

A REVISION OF THE GENUS *ACHOROTILE* IN AMERICA NORTH OF MEXICO (Homoptera:Fulgoridae, Delphacinae)¹

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Achorotile Fieber

Frons, notum, and abdomen with numerous round pits; head about as broad as prothorax or slightly narrower, quite strongly carinate; vertex almost square, slightly broadening toward the front (in type species); frons with two median carinae parallel with sides and percurrent through apex of head; eyes moderately large, not deeply emarginate below; antennae short, terete, segment II at least twice as long as I. Pronotum quite long, lateral carinae curved outward behind eyes, not reaching hind margin. Calcar foliaceous, stout; hind tibiae bispinose. (After David L. Crawford, 1914, Proc. U.S. Nat. Mus. 46:578.) Type of genus: *Achorotile albosignata* Dahlbom.

Key to the species of *Achorotile*

1. Aedeagus sickle-shaped 2
Aedeagus not sickle-shaped 3
2. Anal processes very broad, almost straight *albosignata* Dahlbom
Anal processes much narrower, distinctly curved *coloradensis* n. sp.
3. Anal processes tapered to apices, almost straight 4
Anal processes more or less avicephaliform at apices 6
4. Styles in ventrocaudal view pediform at apices 5
Styles in ventrocaudal view not pediform *stylata* n.sp.
5. Process on caudoventral margin of pygofer curved caudally at tip *pediforma* n. sp.
Process on caudoventral margin of pygofer nearly straight *foveata* Spooner
6. Both margins of anal processes more or less sharp *angulata* n.sp.
One margin of anal processes rounded *curvata* n.sp.

Achorotile albosignata (Dahlbom)

Delphax albosignata Dahlbom, 1849, Handl. Svenska Vet. Akad. 199.

Brachypterous form: This species is considered here because it is the type of the genus. Length ♂ 2.5 mm., ♀ 3mm. Males in general almost black, females much lighter. Thorax, vertex, and first two segments of dorsum of abdomen cream colored. Vertex, face, and lateral margins of abdominal segments with pits.

Internal male genitalia, in lateral view: Anal segment with a pair of very broad, anteriorly projecting processes; styles widest at base, slightly narrowing to rounded apices, curving gently from base to tip; pygofer with a blunted median spine in line with styles; aedeagus sickle-shaped on outer two-thirds.

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The above description taken from three males and one female determined and sent to me by Doctor Frej Ossianilsson of Sweden.

Achorotile angulata n.sp.

Brachypterous form: Resembling *A. curvata* but may be separated from this species by the avicephaliform tips to the anal processes. Length 2.5-3 mm.

Color: General color black to dark brown, dorsum of first two abdominal segments white, vertex and pronotum cream-colored.

Male internal genitalia: In lateral view shaft of aedeagus almost straight, apex enlarged, slightly curved ventrally, covered with retrorse teeth; anal processes with avicephaliform apices; medioventral process of pygofer straight, sides tapered to sharp point, about one-fourth as long as aedeagus. Styles in caudoventral view widest at base, gently narrowing to apices, slightly sinuate throughout.

Types: Holotype male, allotype ♀, 7 male and one female paratypes, Florissant, Colorado, June 6, 1949, R. H. Beamer. Types in the Snow Entomological Museum.

Achorotile coloradensis n.sp.

Brachypterous form: This is the only North American species with a sickle-shaped aedeagus like *Achorotile albosignata* known to date. It may be separated from this species by having narrow curved processes on the anal segment and a blunt process on the medioventral margin of the pygofer. Length 2.5-3 mm. Color somewhat lighter in general than in *A. albosignata*.

Male genitalia: In lateral view aedeagus sickle-shaped, the curve less than in *albosignata*; processes on anal segment, short and curved, the curve less than in *albosignata*; process on medioventral margin of pygofer sharp thorn-like, a rounded knob before curving, sharply pointed styles. Styles narrowed from base to apices.

Types: Holotype male, allotype female, and female paratype, Ouray, Colorado, July 15, 1937, R. H. Beamer. In the Snow Entomological Museum.

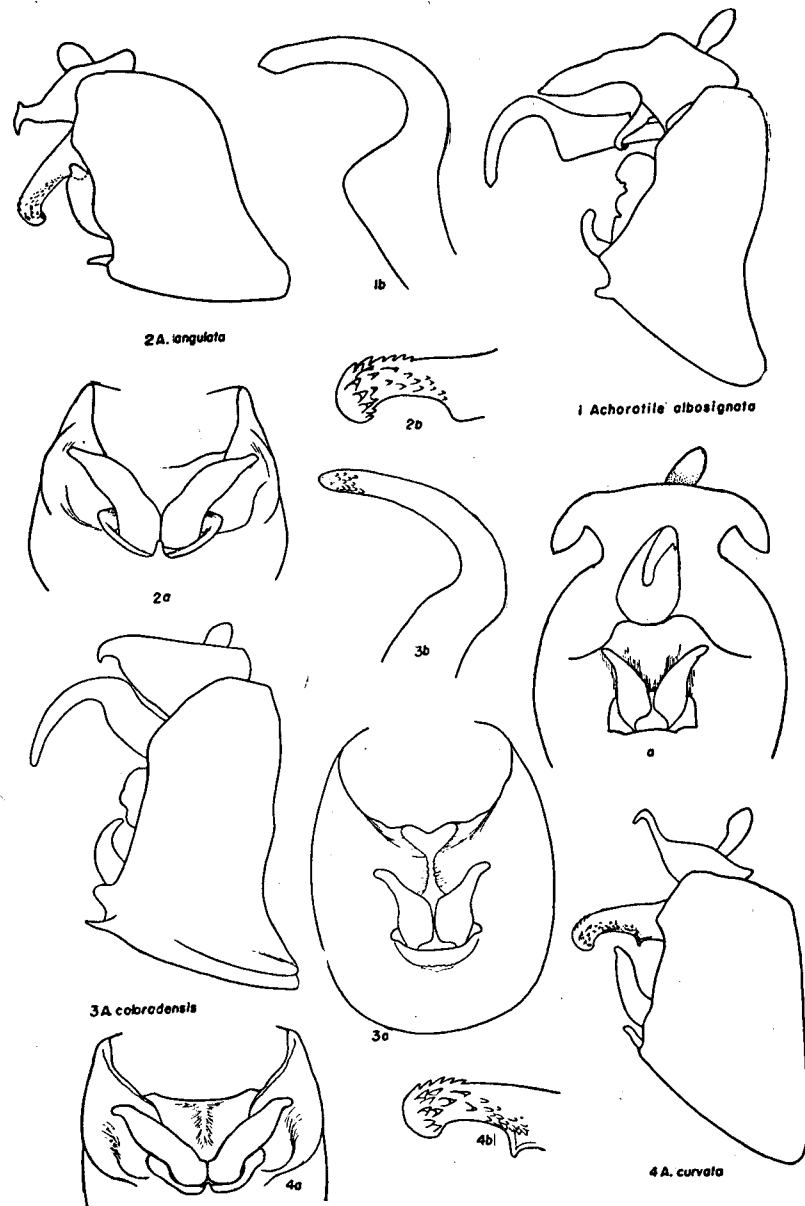
Achorotile curvata n.sp.

Brachypterous form: Resembling *A. foveata* but anal processes quite long and slender, bent ventrally at apices. Length 2.5 mm.

Color: Male abdomen black except dorsum of first two abdominal segments white, scutellum black, elytra dark brown, vertex and pronotum cream colored; female in general considerably lighter.

Genitalia of male: In lateral view, aedeagus almost straight, slightly enlarged at tip and bent ventrally, well covered with retrorse teeth, an angular tooth on ventral margin near middle, styles widest at base, evenly narrowed and curved dorsally to apices, slightly turned ventrally at extreme tip; caudo-medial process of pygofer sinuate, sides almost parallel, about one-sixth as long as styles; anal processes long and narrow on outer half, bent ventrally at right angles at apices.

Types: Holotype male, allotype female, 23 ♂ and 14 ♀ paratypes, White Mts., Arizona, June 19, 1950, R. H. Beamer. Types in the Snow Entomological Museum.



EXPLANATION OF FIGURES

1. *Achorotile albosignata*. Lateral view of male genitalia. 1a. Caudoventral view of male capsule. 1b. Lateral view of aedeagus, enlarged.
2. *A. angulata*. Lateral view of male genitalia. 2a. Caudoventral view of male capsule. 2b. Lateral view of aedeagus, enlarged.
3. *A. coloradensis*. Lateral view of male genitalia. 3a. Caudoventral view of male genital capsule. 3b. Lateral view of aedeagus, enlarged.
4. *A. curvata*. Lateral view of male genitalia. 4a. Caudoventral view of male genital capsule. 4b. Lateral view of aedeagus, enlarged.

Achorotile pediforma n. sp.

Brachypterous form: Resembles *A. stylata* but easily separated from that species by the pediform apices of the styles.

Color: General color mostly dark, females lighter, elytra of males shining black, of females brown.

Internal male genitalia: In lateral view aedeagus curved caudally with retrorse teeth on outer third, median tooth on ventral margin prominent; anal processes large, almost straight, very slightly curved caudally on outer third; styles two-thirds as long as aedeagus, narrowed and curved dorsally; caudo-median process on pygofer almost one-fourth as long as style, curved caudally at tip with a prominent hook on ventral margin at apex. In caudoventral view styles distinctly pediform at apices.

Types: Holotype male, allotype female, and one pair of paratypes, Colokum Pass, Washington, July, 1949, R. H. Beamer. Types in the Snow Entomological Museum.

Achorotile stylata n. sp.

Brachypterous form: Resembling *A. foveata* Spooner but may be distinguished from it by shaft of aedeagus curved ventrally on outer third and medioventral process on pygofer very short with apex bent ventrally.

General color darker than in *A. foveata*, short-winged males shining black. Females lighter.

Male genitalia: In lateral view aedeagus curved ventrally on outer third with retrorse teeth over most of this area, with bluntly rounded ventral process near middle of ventral margin of pygofer; styles widest at base, narrowed evenly to apices; caudoventral process of aedeagus sharply angular, short; anal segment with processes almost straight, fairly slender apically.

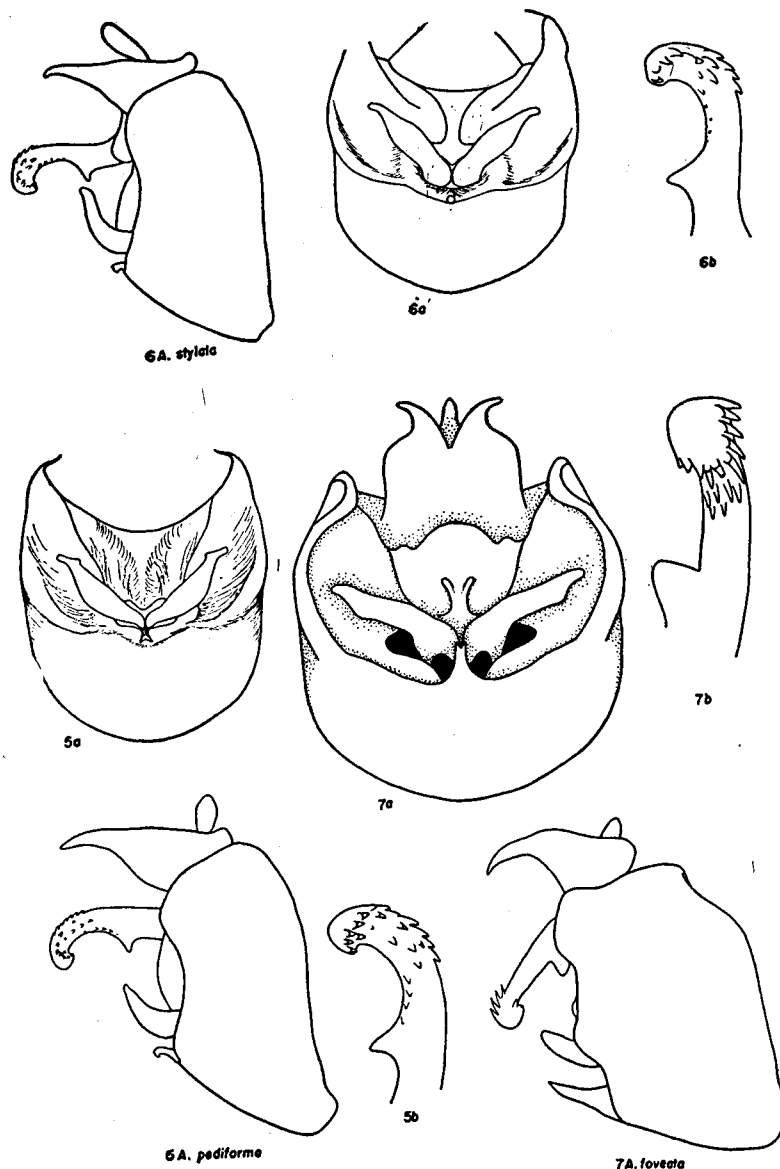
Types: Holotype male, allotype female, and one pair of paratypes, Yellowstone National Park, Wyoming, July 12, 1939, D. J. and J. N. Knull.

Holotype and allotype in collection of Doctor J. N. Knull, one pair of paratypes in Snow Museum.

Achorotile foveata Spooner

Achorotile foveata Spooner, 1912, Can. Ent., 44:241.

This is the only species in this genus described to date from America. It was named from a macropterous female taken by Doctor J. C. Bradley on May 17, 1907, and is now in the collection of Cornell University at Ithaca, N. Y. So far I have found it impossible to tell females of the species of this genus apart. The only male from California before me is from Weaverville which is some distance north of San Francisco, while the type locality of this species is Felton, a few miles south of San Francisco. Until such time as males are at hand from Felton, I prefer to call this species *foveata*. It was collected by Dr. and Mrs. J. N. Knull at Weaverville, California, June 16, 1941, and is in Dr. Knull's collection.



EXPLANATION OF FIGURES

5. *A. pediforma*. Lateral view of male genitalia. 5a. Caudoventral view of male genital capsule. 5b. Lateral view of aedeagus, enlarged.
6. *A. stylata*. Lateral view of male genitalia. 6a. Caudoventral view of male genital capsule. 6b. Lateral view of aedeagus, enlarged.
7. *A. foveata*. Lateral view of male genitalia. 7a. Caudoventral view of male genital capsule. 7b. Lateral view of aedeagus, enlarged.