

NEW AND RARE SPIDERS FROM THE GREAT SMOKY MOUNTAIN NATIONAL PARK REGION

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Family AGELENIDAE

Coras cavernorum, new species

(Figure 1)

Female.—Total length 13 mm. Cephalothorax 6 mm. Abdomen 7 mm. Cephalothorax widest part between second and third leg, 4 mm. Cephalothorax at eye region, 2.6 mm. Width of posterior lateral eyes, 1.6 mm. Length of first leg, 20 mm.

Cephalothorax with the usual markings. A dark line from posterior lateral eyes to an elongated hexagonal light area which has its posterior point on the outside of a dark hexagonal area which ends lateral to the dorsal groove. A faint line from posterior middle eyes to the elongated light hexagonal area. The anterior angle of this area bisected by a dark line which is an extension of the line from the posterior lateral eyes.

Anterior part of head a rich yellowish brown. This color becomes lighter toward the posterior edge of the cephalothorax where it is lemon color.

The legs are the same color as the head except the distal end of femur and the patella which are lemon. Faint bars show on the upper side of femora and tibiae. The femora underneath show three well marked dark bars; the first or basal is narrow; the second or middle bar and the subapical are broad.

Abdomen a dark greenish gray. The indefinite pattern is made up by the underlying white which shows through. A basal dark stripe extends half the length of the abdomen. It is broken in the middle by a white spot between two muscle impressions. On the posterior part are five chevrons. The two anterior are broad and irregular flocculent white spots. The three posterior are inverted V marks, each made up of a single row of small white dots. Just above each posterior spinnerette a long white horizontal dash mark.

Venter of abdomen with a long dark shield-shaped center broken by two small white spots just below the epigynum. The dark center is surrounded by large irregularly placed white spots. Sides of venter dark with small white dots.

Epigynum wide, but narrow from front to back.

Sternum dark with a central light line which nearly meets a posterior light diamond mark.

One female from a small cave six miles west of Waynesville, N. C., at 3500 ft. September 30, 1936. A. Stupka Coll.

Family LEPTONETIDAE

Leptoneta gertschi, new species

(Figure 2)

Male.—Length 1.4 mm.

The ground color is yellowish white overlaid by a granular brownish purple. The darkest parts are the sternum, edges of thorax, venter and sides of the abdomen. The dorsum of the abdomen shows a faint light herring-bone pattern.

The palp on the outside shows a characteristic set of spines (Fig. 2). A terminal projection of the cymbium bears in a pit a flattened spine of peculiar shape. Behind this with its origin near the base of the projection is a long delicate hair. A small papilla proximal to the constriction of the tarsus bears four delicate spines one of which is broadened and flattened, spatula-like at the end. These spines are followed by two large forward curving spines in front of which there is a delicate straight spine. The anterior edge of the tibia bears five spines in a group. The upper which is heavy and flattened at the base is longer than the tarsus and patella together. The others from a half to a third the length of the upper.

The inside of the palp shows below the constriction in the tarsus a small brownish chitinized patch shaped like the wing-cover of a beetle. Below this patch there is on the front edge of the bulb a fan-shaped group of six or seven straight hairs directed forward.

Two males. Greenbrier section of Great Smoky Mountain National Park, Tenn. June 14, 1939. (Sifting leaves.)

Leptoneta coma, new species

(Figure 3)

Male.—Length 1.52 mm.

The color and general conformation is like the species *silvicultrix* and *gertschi* but the males can be easily distinguished by the palp and its peculiar specialized hairs and spines.

The tarsus of the palp is deeply cleft at the distal end forming an upper and lower lobe. Seen from the outside the lower lobe is nearly as large as the upper but bears on its lower side a secondary lobe or knob (Fig. 3) which bears a small black flattened spine set in a pit. The upper lobe has the usual long hairs of which four stand out as being heavier than the others. The middle lobe bears on its upper edge a long delicate hair below which are several short hairs, the lower one plumose. Proximal to the constriction in the tarsus is the usual series of spines one of which is flattened slightly. The most distinctive feature of the palp is a series of eight extremely long hairs which arise along a vertical line on the middle of the inside of the bulb and extend forward side by side beyond the middle lobe of the tarsus. These are white at the tips. The tips of four are shown in the figure. The specific name refers to this wisp of long hairs.

Two males. Seven females. Gatlinburg, Tenn. June 21, 1936. Sifting leaves near the river.

Family THERIDIDAE

Theridium sex-setosum, new species

(Figure 4)

Male.—Length 1.4 mm.

Thorax black except for two pale tan streaks which extend from below the anterior lateral eyes around the sides to the posterior declivity where they end abruptly. The lower edge of the thorax back of the first legs milk white. Sternum brownish tan.

Abdomen black with markings as follows: on the dorsum two pairs of round white spots each surrounded by a pale parchment-like area; above the spinnerettes several white spots which form a rough triangle pointed downward. Lower sides of abdomen with a long white spot. Venter brownish black with a pair of small white spots in the middle.

Legs pale transparent with black hairs.

Palps pale to the end of the tibia which is black. Tarsus of palp tan.

Between the two rows of eyes are six black erect robust spines evenly spaced. These are about as long as the clypeus is wide. The anterior tibia bears at the center of its inner face a robust tapering spine which is almost half as long as the segment itself.

Palpal organ outside view as shown in Fig. 4.

One male. Headquarters Area of Great Smoky Mountain National Park, Tenn. June 12, 1939.

Theridium ambitum, new species

(Figures 5 and 5A)

Male.—Length 1.25 mm.

The pedicle is inserted on the abdomen behind the middle in such a way that the abdomen is vertical in position.

The forelegs are very long (3 mm.), the fourth pair short (1.5 mm.).

The cephalothorax short and almost as broad at third legs as it is long. The anterior edge is broadly rounded, the clypeus vertical retreating almost as high as the chelicerae are long. In profile the cephalothorax rounds up from the posterior margin and becomes horizontal at its highest point at the posterior eye row.

The colors are: Legs pale white contrasting strongly with black spines and hairs. Cephalothorax yellowish white faintly lined with greenish gray. Abdomen white clouded more heavily toward the spinnerettes with grayish green, but showing some small white spots. Spinnerettes white.

The distal end of the first tibia on its inner face bears a short spur from the top of which arises a heavy black slightly curved spine. From the base of the metatarsus there arises a small spine which is directed slightly downward in such a way that when this joint is flexed the smaller spine makes contact with the upper edge of the larger spine. (Fig. 5A.)

The palpal organ is broad and flat except at the distal end where the cymbium is elongated and bent downward at an angle of 85°. This extension of the cymbium is coiled into a trough which carries the black tips of the embolus and conductor. (Fig. 5).

One male. Laurel Falls Trail, Great Smoky Mountain National Park, Tenn. June 15, 1939. (Sifting in pine needles.)

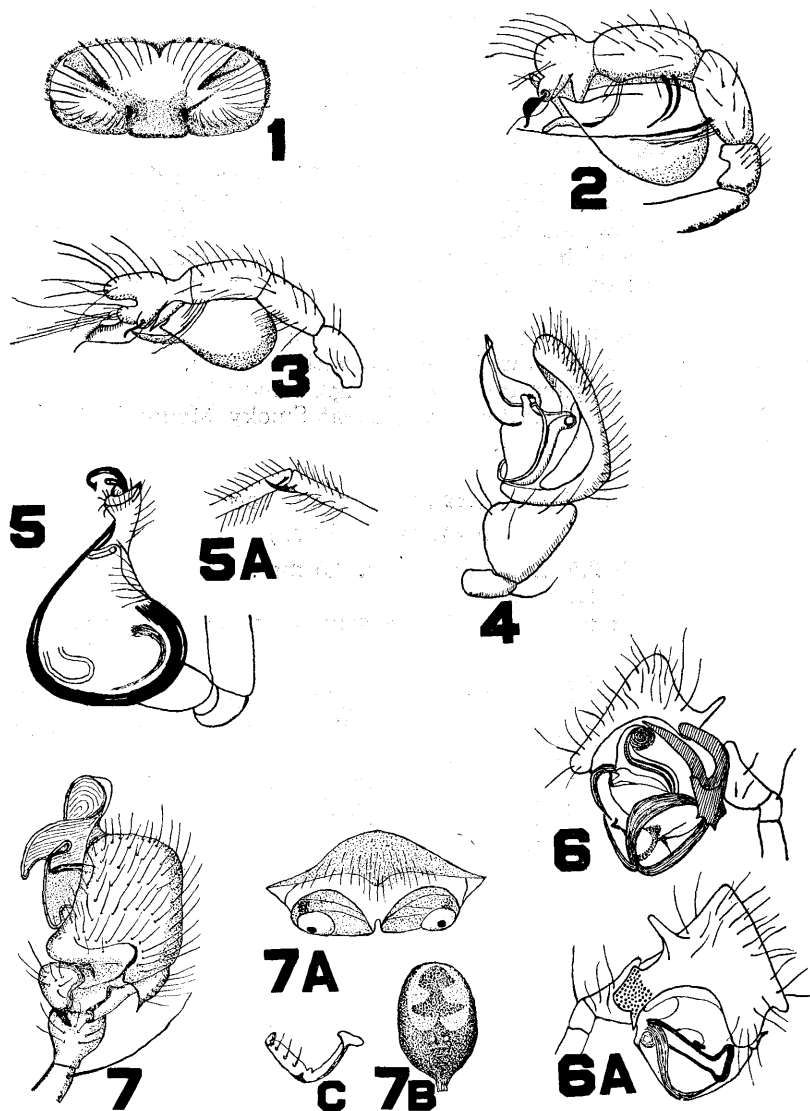


Fig. 1. *Coras cavernorum*, epigynum.

Fig. 2. *Leptoneta gertschi*, outside view of left palp.

Fig. 3. *Leptoneta coma*, outside view of left palp.

Fig. 4. *Theridium setosum*, outside view of left palp.

Fig. 5. *Theridium ambitum*, ventral view of left palp. 5A. Inside view of right tibio-metatarsal joint.

Fig. 6. *Bathyphantes officiosus*, outside view of left palp. 6A. Inside view of same.

Fig. 7. *Lepthyphantes ornithes*, left male palp. 7A. Epigynum. 7B. Female abdomen showing pattern from the dorsal view. 7C. Paracymbium.

Family LINYPHIIDAE

Bathyphantes officiosus, new species

(Figures 6 and 6A)

Male.—Length 1.75 mm.

Thorax yellowish clouded with black which forms a dark margin.

Legs light yellow. Bases and undersides, particularly the coxae white.

Sternum yellow clouded with black, particularly the posterior edge.

Abdomen greenish black with a white middle cross band which slopes backward on each side but does not reach the venter. Venter black.

Chelicerae swollen at base, much constricted distally, the fang groove broad, flat, excavated laterally, without teeth.

The palpal organs are shown in Figs. 6 and 6A.

Two males. Headquarters area, Great Smoky Mountain National Park, Tenn. June 14, 1939.

Lepthyphantes ornithes, new species

(Figures 7, 7A, 7B and 7C)

Male.—Length 2.5 mm. First tibia 2.5 mm. First metatarsus 2.4 mm. First tarsus 1.1 mm.

Cephalothorax pale orange yellow somewhat clouded by gray along the edges.

Legs pale orange yellow.

Abdomen pale yellow with an overlaid pattern of gray somewhat obscure but showing the peculiar "bundle of wheat" mark easily seen on the two darker females. (Fig. 7B.)

Sternum and venter of the abdomen darker than dorsum. Sternum longer than wide (15 : 14) straight across the front or slightly reentrant, widest between coxae I and II slanting directly to the rather broad extension between the hind coxae.

The palpal organ (Fig. 7) is atypical in three respects: the embolus is long and follows the edge of a broad membranous fold; the base of the cymbium is excavated, the excavated portion partially covered by an innerfold and an outerfold and grooved tooth; the usual apophyses are either absent or very much reduced.

The paracymbium is fairly typical for this genus. (Fig. 7C.)

Female.—The two females at hand are much darker than the male, the legs being dusky and the abdomen almost black and white (Fig. 7B). The epigynum (Fig. 7A) appears as if made up of two gasteropod shells with the large openings toward the abdomen. When seen from behind the two parts appear as two bird heads placed beak to beak.

Male and female. Sugar Grove, Ohio, Oct. 26, 1918. Under a log in a wooded ravine.

Female. Little River, Great Smoky Mountain National Park, Tenn. Sept. 3, 1936.

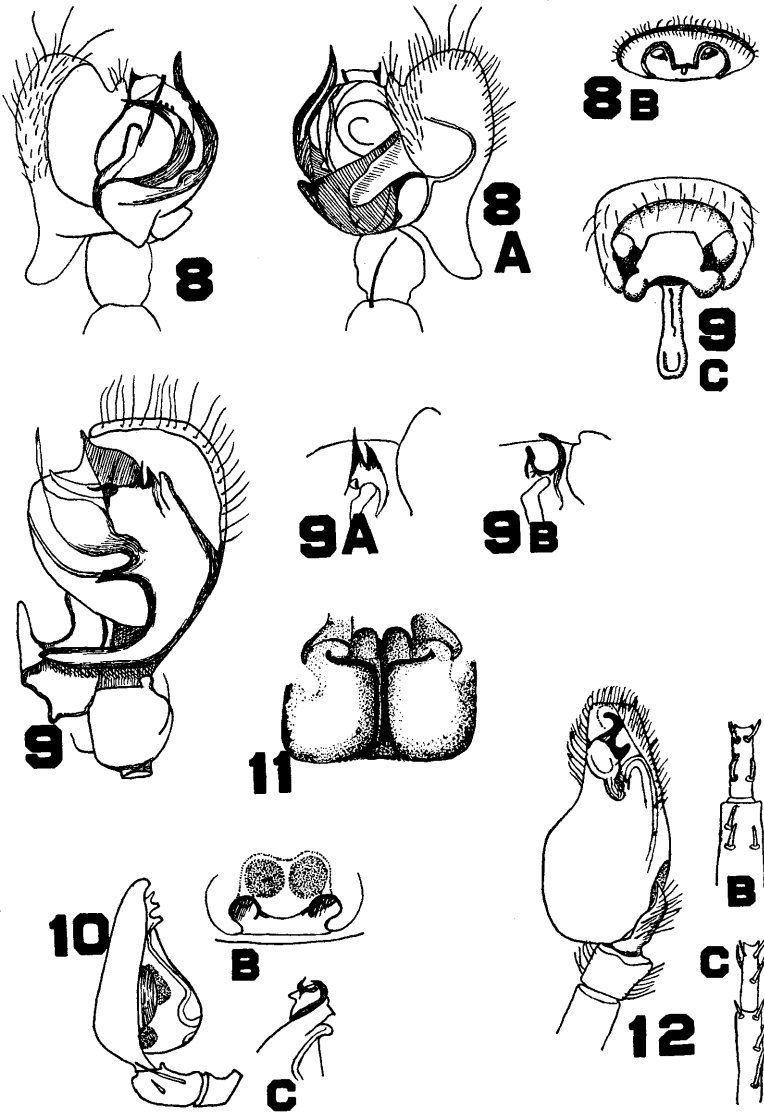


Fig. 8. *Microneta olivena*. 8 and 8A. Two views of right palpal organ. 8B. Epigynum.

Fig. 9. *Microneta tennapex*, palp. 9A. Black teeth on end of palp to be compared with 9B similar teeth in *Microneta latidens* Em. 9C. Epigynum.

Fig. 10. *Castianeira stupkai*, inside view of left palp. 10B. Epigynum. 10C. Dorso-mesial view of embolus and conductor.

Fig. 11. *Liocranoides unicolor*, epigynum.

Fig. 12. *Pseudicius lecontei*, left palp. 12B. Left foreleg, ventral view showing spines on tibia and metatarsus. 12C. Left second leg, ventral view, showing spines on tibia and metatarsus.

Microneta olivena, new species

(Figures 8, 8A and 8B)

Male.—Length 1.5 mm.

Cephalothorax above and below pale buff clouded with sooty black without a definite pattern except a darker edge.

Legs pale buff.

Abdomen above and below dark gray.

Eyes on black spots.

Sternum squarely truncated across the front and widest between the first and second coxae. It is moderately bowed ventrally.

The palp (Figs. 8 and 8A) is much like that of Emerton's *Microneta olivacea*.*Female*.—Length 2 mm.Color and general configuration like the male. Through the kindness of Miss E. B. Bryant I have been able to examine male and female specimens of *Microneta olivacea* from Mr. Emerton's collections taken on Mt. Mansfield, Vt. June 17, 1909. The epigynum of *olivacea* is short and thick while in *olivena* it is long and more narrowly oval in cross section as indicated in Fig. 8B.

One male and one female. Camp No. 1 near Gatlinburg, Tenn., Great Smoky Mountain National Park, Tenn. Mar., 1937.

Microneta tennapex, new species

(Figures 9, 9A, 9B and 9C)

Male.—Length 2 mm.

The general color is a pale dull yellow clouded with sooty black.

Cephalothorax edged with black with the usual radiating lines and median line.

Eyes on jet black spots. The spots surrounding the posterior median eyes extend posteriorly into fine sharp points.

Sternum and venter are dusky but smooth and shiny.

Coxae and trochanters pale yellow as are the patellae, metatarsi and tarsi. Femora clouded distally as are the tibiae.

Chelicerae have on the outer lateral surface a double or triple row of very short stiff closely packed spines which extend from the cheliceral base almost to the base of the fang. This group of spines looks like a black cheliceral line.

Female.—Same size and marked exactly like the male except that the abdomen shows a few small white spots widely separated. These appear to be in four longitudinal rows.This species seems to be quite like Emerton's *Microneta latidens*. Through the kindness of Miss E. B. Bryant I have been able to compare these specimens with some specimens of *Microneta latidens* which were taken at Newton, Mass., on Nov. 22, 1904. Fig. 9B shows the two peculiar palpal spines of *M. latidens*.

Figs. 9, 9A and 9C show the palpal organ and epigynum.

Several males and females, Summit of Clingman's Dome, Great Smoky Mountain National Park, Tenn. Mar. 19, 1937.

Family CLUBIONIDAE

Castianeira stupkai, new species

(Figures 10, 10B and 10C)

Male.—Length 8 mm. Cephalothorax 2.6 mm. Abdomen 2.4 mm. General color golden orange suffused with reddish brown.

Cephalothorax elliptical, widest at the second coxa, high evenly rounded from side to side, rising from the posterior border to a point just back of the head then falling slightly to the eyes. The clypeus is vertical or slightly retreating as wide as the eye area. Anterior eye row slightly procurved the medians separated by one third the diameter of one, the lateral eyes almost touching the medians. Seen from above the anterior eye row is recurved; the second eye row wider than the first, slightly procurved, the medians separated by a diameter, close to the laterals. Each eye is narrowly surrounded by black. Dorsum of the cephalothorax faintly marked with minute reddish spots growing more intense in color toward the borders. The chelicerae are about as long as the head is high above them. They are uniformly swollen somewhat retreating; the furrow of the chelicerae with two teeth above and two below. The distal tooth of each group is large, an equilateral triangle, the more proximal smaller.

Sternum yellow longer than wide with a few dark hairs directed inward.

First leg dark up to the middle of the femur, yellow to the base of the metatarsus. The metatarsus is dark, the tarsus white. Fourth leg darkened except for the extreme distal end of the tibia and the tarsus which are white.

Abdomen narrow anteriorly gradually widening to the three quarter mark where it is widest. From this point it is evenly rounded across the end. The dorsum is darkened with red dots and covered with golden hairs except for two rings of white hairs, the first at the distance of one fifth from the anterior end, the second at the two fifths mark. There is some evidence of a pair of white spots behind the second ring. The white rings run down the sides but do not cross the venter. The anterior seven eighths of the dorsum of the abdomen is covered by a shiny thin scutum which is detected with difficulty. This is flat, rectangular, and smooth. Just in front of the spinnerettes is a large tuft of thickly set erect black hairs longer than the spinnerettes and occupying about the same space.

The palps are darkened. The palpal organ as illustrated (Figs. 10 and 10C).

Female slightly larger than the male due to the increased size of the abdomen, colored and marked like the male except that the front metatarsus is not darkened. The white tip of the posterior tibia is missing; and the abdomen shows two basal white marks. The scutum on the abdomen is basal, nearly square, half as wide as the abdomen.

The epigynum (Fig. 10B) shows the usual two openings.

Male. Gatlinburg, Tenn. June 25, 1936. (In *Andropogon* field.)

Female. Gatlinburg, Tenn. May 21, 1937. Glen Sheets Coll.

Liocranoides unicolor, Keys

(Figure 11)

Female.—Length 9 mm.

Except for the epigynum which is shown in Fig. 11 Keyserling's description is adequate for this species.

Female. Great Smoky Mountain National Park, Tenn. Sept. 17, 1937. (Under rock on hillside above C. C. C. Camp.)

Family ATTIDAE

Pseudicius lecontei, new species

(Figures 12, 12B and 12C)

Male.—Length 3.5 mm.

General color blackish lead partially covered with large iridescent scales showing white, pink or green colors.

Thorax low flattened sloping upward from the anterior eyes in a rounded curve to the point where the posterior declivity descends sharply. Thorax widest just in front of the posterior declivity.

Eye area darker than the remainder of the cephalothorax. The quadrangle of the eyes wider behind. The third eyes very small, nearer the second row. The anterior row seen from above recurved, the laterals about one-fourth the diameter of the medians. Thorax has a marginal band of white hairs and a wider sparse supra-marginal band which starts at the anterior median eyes and passes around to the edge of the posterior declivity.

Abdomen elongated overlapping the thorax in front, widest at the middle, narrowing to a point at the spinnerettes. Dorsum covered with iridescent scales but showing a short white basal band.

Bases of the legs, sternum and venter are lead black with a few iridescent scales.

The palps are dull black above and below but are tipped with white. The first leg is somewhat enlarged; the femur, tibia and tarsus dark, the patella is lighter, and the metatarsus white. The three remaining legs have the femur dark. The patellae and tibiae are dark above and below but have heavy stripes of large white scales running along the anterior and posterior edges. The metatarsi are white with a distal black ring. The tarsi are white. In the sunlight the lines of scales on the patellae and tibiae (Ohio specimen) glow with a bright cerise pink color giving the impression that the spider is surrounded by a pink picket fence.

The anterior margin of the cheliceral groove bears one small black tooth distant from the fang base. The posterior margin bears a similar large triangular tooth. The spines on tibia I (Fig. 12B) are (1, 0), 2, metatarsus 2, 2; tibia I (Fig. 12C) 2, 1, 1, metatarsus 2, 1 plus 1 anterior lateral.

The fang shows a basal half thickened, opaque, and a distal narrowed region clear enough to show the poison duct. Palpal organ as figured (Fig. 12).

One male. Top of Mt. Leconte, Great Smoky Mountain National Park, Tenn. Aug., 1937.

One male. Higby, Ohio. (From a dry wash) June 19, 1931.