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FOSSIL SPIDERS IN THE COLLECTION OF THE AMERICAN MUSEUM OF NATURAL HISTORY

By ALEXANDER PETRUNKEVITCH

BALTIC AMBER SPIDERS

The collection that forms the basis of the present study consists of 28 specimens distributed over 12 families, 18 genera, and 21 species. One of the genera is new, although it has for type a species described by Koch and Berendt, but wrongly placed by them in another genus. Four species are also new. The male of a species formerly known only from a female, and the female of another species established on the basis of a single immature male are described here for the first time. Three of Koch and Berendt's species inadequately described by them are here described in great detail. Two of the families do not appear in my "A study of amber spiders," published in 1942, and their presence in the collection of the American Museum is of special interest. The first of these, the family Dipluridae, belongs to the Suborder Mygalomorphae and is represented by a single specimen belonging to the species *Clostes priscus* which was de-

scribed by Menge in 1869, also on the basis of a single specimen. It is the only representative of the suborder known to science from Baltic amber. The second family, Anyphaenidae, represented by a single specimen of the species *Anyphaena fuscata* Koch and Berendt, belongs to the Branch Quadrostiata of the Suborder Dipneumonomorphae. It furnishes additional proof to the contention that the larger groups of spiders must have evolved at a considerably earlier geological period.

My thanks are due to the Chairman of the Department of Geology and Paleontology of the American Museum, Dr. G. G. Simpson, and to the Associate Curator of Fossil Invertebrates, Dr. Otto H. Haas, for the loan of the specimens, as well as to Dr. W. J. Gertsch of the Department of Insects and Spiders for having called my attention to the existence of this collection and to the presence of a mygalomorph in it.

SUBORDER MYGALOMORPHAE

BRANCH OCTOSTIATAE

FAMILY DIPLURIDAE

Subfamily Macrothelinae

GENUS CLOSTES MENGE, 1869

When the genus *Clostes* was established by Menge for the single species *C. priscus* found in Baltic amber, the classification of mygalomorph spiders was still very little understood. Menge states: "Ich habe daher eine zwischen *Clotho* und *Mygale* stehende gattung aufgestellt" (p. 7). Now the genus *Clotho* is a synonym of *Uroctea* and therefore a dipneumonomorph spider. The genus *Mygale* is a synonym of *Poecilotheria*

which is a mygalomorph spider of the family Theraphosidae. But in the sixties of the past century numerous mygalomorph spiders were placed under the genus *Mygale*, such as *Diplura macrura* (C. L. Koch), 1842; *Brachythele icterica* (C. L. Koch), 1842; *Trechona lycosiformis* (C. L. Koch), 1842; *Trechona venosa* (Latreille), 1830; and *Trysothele subcalpetana* (Nicolet), 1849. All these species are now placed in the family Dipluridae. It seems strange that an arachnologist of the caliber of Menge, familiar with Koch's great work and figures, did not recognize the striking resemblance of his *Clostes priscus* to these diplurid spiders. His figure and descrip-

tion of *Clostes priscus* leave no doubt of its affiliation with the family Dipluridae, and the American Museum specimen fully confirms this relationship. The slight discrepancy in the relative length of the legs and in the number of teeth in the claws is of no great value and may be owing to poorer instruments, difficulties of correct measurement, or difference in the instar or sex. Menge's definition of the genus is quite inadequate from the modern point of view. For this reason a new definition is given here:

Eight eyes on a transversely ellipsoidal tubercle. Both rows slightly procurved. Anterior median eyes the smallest, anterior lateral eyes the largest, of the group. Lateral eyes contiguous and median eyes contiguous with their respective lateral eyes. Quadrangle of eyes considerably wider behind than in front. Carapace fairly low. Thoracic groove recurved. Legs with bristles, but devoid of spines. Order of legs 4123. Three claws. Upper claws dissimilar, pectinate in a single row. Claw tufts and scopulae wanting. Four spinnerets. Posterior pair wide apart, approximately as long as two-thirds of the abdomen, their third joint straight, longer than the second joint. Type, *C. priscus* Menge.

The genus *Clostes* may be differentiated from related Recent genera of the same subfamily as follows: It differs from *Ischothele* by the relatively greater length of the third joint of the posterior spinnerets in the latter; from *Macrothele*, to which it is most closely related, by the absence of spines on the legs; and from *Porrhothele* by its eyes (in *Porrhothele* the posterior median ones are smaller than the anterior median ones) and by the fact that in *Porrhothele* the first pair of legs is much the stoutest, whereas in *Clostes* all legs are more or less equally stout.

Clostes priscus Menge

Figures 1-6, 79

Clostes priscus MENGE, 1869, Schr. Naturf. Gesellsch. Danzig, new ser., vol. 2, fasc. 2, pp. 6-7, figs. A, B.

The spider (A.M.N.H. No. 26254) is in fairly clear amber which unfortunately has pockets filled with air. Two of them were so large that it was necessary to remove them by drilling and then by filling the cavity with a solution of clarite. The ventral surface of the specimen is heavily coated with white emulsion which makes the lip, sternum, maxillae, venter of abdomen, and the pair of anterior spinnerets invisible. The dorsal surface is clear. The specimen is distorted, its abdomen being pressed toward the right side at an angle of about 45 degrees. The legs of the left side have been mutilated by some previous owner in the process of cutting, and lack the tarsi and portion of the metatarsi. The right legs are complete, but are bent under the spider. The carapace and the chelicerae are almost black, the abdomen and the appendages dark brown.

Total length with chelicerae but without spinnerets 4.5 mm. (This figure represents the sum of separate measurements of the carapace and abdomen in the median line.) Carapace 1.65 mm. long, 1.55 mm. wide, with evenly rounded sides as shown in figure 1. In the region of the eye tubercle the width of the carapace is only 0.85 mm. Abdomen 2.25 mm. long, 1.20 mm. wide. Posterior spinnerets 1.75 mm. long; their first joint 0.50 mm., second joint 0.50 mm., third joint 0.75 mm. The basal joint of chelicerae 0.60 mm. long.

In the specimen described here the first and second legs are equally long, but in Menge's specimen the first leg is given as being considerably longer than the second.

LEGS	FEMUR	PATELLA	TIBIA	METATARSUS	TARSUS	TOTAL
I	1.35	0.60	1.00	0.95	0.75	4.65
II	1.35	0.60	1.00	0.95	0.75	4.65
III	1.15	0.60	1.00	0.95	0.75	4.45
IV	1.40	0.65	1.20	1.40	0.80	5.45
Palp	0.90	0.50	0.90		0.70	3.00
	4	1	2	3		
Leg formula	3.3	2.8	2.8	2.7		

According to Menge the total length of the legs is: I, 7.5; II, 6; III, 4; IV, 8 mm. It is possible that his specimen was an immature male. It had a claw at the end of the palp, but we know now from observations on living species that in mygalomorph spiders the palp of the male shows no swelling even in the penultimate instar and presents the appearance of a female palp.

Width of first patella 0.275 mm., of second, third, and fourth 0.250 mm. First tibial index 17.1, second 15.6, third 15.6, fourth 13.5.

Femur of palp distinctly curved laterally, concave toward the chelicerae. Femur of fourth leg very slightly curved downward, convex dorsally. All femora straight. Claws (fig. 2) visible on all four legs of the right side. Upper claws long, slender, dissimilar, but both pectinate in a single row. The retroclaw is slightly bent at distal third and the teeth occupy the middle third. There are five teeth, unless one counts as the sixth one the small tubercle shown in our figure. The proclaw is more or less evenly curved, and its teeth occupy the proximal half. They are longer and stouter than those of the retroclaw, and there are eight of them, the proximal one being quite small. Menge did not notice the dissimilarity of the claws in his specimen, but in his

time no attention was paid to this character. His figure was presumably made from the proclaw. On the first three legs of our specimen the proclaw is turned in such a manner as to make the claws invisible, while the proclaw of the fourth leg shown in our figure is broken off beyond the distal tooth. The third claw is stout, smooth, thorn-like. Claw tufts are wanting, as well as spines; but stout, long bristles are present on all legs. Scopulae are wanting. Trichobothria are visible only on the tibiae where they are arranged in two rows, four in each row, increasing in length distally.

The spinnerets are clothed with long hair having the appearance of slender bristles. On the terminal and median joints several spinning tubes are visible (fig. 6). They have a short, stout base and a slender and very long shaft which is fully as long as the common hair and may be easily mistaken for it. At least one spinning tube is visible at the end of the basal joint in both spinnerets.

The abdomen is clothed with stout, curved bristles. The surface of the dorsal abdominal wall appears wrinkled.

The chelicerae are provided with a few long and stout bristles, but lack a rastellum. Only a portion of the right fang is visible. They were not visible in Menge's specimen.

SUBORDER DIPNEUMONOMORPHAE

BRANCH TRIONYCHAE

FAMILY ERIGONIDAE

GENUS *EOGONATIUM* PETRUNKEVITCH, 1942

Eogonatum robustum, new species

Figures 7-10, 71

HOLOTYPE: A.M.N.H. No. 26255. Female, presumably in penultimate instar. An unusually well-preserved specimen in almost perfectly clear amber.

Total length 3.2 mm. Carapace 1.15 mm. long, 1.00 mm. wide, 0.37 mm. high, with a semilunar depression in the place of the thoracic groove. Eye group 0.45 mm. wide; almost, but not quite so wide as the head. First row of eyes strongly recurved, second row gently procurved (fig. 10). Laterals at each side of the head contiguous, on a single

tubercle. Quadrangle wider in front than behind in ratio 22:20 and wider than long in the same ratio. Ratio of eyes AME: ALE: PME: PLE = 9:8:8:8. AME separated from each other by one-third of their diameter and from the ALE by only two-ninths of their diameter. PME separated from each other by three-quarters of their diameter and from the PLE by their radius. Clypeus equal to one-third of the diameter of the AME. In face view (fig. 8) the anterior row of eyes is slightly up-curved, the posterior row distinctly down-curved and somewhat longer than the anterior row. A median row of slender bristles and a few scattered ones are present on the carapace, but otherwise its surface is smooth.

Chelicerae more or less geniculated, their

outer edges parallel, their inner ones diverging. The margins are oblique, promargin smooth, retromargin with three pointed teeth. Boss wanting. Fang evenly curved. Maxillae projecting considerably beyond the chelicerae as shown in figure 8. In face view the serrula can be seen plainly on the left maxilla, and the edge of the right maxilla is visible all the way to the insertion of the palp. The ventral view is obstructed by bubbles and imperfections of the amber. The lip is consequently not visible.

Sternum longer than wide in ratio 55:45, pointed between the hind coxae which are separated by less than one-quarter of their width. First coxae wide apart. The sternum is distinctly, but not strongly convex.

LEGS	FEMUR	PATELLA + TIBIA	METATARSUS	TARSUS	TOTAL
I	1.25	1.32	0.95	0.55	4.07
II	0.90	1.00	0.62	0.42	2.94
III	0.70	0.70	0.42	0.35	2.17
IV	0.90	0.90	0.50	0.35	2.65
Leg formula	1 2 4 3				
	3.5 2.5 2.3 1.9				

Width of first patella 0.245 mm. First tibial index 19

Width of fourth patella 0.215 mm. Fourth tibial index 24

Three claws. Upper claws similar, evenly curved, smooth. Third claw bent at right angles, smooth. Palpal claw gently curved, smooth. Serrated bristles, claw tufts, and scopulae wanting. Legs clothed with simple hair of two kinds, more numerous longer hair directed at an angle forward and much less numerous short hair standing erect especially on tarsi. No trichobothria can be seen.

Abdomen ellipsoidal, evenly rounded at both ends, distinctly flattened above, 1.85 mm. long, 1.55 mm. wide, 1.25 mm. high.

Six spinnerets forming a rosette (fig. 9). Anterior pair somewhat stouter, contiguous. Colulus well developed. In front of it the tracheal spiracle is plainly visible, a very unusual feature in fossil species, often difficult to see even in Recent species. On tipping the specimen one can see in front of the genital fold a not yet fully developed epigyne. It has the shape of a small, transverse plate with a pair of round receptacles under it. The abdomen is sparsely clothed with stout hair standing at an angle to the surface.

The species may be distinguished from *E. minutum* by its larger size and the proportion of the eyes; from *E. succini* by the fact that its four anterior eyes are not contiguous and its clypeus is much lower.

FAMILY AGALENIDAE

Subfamily Agaleninae

GENUS *EOCRYPHOECA*, NEW

DEFINITION OF GENUS: Spinnerets forming a trapeze, anterior pair closer together than the posterior one, yet separated by at least their diameter. Anterior spinnerets with a hemispherical second (terminal) joint, posterior ones with a cone-shaped second joint which is much shorter than the

basal joint and bears a few spinning tubes. Eyes in two rows, both procurved when viewed from above, slightly downcurved in face view. Anterior median eyes smallest. Armature of chelicerae not known. Closely related to *Cryphoea*, but has relatively longer legs with somewhat different disposition of spines and relatively much less difference in the size of the eyes of the first row. Type, *E. gracilipes* (Koch and Berendt).

Eocryphoea gracilipes

(Koch and Berendt)

Figures 11–21, 78

Tegenaria gracilipes KOCH AND BERENDT, 1854, Die im Bernstein befindlichen Crustaceen, Myriapoden, Arachniden und Apteren der Vorwelt, p. 47, pl. 16, fig. 139.

HOLOTYPE: A.M.N.H. No. 26256.

Koch described two species under the generic name of *Tegenaria*, namely, *T. obscura* and *T. gracilipes*. If one can judge by the figures, the two spiders are very different in appearance. The characters now considered to be of primary importance

for the recognition of the genus are either invisible, as in the case of the spinnerets in his specimen of *T. gracilipes*, or else insufficiently described. Both Koch and Menge, who edited Koch's monograph, were of course fully familiar with Recent European species of *Tegenaria*. In a footnote accompanying Koch's description of *T. obscura*, Menge states that in his opinion that species undoubtedly belongs to the genus *Tegenaria* because of the disposition of its eyes and the longer posterior spinnerets—"gehört nach der Stellung der Augen und den längern hintern Spinnwarzen wohl zu *Tegenaria*" (p. 47). Of the eyes of *T. gracilipes*, Menge says that they are somewhat different from those of Recent species. Unfortunately species were referred at that time to the genus *Tegenaria* which have since been removed to the genera *Cryphoea* and *Cicurina*. The description of *T. gracilipes* given by Koch, including Menge's footnote, is insufficient to place that species in a proper genus. If, nevertheless, I refer specimen A.M.N.H. No. 26256 to Koch's species I do so because of its resemblance to Koch's figure and also because it is probable that it belongs to that and not to a different species. The new genus *Eocryphoea* had to be erected because the spinnerets and eyes are sufficiently well visible to require the removal of the species from the genus *Tegenaria*. The same characters do not permit the inclusion of the species in any Recent genus.

DESCRIPTION OF HYPOTYPE: It is a well-preserved specimen in clear amber which, however, has a dirty plane separating the view of the spider in such a manner that only the eye group and portion of the abdomen are visible on the one side of the plane. Apparently the spider was caught in a small quantity of resin which became hardened on the surface with particles of dust adhering to it, before a new layer of resin enveloped the rest of the body and the legs. On the ventral surface some white emulsion obstructs the view of a portion of the abdomen, median spinnerets, and chelicerae, so that only the fang of the right chelicera and part of the left chelicera may be seen.

Total length 3.84 mm. Carapace 1.65 mm. long, 1.10 mm. wide in region between

second and third coxae, with head sharply set off and having parallel sides so that the width of the head is 0.70 mm. The eye group (fig. 15) is much narrower than the head. In side view (fig. 19) the carapace appears highest at the thoracic groove which is longitudinal and from which the cephalothoracic and thoracic sulci radiate. The thoracic portion of the carapace has such strongly convex sides that it has almost the shape of a circle. A median row of bristles extends from the thoracic groove forward to the eye group. The surface of the carapace is sparsely clothed with recumbent simple hair directed forward in the middle, forward and upward on sides. The eye group is 1.00 mm. wide and consists of two procurved and downcurved rows. The posterior row is longer than the anterior one and consists of four equal and equidistant eyes (fig. 18) separated from each other by four-tenths of their diameter. The eyes of the first row are subcontiguous, though clearly separated. Ratio of eyes AME: ALE:PME:PLE = 7:8:10:10. The quadrangle is slightly wider than long in ratio 22:20, wider behind than in front in ratio 22:14. The clypeus is concave, not higher than lateral eyes, with a row of short bristles on the margin.

Chelicerae parallel, rather short, fairly stout, not geniculated. Boss present (fig. 15). Fang short, evenly curved. Margins not visible.

Maxillae parallel by inner edges. Lip trapezoidal, distinctly wider than long, extending just beyond the middle of the maxillae.

Sternum a little longer than wide (fig. 16), fairly flat, broadly truncated in front, bluntly pointed behind. First coxae wide apart, fourth coxae separated by about their width.

SPINES: First leg: Femur dorsal 1-1-1 (distal spine quite small), prolateral 1-1-1, retrolateral 0, ventral 1-1-1-1-1 bristles. Patella dorsal 1-1 bristles, elsewhere 0. Tibia prolateral 1-0-0, ventral 2-2-2, elsewhere 0. Metatarsus ventral 2-2-2, elsewhere 0. Second leg: Same as first except tibia dorsal 1-1, metatarsus prolateral 0-0-1, retrolateral 0-0-1. Third leg: Femur dorsal 1-0-0, prolateral 0-0-1, retrolateral

LEGS	FEMUR	PATELLA + TIBIA	METATARSUS	TARSUS	TOTAL
I	1.25	1.55	1.10	0.75	4.65
II	1.25	1.45	0.90	0.70	4.30
III	1.10	1.25	0.90	0.60	3.85
IV	1.40	1.65	1.30	0.75	5.10
Palp	0.55	0.55		0.60	1.70
Leg formula	4	1	2	3	
	3.0	2.8	2.6	2.3	

Width of first patella 0.175. First tibial index 11

Width of fourth patella 0.200. Fourth tibial index 12

0-0-1, ventral an irregular row of bristles. Patella dorsal 1-1, elsewhere 0. Tibia dorsal 1-1, prolateral 0-0-1, retrolateral 0-0-1, ventral 2-2-2. Metatarsus dorsal 0-0-1, prolateral 1-1-1, retrolateral 1-1-1, ventral 2-2-2. Fourth leg: Same as third except metatarsus dorsal 1-0-1.

Trichobothria few. On tarsi a single row of four trichobothria is present, increasing in length distally (fig. 20). A few scattered trichobothria are also present on metatarsi and tibiae, but they are difficult to see on account of their shortness and slender appearance. The legs are clothed with simple hair which is stout, especially on tarsi. The spines are also stout and long; those on the palpi are curved and partly obstructed from view. On the femur of the palp one can see at least one dorsal spine, on the patella 1-1 dorsal spines. On the tibia dorsal 1-1, prolateral 1-1, retrolateral 1-1, ventral 0. Terminal joint with no fewer than nine spines, their exact disposition not clear, but found on all surfaces.

Three claws. Upper claws similar, slightly bent, with a row of slender teeth in basal half (fig. 21), increasing in length distally, their counting difficult, but apparently seven or eight. Third claw bent, smooth. Palpal claw almost straight, smooth. Serrated bristles, spurious claws, and scopulae wanting on all legs. None of the trochanters notched.

Abdomen ovoid, pointed behind, rounded in front and considerably overlapping the carapace. The spinnerets are terminal. Of the median pair only the terminal bristles are visible. Those of the anterior pair are two-jointed, cylindrical, with the second joint hemispherical (fig. 14), separated at base by more than their diameter. The posterior spinnerets are also two-jointed, but their basal joint is as long as

an entire anterior spinneret, and their second joint is cone-shaped (fig. 14) and much shorter than the basal joint. The posterior spinnerets are inclined toward each other (fig. 13) and are separated at base by about two of their diameters and from the anterior pair by about their radius. The bases of the four spinnerets form therefore a regular trapeze. Several spinning tubes can be seen at the end of the cone-shaped second joint, but their number seems to be small, about six at most. The anal tubercle is small. A colulus is wanting.

The abdomen is clothed with stout brown hair standing at a considerable angle to the surface. I am unable to see any plumose hair either on the abdomen or on the legs.

Myro fossilis described by me under that genus in my "A study of amber spiders" is not a *Myro* but an *Ecoryphoea*. It may be separated from *E. gracilipes* by the disposition of the eyes, the second row of which is much farther apart in *E. fossilis* than in *E. gracilipes*.

FAMILY INSECUTORIDAE

GENUS INSECUTOR PETRUNKEVITCH, 1942

Insecutor aculeatus Petrunkevitch

Figures 22, 77

Insecutor aculeatus PETRUNKEVITCH, 1942, A study of amber spiders, p. 239, pl. 20, figs. 186-192, pl. 26, figs. 246-247, pl. 27, fig. 251, pl. 61, figs. 560, 564.

The American Museum of Natural History has five specimens of this species (A.M.N.H. Nos. 26257:1-26257:5). Specimens A.M.N.H. Nos. 26257:3-26257:5 present no new features. All three seem to be young females. A.M.N.H. No. 26257:3 is especially well preserved.

Specimen A.M.N.H. No. 26257:1, although incomplete and damaged, presents

many interesting features. The posterior half of the abdomen must have been lost before the spider became fully enclosed in amber. Consequently one is enabled to look into the interior portion of the abdomen. The passage into the petiolus, filled with white emulsion, is plainly visible, but

Carapace 1.75 mm. long, 1.40 mm. wide. Width of head in the region of the posterior row of eyes 0.80 mm. First row of eyes 0.60 mm., second row 0.72 mm. Ratio of eyes AME:ALE:PME:PLE = 2.5:4.5:4.5:5.5. Quadrangle wider behind than in front in ratio 13:10, as long as wide behind.

LEGS	FEMUR	PATELLA + TIBIA	METATARSUS	TARSUS	TOTAL
I	1.90	2.30	1.75	0.85	6.80
II	1.90	2.35	1.80	0.90	6.95
III	1.70	2.00	1.60	0.75	6.05
IV	1.90	2.00	1.85	0.80	6.55
Palp	0.75	0.75		0.85	2.35
Leg formula	2	1	4	3	
	4.0	3.8	3.7	3.5	

Width of first patella 0.275 mm. First tibial index 12

Width of fourth patella 0.275 mm. Fourth tibial index 13

the lungs have completely disintegrated, leaving no trace of their existence. Absence of an epigyne or of receptacles proves that the specimen was immature. Its chief interest, however, lies in the fact that the view of the chelicerae is not obstructed either by emulsion, which is the usual case, or by imperfections of the amber. One gets a clear view of the margins and of the fang (fig. 22). The promargin has no teeth and only a very scanty scopula composed of a single row of seven bristles. The retromargin has no scopula, but is armed with three small teeth, the central one being the largest. Behind the chelicerae one can see the rounded edge of the maxillae with a few marginal bristles and somewhat away from the margin the serrula. The chelicerall boss can also be seen at the base of the left chelicera, but it is poorly developed.

Specimen A.M.N.H. No. 26257:2 (fig. 77) looks at first glance somewhat different from the others. This is owing partly to the fact that all its legs are turned under the ventral surface so that they can be studied only by turning the specimen, examining it in different positions; and partly because all hair seems to be preserved and heavily coated with white emulsion.

A detailed description of the specimen, such as I have in my original notebook, is not needed here. The deviations from characters given in the description of the type are only of a subordinate kind. Only measurements are therefore given here.

Upper claws with four teeth. Third claw smooth.

Insecutor mandibulatus Petrunkevitch

Figures 23-25, 73

Insecutor mandibulatus PETRUNKEVITCH, 1942, A study of amber spiders, p. 244, pl. 26, figs. 238-245, 248, pl. 27, figs. 249, 250, pl. 60, fig. 559, pl. 61, fig. 563, pl. 66, fig. 599.

The type and paratype of this species are apparently immature females. The American Museum of Natural History has two specimens (A.M.N.H. No. 26258:1, 26258:2). A.M.N.H. No. 26258:1, which may be a mature female, is well preserved. The epigynal region is covered with a layer of emulsion. However, if the specimen is examined in very strong transmitted light at a certain angle, a portion of an organ can be seen which may be the left receptacle with a short duct. The view of the right receptacle is unfortunately obstructed by the fourth leg.

Carapace 1.85 mm. long, 1.50 mm. wide. Abdomen 2.15 mm. long. Second leg: Femur 2.00, patella + tibia 2.50, metatarsus 18.5, tarsus 0.90, total 7.25 mm.

Specimen No. 26258:2 (figs. 23-25, 73) is a mature male. There seems to be little doubt that it belongs to the same species as the type and must therefore be regarded as androtype. It is a well-preserved specimen. The amber is very dark and full of imperfections; portions of some legs are missing, but all important features are visible and both palpi can be seen without difficulty.

Total length 5.55 mm. Carapace 2.5 mm. long, 2.3 mm. wide. Head in the region of the second row of eyes 1.12 mm. wide. The eye group is shown in figure 25. Both rows are slightly recurved. The lateral eyes are widely separated, yet are on joint tubercles. Width of eye groups 1.00 mm. Ratio of eyes AME:ALE:PME:PLE = 9:11:10:10. Quadrangle wider behind than in front in ratio 34:25, wider than long in the same ratio. Carapace, face, and chelicerae have the same shape and structure as in the type.

LEGS	FEMUR	PATELLA + TIBIA	METATARSUS	TARSUS	TOTAL
I	4.48	5.92	4.48	2.08	16.96
II	4.48	5.92	4.64	2.08	17.12
III	3.36	4.80	3.52	2.08	13.76
IV	4.00	4.16	4.16	2.08	16.40
Palp	1.50	1.24		1.62	4.30
Leg formula $\frac{2 \quad 1 \quad 4 \quad 3}{6.85 \quad 6.78 \quad 6.56 \quad 5.50}$					

Tibia and patella of the palp are equally long. The spines on the legs have the same disposition as in the type. Upper claws (fig. 23) have a single row of 16 slender teeth. The sternum has the same shape as in the type. The lip is not visible. The palpi are very characteristic (fig. 24). The tibia has a powerful dorsal apophysis. The copulatory apparatus has an enormous ventral, cone-shaped apophysis with its pointed end turned slightly upward. The embolus has the shape of a fine spiral forming apparently a single turn.

The spinnerets are heavily coated with emulsion.

FAMILY THERIDIIDAE

Subfamily Theridiinae

GENUS *Flegia* KOCH AND BERENDT, 1854

Flegia longimana Koch and Berendt

Figures 26-32, 72

Flegia longimana KOCH AND BERENDT, 1854, Die im Bernstein befindlichen Crustaceen, Myriapoden, Arachniden und Apteren der Vorwelt, p. 29, pl. 3, fig. 18.

Koch gave a sufficiently good description with a figure which makes it possible to identify the species. He had a single male specimen which was clear on the dorsal surface, but coated on the venter. Chelicerae, maxillae, lip, and sternum remained there-

fore unknown. According to a footnote on page 30, Menge had seven specimens of this species, all of them males, but in one piece of amber besides a male a female was also present. Menge gives some information concerning the eye tubercle, chelicerae, sternum, and copulatory apparatus of the male.

Specimen A.M.N.H. No. 26259 is a beautifully preserved male in perfectly clear amber (figs. 26-32, 72). It is visible from all sides, and only the chelicerae are

coated with emulsion and cannot be seen clearly. An air bubble obstructs the view of the copulatory apparatus of the right palp, but the left palp is clearly visible.

Total length 2.66 mm. Carapace 1.12 mm. long, 1.12 mm. wide. Its shape is very characteristic owing to the curvature of the right and left halves of its thoracic portion, giving it an appearance which Koch likened to cheeks. The head is elevated and separated from the thorax by deep grooves. The carapace is glabrous. The sternum shown in figure 31 is longer than wide, very convex, pointed and slightly bifid at posterior end. The lip is wider than long. The maxillae are inclined over the lip. The first coxae are wide apart. The fourth coxae are separated by the end of the sternum.

Spines on legs wanting, but dorsal bristles present on all legs as follows: patella 1-1, tibia 0-1-1. Legs clothed with simple hair. Fourth tarsi with a comb of serrated bristles, one of which is shown at high magnification in figure 28. Trichobothria are present on tibiae and metatarsi, but being rather short they are difficult to see. The upper claws are similar (fig. 30), with three or four teeth. Third claw as large as upper claws, but smooth (fig. 29). Two spurious claws are present (fig. 32).

LEGS	FEMUR	PATELLA + TIBIA	METATARSUS	TARSUS	TOTAL
I	2.45	2.80	2.52	0.70	8.47
II	1.75	1.75	1.61	0.63	5.74
III	1.19	1.19	1.05	0.56	3.99
IV	2.45	2.45	2.45	0.91	8.26
Palp	1.12	0.91	0.70		2.73
Leg formula	1 4 2 3				
	7.5 7.4 5.1 3.6				

Width of first patella 0.15 mm. First tibial index 5.1
Width of fourth patella 0.15 mm. Fourth tibial index 6.1

Abdomen 1.61 mm. long, 0.84 mm. wide, sparsely clothed with long, stout, curved hair.

Subfamily Latrodectinae

GENUS EODIPOENA PETRUNKEVITCH, 1942

Eodipoena oculata Petrunkevitch

Figures 33, 34

Eodipoena oculata PETRUNKEVITCH, 1942, A study of amber spiders, p. 272, pl. 17, figs. 160-168, pl. 61, fig. 565.

The type of this species is in the British Museum and is a mature female of 4.1 mm. in length. The American Museum of Natural History has a specimen (A.M.N.H. No. 26260, figs. 33, 34) which I refer to this species with some doubt because of the difference in size and some discrepancies in structure. However, the differences are not so great as the similarities, as may be judged by the following description.

This specimen is rather poorly preserved in very imperfect amber. The little spider clings with its four anterior legs to a large bubble filled with white emulsion, air, and dirt. It was necessary to drill a hole to the bubble, insert a fine canule of glass, suck up the air with loose debris, and then fill the cavity with cedar oil. In the process of such fine procedure the tip of the extremely fine canule broke off and slipped into the cavity of the bubble where it now permanently remains. However, many important structures not visible before the operation are now apparent.

The little spider is so twisted in the amber that its abdomen is almost at right angles to the cephalothorax. The legs are complete and can be measured, but the comb of the fourth tarsi cannot be seen except when the specimen is inclined at a considerable angle. Four long bristles then become visible in the distal half of the left tarsus, making the

existence of the comb certain and suggesting that it is actually composed of seven or eight bristles. The claws cannot be seen clearly. The posterior edge of the carapace can be seen only in profile because almost half of the carapace is hidden under the anterior end of the abdomen. The eye group (fig. 34) is visible both from above and from in front, but measurements are difficult and unsatisfactory. The chelicerae can be seen in only one position, otherwise their view is obstructed by the first pair of legs. Neither sternum nor mouth parts are visible. The six spinnerets are clearly visible, but the view of the colulus, if there is one, is completely obstructed by dirt. A ventral median ridge of dirt extends from the spinnerets forward, obstructing the view of the genital fold, but the swelling in that region is possibly due to the presence of an epigyne under the dirt.

Total length ca. 2 mm. Carapace 0.72 mm. long, 0.80 mm. wide (fig. 33), strongly narrowed in front. The eye group is only 0.40 mm. wide, and the lateral eyes project beyond the outline of the head. The carapace is fairly level and has a transverse depression in place of the thoracic groove. A median line of bristles, visible only in profile, extends from the depression forward. The eye group is on a joint ellipsoidal tubercle. The eyes are all of about the same size. The laterals are contiguous, but are slightly separated from the medians. The AME and the PME are separated, each pair, by about their radius. The quadrangle is about square. The first row of eyes is recurved, the second slightly procurved. Clypeus slightly lower than quadrangle.

Chelicerae very small, virtually without margins. Fang slender, pointed.

Spines on legs wanting, but the usual

LEGS	FEMUR	PATELLA + TIBIA	METATARSUS	TARSUS	TOTAL
I	0.87	0.87	0.57	0.37	2.68
II	0.67	0.72	0.45	0.35	2.19
III	0.52	0.60	0.42	0.25	1.79
IV	0.87	0.87	0.60	0.40	2.74
Palp	0.25	0.22		0.22	0.69
	4	1	2	3	
Leg formula	3.8	3.7	3.0	2.5	

dorsal bristles 1-1 are present on the patella. The legs are clothed with simple hair.

Abdomen ovoid, 1.9 mm. long, 1.25 mm. high, 1.50 mm. wide. It is clothed with stiff hairs. The spinnerets are typical, situated in a rosette. The anal tubercle is cone-shaped and rather large, widely separating the posterior spinnerets.

Eodipoena baltica, new species

Figures 35-38, 69

HOLOTYPE: A.M.N.H. No. 26261. Mature female. Except for some emulsion on the abdomen and a few air bubbles, the specimen is well preserved in clear amber.

Total length with chelicerae 2.5 mm. Carapace about 0.95 mm. long. (Exact measurement is impossible on account of the shape of the spider; see fig. 35.) Abdomen ovoid, 2.0 mm. long, 1.5 mm. high, 1.75 mm. wide, rounded in front. Sternum as long as wide, fairly convex, bluntly pointed between the hind coxae which are separated by their width. First coxae wide apart. Chelicerae neatly cone-shaped, their armature as well as the fangs not visible.

The legs are clothed with simple hair of

LEGS	FEMUR	PATELLA + TIBIA	METATARSUS	TARSUS	TOTAL
I	1.10	1.15	0.75	0.50	3.50
II	0.90	0.90	0.65	0.50	2.95
III	0.75	0.65	0.45	0.40	2.25
IV	1.00	1.00	0.65	0.50	3.15
Palp	0.30	0.32		0.35	0.97
	1	4	2	3	
Leg formula	3.7	3.3	3.1	2.4	

Width of first patella 0.137 mm. First tibial index 3.9

Width of fourth patella 0.150 mm. Fourth tibial index 4.7

two kinds: one is longer and inclined forward; the other shorter and erect, with larger intervals between the hairs. The comb of the fourth tarsi is well visible and is composed of seven bristles. The claws are smooth. The third claw is bent at right angles. Scopulae, claw tufts, and spines

are wanting, but the usual dorsal bristles 1-1 are present on patellae and tibiae and are rather stout and long.

The eye group is shown in figures 36 and 38. The maxillae are converging over the lip which is much wider than long.

The epigyne (fig. 37) resembles that in the other two species of the genus. On each side a row of dots is visible. I think that they represent nodes of a convoluted tubule or duct which opens presumably into the atrium. The latter has the shape of an inverted V.

The three species of *Eodipoena* may be distinguished as follows:

1. Order of legs 4123. *E. oculata*
Order of legs 1423. 2
2. Size larger, 4 mm. Legs relatively shorter and stouter, first leg only 2.8 times as long as carapace. Sternum distinctly longer than wide.
..... *E. bassleri*
Size smaller, 2.5 mm. Legs relatively longer and more slender, first leg 3.7 times as long as carapace. Sternum as long as wide.
..... *E. baltica*, new species

Subfamily Mysmeninae

GENUS *MUNICEPS* PETRUNKEVITCH, 1942

Municeps pulcher Petrunkevitch

Municeps pulcher PETRUNKEVITCH, 1942, A study of amber spiders, p. 281, pl. 8, figs. 73-75, pl. 58, fig. 540.

The specimen in the collection of the American Museum (A.M.N.H. No. 26262) is a very young spiderling well preserved in perfectly clear amber, in which, however, there is a flaw obstructing the view of some structures. When examined in an inclined ray of light the whole spiderling assumes the color of pure gold. The comb is plainly visible. The claws of one leg can be studied under high power and are of the same structure as in the type. I compared the specimen with the type and am satisfied of its identity.

GENUS *EOMYSMENA* PETRUNKEVITCH, 1942

Eomysmena succini Petrunkevitch

Figures 39-41, 67

Eomysmena succini PETRUNKEVITCH, 1942, A study of amber spiders, p. 286, pl. 36, figs. 341-346, pl. 67, fig. 606.

The type of this species is an immature male. A.M.N.H. No. 26263 is a mature female and is therefore the gynetype (figs. 39-41, 67). It is a complete specimen with clearly visible ventral surface and face. Although the abdomen is caved in, the spinnerets are perfectly visible on its concave surface. The view of the dorsal surface is spoiled by emulsion, but the outlines of the body may be seen. Since in the majority of Recent spiders immature males generally resemble females I see no objection to placing this female in the same species with the male. In the type the mouth parts and portion of the sternum are not visible, whereas in the present specimen they can be seen much better than is the case in most amber spiders. That is the reason why the figures given here were made at considerable magnification.

GYNETYPE: Total length 1.9 mm. Clypeus strongly concave directly under the eyes, then convex and slanting, as high as the quadrangle. The latter is elevated on a joint tubercle and is slightly wider behind

than in front in ratio 10:9 and wider than long in ratio 10:8. Exact measurements of eyes are very difficult because the curvature of the eyes stands in direct continuation with the curvature of the tubercle. The latter is light yellow like the clypeus, though much darker toward its edges. The AME appear to be slightly larger than the PME, while the lateral eyes are still a little smaller. Each pair of laterals is on a common tubercle. A pair of bristles is present in the middle of the quadrangle and a single bristle under its anterior edge.

The chelicerae are more or less parallel, though slightly tapering toward their transverse margins, which are short and devoid of armature or scopulae. The ventral angle of the margins is so sharp that it has the appearance almost of a tooth, but by shifting the angle of observation one can see plainly that this effect is due to distortion of the image, a phenomenon only too common in amber specimens, and against which one has to be constantly on guard. A boss is wanting. The surface of the basal joint is yellow, virtually glabrous except for four or five very slender hairs situated each in a circular base. The fang has a very stout base, is attenuated suddenly, and is curved and pointed.

The maxillae (fig. 39) are protruding far beyond the chelicerae. The serrula is plainly visible and quite long. Viewed from below the maxillae appear strongly inclined over the lip, almost meeting in the middle line. There is a small tuft of hair at the end of the inner corner. The lip is trapezoidal, wider at base than long (fig. 41). The sternum is strongly convex, slightly longer than wide in ratio 24:21, clothed with very few, scattered hairs. The first coxae are wide apart; the fourth coxae are separated by less than their width.

The legs are stout, but the width of the patella cannot be measured, and the tibial

LEGS	FEMUR	PATELLA + TIBIA	METATARSUS	TARSUS	TOTAL
I	0.75	0.87	0.45	0.45	2.52
II	0.75	0.87	0.40	0.40	2.42
III	0.55	0.50	0.35	0.40	1.90
IV	0.80	0.92	0.47	0.50	2.69
	4	2 3			
Leg formula	2.8	2.6 2.5 2.0			

indices cannot be given. Spines are wanting, but the usual dorsal bristles are present on the patellae and tibiae. The comb is plainly visible on the left fourth tarsus and is composed of seven bristles. The claws are also plainly visible on all tarsi, but are in such a position that their finer structure cannot be ascertained. The third claw is bent at right angles and is smooth.

The abdomen is clothed with stiff bristles mostly directed backward, yet irregular in their distribution. The spinnerets are quite typical. The anterior pair is the stoutest. The colulus is plainly visible and well developed.

A remarkable feature of this specimen and one most unusual in amber spiders is the apparent preservation of the original colors. Some of the chitin is dark; other portions are light yellow or buff. The light color of the eye tubercle has already been mentioned and is a striking feature immediately attracting attention. The chelicerae are only slightly darker. The coxae and trochanters are light yellow. The sternum, on the other hand, is dark brown. The lip is dark brown with a yellow edge as are the maxillae. The legs are brown with still darker spots. The femur of the palp is yellow, but the rest of the palp is dark brown.

The condition of the ventral wall of the abdomen makes a study of the epigyne impossible.

FAMILY ARGIOPIDAE

Subfamily Araneinae

GENUS *EUSTALOIDES* PETRUNKEVITCH, 1942

Eustaloides setosus Petrunkevitch

Figures 42, 43, 70

Eustaloides setosus PETRUNKEVITCH, 1942, A study of amber spiders, p. 318, pl. 30, figs. 279-288, pl. 65, fig. 590.

Specimen A.M.N.H. No. 26264 is, as is the type, a mature male. It is a fairly well-preserved specimen and shows typical details of structure, but in addition shows the structure of the palpi better than does the type, which belongs to the British Museum. Figure 43 shows the basal apophysis of the cymbium, the haematodocha, and the sclerites of what is presumably the con-

ductor. When studied in a slightly inclined position the palp reveals the curved, sickle-like embolus shown in figure 42.

Subfamily Metinae

GENUS *ACROMETA* PETRUNKEVITCH, 1942

Acrometa cristata Petrunkevitch

Acrometa cristata PETRUNKEVITCH, 1942, A study of amber spiders, p. 324, pl. 9, figs. 72-82, pl. 55, fig. 516, pl. 59, figs. 541-546.

Specimen A.M.N.H. No. 26265 is a mature male. It is complete, but in rather poor amber full of imperfections. The palpi and all other important structures fully conform with the type and the other specimens that are in the British Museum.

GENUS *THERIDIOMETA* PETRUNKEVITCH, 1942

Theridiometa robusta Petrunkevitch

Theridiometa robusta PETRUNKEVITCH, 1942, A study of amber spiders, p. 335, pl. 69, fig. 621.

The type of this species is in the collection of Cornell University. It is a young spiderling.

Specimen A.M.N.H. No. 26266 presumably belongs to the same species. It is very poorly preserved, the only well visible structure being the spinnerets. The rest of the body is covered with white emulsion, making identification uncertain. The total length of the specimen is 1.75 mm.

BRANCH DIONYCHAE

FAMILY INCEPTORIDAE

GENUS *INCEPTOR* PETRUNKEVITCH, 1942

Inceptor dubius, new species

Figures 44-49, 74

HOLOTYPE: A.M.N.H. No. 26267. Total length 4.0 mm. Carapace 1.75 mm. long, 1.35 mm. wide between second and third coxae, 0.75 mm. wide in face view. A line-like thoracic groove is present at the place where the posterior declivity begins, a place so far back from the front that the groove is easily overlooked (fig. 45). The eye group (figs. 47, 48) is considerably narrower than the head. The four anterior eyes are equal and contiguous. The second row of eyes is wider than the first. Its eyes are also

equal, but a shade larger than those of the first row, and are evenly spaced. The laterals are separated by a fraction more than their radius. The quadrangle is distinctly wider behind than in front in ratio 11:9. The carapace is clothed with fine hair directed forward in a median band, but upward and inward on the sides.

The chelicerae are short, stout, conical, with the inner edges strongly divergent. A boss is wanting. In front the chelicerae are clothed with bristles. The fang is slender, gently curved, pointed, and about as long as the basal joint.

The ventral surface of the spider is heavily coated with emulsion, leaving only the posterior end of the sternum visible. The first coxae are apparently wide apart; the fourth coxae are contiguous.

parently they form a single row on metatarsi and tarsi. The distal tarsal trichobothrium is curved backward and is about as long as two-thirds of the tarsus.

Two claws, similar (fig. 46), long, and slender, strongly curved, armed with five or six teeth. Claw tufts wanting.

The epigyne (fig. 49) is plainly visible, but its structure is difficult to make out because the view is somewhat obstructed, partly by the fourth right metatarsus, partly by some white emulsion. It seems to consist of a central bar separating a pair of fossae. The bar is convex and much wider in front than behind. In the middle it has a projection on each side. On the right side of the bar (the spider's left) a black C-shaped structure is visible which may be a piece of an embolus broken off

LEGS	FEMUR	PATELLA + TIBIA	METATARSUS	TARSUS	TOTAL
I	1.35	1.85	0.95	0.75	4.90
II	1.25	1.65	0.90	0.75	4.55
III	1.35	1.35	0.90	0.75	4.35
IV	1.65	2.10	1.75	0.90	6.50
	4	1	2	3	
Leg formula	3.7	2.8	2.6	2.5	

SPINES: First leg: Femur dorsal 1-1-1, prolateral 0-0-1, retrolateral 0, ventral 0. Patella dorsal 1-1 small bristles, elsewhere 0. Tibia prolateral 1-1-0, ventral 1-1-0, elsewhere 0. Metatarsus prolateral 1-1, ventral 1-1, elsewhere 0. Second leg: Same as first. Third leg: Femur dorsal 1-1-1, prolateral 0-1-1, elsewhere 0. Patella dorsal 1-1 small bristles, elsewhere 0. Tibia dorsal 1-1-0, prolateral 1-1-0, retrolateral 1-1-0, ventral 2-2-0. Metatarsus dorsal 0, prolateral 1-1-1, retrolateral 1-1-1, ventral 2-2-2. Fourth leg: Same as third except femur prolateral 0-0-1, retrolateral 0-0-1, tibia ventral 2-2-2.

All tarsi lightly scopulate, the third and fourth pair so lightly that the scopula is scarcely noticeable. The first metatarsus is lightly scopulate in distal half, the second in distal third, the third and fourth not at all. The legs are clothed with simple hair, most of which is inclined forward, but some hairs are erect. The disposition of the trichobothria is difficult to ascertain. Ap-

parently they form a single row on metatarsi and tarsi. The distal tarsal trichobothrium is curved backward and is about as long as two-thirds of the tarsus.

The spinnerets are partly covered with emulsion. Only portions of the anterior and posterior pair are visible. Their terminal joints are hemispherical. The abdomen is clothed with short, stout hair, much longer in front and on the back.

The family Inceptoridae erected by me for a single genus and species, *Inceptor aculeatus*, is now enriched by this second species.

The two species may be distinguished as follows:

- Chelicerae parallel, with boss. Posterior median eyes half as large as anterior median eyes.....*I. aculeatus*
- Chelicerae conical, without boss. Posterior median eyes almost of the same size as anterior median eyes.....*I. dubius*

FAMILY EUSPARASSIDAE

Subfamily Eusparassinae

GENUS *ADULATRIX* PETRUNKEVITCH, 1942*Adulatrix rufa* Petrunkevitch

Figures 50-55, 75

Adulatrix rufa PETRUNKEVITCH, 1942, A study of amber spiders, p. 364, pl. 29, figs. 267-272, pl. 62, fig. 570, pl. 63, fig. 577.

In "A study of amber spiders," I described two specimens under this species and referred a third one as presumably belonging to it. The American Museum has three specimens (A.M.N.H. Nos. 26268:1-26268:3) which I placed in this species. The first two are immature females, as are the type and paratype, belonging to the British Museum. A.M.N.H. No. 26268:3 is a mature male (figs. 50-55, 75). The similarity with the type is great, but there is a difference in the shape of the carapace. However, this difference may be sexual and is no greater than usually found in Recent spiders. I do not hesitate, therefore, to consider it as the androtype of the species. The first pair of legs, the third left leg, and the distal half of the left fourth leg are missing. A small insect obstructs the view of the eye group from above, but leaves it visible at a slight angle. The amber is imperfect, very dark, with many cracks and bubbles, but with only a trace of emulsion between the chelicerae. The important

is 0.75 mm. above the level of the sternum. From here on the carapace slopes in a very gentle curve forward and much more rapidly backward. The thoracic groove is longitudinal (fig. 50) but is difficult to see on account of a bubble which fills the inside of the spider. The eyes of the posterior row are equidistant, larger, and farther apart than those of the anterior row (fig. 53), so that the distinctly procurved second row is wider than the first row. In face view both rows are downcurved, but when viewed from above the first row is straight. The quadrangle is much wider behind than in front and but a fraction less than twice as wide as long. The clypeus is a little higher than the diameter of the anterior median eyes. The carapace is sparsely clothed with short, recumbent hair.

The chelicerae are with diverging inner edges, without boss, with a scopula of fairly stout bristles on the promargin. The fang is stout, short, and evenly curved.

The maxillae are parallel, but as their shape is rhomboidal, their distal edges appear strongly diverging. The lip does not reach their middle (fig. 52). The sternum is flat, widely truncated in front, pointed behind, longer than wide in ratio 27:22, very sparsely clothed with short hair. The first coxae are wide apart; the fourth coxae are subcontiguous. The trochanters are notched.

LEGS	FEMUR	PATELLA + TIBIA	METATARSUS	TARSUS	TOTAL
II	2.60	3.30	2.30	1.80	10.00
III	2.40	2.80	2.30	0.85	8.35
IV	3.85	4.15	ca. 2.50	1.85	12.35
Probable leg formula	4	2	1	3	
	5.1	4.2	?	3.5	

features of the palpi are visible. The legs are laterigrade and can be measured.

Total length 5.6 mm. Carapace 2.40 mm. long, 2.05 mm. wide between second and third coxae. The sides of the carapace are rounded and on reaching the level of the palpi change suddenly from being convex to concave so that the head in this region is only 0.87 mm. wide and its sides from here on are almost parallel. The face is 0.72 mm. wide, and the highest point of the carapace, situated in the region of the thoracic groove,

The fourth metatarsus is broken; the length given is only approximate, but is very close to the correct one.

SPINES: Second leg: Femur dorsal 1-1-0, prolateral 0-1-1 (very small) elsewhere 0. Patella 0. Tibia dorsal 0, prolateral 0-1-1, retrolateral 0-1-1, ventral 2-1r-1p-2. Metatarsus prolateral 0-1-0, retrolateral 0-1-0, elsewhere 0. Third leg: Femur dorsal 1-1-1, prolateral 0-1-1, retrolateral 0-1-1, ventral 0. Patella 0. Tibia dorsal 1-1-0, prolateral 0-1-1, retrolateral 0-1-1, ventral

2-2-2-2. Metatarsus prolateral 1-1-1, retrolateral 1-1-1, elsewhere 0. On account of the position of the spider the spines of the fourth leg cannot be placed.

The second tarsus is lightly scopulate, but the third and fourth tarsi have no scopula.

Two claws, similar, strongly curved, stout, with three teeth (fig. 51). Tenent hairs wanting, but a few hairs between the claws and at the end of the tarsus form a false claw tuft. Trichobothria numerous but difficult to see. They are present on tibia, metatarsus, and tarsus. The legs are clothed with simple hair which is slender and recumbent on the femur and tibia, but then begins to be stouter and stands at an angle especially on tarsus. Some short, erect hairs are present on tarsi.

The abdomen is fairly cylindrical, evenly rounded at both ends, 2.9 mm. long, 1.4 mm. wide, clothed with simple, recumbent hair. The spinnerets are not sufficiently visible to ascertain their structure.

The palp (figs. 54, 55) is distinctly spinose. One can see the long, stout spines on the femur, patella, and tibia. On the femur there is only one dorsal spine a little beyond middle. On the patella there are the usual 1-1 dorsal spines and of these the proximal one is smaller and more slender. There is also one prolateral, but no retrolateral or ventral spines. On the tibia there are 2-1p dorsal spines, 1-1 prolateral and 1-0 retrolateral spines, but no ventral ones. The tibia has an apical retrolateral apophysis shown in figure 55. The copulatory apparatus can be seen only with difficulty on account of the position of the palpi. The haematodocha is extended, and a dark sclerite is visible at its end. This may be either a conductor or the embolus (figure 54).

GENUS *ZACHRIA* L. KOCH, 1875

Zachria peculiata, new species

Figures 56-60, 76

The holotype (A.M.N.H. No. 26269) is a well-preserved specimen in clear amber of peculiar shape and with two planes of stress, one of which is dark in color. There is also some white emulsion on the ventral surface, hiding from view the mouth parts and the spinnerets. The specimen is an immature one, presumably of the female sex.

Total length 3.68 mm. Carapace 1.70 mm. long, 1.45 mm. wide between second and third coxae, 0.75 mm. wide in face view. It is highest in the region of the thoracic groove, sloping from here forward gently and backward more rapidly. On the whole the carapace is rather flat. Eight eyes in two rows as usual for the genus (figs. 59 and 60). The anterior row is gently recurved, the posterior row straight. Ratio of eyes AME:ALE:PME:PLE = 4:7:4:4.5. The anterior median eyes are separated from each other by about their diameter and by a little less than their diameter but more than their radius from the anterior lateral eyes. The lateral eyes are far apart. The posterior eyes are equidistant, separated by almost two diameters. The quadrangle is wider behind than in front and as wide as long. Clypeus slightly higher than the diameter of the anterior median eyes. The thoracic groove has the shape of a deep depression widening behind. The head is on the same level with the thorax, is very wide and clearly delimited by cephalothoracic sulci. The carapace is clothed with dark brown, bristle-like hair. No recumbent hair is visible.

In the position which the spider occupies in the amber its legs do not produce the appearance of being laterigrade, as they

LEGS	FEMUR	PATELLA + TIBIA	METATARSUS	TARSUS	TOTAL
I	1.50	2.10	1.40	0.70	5.70
II	1.80	2.30	1.40	0.70	6.20
III	1.50	1.50	1.00	0.70	4.70
IV	1.60	1.60	1.25	0.70	5.15
	2	1	4	3	

Leg formula $\frac{3.7 \ 3.3 \ 3.0 \ 2.8}{2 \ 1 \ 4 \ 3}$

Width of first patella 0.257 mm. First tibial index 12

Width of second patella 0.257 mm. Second tibial index 11

Width of third patella 0.250 mm. Third tibial index 15

certainly must have been. The third left leg is directed backward, the third right leg forward; both fourth legs are directed backward. The first right leg was autotomized in life. The second right leg was torn off when the spider still struggled in the sticky resin and lies now in front of the third leg considerably below the spider. Coagulated blood still forms a plug in the trochanter. The first and the second left legs, although directed forward, are both distinctly laterigrade while the third and fourth left legs are in a distinctly prograde position.

The width of the fourth patella cannot be measured because the legs were polished off at the knee.

SPINES: First leg: Femur dorsal 0-1-1, prolateral 0-1-0, elsewhere 0. Patella dorsal 1-1, elsewhere 0. Tibia dorsal 1-1-0, prolateral 0-1-0, retrolateral 0-1-0, ventral 2-2-2, the distal pair small. Metatarsus dorsal 0, prolateral 1-1-0, retrolateral 0-1-0, ventral 2-2-0. Second leg: Same as first except femur prolateral 0. Third leg: Femur dorsal 0-1-1, elsewhere 0. Patella dorsal 1-1, elsewhere 0. Tibia dorsal 1-0-1, elsewhere 0. Metatarsus prolateral 0-1-0, ventral 2-2-0, elsewhere 0. Fourth leg: Same as third except metatarsus ventral 2-2-2.

All tarsi dorsally distinctly convex (fig. 57). Scopula on all four tarsi, but rather scanty and formed by stiff, short hair. Trichobothria numerous, but difficult to see. Claw tufts well developed, formed by flattened hairs. Two claws, similar, with a single tooth each (fig. 58). The legs are clothed with simple hair, some of it stouter and more inclined.

The ventral view of the spider is badly obstructed by emulsion and imperfections of the amber. However, it appears certain that the first coxae are far apart and the fourth coxae are separated by about one-half of their width. The palp has a claw with a single tooth. The abdomen is ellipsoidal, flattened above; its back is clothed sparsely with stiff and long, bristling hair, while the venter is more densely clothed

with much shorter hair. The spinnerets are not visible.

This is the first representative of the genus *Zachria* which had been established for a species living in Australia. The genus is easily separated from *Adulatrix* by the order of legs.

FAMILY THOMISIDAE

Subfamily Thomisinae (= *Misumeninae*)

GENUS *MISUMENA* LATREILLE, 1804

Misumena samlandica Petrunkevitch

Misumena samlandica PETRUNKEVITCH, 1942, A study of amber spiders, p. 375, pl. 40, fig. 379, pl. 68, fig. 615.

Both the generic and specific affiliations of this specimen (A.M.N.H. 26270) are not quite certain. Although the amber itself, in which it is embedded, is quite clear, the spider is so heavily coated with white emulsion that careful study and measurement are impossible. The first right and both second legs are missing. The disposition of the eyes in two rows is apparent; the eyes are visible through the emulsion as orange discs with hazy edges. The first left leg is bent to the right in such a manner that it hides from view almost the entire carapace except for a portion of its left edge. The chelicerae are parallel, the fangs are slender, but the armature is not visible. The stiff bristles with which the abdomen is clothed show clearly through the emulsion. The ventral surface of the spider is much better visible. The sternum is heart-shaped. The first coxae are wide apart, as are the second coxae; the fourth coxae are separated by their width. On the first left tarsus in one certain position one of the claws is visible and shows several slender teeth. The legs are laterigrade, and the first leg is considerably longer than the fourth. Spines are wanting. The hair is simple. A swollen area is visible in the place where the epigyne should be.

I assigned the specimen to this species on comparing it with the type, which it resembles in outward appearance.

FAMILY SALTICIDAE

Division Unidentati

Subfamily Gorgopidinae

GENUS GORGOPIS MENGE, 1854

Gorgopis frenata (Koch and Berendt)

Phidippus frenatus KOCH AND BERENDT, 1854, Die im Bernstein befindlichen Crustaceen, Myriapoden, Arachniden und Apteren der Vorwelt, p. 88, pl. 9, figs. 83, 84.

Gorgopis frenata MENGE in Koch and Berendt, 1854, *op. cit.*, footnote, p. 93.

Gorgopis frenata, PETRUNKEVITCH, 1942, A study of amber spiders, p. 408, pl. 2, figs. 8-11, pl. 3, figs. 20-25, pl. 4, figs. 27, 28, pl. 6, fig. 50; photographs, figs. 517, 519, 520, 521.

A mature male (A.M.N.H. No. 26271). The amber is full of bubbles, but the important characters are clearly visible. Both palpi show plainly the characteristically hooked tibial apophysis. The second pair of legs are missing. The species seems to have been common in Baltic amber.

Division Pluridentati

Subfamily Boethinae

GENUS EOLINUS PETRUNKEVITCH, 1942

Eolinus succineus Petrunkevitch

Eolinus succineus PETRUNKEVITCH, 1942, A study of amber spiders, p. 424, pl. 5, figs. 37-44, pl. 56, figs. 524, 525.

The specimen (A.M.N.H. No. 26272), a fairly well-preserved mature male, is typical. Of special interest is the excellent preservation of the hair on the body and on the legs. It is light in color, of the simple type, and so dense that the spider has a distinctly "hairy" appearance. Scales are completely wanting.

BRANCH QUADROSTIATAE

FAMILY OONOPIDAE

GENUS ORCHESTINA SIMON, 1892

Orchestina baltica Petrunkevitch

Orchestina baltica PETRUNKEVITCH, 1942, A study of amber spiders, p. 444, pl. 6, figs. 52-54, pl. 7, figs. 55-56, pl. 25, figs. 233-237, pl. 59, figs. 547-550, pl. 69, fig. 626.

Specimen A.M.N.H. No. 26273 is a well-preserved female, typical in structure, and

adding nothing new to the knowledge of this common species.

FAMILY ANYPHAENIDAE

GENUS ANYPHAENA SUNDEVALL, 1833

Anyphaena fuscata Koch and Berendt

Figures 61-66, 68

Anyphaena fuscata KOCH AND BERENDT, 1854, Die im Bernstein befindlichen Crustaceen, Myriapoden, Arachniden und Apteren der Vorwelt, p. 64, pl. 6, fig. 56.

The hypotype (A.M.N.H. No. 26274) is a well-preserved specimen, in clear amber except for the presence of two parallel planes of stress reflecting light and making the examination from certain angles difficult. Except for the fourth pair, which are straight, the legs are bent under and obstruct to a great extent the view of the mouth parts and sternum. The venter of the abdomen shows clearly the genital fold, the spinnerets, and the tracheal spiracle, making the identification of the genus quite certain. This character was not mentioned by Koch because its value was not realized at that time. His specimen was a mature male. Menge mentions two other specimens of the same species in his private collection, one of them a male, the other a female. The genus *Anyphaena* was created by Sundevall for a Recent species, *A. accentuata* (Walckenaer), and the latter was the only known species at the time when Koch described *A. fuscata*. Since that time several Recent European species have been described. The genus is represented also in India, Japan, and in North, Central, and South America. On account of the number of species found in America the genus may be considered to be preëminently American. The specific affiliation of the Baltic amber specimen in question cannot be regarded as absolutely certain until the present specimen has been compared with the type. Koch's description and figure are inadequate for the purpose. Nevertheless the creation of a new species for our specimen would be quite out of place.

Specimen A.M.N.H. No. 26274 is an immature female. Total length including spinnerets 4.16 mm. Carapace 1.25 mm. long, 0.90 mm. wide, 0.50 mm. high. Abdo-

men without spinnerets 1.85 mm. long, 1.10 mm. wide. Sternum 0.62 mm. long, 0.50 mm. wide. Lip 0.15 mm. long, 0.20 mm. wide at base.

Tibia ventral 1p-1p-0, elsewhere 0. Metatarsus dorsal 0-1, prolateral 0-1, elsewhere 0. Second leg: Same as first. Third leg: Femur dorsal 1-1-1, the distal pair small,

LEGS	FEMUR	PATELLA + TIBIA	METATARSUS	TARSUS	TOTAL
I	0.90	1.10	0.52	0.37	2.89
II	0.85	1.02	0.52	0.37	2.76
III	0.85	0.85	0.60	0.35	2.65
IV	1.17	1.17	1.05	0.47	3.66
Leg formula	4 1 2 3				
	2.9	2.3	2.2	2.1	

Width of first patella 0.15 mm. First tibial index 14

Width of fourth patella 0.15 mm. Fourth tibial index 13

Carapace of the shape shown in figure 65, with a longitudinal thoracic groove situated far back. In profile (fig. 61) the carapace is highest at the groove, sloping in a gentle curve forward and steeply backward. The eyes are in two rows (fig. 62). The first row is so much shorter than the second row that the posterior lateral eyes form an even curve with it. Ratio of eyes AME:ALE:PME:PLE = 4.5:6:5:5. The anterior median eyes are separated almost by their diameter, but from the anterior lateral eyes by about their radius. The eyes of the posterior row are equidistant, separated by a little less than two of their diameters. The quadrangle is wider behind than in front in ratio 19:14 and wider than long by about the same ratio. The second row is distinctly procurved. The clypeus is equal to three-quarters of the diameter of the anterior median eyes.

The chelicerae are visible, but their structure cannot be ascertained. The maxillae have parallel sides. They are considerably longer than the lip, are transversely truncated at the end and slightly inclined toward each other. The sternum is truncated in front, evenly rounded on the sides, pointed behind, more or less oval, distinctly convex, glabrous. The first coxae are separated by more than the width of the lip; the fourth coxae are subcontiguous.

SPINES: First leg: Femur dorsal 1-1-1, prolateral 0-0-1, elsewhere 0. Patella 0.

prolateral 0-0-1, elsewhere 0. Patella dorsal 1-1 very small spines, elsewhere 0. Tibia dorsal 0-1, prolateral 1-1, elsewhere 0. Metatarsus dorsal 1-1-1, 0-1-0, retrolateral 1-0-1, ventral 1-1-0. Fourth leg: Same as third, except patella dorsal 0-1, tibia ventral 0-1-0, metatarsus dorsal 1-0-1, prolateral 1-1-1, ventral 1-0-1.

Two claws, similar, with five or six teeth (fig. 64), of equal length. Claw tufts well developed, composed of a few flattened hairs which protrude beyond the claws, making the examination of the latter troublesome. Scopulae wanting on all legs. Hair simple and scanty. Trichobothria not visible.

Abdomen of an elongated oval shape, sparsely clothed with short, simple hair. The genital fold is gently procurved. The tracheal spiracle (fig. 63) is plainly visible and is situated nearer to the genital fold than to the spinnerets. The spinnerets (fig. 66) are slender, cylindrical. The anterior pair are the stoutest and are almost contiguous at base. Their terminal joint is rounded and provided with several spinning tubes. The median pair are more slender and shorter than the anterior pair. The posterior pair are the longest and widely separated at base. Their terminal joint is rounded, but somewhat longer than the terminal joint of the anterior pair, and has five spinning tubes. A colulus is wanting. The anal tubercle is distinctly two-jointed.

REMARKS CONCERNING *ARGYRONETA ANTIQUA* HEYDEN

C. von Heyden described (1859-1861, vol. 8) two fossil spiders from the Tertiary Brown Coal of Rott in the Siebengebirge. One of these spiders he named *Argyroneta antiqua*. The eyes were not preserved; the segmentation of the legs is not visible, nor is the structure of the palpi, which were recognized as being of the male sex, sufficiently clear for description. Heyden's figure 12 of the complete spider is of no more help, showing no detail. Heyden states that the generic affiliation of the fossil is very doubtful and adds that he placed it in the genus *Argyroneta* because of its general habitus. He gives the relative

are preserved sufficiently well for this purpose.

The specimen is figured in our figure 80. Its total length with the chelicerae is 9.75 mm. The carapace is 3.36 mm. long, 2.80 mm. wide, more or less ellipsoidal, flat, without a trace of eyes. No thoracic groove is visible, but there is a median band of hair occupying two-thirds of the length of the carapace and a pair of posterior bands converging on the rear end of the median band. It is probable that a thoracic groove, if it existed, was situated at the meeting of the three bands of hair. No other hair can be seen on the carapace.

LEGS	FEMUR	PATELLA + TIBIA	METATARSUS	TARSUS	TOTAL
I	3.15	—	—	—	?
II	2.45	2.80	2.10	0.84	8.19
III	2.45	2.59	1.75	0.84	7.63
IV	2.80	3.71	2.59	1.75	10.85

length of the legs in German lines as follows: first leg $3\frac{2}{3}$, second 3, third and fourth $2\frac{1}{2}$. This means that the order of legs, if the measurements were correct, is 1234. The order of legs in the Recent *Argyroneta aquatica* is 1423. The difference in the order of legs makes it certain that Heyden's specimen was not an *Argyroneta*.

The American Museum of Natural History has a fossil spider (A.M.N.H. No. 26275) from the same locality as Heyden's specimen and labeled as such. It is not clear who identified it. It is about twice as long as Heyden's specimen. Except for the femur, the first pair of legs is missing. But judging by the relative length of the femora the assumption is warranted that the order of legs is 1423 and therefore the same as in *Argyroneta aquatica* and different from that of Heyden's specimen. Unfortunately the important characters of the American Museum specimen are not sufficiently well preserved to permit its identification from the point of view of modern arachnology. Personally I am inclined to refer it to the family Agalenidae, but plumose hair so characteristic of that family is wanting. It would be futile to give it a new name since neither its generic nor its specific characters

The legs are clothed with simple hair and have numerous spines, the distribution of which cannot be ascertained because of the flattened condition of the spider. Claw tufts are wanting, and one would naturally expect the spider to have three claws, but a third claw is not visible. The upper two claws are unfortunately broken and incomplete on all legs. One claw, the end of which is missing, is present on the third right leg and shows six long teeth. The mate of this claw is also broken. Both claws are stout and bent. Two broken claws can be seen on the second right leg and a piece of a claw on the fourth right leg. The chelicerae are very stout, parallel, with a scopula of fairly long hair. The fangs are short, directed transversely.

The abdomen is neatly ellipsoidal, 4.90 mm. long, 3.36 mm. wide, slightly overlapping the carapace. It is evenly rounded at both ends. Its dark brown color is due to foreign matter with which it is covered. Where this layer is chipped off the underlying surface shows the same buff color as the rest of the spider and on such exposed areas one sees plainly the short, simple, brown hair with which the abdomen is clothed. Only one pair of spinnerets is visible. They are short and cone-shaped.

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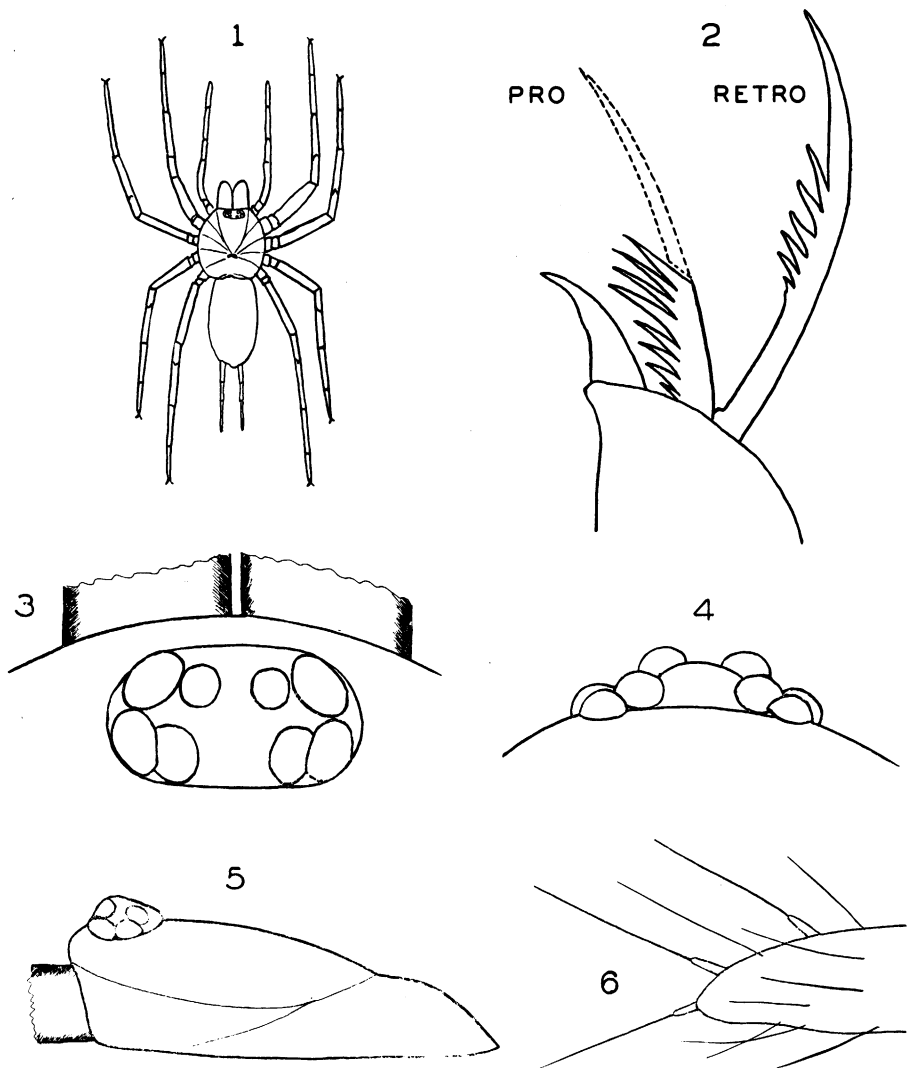


Fig. 1. *Clostes priscus* Menge, A.M.N.H. No. 26254, dorsal view of spider with legs drawn in their proper position. $\times 5.5$.

Fig. 2. Idem, claws of fourth right leg. $\times 250$.

Fig. 3. Idem, eye group viewed from above. $\times 60$. Only base of chelicerae shown.

Fig. 4. Idem, eye group viewed from behind. $\times 60$.

Fig. 5. Idem, carapace viewed from the left side. $\times 35$.

Fig. 6. Idem, end of a spinneret showing common hair and three spinning tubes. $\times 125$.

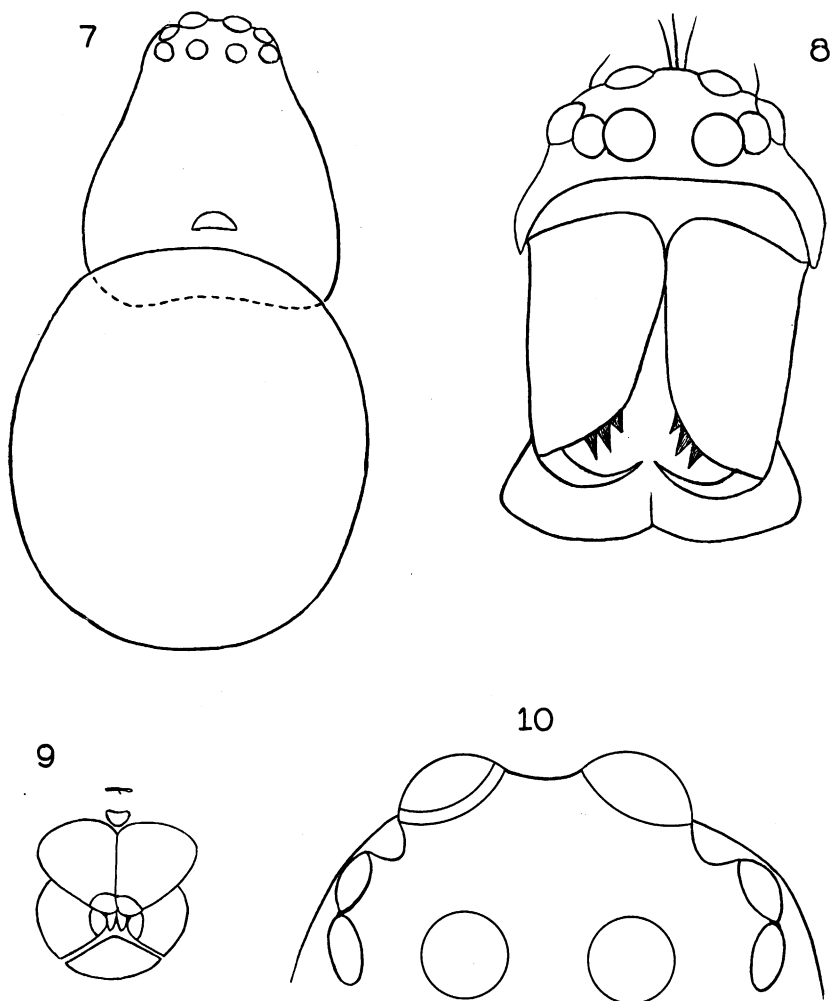


Fig. 7. *Eogonatium robustum*, new species, holotype, A.M.N.H. No. 26255, dorsal view of spider with legs omitted. $\times 30$.

Fig. 8. Idem, front view of face. $\times 60$. Below the fangs the outline of the maxillae is visible.

Fig. 9. Idem, spinnerets, colulus, and tracheal spiracle. $\times 125$.

Fig. 10. Idem, eye group viewed from above. $\times 125$.

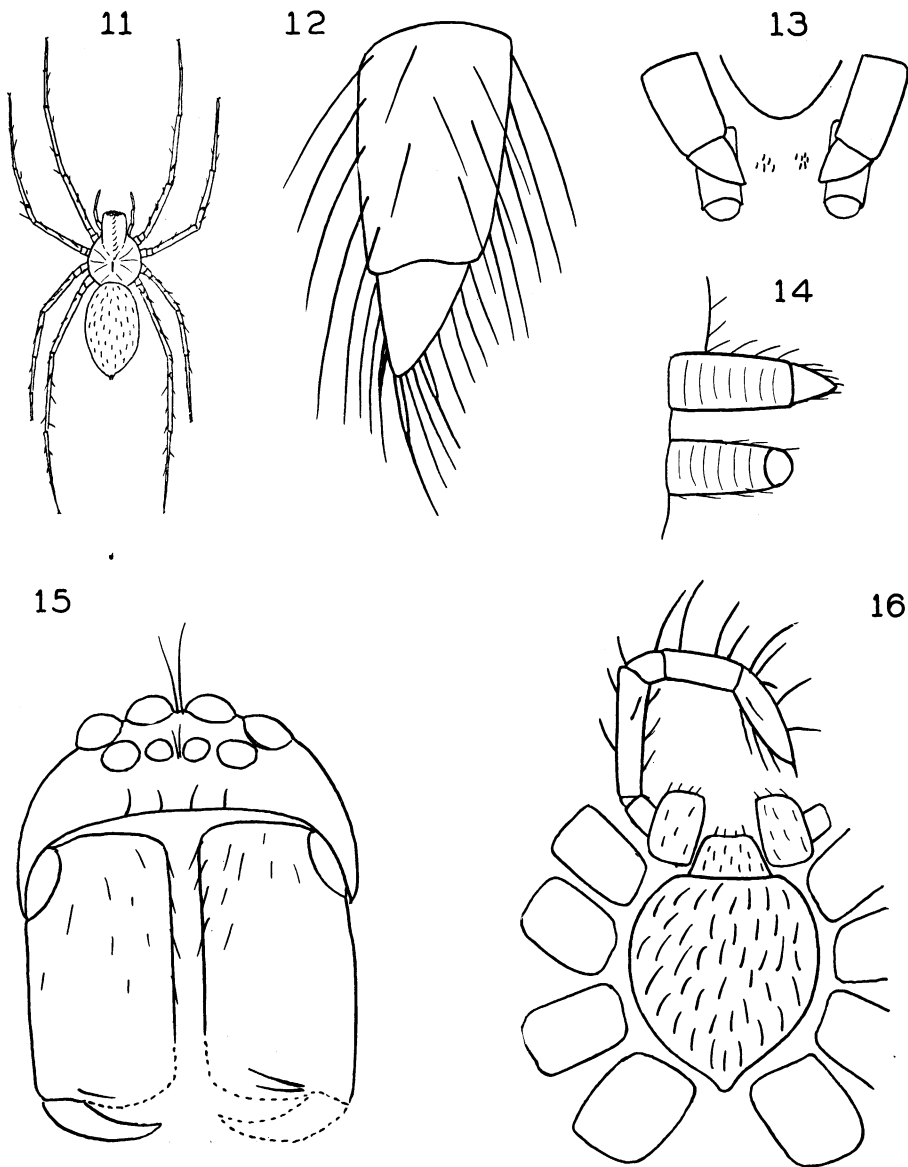


Fig. 11. *Eocryphoea gracilipes* (Koch and Berendt), hypotype, A.M.N.H. No. 26256, dorsal view of spider with legs drawn in their proper position. $\times 5.5$.

Fig. 12. Idem, right posterior spinneret with three spinning tubes on terminal joint. $\times 125$.

Fig. 13. Idem, spinnerets viewed from below. $\times 60$. Of the median spinnerets only the hairs at their ends are visible.

Fig. 14. Idem, spinnerets viewed from the left side. $\times 60$. The posterior spinneret is above the anterior one.

Fig. 15. Idem, front view of face. $\times 60$.

Fig. 16. Idem, ventral view of sternum and coxae. $\times 30$. Only one palp is shown.

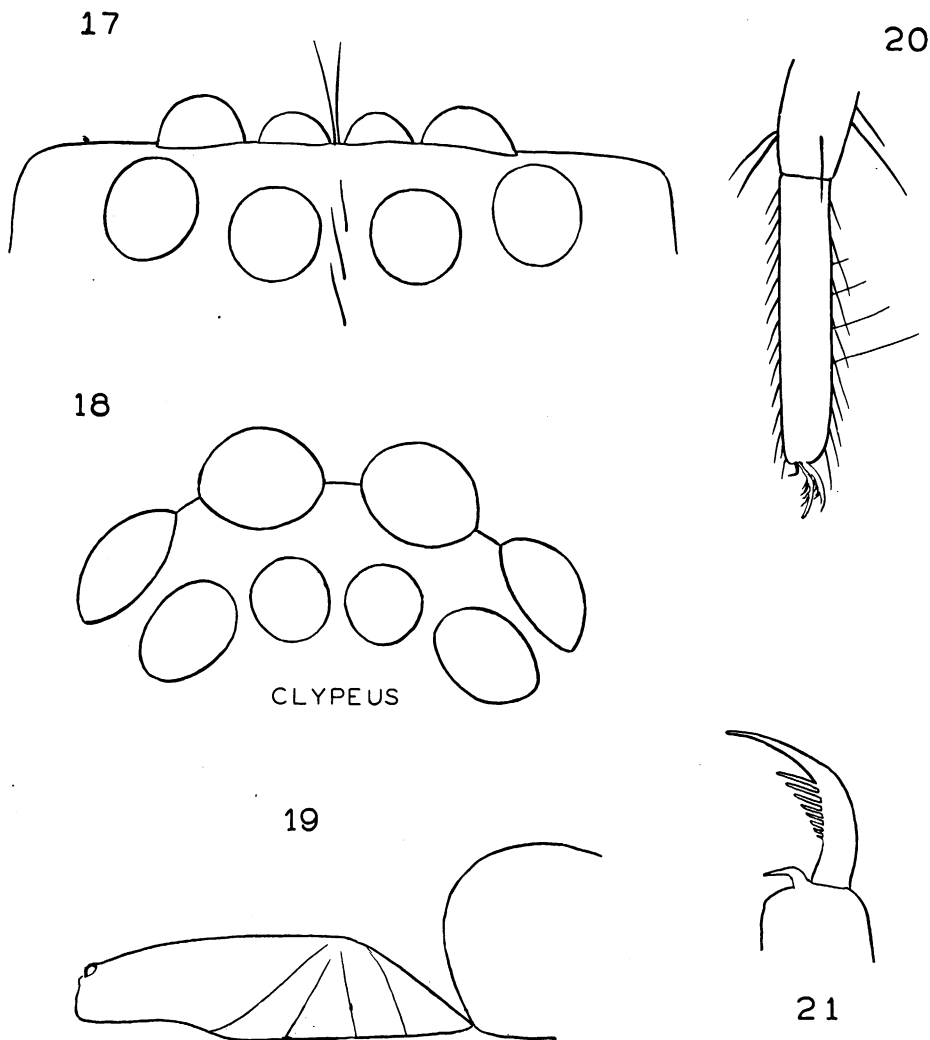


Fig. 17. *Eocryptophoea gracilipes* (Koch and Berendt), hypotype, A.M.N.H. No. 26256, eye group viewed from above. $\times 125$.

Fig. 18. Idem, eye group viewed from in front. $\times 125$.

Fig. 19. Idem, carapace viewed from the left side. $\times 30$. All appendages omitted from the drawing, and of the abdomen only the anterior end shown.

Fig. 20. Idem, third left tarsus. $\times 60$. Notice the four trichobothria increasing in length distally.

Fig. 21. Idem, retroclaw and third claw of the fourth left tarsus. $\times 200$.

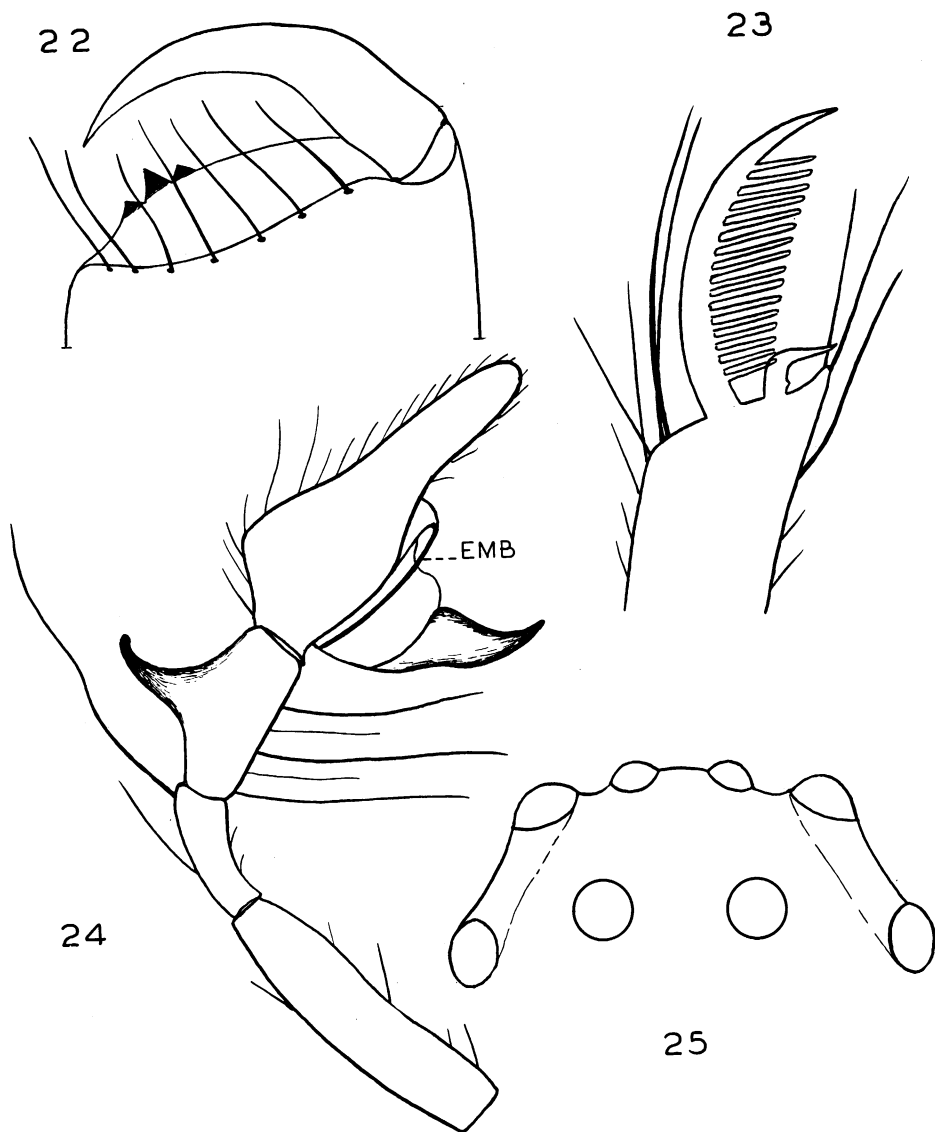
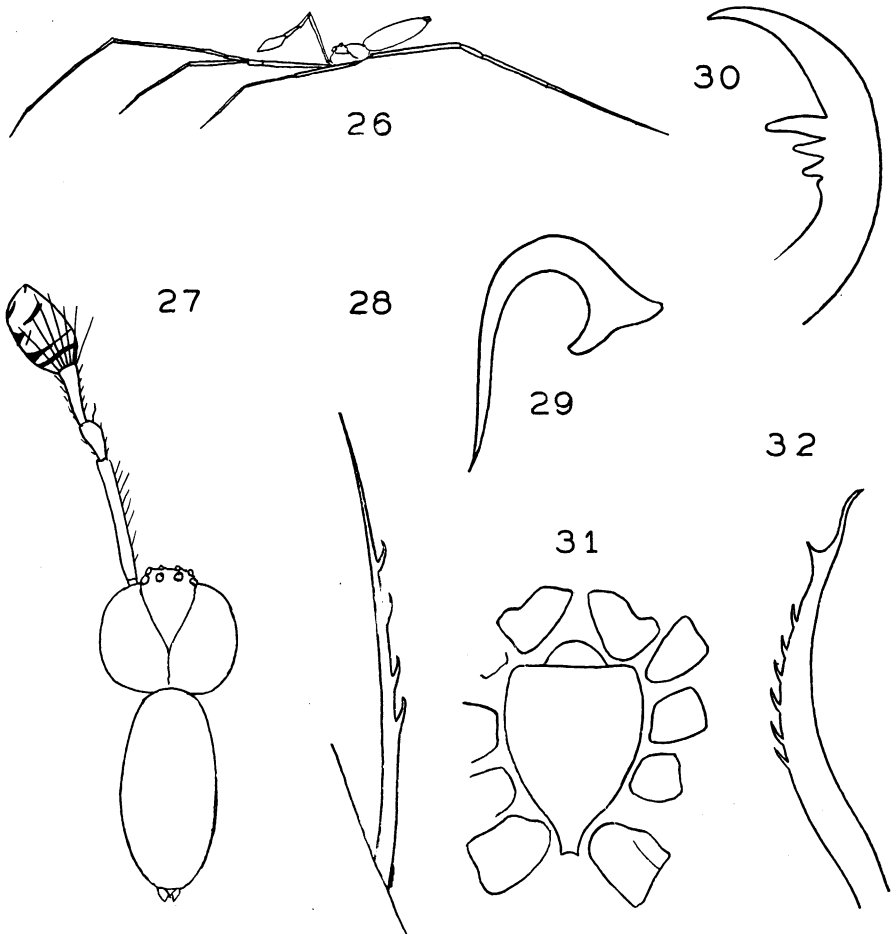


Fig. 22. *Insecutor aculeatus* Petrunkevitch, A.M.N.H. No. 26257:1, end of right chelicera, showing three retromarginal teeth and promarginal bristles. $\times 125$.

Fig. 23. *Insecutor mandibulatus* Petrunkevitch, androtype, A.M.N.H. No. 26258:2, proclaw and third claw of the second left leg. $\times 125$.

Fig. 24. Idem, prolateral view of left palp. $\times 30$.

Fig. 25. Idem, eye group viewed from above. $\times 60$.



- Fig. 26. *Flegia longimana* Koch and Berendt, A.M.N.H. No. 26259, view of spider from the left side. $\times 5.5$. The legs of the right side are omitted from the drawing.
 Fig. 27. Idem, dorsal view of spider. $\times 15$. Of the appendages only the left palp is shown.
 Fig. 28. Idem, one of the 10 bristles of the comb of the fourth tarsus. $\times 400$.
 Fig. 29. Idem, third claw of the first left leg. $\times 800$.
 Fig. 30. Idem, one of the upper claws of the first left leg. $\times 800$.
 Fig. 31. Idem, sternum, coxae, maxillae, and lip. $\times 30$.
 Fig. 32. Idem, one of the two spurious claws of the first leg. $\times 800$.

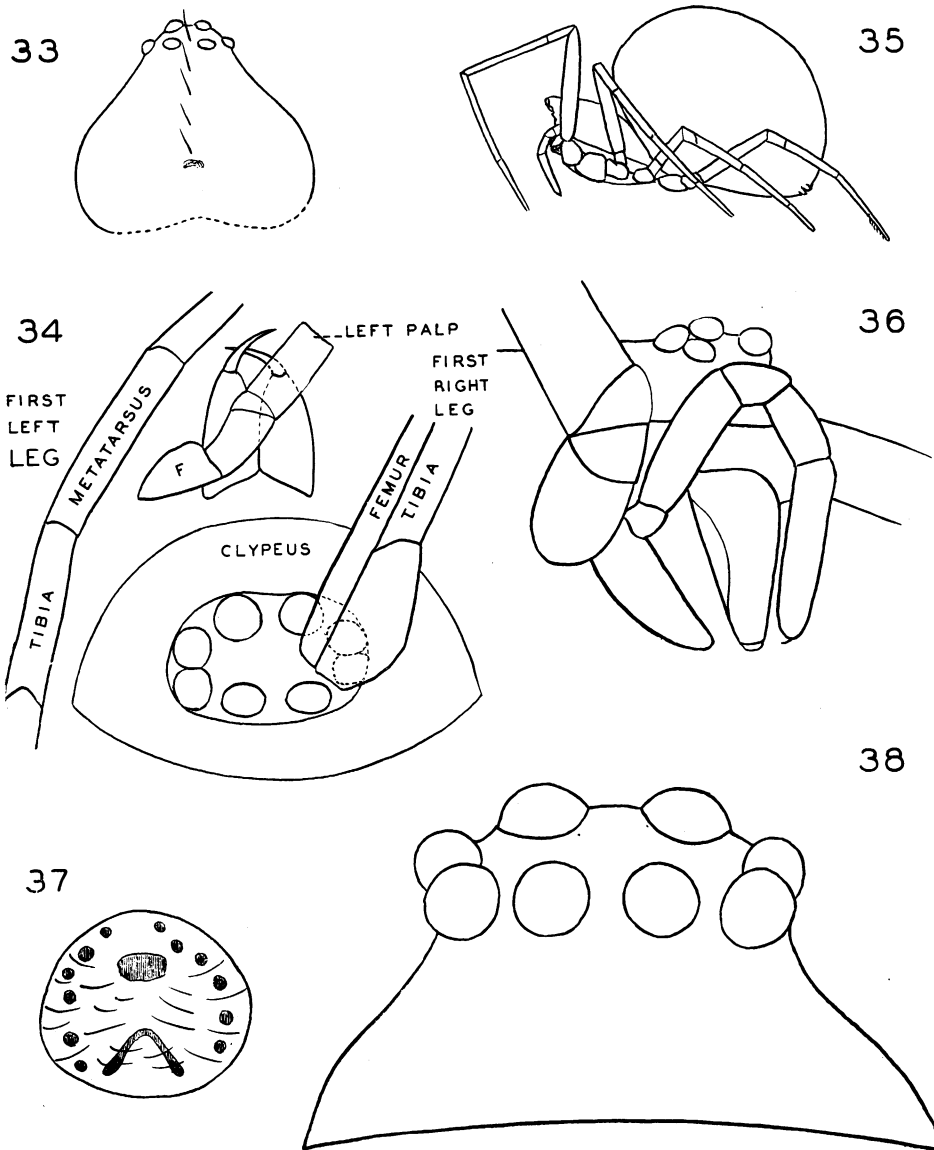


Fig. 33. *Eodipoena oculata* Petrunkevitch, A.M.N.H. No. 26260, dorsal view of carapace. $\times 30$.
 Fig. 34. Idem, view of the face with the appendages in position. $\times 65$.
 Fig. 35. *Eodipoena baltica*, new species, holotype, A.M.N.H. No. 26261, view of spider from the left side with legs of the right side omitted. $\times 15$.
 Fig. 36. Idem, eye group and mouth parts viewed from the right side. $\times 65$.
 Fig. 37. Idem, epigyne. $\times 65$.
 Fig. 38. Idem, face view of eye group. $\times 125$.

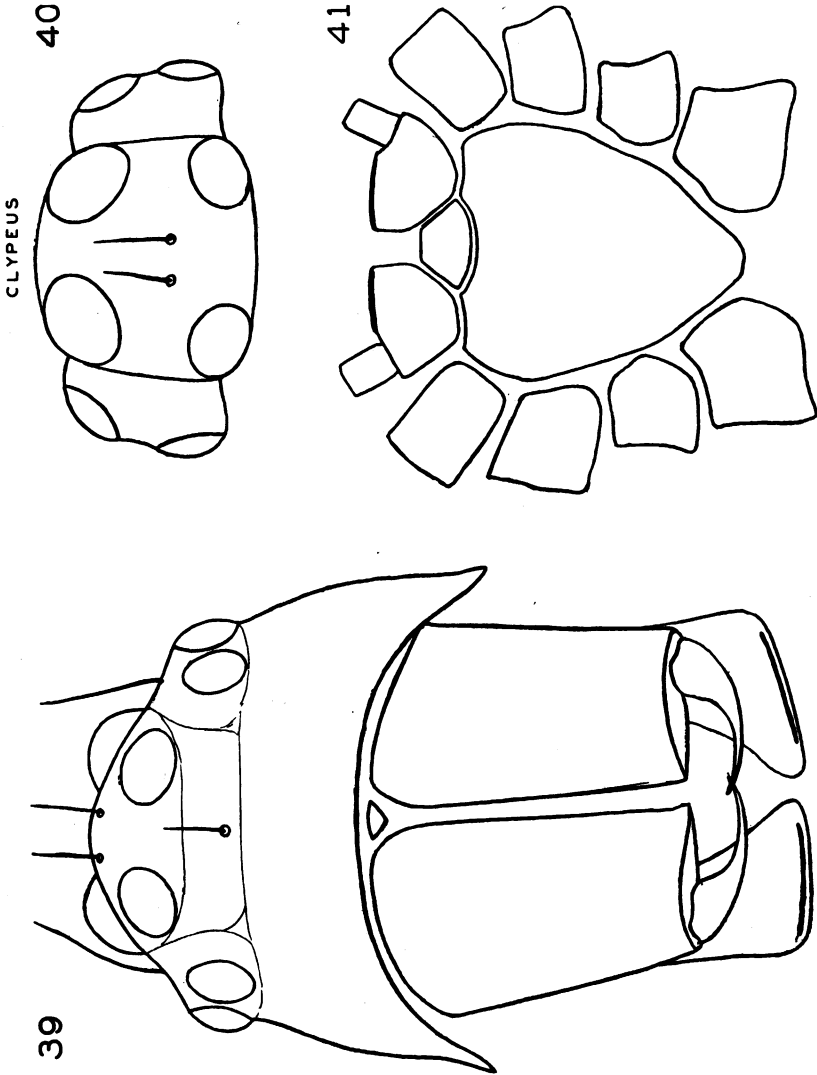


Fig. 39. *Eomysmena succina*. Petrunkevitch, gynotype, A.M.N.H. No. 26263, face view of spider. $\times 125$. Below the fangs the maxillae with the serrula are visible.
 Fig. 40. Idem, dorsal view of eye group. $\times 125$.
 Fig. 41. Idem, sternum, maxillae, lip, and coxae. $\times 60$. The serrula occupies the anterior edge of the maxilla and appears as a heavy black line.

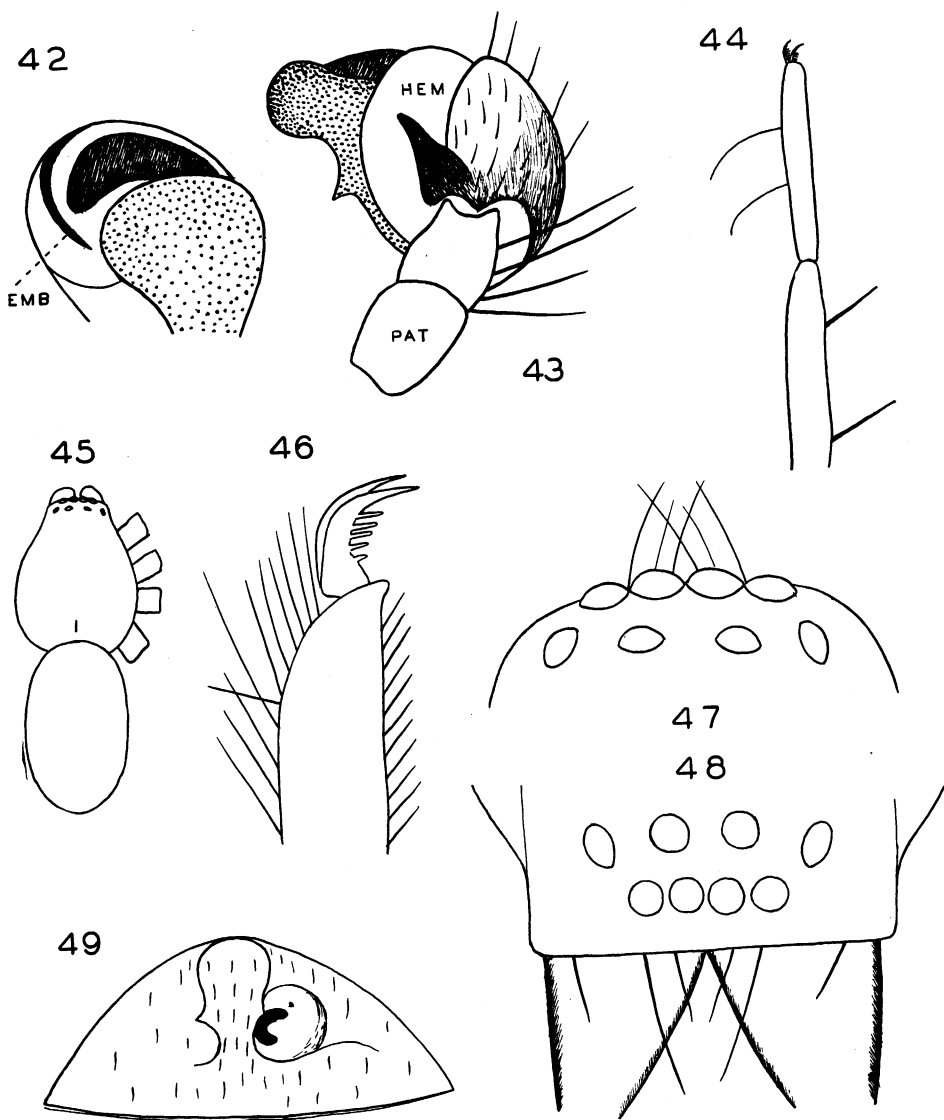


Fig. 42. *Eustaloides setosus* Petrunkevitch, A.M.N.H. No. 26264, end of left palp viewed from below to show embolus. $\times 125$.

Fig. 43. Retrolateral view of left palp. $\times 60$.

Fig. 44. *Inceptor dubius*, new species, holotype, A.M.N.H. No. 26267, metatarsus and tarsus of first right leg. $\times 30$.

Fig. 45. Idem, dorsal view of spider with legs omitted. $\times 11$. Notice the position of the thoracic groove.

Fig. 46. Idem, claws of first tarsus. $\times 125$.

Fig. 47. Idem, eye group viewed from above. $\times 60$.

Fig. 48. Idem, eye group viewed from in front. $\times 60$.

Fig. 49. Idem, epigyne. $\times 60$.

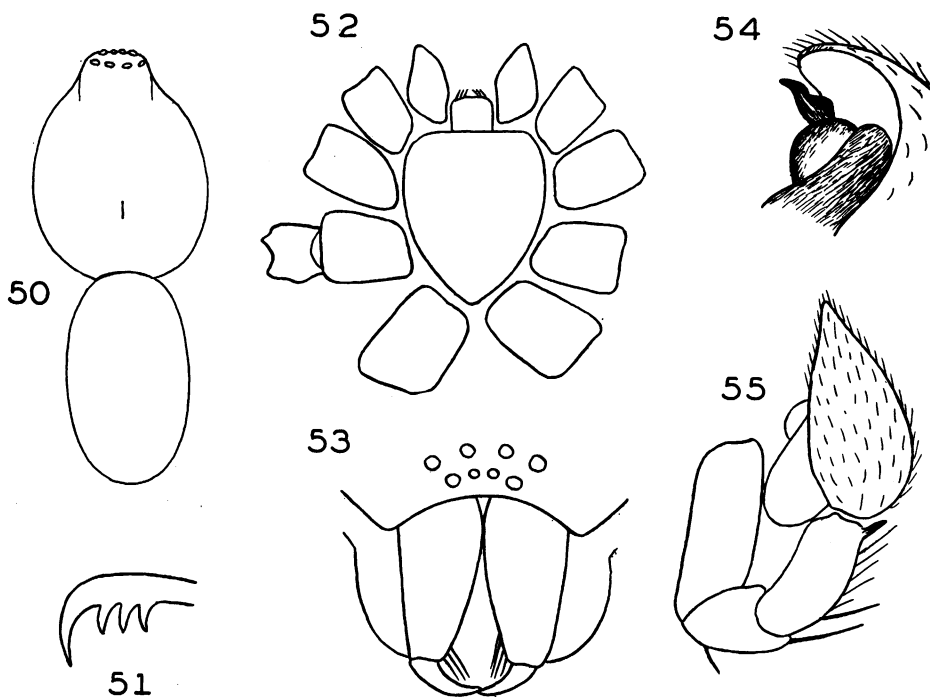


Fig. 50. *Adulatrix rufa* Petrunkevitch, androtype, A.M.N.H. No. 26268:3, dorsal view of spider with legs omitted. $\times 11$.

Fig. 51. Idem, retroclaw of second right leg. $\times 200$.

Fig. 52. Idem, sternum, maxillae, lip, and coxae. $\times 15$.

Fig. 53. Idem, face viewed from in front. $\times 30$. The outer edges of the maxillae are plainly visible.

Fig. 54. Idem, end of left palp, retrolateral view. $\times 30$.

Fig. 55. Idem, prolateral view of the right palp. $\times 30$.

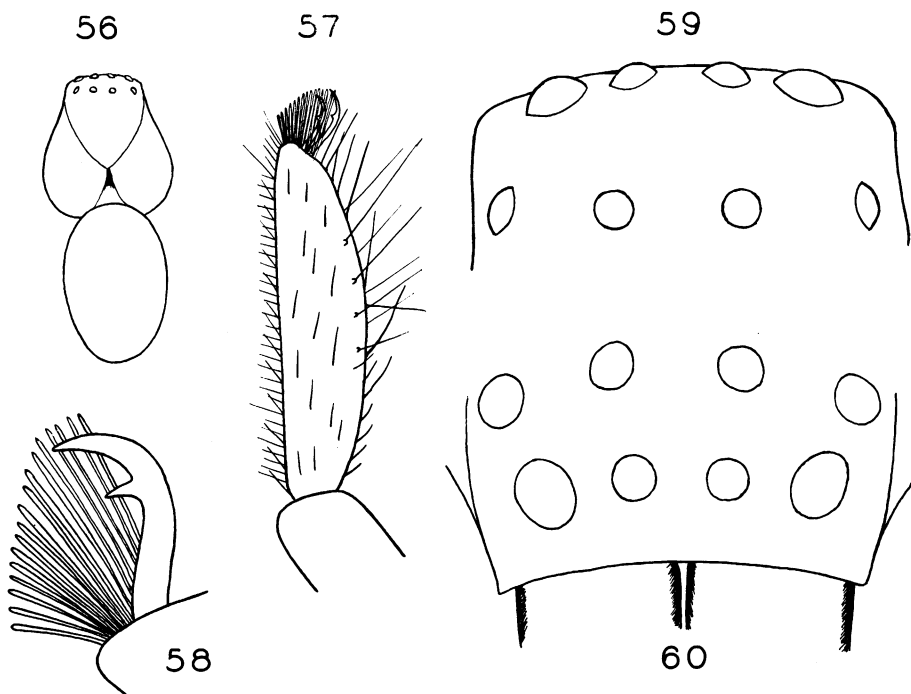


Fig. 56. *Zachria peculiata*, new species, holotype, A.M.N.H. No. 26269, dorsal view of spider with legs omitted. $\times 11$.

Fig. 57. Idem, prolateral view of fourth right tarsus. $\times 60$.

Fig. 58. Idem, proclaw and claw tufts of fourth right tarsus. $\times 200$.

Fig. 59. Idem, eye group viewed from above. $\times 60$.

Fig. 60. Idem, eye group viewed from in front. $\times 60$.

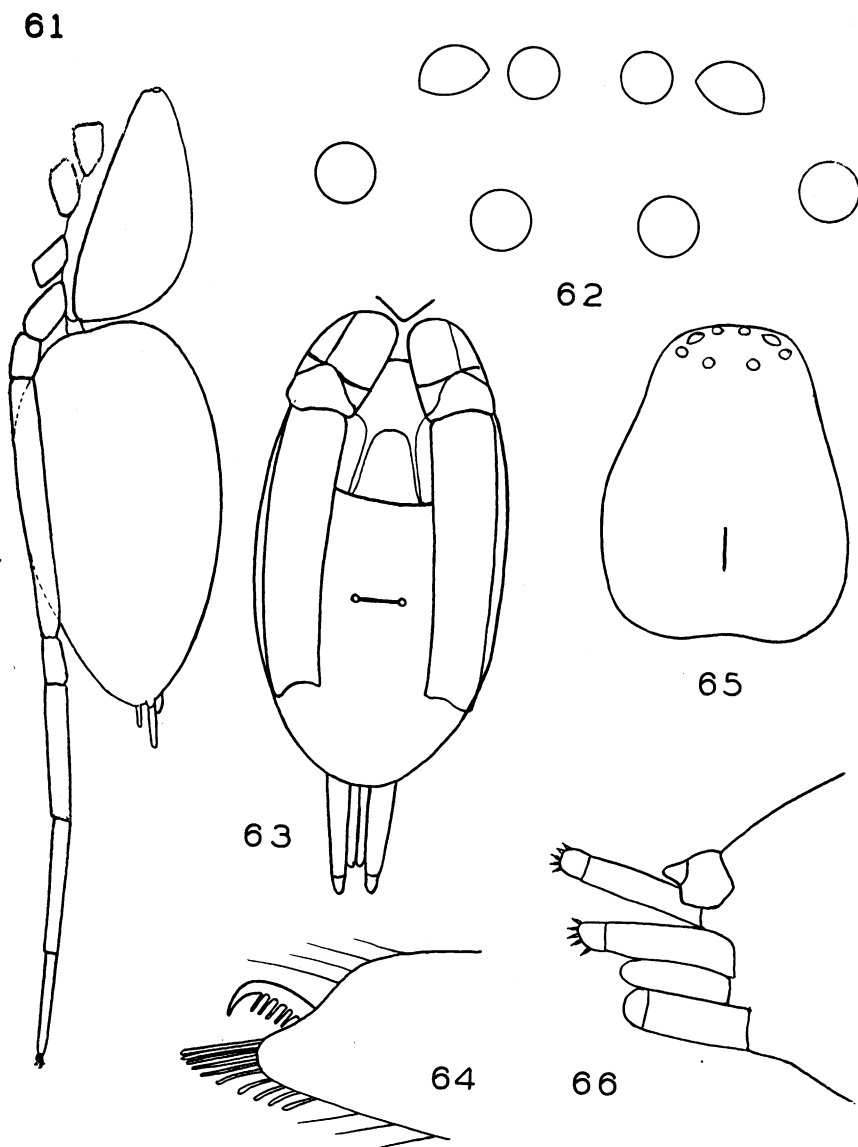


Fig. 61. *Anyphaena fuscata* Koch and Berendt, hypotype, A.M.N.H. No. 26274, spider viewed from the left side. $\times 25$. Only one leg is shown.

Fig. 62. Idem, eye group viewed from above. $\times 125$.

Fig. 63. Idem, ventral view of abdomen. $\times 30$. To show the position of the tracheal spiracle.

Fig. 64. Idem, retroclaw of fourth left tarsus. $\times 200$.

Fig. 65. Idem, carapace viewed from above. $\times 30$.

Fig. 66. Idem, spinnerets viewed from the right side. $\times 60$. The left posterior spinneret is visible above the right one, on the other side of the anal tubercle.

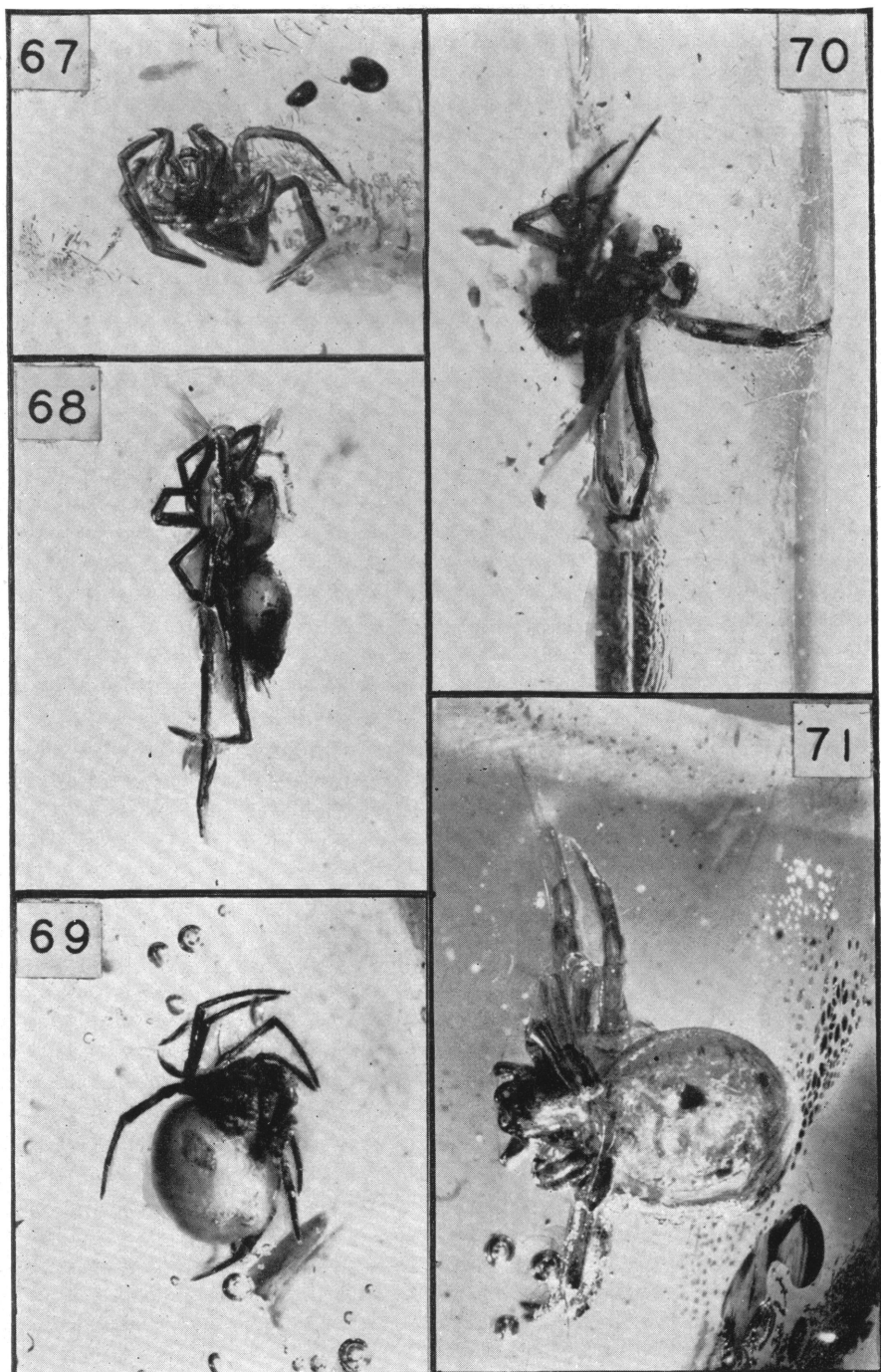


Fig. 67. *Eomysmena succini* Petrunkevitch, gynetype, A.M.N.H. No. 26263. $\times 9$.
 Fig. 68. *Anyphaena fuscata* Koch and Berendt, hypotype, A.M.N.H. No. 26274. $\times 10$.
 Fig. 69. *Eodipoena baltica*, new species, holotype, A.M.N.H. No. 26261. $\times 8$.
 Fig. 70. *Eustaloides setosus* Petrunkevitch, A.M.N.H. No. 26264. $\times 13$.
 Fig. 71. *Eogonatium robustum*, new species, holotype, A.M.N.H. No. 26255. $\times 13$.

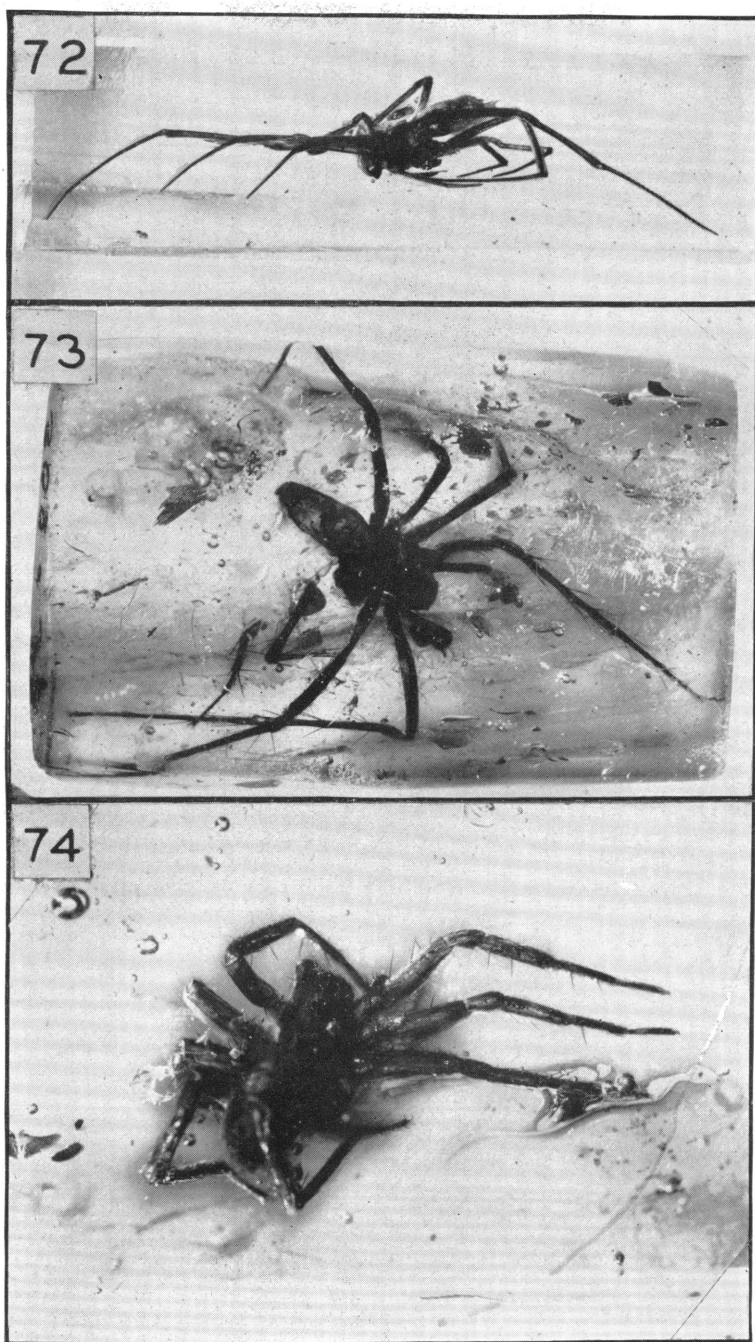


Fig. 72. *Flegia longimana* Koch and Berendt, hypotype, A.M.N.H. No. 26259. $\times 5$.
Fig. 73. *Insecutor mandibulatus* Petrunkevitch, androtype, A.M.N.H. No. 26258:2. $\times 4$.
Fig. 74. *Inceptor dubius*, new species, holotype, A.M.N.H. No. 26267. $\times 13$.

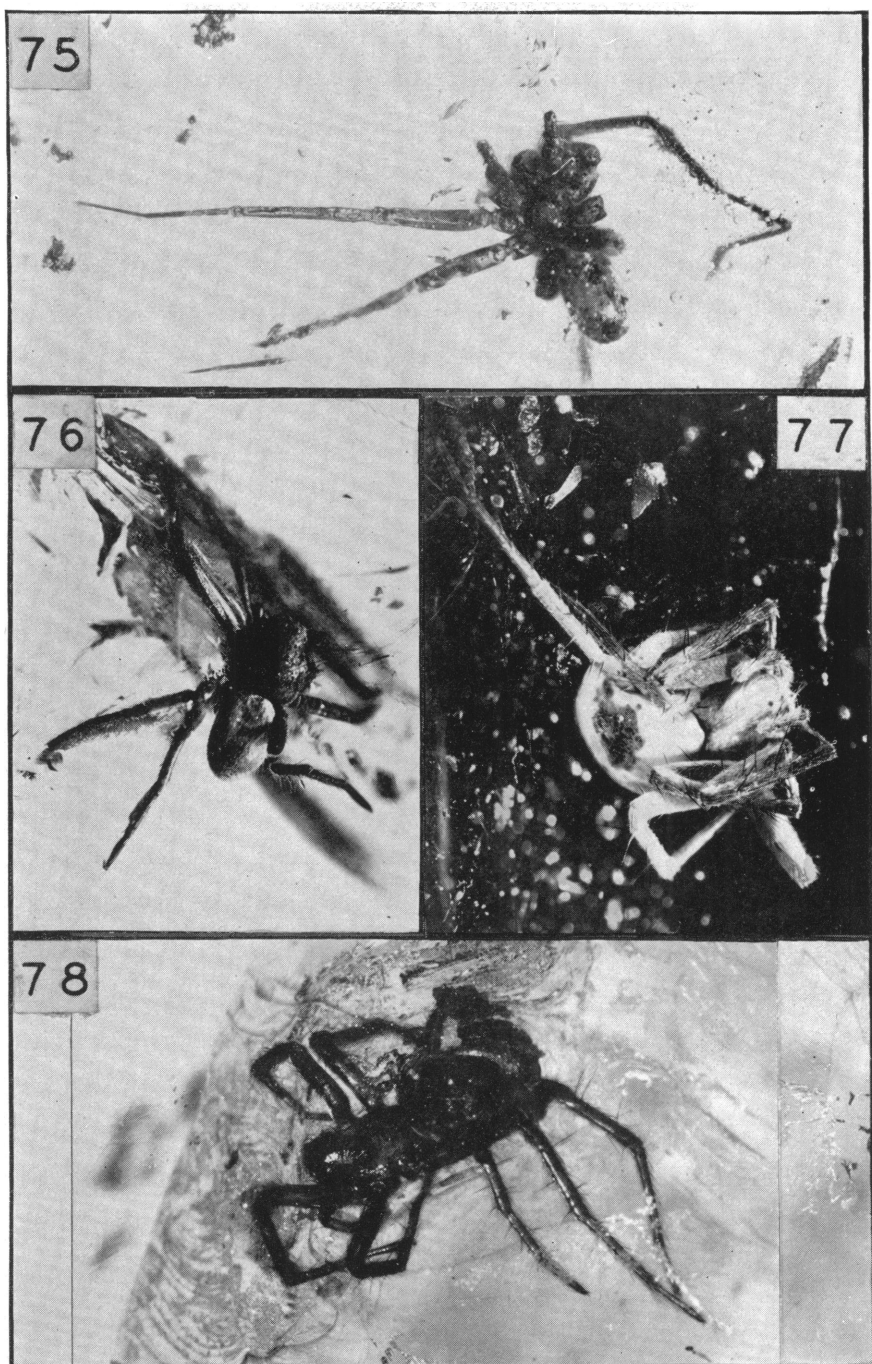


Fig. 75. *Adulatrix rufa* Petrunkevitch, androtype, A.M.N.H. No. 26268:3. $\times 7$.

Fig. 76. *Zachria peculiata*, new species, holotype, A.M.N.H. No. 26269. $\times 6$.

Fig. 77. *Insecutor aculeatus* Petrunkevitch, A.M.N.H. No. 26257:2. $\times 9$.

Fig. 78. *Eocryphoea gracilipes* (Koch and Berendt), hypotype, A.M.N.H. No. 26256. $\times 9$.

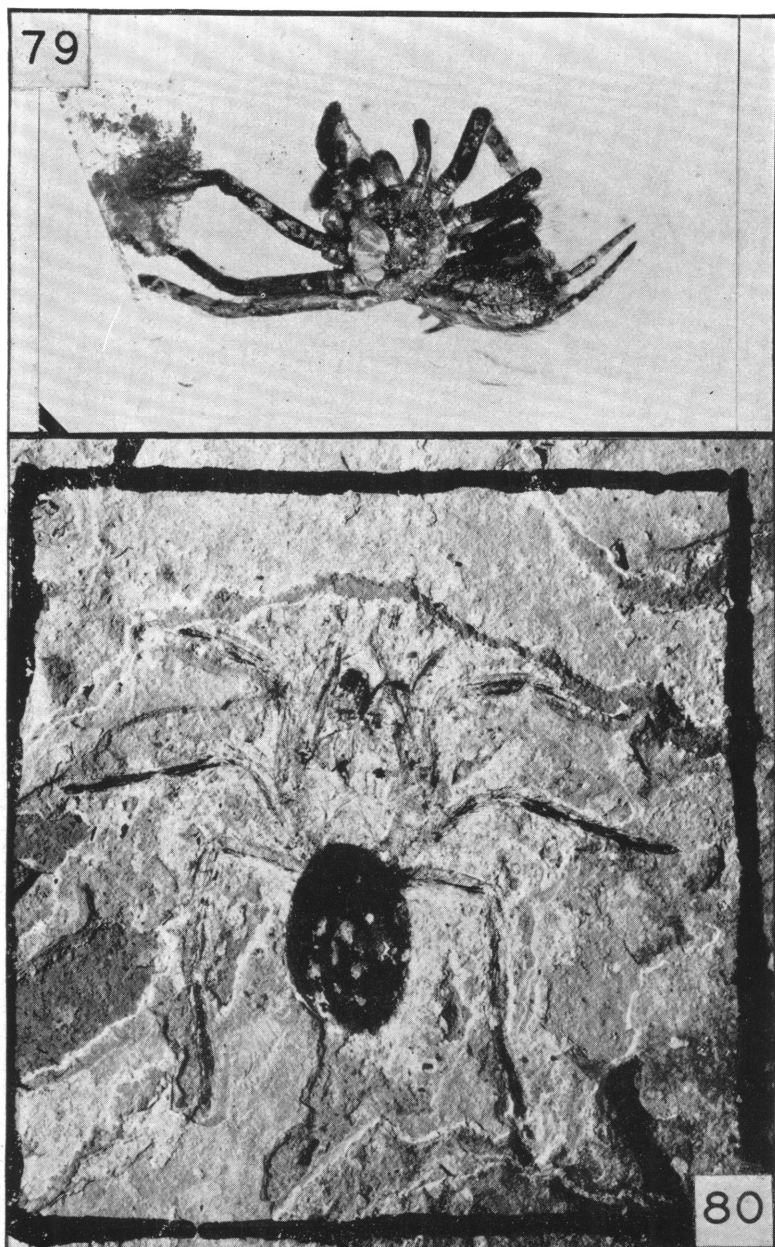


Fig. 79. *Clostes priscus* Menge, A.M.N.H. No. 26254. $\times 8$.

Fig. 80. *Argyroneta antiqua* Heyden, A.M.N.H. No. 26275. $\times 5$.