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Review of the Spider Subgenus *Barronopsis* (Arachnida, Agelenidae)¹

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An attempt has been made to clarify the existing species of the subgenus *Barronopsis*, and a name has been provided for the species described and illustrated by Chamberlin and Ivie (1941, p. 602) under the name *A. barrowsi* (Gertsch). Additional discrepancies were discovered during the studies as indicated below.

The writer was most fortunate in having available type or paratype material of all species. Special thanks are extended to Dr. W. J. Gertsch of the American Museum of Natural History who has aided the author throughout his study through suggestions and loans of both type and undetermined material. Appreciation is expressed for the loan of specimens from Dr. H. K. Wallace of Gainesville, Florida; Dr. E. A. Chapin of the United States National Museum; Mrs. D. L. (Harriet Exline) Frizzell of Rolla, Missouri; Dr. Martin Muma of Lake Alfred, Florida; and Dr. R. V. Chamberlin of the University of Utah. Special thanks are also extended to Patricia Hansen for the excellent drawings.

The subgenus *Barronopsis* consists of a group of homogeneous, sympatric species which are distributed through the maritime states from Maryland to the southern tip of Texas and in the Bahama Islands off the coast of Florida. These spiders are distinguished from the subgenus *Agelenopsis* by the following characteristics:

Barronopsis CHAMBERLIN AND IVIE: Palpus with a well-developed

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pointed tubercle; median apophysis curves towards tip of palpus from base, ending in an obliquely truncate, chisel-like edge; conductor consists of a subtriangular base with one stout spur arising at the outer edge against which rest the large coils of the embolus; base of embolus consists of three or four tightly fused coils opening up into one to two and a quarter loose coils lying more or less at right angles to the cymbium; epigynum lacks coupling cavity.

Agelenopsis GIEBEL: Palpus with the tubercle reduced; median apophysis a stout, triangularly pointed process directed mesally towards base of palpus; conductor usually subrectangularly shaped, directed distally, lying free at the ectal-distal portion of the genital bulb. Embolus lacks fused coils at base, usually consisting of one or more loose coils lying parallel with the genital bulb; epigynum bears coupling cavity (occasionally reduced in females of *A. oregonensis* Chamberlin and Ivie).

The above descriptions and terminology differ from those given by Chamberlin and Ivie (1941) in their revision of *Agelenopsis* but follow Gering (1953). Chamberlin and Ivie's "median apophysis" is apparently the tubercle; the "meso-ventral process" (of *Barronopsis*) and "tegulum forms a more or less pointed ventro-mesal process" (of *Agelenopsis*) are the median apophysis of Gering. In addition the conductor (of *Barronopsis*) is described as being "short, with tip notched," when actually it is divided at the base, forming, usually, a heavy spur.

Females were omitted from the key and distribution records, as well as the description of the new species, because of the absence of distinct differentiating characteristics between the many female specimens on hand and the difficulty in matching them with the correct males. As an example: there is in the collection of the American Museum of Natural History a large series of small mature females from Lake Placid, Arcadia County, Florida, which may be the females of *A. barrowsi* (Gertsch) which was described from near-by (50-70 miles) Fort Meyers. However, a single small female has been taken from Gainesville, Florida, which may also be the female of *A. barrowsi* (Gertsch). There are other examples, but the above should be sufficient to show the necessity for collecting more males with associated females and should caution anyone against describing new species in this subgenus without sufficient material and study.

The four males are similar in appearance but differ essentially in minor configurations in the distal portion of the embolus, the shape of the conductor, tubercle, median sclerite, process of tibia, and the coils of the embolus, there being four small fused coils and one large coil in *A. barrowsi* (Gertsch) and three small and two or more large free coils in the

other species. The teeth on each of the promargins of the chelicerae are always three in number; the retromargins each bear three, or occasionally three on one side and four on the other. *Agelenopsis barrowsi* (Gertsch) is less than 5 mm. in length, while none of the other species seen were less than 7.5 mm.

All measurements are taken from the tip of the anal tubercle to the front of the carapace.

KEY TO THE MALES OF THE SUBGENUS *Barronopsis*

1. Tip of embolus apparently undivided (at least under $\times 100$ magnification) 2
 - Tip of embolus distinctly bifid *jeffersi* Muma
2. Truncus entire to tip of embolus 3
 - Portion of truncus ends abruptly near tip of embolus *texana* (Gertsch)
3. Coil of embolus composed of two complete turns tight against each other.
 - Size more than 7 mm. *floridensis*, new species
 - Coil of embolus composed of one complete turn. Size less than 5.5 mm. *barrowsi* (Gertsch)

Agelenopsis (Barronopsis) barrowsi (Gertsch)

Figures 1, 2

Agelena barrowsi GERTSCH, 1934, pp. 23, 24 (in part), fig. 9 (male).

Not *Agelenopsis (Barronopsis) barrowsi* CHAMBERLIN AND IVIE, 1941, p. 602. (See *floridensis*, new species, below.)

The author was not able to study the specimens used in the description of *A. barrowsi* (Gertsch) by Chamberlin and Ivie (1941, p. 602), but the excellent drawings clearly indicate that the male belongs to the new species described below and the female probably belongs to the same species.

Dr. W. J. Gertsch has indicated to the author (in letters) that the female paratypes of *A. barrowsi* (Gertsch) belong to another species, probably *A. floridensis*, new species.

The tip of the embolus was studied under $\times 440$ magnification and was found to be swollen distally and bifid, as shown in figure 2. The small size of the embolus makes it appear to be drawn out to a fine tip as indicated in the original description.

TYPE LOCALITY: *Florida*: Fort Meyers. Holotype in the American Museum of Natural History collection.

MEASUREMENT: Total length, 4.35 mm.

Agelenopsis (Barronopsis) floridensis, new species

Figures 5, 6

Agelenopsis (Barronopsis) barrowsi CHAMBERLIN AND IVIE, 1941, p. 602, figs. 43-45 (male), probably figs. 14, 15 (female).

HOLOTYPE MALE: Color in alcohol: carapace yellow-brown, becoming reddish brown anteriorly; black border along lateral edges, becoming darker above the coxae; blackish markings in a broad longitudinal row opposite median line, extending to and including part of the sides of the pars cephalica. Chelicerae dark reddish brown; endites and labium slightly lighter and whitish distally; sternum light reddish brown, slightly mottled. Legs light yellow-brown, with three faint blackish annulations on the femur, one distally on the patella, two on the tibia, and three on the metatarsus, the distal one being distinctly darker than the others. The bases of the hair and setae appear to be quite dark, giving the integument a peppered appearance. Abdomen with a broad grayish brown longitudinal stripe outlined with mottled black markings; sides and venter mottled on a grayish brown background. Spinnerets yellow-brown.

STRUCTURE: Typical for genus. Integument of carapace and abdomen with simple and plumose hairs. Pars thoracica twice as wide as pars cephalica, eyes occupying 24/44 of the width of the latter. Eye ratio: anterior median eyes, 16; anterior lateral eyes, 18; posterior median eyes, 12; posterior lateral eyes, 15. Clypeus slightly wider than anterior lateral eye. Both eye rows strongly procurved, posterior median eyes slightly more than their diameters apart and slightly less than their diameters from the posterior lateral eyes; anterior median eyes about half their diameters apart. Chelicerae moderately geniculate, three teeth on promargins, three on right retromargin and four on left. Abdomen more than twice as long as wide, anal tubercle large, distinct, two-thirds as long as basal segment of posterior spinneret. Colulus at base of anterior spinnerets, divided. Anterior spinnerets cylindrical, slightly longer than basal segment of posterior spinneret and with a minute distal segment. Posterior spinnerets two-segmented, the second segment almost twice the length of the basal segment. Legs moderately long, covered with plumose hair and a moderate amount of long simple hairs. Femora lack spines ventrally. Tibiae bear the following spines ventrally: first tibia, 2-2-0; second tibia, 1-1-1; third tibia, 2-1-2; fourth tibia, 1-1-2. All metatarsi bear 2-2-3 spines ventrally. Palpus typical of genus, no patellar process, remainder as illustrated in figures 5 and 6.

MEASUREMENTS OF HOLOTYPE: Total length, 8.9 mm. Carapace: length, 4.2 mm.; width, 3.0 mm.; head width, 1.5 mm.; eye width, 0.85 mm. First leg: femur, 4.0 mm.; tibia-patella, 5.1 mm.; metatarsus, 4.0 mm.; tarsus, 2.3 mm.; total, 15.4 mm. Fourth leg: femur, 4.3 mm.; tibia-patella, 4.9 mm.; metatarsus, 5.3 mm.; tarsus, 2.4 mm.; total, 16.9 mm.

TYPE LOCALITY: *Florida:* Levy County, November 15, 1949 (H. K.

Wallace). Holotype and paratype in the American Museum of Natural History collection.

MEASUREMENTS: Two specimens, length, 8.9 mm.

ADDITIONAL RECORD: *Bahama Islands*: South Bimini, May, 1951, penultimate male and two immatures (M. A. Cazier and W. J. Gertsch).

Agelenopsis (Barronopsis) jeffersi Muma

Figure 3

Agelenopsis (Barronopsis) jeffersi MUMA, 1945, pp. 94, 95, figs. 7-9 (male and female).

The male from Alachua County, Florida, has a blunter tubercle and the tip of the embolus straighter than do the paratypes. However, for the present it is included under the above species.

TYPE LOCALITY: *Maryland*: Salisbury, four males. Male holotype in the American Museum of Natural History collection.

MEASUREMENT: Total length, six males, range, 7.5-10.3 mm.; average, 8.6 mm.

ADDITIONAL RECORDS: *Florida*: Male (A. Archer); Alachua County, November 4, 1948, male (H. K. Wallace).

Agelenopsis (Barronopsis) texana (Gertsch)

Figure 4

Agelena texana GERTSCH, 1934, p. 24 (male).

Agelenopsis (Barronopsis) texana CHAMBERLIN AND IVIE, 1941, pp. 601, 602, figs. 46, 47 (male); 1944, p. 128.

A male of this species from Auburn, Alabama, from the collection of R. V. Chamberlin bears only seven eyes. The posterior lateral eye of the left side is absent, with only a slightly depressed glabrous area to indicate its former position. In addition the posterior median eye of the left side is half the normal size and is located slightly posterior to the normal position. The spider is normal in other respects.

TYPE LOCALITY: *Texas*: Edinburg. Male holotype in the American Museum of Natural History collection.

MEASUREMENTS: Total length, six males, range, 6.9-10.0 mm.; average, 8.86 mm.

ADDITIONAL RECORDS: *Alabama*: Coosa River, Three Island Shoals, Talladega County, November 14, 1911, male (Sherman Bishop collection); Auburn, four males. *Georgia*: Fort Benning, October 24, 1943, male (D. Elden Beck). *Mississippi*: Humphreys County, November 10-30, 1937, male. *Florida*: Quincy, Gadsden County, November 29 to December 1, 1934, male (J. D. Kilby).

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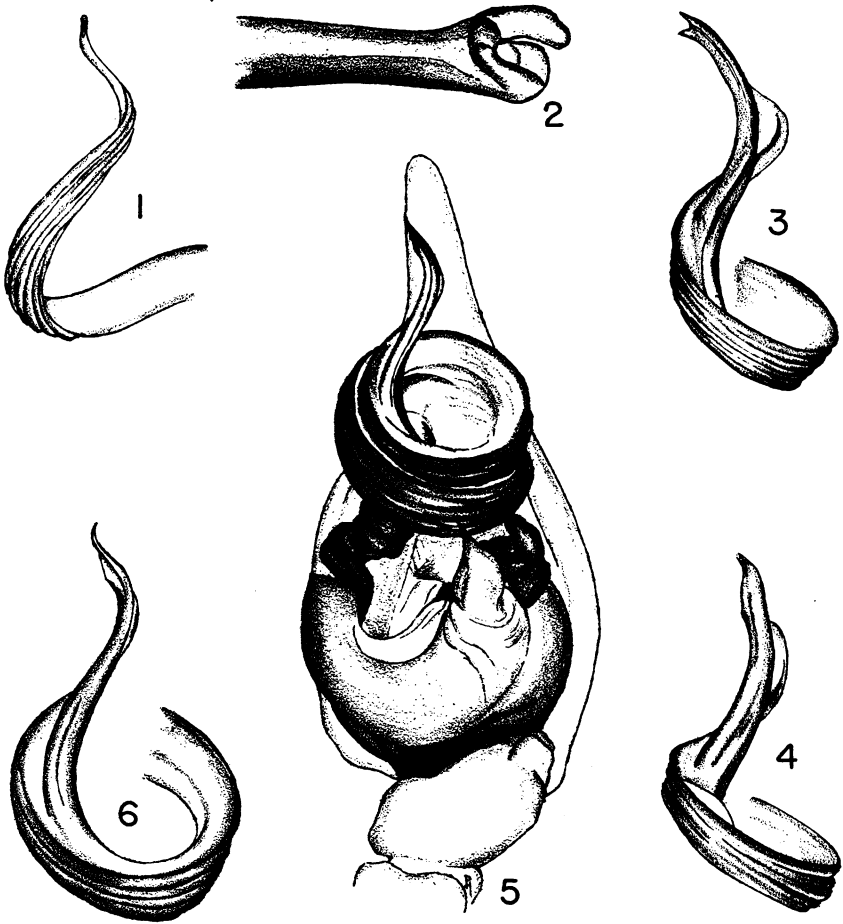
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FIGS. 1, 2. *Agelenopsis barrowsi* (Gertsch). 1. Distal portion of embolus. 2. Magnified view of tip of embolus.

FIG. 3. *Agelenopsis jeffersi* Muma, distal portion of embolus.

FIG. 4. *Agelenopsis texana* (Gertsch), distal portion of embolus.

FIGS. 5, 6. *Agelenopsis floridensis*, new species. 5. Male palpus (setae omitted for clarity). 6. Distal portion of embolus.

