringed in *galathea*, least so in *protervus*, and intermediate in *peckhamorum*. The epigyna of the three are quite similar and variable within a species. The embolus in *protervus* has the outer corner drawn out to a fine incurved hook. It is drawn out to a short angular hook in *galathea*, and is much wider and devoid of the outer hook in *peckhamorum*. Moreover, in *protervus* there is a dense covering of white scales on femur I and on the cymbium. In the other two species these scales are lacking, or there are only a very few.

This species has not been collected in Connecticut, but is known from Long Island.

p. 477, add: before *M. canadensis*

Metaphidippus flaviceps Kaston

Figs. 60-61, 63-66

M. flaviceps Kaston 1973, Trans. Amer. Micros. Soc. 92:110, f. 15-20.

Length of female 4 to 5.7 mm; of male 3.6 to 4.5 mm. The bulbous shiny yellow head region is a conspicuous trait, enabling immediate separation (especially in the male) from *flavipedes*, with which it had formerly been confused. This species has not been reported from Connecticut, but is known from Long Island, N.Y. as well as northern New England.

p. 478, re: *Paraphidippus* this has been shown to be a synonym of *Eris* C. L. Koch 1846, and a discussion of our eastern species was published by Kaston (1973).

p. 479, re: *E. marginata*, additional notes on the life history were published by Dondale (1961).

p. 484, re: *P. clarus*, a female collected on 31 August was guarding an egg sac in a cluster of golden rod flowers. The silken mass was 14 by 11 mm, with the egg mass itself 8 by 9 mm, and there were 47 eggs.

Re: *P. princeps*, a female guarding eggs was taken on 10 June.

p. 486, re: *P. mccoookii*, a gravid female collected in New Britain in late October and kept alive in the laboratory produced an egg sac on 5 November. The egg mass itself was lenticular, about 8.8 mm in diameter and 6.6 mm thick. There were 163 orange non-agglutinate eggs, each about 1.18 mm in diameter.

p. 487, re: *Icius*, I now am of the opinion that the two species *elegans* and *similis* should be considered as belonging to the genus *Tutelina* Simon 1901.

p. 492, re: *H. palmarum*, a mature male was collected as late as 13 October.

p. 493, re: *H. adansonii*, the mating habits were described by Cloudsley-Thompson (1949a). Noteworthy also is his reporting that males have been seen attacking and eating females, in one case immediately after the mating!

p. 494, re: *Onondaga*, this is considered a synonym of *Marpissa*. In addition to *lineata* we have *dentoides* in our region.

Add:

***Marpissa dentoides* Barnes**

Figs. 67-68

M. dentoides Barnes 1958, Amer. Mus. Novitates 1867 p. 27, f. 45.

Length of female 4 to 5.8 mm; of male 3.5 mm. This species is very similar to *lineata* in coloration and structure. The tibial apophysis of the male palp is a uniramous (not bifid) hook. In the epigynum "the tubules adjacent to the openings diverge [forward] rather than converge as in *lineata*. The openings are smaller and directed downward." This species has been collected in Massachusetts and also on Long Island, N.Y.

p. 495, re: *Maevia*, the genus was revised by Barnes (1955).

Re: *M. vittata*, I have found this species one of the most common entering human habitations. An egg sac found on 10 August consisted of a sheet of silk 15 mm in diameter, with the egg mass itself about 4 mm in diameter. There were 26 eggs each about 1.05 mm in diameter.

p. 496, re: *Z. bettini*, additional record:

New Britain August 1961 (J. F. Anderson).

p. 498, re: family Oecobiidae, a revision was published by Shear (1970).

p. 499, re: Urocteidae, despite my remark to the effect that this name dates from Thorell [1869] Petrunkevitch credits it to Simon 1875.

Re: convergent evolution of cribellate and ecribellate spiders; further evidence is given for this hypothesis in a beautifully illustrated article by Kullmann (1971).

Re: *O. parietalis*, it has been shown that this is a synonym of *annulipes*.

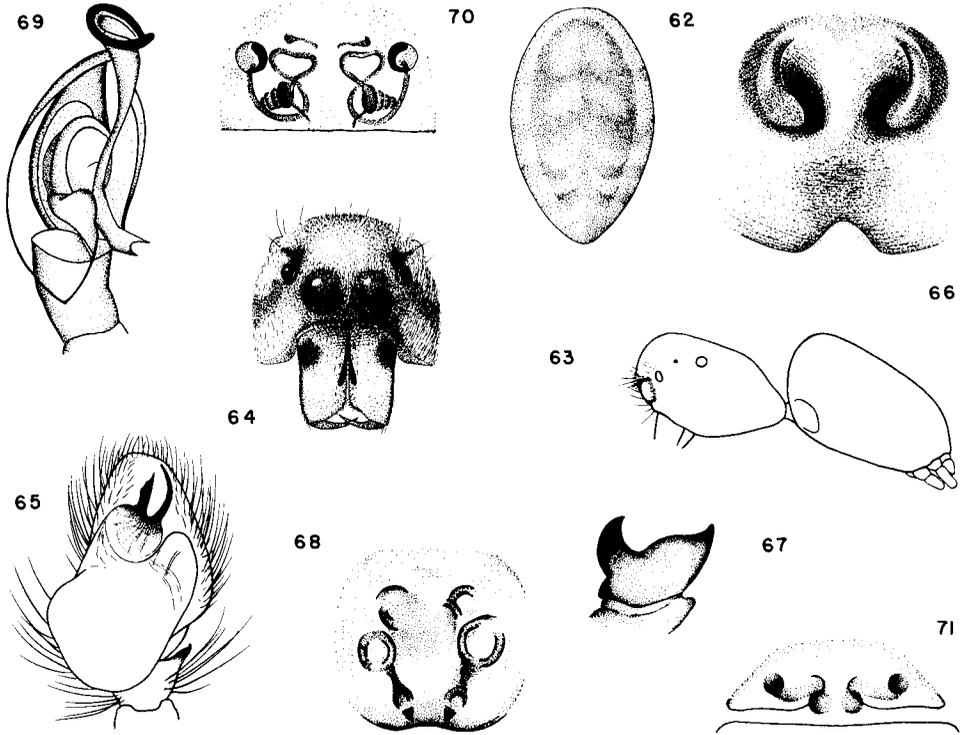
***Oecobius annulipes* Lucas**

O. annulipes Lucas 1846, Explor. Sci. Algérie; Zool. 1, Arachn. p. 102, pl. 2, f. 2.

Glantz (1967) published an account of the morphology and bionomics of this species. He indicated that the strong hairs on the anal tubercle become erect under the influence of muscular pressure and serve to direct the threads of the cribellar band of silk as the abdomen is moved from side to side in ensnaring prey. We now have a Connecticut record:

New Britain 30 April 1948 (D. Rugh).

p. 500, re: Dictynidae, although Petrunkevitch (1955) credits the family name to Simon 1874 I have shown in my 1938 family names paper that O. P.-Cambridge first used the name in 1971. A revision of the family was published by Chamberlin and Gertsch (1958). In this they have shown that *Scotolathys* cannot be maintained as a genus separate from *Lathys*, but because of the genus *Tricholathys* being included we still have four genera from our region. Petrunkevitch continued to maintain right up to his last extensive paper (1958:363) that the members of the family Dictynidae were devoid of tarsal trichobothria. Though they may be absent in *Dictyna* they can be clearly seen in *Lathys*, *Argenna*, and *Tricholathys*.



Figs. 62-71.—62, *Metaphidippus peckhamorum*, dorsum of male; 63, *Metaphidippus flaviceps*, lateral aspect of male; 64, *Metaphidippus flaviceps*, face of male; 65, *Metaphidippus flaviceps*, palp; 66, *Metaphidippus flaviceps* epigynum; 67, *Marpissa dentoides*, tibial apophysis (after Barnes); 68, *Marpissa dentoides*, epigynum (after Barnes); 69, *Tricholathys ohioensis*, palp (after Chamberlin and Gertsch); 70, *Tricholathys ohioensis*, epigynum (after Chamberlin and Gertsch) 71, *Dictyna altamira*, epigynum (after Chamberlin and Gertsch).

Revised key to genera:

- 1a. Tarsi without trichobothria *Dictyna*
- 1b. Tarsi with one or two trichobothria 2
- 2a. AME very much smaller than PME, or absent altogether. Retromargin of cheliceral fang furrow with five small teeth *Lathys*
- 2b. AME subequal to PME. Retromargin with 2 or 3 teeth 3
- 3a. Promargin of cheliceral fang furrow with 4 or 5 small teeth. Retromargin with 3. Tarsi each with a single long trichobothrium *Tricholathys*
- 3b. Promargin with 3 teeth; retromargin with 2. Tarsi each with a short trichobothrium as well as a long one *Argenna*

p. 502, re: *S. pallidus*, is now in the genus *Lathys*.

***Lathys pallida* (Marx)**

L. pallida :Chamberlin and Gertsch 1958, Bull. Amer. Mus. Nat. Hist. 116:35. pl. 6, f. 1-6.

Re: *S. maculatus*, is now to be called *Lathys maculina*.

Lathys maculina Gertsch

L. maculina Gertsch 1946, Amer. Mus. Novitates 1319 p. 4, f. 15 [*maculatus* preoc. by Keyserling 1890]. :Chamberlin and Gertsch 1958, Bull. Amer. Mus. Nat. Hist. 116:32, pl. 6, f. 9-12.

p. 503, re: *Argenna obesa*, Lehtinen (1967) made this the type of his new genus *Iviella*.

Re: *A. ohioensis*, this is now placed in the genus *Tricholathys* Chamberlin and Ivie 1935.

Tricholathys ohioensis (Chamberlin and Ivie)

Figs. 69-70

T. ohioensis :Chamberlin and Gertsch 1958, Bull. Amer. Mus. Nat. Hist. 116:24, pl. 2, f. 6-8.

The female has since been described. It is 2.2 mm in length.

p. 504, re: *Dictyna*, there are now 20 species known from our region.

p. 505, re: *D. arundinaceoides*. It has been shown that this is a synonym of *annulipes*, and that the spiders identified as *arundinaceoides* are really *coloradensis*.

Dictyna coloradensis Chamberlin

D. coloradensis Chamberlin 1919, Ann. Entomol. Soc. America 12:241, pl. 14, f. 7-8. *D. coloradensis* :Chamberlin and Gertsch 1958, Bull. Amer. Mus. Nat. Hist. 116:89, pl. 26, f. 4-7.

Length of female 3.8 mm; of male 3.2 mm.

p. 506, re: *D. muraria*, it has been shown that this is a synonym of *annulipes*.

Dictyna annulipes (Blackwall)

Ergatis annulipes Blackwall 1846, Ann. Mag. Nat. Hist. 17:42. *Dictyna arundinaceoides* Keyserling 1883 [not *arundinaceoides* Kaston 1948]. *Dictyna annulipes* :Chamberlin and Gertsch 1958, Bull. Amer. Mus. Nat. Hist. 116:123, pl. 37, f. 1-5.

p. 507, add: before *D. hentzi*:

Dictyna altamira Gertsch and Davis

Fig. 71

D. altamira Gertsch and Davis 1942, Amer. Mus. Novitates 1158 p. 15, f. 29. :Chamberlin and Gertsch 1958, Bull. Amer. Mus. Nat. Hist. 116:116, f. 1-4. *D. savanna* Chamberlin and Ivie 1944, Bull. Univ. Utah 35(9): Biol. Ser. 8(5):121, f. 161-169. *D. bryantae* Jones 1947, Field and Lab. 15:13, f. 31-34.

Length of female 1.85 to 2.33 mm; of male 1.6 to 2.25 mm. The abdominal pattern is similar to that of *annulipes*. However, the epigynum is much wider than in that species, and the palpal organ has the conductor narrower. "The broadened terminal portion of the thick embolus presents two spurs of which one is prolonged into a quite large S-shaped hook."

New Haven 5 October 1937; Norwalk 15 June 1933 (W. J. Gertsch).

p. 508, re: *D. roscida*, Chamberlin and Gertsch considered that *D. florens*, which I list as a synonym, is a separate species known only from Florida.

p. 511, re: *D. angulata*, we now have a Connecticut record:
Norwalk 2 July 1933 (W. J. Gertsch).

p. 512, re: the family Uloboridae, the name should be credited to Thorell. A revision was published by Muma and Gertsch (1964). According to Homann (1971) the indirect eyes lack a tapetum, and hence all eyes are concolorous black.

p. 513, re: *U. americanus*, Muma and Gertsch agreed with Chamberlin and Ivie in considering our species to be *glomosus*.

Uloborus glomosus (Walckenaer)

Epeira glomosa Walckenaer 1841, Hist. Nat. Ins. Apt. 2:43. *Uloborus glomosus* :Muma and Gertsch 1964, Amer. Mus. Novitates 2196 p. 22, f. 3, 40-41, 44-45, 66-70.

Females as small as 2.8 mm and males to 2.3 mm have been recorded.

p. 515, re: the family Amaurobiidae, the name should be credited to Thorell. A revision was published by Leech (1972). According to Homann (1971) the tapetum in the indirect eyes is of the “canoe” type. Leech has shown that I and others have been mistaken in supposing that some members of this family have a calamistrum composed of two rows. Actually, in these cases the calamistrum is only *apparently* double; posterior to the calamistrum itself is an area of other bristles on the dorsal surface of the metatarsus, and the anterior edge of this batch of bristles resembles another row of calamistral bristles. Hence there is no basis for separation into the two subfamilies as indicated. Instead, Leech divided the genera we have into two subfamilies on the basis of trichobothria characters, the Amaurobiinae having them long, and the Titanoecinae having them short. It is now considered that there are four genera in our region, and the following revised key is after Leech.

Key to genera:

- 1a. Trichobothria short and thick, not extending much above the general leg hairs, and not increased in length distally on leg segments; usually with only 1 or 2 on tarsi and metatarsi *Titanoeca*
- 1b. Trichobothria long and thin, increasing in length distally on tarsi and metatarsi 2
- 2a. Males 3
- 2b. Females 5
- 3a. Palpal tibia with a simple process distally; all processes tapered, thinner distally than basally when seen from any aspect *Callobius*
- 3b. Not so 4
- 4a. Palpal tibia with two processes only, mesal process with one or more sub-processes, considerably longer than ectal process, and arched anterolaterally over cymbium *Callioplus*
- 4b. Tibia distally with 2 or 3 processes; mesal process simple *Amaurobius*
- 5a. Lateral lobes of epigynum small or absent; spermathecae under the epigynal plate not in the lateral lobes *Amaurobius*
- 5b. Lateral lobes large, convergent posteriorly; spermathecae in the lateral lobes . . 6
- 6a. Epigynum with posterior and median lobes, though one or the other may be very small in some specimens *Callobius*
- 6b. Epigynum without posterior or median lobes; lateral lobes flat and projecting posteriad beyond the epigynal furrow *Callioplus*

p. 516, re: footnote, there has been much further controversy over the matter of

Ciniflo vs. *Amaurobius*, and those interested may wish to read the comments by Bonnet (1955), Cloudsley-Thompson (1957), Kraus (1962), Platnick and Levi (1973) and myself (1974).

Re: *Amaurobius*. Leech has removed *bennetti* to *Callobius* Chamberlin 1947, but has but has put in *borealis*, so we still have two species in this genus.

Callobius bennetti (Blackwall)

C. bennetti :Leech 1972, Mem. Entomol. Soc. Canada 84, p. 28, f. 33-35, 224-226, 396.

Measurements by Leech on many more specimens indicate that females range from 5 to 12 mm, and males from 5 to 9 mm. Additional data included one egg sac with 125 and a second with 166 eggs.

p. 517, re: *A. ferox*,

Amaurobius ferox (Walckenaer)

A. ferox :Leech 1972, Mem. Entomol. Soc. Canada 84, p. 72, f. 116-117, 312, 422.

Leech indicates a range of body lengths in the female from 8.5 to 14 mm, and for the male 8 to 12.5 mm. Cloudsley-Thompson (1955) published data on water relations, food types, and egg laying.

p. 518, re: *Titanoeca*, there are two species with *brunnea* considered distinct from *americana*. Lehtinen (1967) made this genus the type of his new family Titanoecidae.

Add:

Titanoeca brunnea Emerton

T. brunnea Emerton 1888, Trans. Connecticut Acad. Sci. 7:453, p. 10, f. 5-5c. *T. americana* :Kaston 1948 [in part, f. 1970, 2001-2002]. *T. brunnea* :Leech 1972, Mem. Entomol. Soc. Canada 84 p. 102, f. 183-184, 378, 382, 438.

Length of female 4.5 to 5.5 mm; of male 4 to 5 mm. Similar to *americana* but smaller and with the following differences: the basal part of the embolus is nearly at right angles to the palp limb length; the epigynum is wider than long, and there are usually two or four small pale spots on the dorsum and two on the venter of the abdomen, one beside the other.

Of the records listed under *americana* the following belong here:
East Haddam, New Haven, and Windsor.

Titanoeca americana Emerton

T. americana :Kaston 1948 [in part f. 1997, 2000, 2003]. :Leech 1972, Mem. Entomol. Soc. Canada 84 p. 100, f. 181-182, 377, 380, 439.

Length of female 3.5 to 7.5 mm; of male 4.5 to 7 mm. Similar to *brunnea* but larger and with the following differences: the basal part of the embolus is nearly parallel to the limb length; the epigynum is longer than wide; and the spots are lacking from the abdomen.

p. 519, re: *Callioplus*, we now have only one species in this genus, as Leech has put *borealis* back into *Amaurobius*.

Amaurobius borealis Emerton

A. borealis :Leech 1972, Mem. Entomol. Soc. Canada 84 p. 73, f. 118-122, 313-314, 423.

Re: *C. tibialis*, Leech supplied the following biological data: "Egg sacs have been collected [in New Brunswick] from late June to late July. Four egg sacs. . . contained 25, 39, and 40 eggs. The fourth sac contained 40 spiderlings."

p. 520, re: *Hypochilus*, a revision of the genus was published by Gertsch (1964b).

p. 521, re: other introduced spiders. A single record exists for each of the following: *Neoscona oaxacensis* (Keyserling), a western species taken at Providence, R.I.; *Loxosceles rufescens* (Dufour), a southern species taken at New York, N.Y.; and *L. laeta* (Nicolet), from South America, of which a "colony" was found in Cambridge, Massachusetts. Similarly, in the same place, a colony of *Oecobius interpellator* Shear was found.

p. 522, re: footnote 1, volumes II and III of Bonnet's *Bibliographia Araneorum* have since appeared. A supplement to Bonnet's work, insofar as American species are concerned was published by Vogel (1962, 1967).

p. 523, re: general works on spiders add: Bristowe, W. S. 1958; Gertsch, W. J. 1949; Kaestner, A. 1968; and Millot, J. 1949.

Re: papers giving the distribution of spiders in States other than those in New England, add:

for Arkansas: Dorris, P. R. 1968; California: R. X. Schick 1965; Illinois: Kaston, B. J. 1955; Kansas: Fitch, H. S. 1963; Kentucky: Branson, B. A. and D. L. Batch 1968 and 1972; Mississippi: Dorris, P. R. 1972; Oklahoma: Branson, B. A. 1966; Texas: Vogel B. R. 1970; Wisconsin: Levi, H. W. and H. M. Field 1954.

p. 561, delete: from the list of names: *Theridion sexpunctatum* and *Ceraticelus parvulus*. Change the following: *Theridion maxillare* = *T. petraeum* L. Koch 1872, *Lepthyphantes subalpina* = *L. turbatrix* (O. P.-Cambridge) 1877; *Microneta pinnata* = *Allomengea p.*, *M. furcata* = *Centromerus f.*, *Aigola recurvata* = *Oreonitides recurvatus*, *Chocornia cuneata* = *Diplocephalus c.*, *Islandiana alata* = *I. falsifica* (Keyserling) 1886. Add the following: under family Theridiidae, *Theridion petrense* Sorensen 1898; under Linyphiidae, *Bathypantes crosbyi* Emerton 1919; under Micryphantidae, *Grammonota angusta* Dondale (1959), *Islandiana princeps* Braendegaard 1932.

p. 562, delete: from the list of names: *Zygiella montana* (C. L. Koch). Change the following: *Sciastes microtarsus* = *Hillhousia m.*, *Tapinocyba bicarinata* = *T. vermontis* Chamberlin 1948, *Epeira carbonaria* = *Araneus carbonarius*. Add the following: under family Micryphantidae, *Montilairia relicta* Chamberlin 1948; under Epeiridae (= Araneidae) *Araneus groenlandica* (Strand) 1906, *A. washingtoni* Levi 1971; under Lycosidae, *Pardosa albomaculata* Emerton 1885; under Clubionidae, *Clubiona trivialis* C. L. Koch 1843, *C. gertschi* Edwards 1958, *C. bishopi* Edwards 1958.

p. 563, re: names, change the following: *Synema obscura* = *Xysticus ellipticus* Turnbull, Dondale and Redner 1965, *Metaphidippus nigromaculatus* = *Eris n.* Add: the following under family Thomisidae, *Coriarachne utahensis* Gertsch 1932. Under Philodromidae, *Philodromus pernix* Blackwall 1846. Under Uloboridae, *Hyptiotes gertschi* Chamberlin and Ivie 1935. Under Dictynidae, *Dictyna phylax* Gertsch and Ivie 1936.

p. 564, re: table

Revised Statistics

The expression "our region" in the center columns refers to the area considered in the monograph, namely; Massachusetts, Rhode Island, Connecticut and that portion of New York State east of the Hudson River and south of the westward prolongation of Massachusetts' northern boundary.

Family	In all New England		In our region		In Connecticut	
	genera	species	genera	species	genera	species
Antrodiaetidae	0	0	1	1	0	0
Atypidae	1	2	1	2	1	1
Oonopidae	2	2	2	2	1	1
Dysderidae	1	1	1	1	1	1
Segestriidae	1	1	1	1	1	1
Scytodidae	1	1	1	1	1	1
Pholcidae	2	2	2	2	2	2
Theridiidae	18	58	18	51	17	51
Symphytognathidae	0	0	1	1	0	0
Nesticidae	2	2	2	2	0	0
Linyphiidae	23	51	22	41	21	30
Micryphantidae	59	138	54	120	50	70
Araneidae	20	58	20	56	19	42
Theridiosomatidae	1	1	1	1	1	1
Tetragnathidae	3	15	3	15	3	14
Mimetidae	2	5	2	6	2	5
Agelenidae	8	19	8	20	8	15
Hadniidae	3	5	3	4	2	3
Pisauridae	2	9	2	9	2	9
Lycosidae	9	51	9	42	9	40
Oxyopidae	1	2	1	2	1	2
Gnaphosidae	10	38	10	38	10	30
Prodidomidae	0	0	1	1	0	0
Clubionidae	12	54	12	43	12	41
Zoridae	1	1	1	1	1	1
Anyphaenidae	4	6	4	7	3	5
Thomisidae	7	29	7	22	7	18
Philodromidae	4	20	4	19	4	17
Salticidae	26	63	28	57	25	49
Oecobiidae	1	1	1	1	1	1
Dictynidae	4	22	4	22	4	20
Uloboridae	2	2	2	2	2	2
Amaurobiidae	4	7	4	6	3	4
Hypochilidae	1	1	1	1	1	1
Loxoscelidae	1	1	1	2	0	0
Totals	236	688	235	665	215	477

Errata

- p. 25, line 13, for "anterior and median" read "posterior."
- p. 30, line 28, for "covered" read "lined."
- p. 55, line 4, for "298" read "291."
- p. 68, line 40, for "diads" read "triads."
- p. 89, line 40, for "(1940)" read "(1947)."
- p. 93, line 36, for "female 0.7 to 0.9 mm" read "male 0.7 to 0.9 mm."
- p. 115, line 11, between the words "with" and "seven" insert: "occasionally six but more usually."
- p. 117, line 22, for "six or" read "five to."
- p. 225, line 34, at end of the line read "227" for "2 7."
- p. 226, lines 5 and 6, delete "and both eye rows recurved."
- p. 226, line 9, for "procurved" read "recurved."
- p. 241, line 12, "Emerton" should be in Roman type, not bold face.
- p. 248, line 24, for "saggitate" read "sagittate."

- p. 257, line 7, add in parentheses after (Scopoli) "(Marbled spider)."
- p. 278, line 13, delete the parentheses from around "C. L. Koch."
- p. 284, line 10, for "tibia" read "cymbium."
- p. 297, between lines 36 and 37 insert "Subfamily Thaumasiinae."
- p. 306, line 19, for "posterior" read "second."
- p. 409, line 40, for "Argiopidae" read "Epeiroidea," now to be known as "Araneoidea."
- p. 410, lines 22 and 23, for "Misumeninae" read "Thomisinae."
- p. 429, line 20, for "equidistant, or the PME farther" read "the PME distinctly farther."
- p. 429, lines 22 and 23, for "PME farther from the PLE than from each other" read "PME equidistant or farther from each other than from the PLE."
- p. 447 to 497, wherever the name "Peckham" appears read "G. and E. Peckham."
- p. 460, line 6, after "marsh" insert "in Massachusetts."
- p. 483, line 26, for "two" read "one."
- p. 504, line 21, for "foliaceum" read "sublatum"; for "277" read "276"; and for "14" read "10."
- p. 558, line 24, for "same" read "some."
- p. 858, after line 18 in the right hand column insert "*Araniella* 258."
- p. 866, after the last line in the left hand column add "marbled spider 257."
- p. 871, line 7 in left hand column "rostratus (Origanates)" should be in Roman, not italic, type.

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NOTE ADDED IN PROOF: The following changes, corrections, and additions are occasioned for the most part by the appearance of recent publications seen after the original manuscript was sent to the editor.

- p. 32, re: stridulation in courtship, Rovner (1975, *Science* 190:1309-1310) has described a hitherto unknown stridulating organ on the pedipalps of male lycosids.
- p. 59, re: Haplogynae, for a discussion of this taxon see Platnick (1975, *Proc. 6th Intern. Arachnol. Congr.* [for 1974] pp. 30-32).
- p. 71, re: the key to the genera of Theridiidae, see Levi and Randolph (1976, *J. Arachnol.* 3:31-51).
- p. 86, re: *T. grossa*, additional notes on the biology of this species were published by Barmeyer, R. A. (1975, *Bull. So. California Acad. Sci.* 74:30-36).
- p. 143, re: Linyphiidae versus Micryphantidae, additional data for separation based on the tracheal system are supplied by Blest, A. D. (1976, *J. Zool. London* 180:185-194).
- p. 227 and 238, re: *Cercidia* and *Mangora*, a revision was published by Levi (1975, *Bull. Mus. Comp. Zool.* 147:101-135).
- p. 229, 230, 233 and 234, re: the genera *Verrucosa*, *Wixia*, *Acanthepeira*, and *Acacesia* respectively, a revision was published by Levi (1976, *Bull. Mus. Comp. Zool.* 147:351-391).
- p. 237, re: *C. turbinata*, an additional record for this rare species is Bristol, Oct. 1948 (J. Cline) [det. H. W. Levi].
- p. 241, re: *Hypsosinga*, I have learned recently from Dr. Levi (*in litt.*) that he now considers *H. variabilis* a synonym of *H. pygmaea* (Sundevall, 1831) of Europe (see Levi 1971 *Psyche* 78:242). Also, what he had been calling *H. singaeformis* he now believes to be *funebris* (Keyserling, 1892).
- p. 242, re: *Zygiella*, a revision was published by Levi (1974, *Bull. Mus. Comp. Zool.* 146:267-290).
- p. 254-256, and 258, from the genus *Araneus* Levi (1974, *Bull. Mus. Comp. Zool.* 146:291-316) removed *cornutus*, *patagiatus*, and *sericatus* (the latter under the name *sclopetaria*) to *Nuctenea* Simon 1864; and *displicata* to *Araniella* Chamberlin and Ivie 1942, where I too had placed it in my *How to Know the Spiders* (1952).
- p. 342, re: *Callilepis*, a revision was published by Platnick (1975, *Amer. Mus. Novitates* 2573, 32 pp.).
- p. 343, re: *Gnaphosa*, a revision was published by Platnick and Shadab (1975, *Bull. Amer. Mus. Nat. Hist.*, 155:1-66).
- p. 349, re: *Haplodrassus*, a revision was published by Platnick and Shadab (1975, *Amer. Mus. Novitates* 2583, 40 pp.).
- p. 350, re: *Drassodes*, a revision was published by Platnick and Shadab (1976 *Amer. Mus. Novitates* 1593, 29 pp.).
- p. 352-353, re: *Drassodes* and *Geodrassus*, Dr. Platnick has indicated to me (*in litt.*) that *D. robinsoni* is a synonym of *D. saccatus* (Emerton, 1890) which he has resurrected from synonymy under *neglectus*. He has also placed *phanus* as a synonym of *gosiutus* and moved it back into the genus *Drassodes*.
- p. 364, re: *Sosticus*, a revision was published by Platnick and Shadab (1976, *Amer. Mus. Novitates* 2594, 33 pp.).
- p. 382, re: *Meriola*, this genus has been placed in synonymy under *Trachelas* by Platnick and Shadab (1974, *Amer. Mus. Novitates* 2560, 34 pp.).
- p. 407, re: *Anyphaena*, a revision of the *celer* group was published by Platnick and Lau (1975, *Amer. Mus. Novitates* 2575, 36 pp.).

p. 409, re: the separation of the Philodromidae from the Thomisidae *sens. str.*, see Homann (1975, Z. Morph. Tiere 80:181-202). In tabular form for ease of comparison Homann presents the differences with respect to legs, scopula hairs, chelicerae, colulus, chromosomes, morphology and behavior of "last larval instar," and eye morphology.

p. 418, re: *Coriarachne*, a revision was published by Bowling and Sauer (1975, J. Arachnol. 2:183-193). *C. utahensis* Gertsch 1932 is now known from Massachusetts. In their discussion of *C. floridana* the distribution was given as "into New England," but they have informed me that this was an error. The species is included in my supplement because of its having been collected on Long Island, N.Y.

p. 419-420, re: *Oxyptila*, a revision of the genus was published by Dondale and Redner (1975, J. Arachnol. 2:129-181). There are now seven species known from our area. What I had called *O. conspurcata* they consider to be *georgiana* Keyserling 1880. What I had called *americana* they described as their new species *distans*. They expressed doubt about the Connecticut record for *bryantae*, the female of which they consider to be the true *conspurcata*. What I considered to be the male of *bryantae* they consider to be their new subspecies *sincera oraria*. *O. formosa* is now known from Massachusetts as well as Long Island, N.Y. They list the true *americana* from Connecticut, and add for Massachusetts *practicola* (C. L. Koch, 1837) as well as their new species *curvata*.

p. 430, re: *Philodromus*, Dondale and Redner (1975, Canad. Entomol. 107:369-384) added *P. validus* (Gertsch, 1933) from Massachusetts, and in 1976 published a revision of the genus (Canad. Entomol. 108:127-157).

p. 450, re: *Gertschia*, this is considered by Cutler (*in litt.*) to be a synonym of *Synageles* Simon 1876.

p. 562, under Gnaphosidae add: *Gnaphosa mimia* Chamberlin 1933, and *G. microps* Holm 1939.

The table of revised statistics given in this supplement will necessarily have to be modified to take into account the species and genera in this addendum.