# BULLETIN

OF THE

BROOKLYN ENTOMOLOGICAL SOCIETY

VOL. LVIII FEBRUARY, 1963 No. 1

## REVIEW OF THE GENUS *ATRACTOTOMUS* FIEBER IN NORTH AMERICA WITH NOTES, KEY, AND DESCRIPTION OF ONE NEW SPECIES (HEMIPTERA: MIRIDAE)

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Among some miscellaneous Hemiptera collected from bitterbrush, *Purshia tridentata* (Pursh) DC., in Idaho by M. M. Furniss and submitted by him for identification were specimens of a species of *Atractotomus* Fieber that appears to be new. It is being described at this time so that the name will be available for reporting the insect's activities on that host.

To aid in recognition of this and other North American species of the genus, a key is included.

Studies to determine the organisms on which members of this genus actually feed are needed. Although several species have been reported as associating with certain plants (*mali* (Meyer) with apple, *magnicornis* (Fallén) with evergreens, and several with their "host's" name incorporated in their own), *mali* has been credited with being "predaceous on green apple aphid" and on small caterpillars. Possibly all the forms are carnivorous rather than herbivorous.

### Atractotomus purshiae, n. sp.

*Diagnosis:* The extremely short second antennal segment (subequal to width of vertex) separates this species from all other forms known from North America except *balli* Knight; however, the black osteolar peritreme described for *balli* affords a ready separation since that structure is conspicuously paler than the surrounding sclerites in *purshiae*.

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*Description* (all measurements given in millimeters): General color black with appendages, including tarsi, weakly embrowned; membrane dark gray with basal margin black; osteolar peritreme dirty white. With long, blunt, silvery-white, scalelike pubescence, as follows: dorsally most dense on head and pronotum, becoming less dense posteriorly and smaller and more scattered over most of membrane; ventrally most dense laterally; present also on coxae, femora (especially anterior surfaces), and sparsely so on tibiae. Antennae fuscous throughout, with no pale scales, segments I and II with dense, blackened hairs, III and IV with light and dark hairs mixed. Labium reaching between hind coxae.

*Dimensions:* Male holotype: length 2.36; width 1.24. Head: width 0.88, vertex 0.48. Antennal segments: I, 0.18; II, 0.48 (diameter 0.12); III, 0.23; IV, 0.20. Pronotum: length 0.40, width 1.08. Female: length 2.53; width 1.29. Head: width 0.88, vertex 0.48. Antennal segments: I, 0.14; II, 0.48 (diameter 0.13); III and IV missing. Pronotum: length 0.45, width 1.05.

*Holotype:* Male, collected six miles south of Krassel Ranger Station, Valley County, Idaho, 29 May 1961, M. M. Furniss, elevation approximately 4,000 feet, from *Purshia tridentata,* Hopkins number 40971F (United States National Museum Type Number 66078). *Paratypes:* Two ♂♂, same locality and host as *allotype,* collected 29 May and 27 June 1961; six ♀♀, same locality and host as holotype, collected July 13 and 21 1961.

Nymphs and adults were found on the same hosts on all dates given above. The nymphs are red in color. The early instars lack the thickened second antennal segment which is so characteristic of the adults, but with successive molts this modification becomes more evident.

In contrast, during equally intensive work on *Purshia* in Boise County at an elevation 1,000 feet higher than in Valley County, this mirid was not found.

KEY TO THE NORTH AMERICAN SPECIES OF ATRACTOTOMUS

1. Antennal segment II as long as or longer than width of head across both eyes ..... 2
   Antennal segment II shorter than width of head across eyes 6
2. Antennal segment II as long as or longer than basal width of pronotum; tibiae and apical third or more of femora orange red; length, ♂ 7.7, ♀ 5.0–5.2 mm .. hesperius (Uhler)
   Antennal segment II not or little more than three-fourths as long as basal width of pronotum ..... 3

3. Entire dorsum, especially anteriorly, with crowded, broadly obovate, silvery-white scale-like pubescence; coxae creamy white, contrasting strongly with black pleura; length 3 mm ..... *albidicoxis* Reuter
   Entire dorsum with flattened pale pubescence narrow, long, and attenuate apically; coxae black, concolorous with pleura ..... 4
4. Labium short, scarcely attaining apices of middle coxae; length 2.6–2.8 mm ..... *flavotarsus* Johnston
   Labium long, reaching well between hind coxae ..... 5
5. Dorsal surface of front and middle tibiae yellow with a complete, longitudinal row of close-set tiny black tubercles; length 3.0–3.6 mm ..... *mali* (Meyer)
   Dorsal surface of front and middle tibiae yellow or fuscous to black but without a row of tubercles; length 3.0–3.4 mm ..... *magnicornis* (Fallén)
6. Hind tibiae yellowish white with a conspicuous fuscous spot surrounding insertions of some of the spines; length 2.3–2.6 mm ..... *acaciae* Knight
   Hind tibiae dark fuscous to black ..... 7
7. Osteolar peritreme black, concolorous with pleura ..... 8
   Osteolar peritreme distinctly paler than surrounding pleura 10
8. Antennal segment II as long as or longer than width of vertex plus one eye ..... 9
   Antennal segment II shorter, its length subequal to width of vertex; length 2.3–2.5 mm. ..... *purshiae,* new species
9. Antennal segment I short, its length subequal to diameter of antennal II; length 2.7–3.1 mm ..... *reuteri* Knight
   Antennal segment I longer, its length more than twice the diameter of antennal II; length 3 mm .... *cercocarpi* Knight
10. Antennal segment II almost twice as long as width of vertex (60.35); length 2.6–2.8 mm ..... *crataegi* Knight
    Length of antennal segment II subequal to or shorter than width of vertex; length 2.6 mm ..... *balli* Knight

NOTES ON THE NORTH AMERICAN SPECIES OF ATRACTOTOMUS

1. *Atractotomus acaciae* Knight. One pair was collected during May at Douglas, Arizona, just southeast of the type locality at Tucson.

2. *Atractotomus albidicoxis* Reuter. Reuter's type from the Heidemann collection was found in the United States National Museum. It was the Arizona female listed with the original de-

scription (even to the abbreviation for the Chiricahua Mountains) and bears a label in Reuter's handwriting indicating it to be a "n. sp." On this label the species name is spelled without the syllable "di." The specimen has been assigned U. S. N. M. Type Number 66077.

3. *Atractotomus balli* Knight. So far this species is known only from the type from Arizona.

4. *Atractotomus cercocarpi* Knight. Knight's original records for Arizona and New Mexico still stand as the only distributional data.

5. *Atractotomus crataegi* Knight. Again, the only distributional record, Iowa, is that given by Knight with the original description.

6. *Atractotomus flavotarsus* Johnston. This species is included in the above key solely on the basis of the original description. The separation as stated is weak and specimens are needed for evaluation. Specimens found breeding on bluet, *Houstonia angustifolia* Michx., in Texas during April and May comprised the type series.

7. *Atractotomus hesperius* (Uhler). Originally described as the basis for the genus *Dacota,* this species appears restricted to the mountainous western parts of the United States. In his "Catalogue" Carvalho listed it for California and Wyoming; I have seen specimens from Montana and Arizona; and Uhler reported it from Colorado and "Dakota" (the latter locality undoubtedly referred to the old Dakota Territory rather than to the present Midwestern States of that name).

The great disparity in size of the two sexes results from a sexual dimorphism in wing length. In the male the wings are so greatly elongated that the tip of the abdomen scarcely reaches the base of the cuneus; in the female the wings are much shorter, the tip of the abdomen reaching to the apex of the cuneus.

8. *Atractotomus magnicornis* (Fallén). The presently used concept is based on European specimens, determined by Reuter, in the U. S. National Museum. This evergreen-frequenting species was first reported from North America in 1923 by Knight, who had specimens from evergreens in New York. From this same material he described the variety *buenoi,* which he characterized as being "smaller and more ovate" and having the second antennal segment just as long as width of head across both eyes instead of longer, as in the nominal form.

9. *Atractotomus mali* (Meyer). This is another European species which was first reported from North America by Knight in

1924. He listed specimens from Nova Scotia as being "predaceous on green apple aphid." Since no North American specimens were available for study, European material in the U. S. National Museum was used to construct the above key. The row of close-set, tiny, black tubercles on the dorsal faces of the front and middle tibiae has not been used as a taxonomic character. If examination of more material establishes the constancy of this character (it occurs elsewhere in the Miridae), it should be very useful because it is missing from *albidicoxis, acaciae, hesperius, magnicornis* and *reuteri.*

10. *Atractotomus purshiae* Froeschner. See notes with original description in the present paper.

11. *Atractotomus reuteri* Knight. This species was originally described as *Atractotomus hesperius* by Reuter from a specimen from Siskiyou County, California, in the Heidemann collection. When Knight found it necessary to synonymize Uhler's genus *Dacota* with *Atractotomus* there resulted a conflict with Uhler's earlier use of *hesperius* within the genus. Since Uhler's use has priority of twenty-seven years over that of Reuter's, Reuter's species had to be renamed.

In the collection of the United States National Museum is a series of seven specimens from Siskiyou County, California, of which one female bears Reuter's determination *"Atractotomus hesperius n. sp."* Because Reuter cited only one female and this specimen agrees with the original description, it is assumed that Heidemann sent to Reuter only one member of the series. This specimen is therefore accepted as the type and given the U. S. N. M. Type Number 66076. In addition the collection contains two specimens from Placer County, California, and one from Las Vegas, New Mexico.

## References

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