BioOne COMPLETE

A New Antaeotricha Species from Utah and New Mexico (Gelechioidea: Elachistidae: Stenomatinae)

Author: Ferris, Clifford D.

Source: The Journal of the Lepidopterists' Society, 66(3) : 168-170

Published By: The Lepidopterists' Society

URL: https://doi.org/10.18473/lepi.v66i3.a8

BioOne Complete (complete.BioOne.org) is a full-text database of 200 subscribed and open-access titles in the biological, ecological, and environmental sciences published by nonprofit societies, associations, museums, institutions, and presses.

Your use of this PDF, the BioOne Complete website, and all posted and associated content indicates your acceptance of BioOne's Terms of Use, available at www.bioone.org/terms-of-use.

Usage of BioOne Complete content is strictly limited to personal, educational, and non - commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

BioOne sees sustainable scholarly publishing as an inherently collaborative enterprise connecting authors, nonprofit publishers, academic institutions, research libraries, and research funders in the common goal of maximizing access to critical research.

Downloaded From: https://bioone.org/journals/The-Journal-of-the-Lepidopterists'-Society on 28 Mar 2024
Terms of Use: https://bioone.org/terms-of-use

Journal of the Lepidopterists' Society
66(3), 2012, 168–170

A NEW *ANTAEOTRICHA* SPECIES FROM UTAH AND NEW MEXICO (GELECHIOIDEA: ELACHISTIDAE: STENOMATINAE)

CLIFFORD D. FERRIS

5405 Bill Nye Avenue, R.R.#3, Laramie, WY 82070. Research Associate: McGuire Center for Lepidoptera and Biodiversity, Florida Museum of Natural History, University of Florida, Gainesville, FL; C. P. Gillette Museum of Arthropod Diversity, Colorado State University, Ft. Collins, CO; Florida State Collection of Arthropods, Gainesville, FL., email: cdferris@uwyo.edu

ABSTRACT. The new species *Antaeotricha utahensis* is described from San Juan Co., Utah and Catron, Grant and Santa Fe counties, New Mexico. Adults and genitalia are illustrated.

Additional key words: *Antaeotricha utahensis*, Elachistidae, Gelechioidea, New Mexico, North America, Stenomatinae, Utah.

For the past several seasons in the Southwest, I have collected specimens of a middle-sized unmarked creamy-white *Antaeotricha* species. I now have a small series of this moth and my recent examination of the genitalia failed to produce a match with any species in the literature. There are smaller sized pale species known from the eastern United States, but the genitalia in both sexes are very different from what I have collected. In 1964, Duckworth reviewed the North American Stenomatinae and described two new species of *Antaeotricha*, expanding the North American species total to fifteen. I subsequently have described the maculated gray *Antaeotricha arizonensis* (Ferris, 2010). The genus *Antaeotricha* is most easily recognized by the anatomy of the male genitalia. The lightly sclerotized valves are narrow tapering to a rounded tip. The prominent harpe has a thumblike costal projection bearing long, bifurcate, recurved setae (Figs. 2–3).

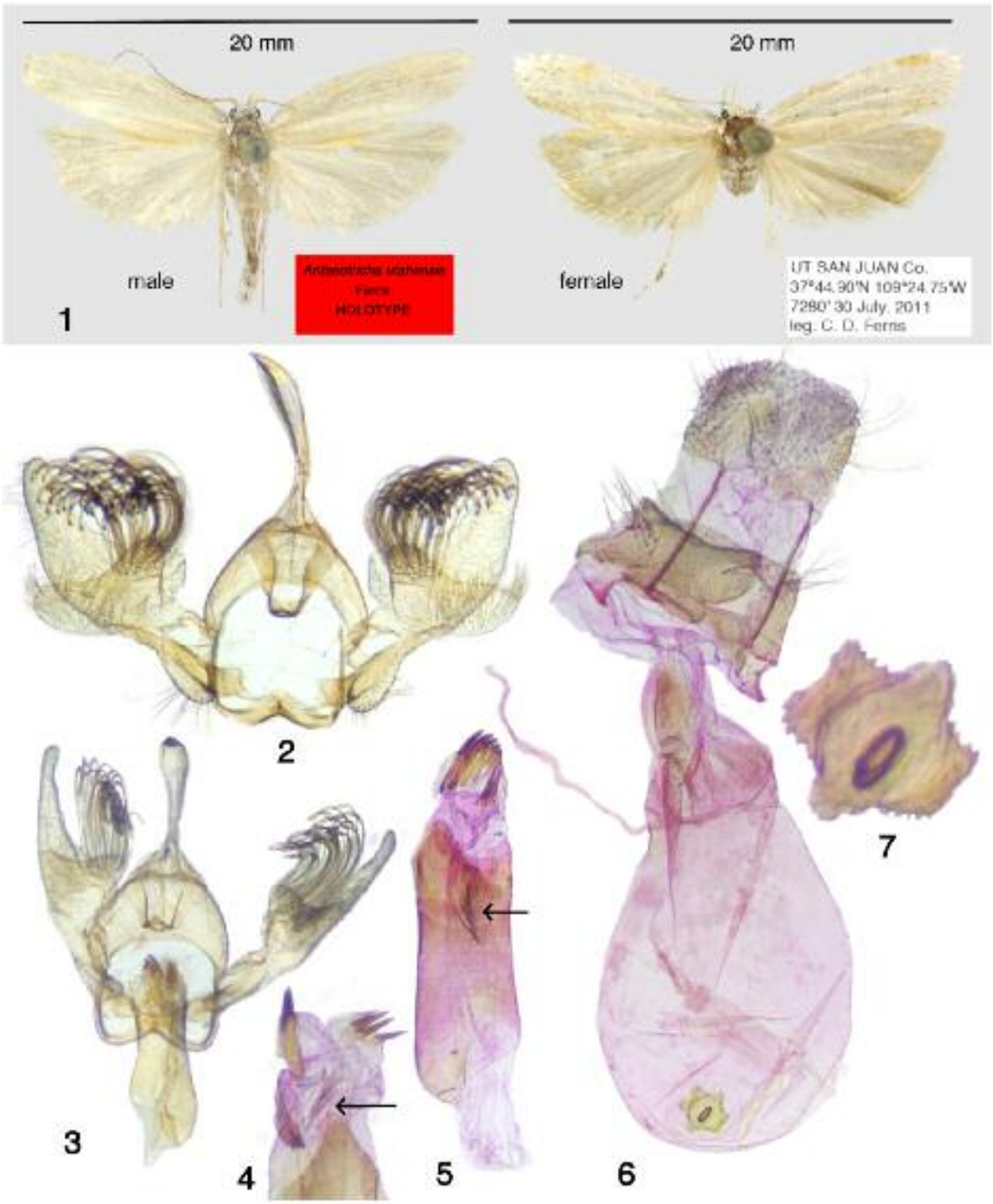
Materials and methods. Nine specimens of the new species were collected in bucket traps of the author's design using 8 watt BL fluorescent tubes operated from electronic power converters connected to 12 volt motorcycle batteries. Two additional specimens found by John W. Brown in the National Museum of Natural History collection were borrowed for examination. Genitalia dissection was carried out after macerating the abdomens in hot 10% KOH for fifteen minutes. Temporary slides were prepared using glycerin as the suspension medium. The genitalia are stored in glycerin in polyethylene genitalia vials attached to the specimen pins.

Antaeotricha utahensis Ferris, **new species**
(Figs. 1–7)

Diagnosis. The essentially unmarked glossy creamy dorsal surface of the forewings of *Antaeotricha utahensis* separate it from its congeners. It superficially resembles a very pale form of *A. thomasi* (Barnes and Busck), but in the male genitalia the uncus is distally broadly spatulate with a pointed tip, whereas in *A. thomasi* it is distally narrow with a notched apex. In the female genitalia, the signum is different in shape (a modified six-pointed star in *A. utahensis* versus a cross in *A. thomasi*). The male genitalia of *A. arizonensis* Ferris and *A. fuscorectangulata* Duckworth have an uncus shape similar to *A. utahensis*, but adults of both species have heavily maculated dorsal forewings.

Description. *Imago*: Sexes similar except antenna and genitalia. Except as noted for eye, tarsi and wings, remaining body components are glossy creamy white. [The gloss/sheen presented digital photography problems. In Fig. 1 the dark areas of the hindwing are a photographic artifact.] *Head*: Antenna (shaft and scape) glossy creamy white; ciliated ventrally in male, cilia slightly longer than width of flagellomere with curved tips; simple in female. Eye mottled black. Haustellum present. Labial palpus upcurved extending well above crown of head. *Tarsi:* Blend from creamy white to very pale tan toward tips; claws brown. *Wings:* Forewing length: males (n = 9) 9–11 mm, ave. = 10.2 mm; females (n = 2) both 9.5 mm. Dorsal forewing. elongate with rounded distal margin. Ground color glossy silky creamy white, very sparsely overlaid with very small single brown scales (visible only with magnification); a few single brown scales along base of fringe only; fringe scales otherwise glossy creamy white. Ventral forewing covered with many brown scales producing a dark tan color. Dorsal hindwing glossy, with sightly warmer creamy color and without any small brown scales. Ventral hindwing similar to dorsal but less glossy. *Male genitalia* (Figs. 2–5; 4 dissections): Uncus decurved, spatulate, narrow basally with a sharp apical point. Gnathos upcurved at midpoint with distal portion tapering to a rounded tip. Vinculum complete, arching in front. Anellus without distinct lobes. Valva elongate, expanded in middle, then tapering to broadly rounded tip; harpe thumblike bearing many long recurved bifurcate setae. Aedeagus short and broad (length about 2.5 times diameter) with multiple cornuti and irregular anterior margin; exposed vesica with 2 to 4 apparently deciduous robust spines and additional broad-based semi-fused robust curved spines and a setose brush (arrows in Figs. 4–5). *Female genitalia* (Figs. 6–7; 1 dissection): Ovipositor lobe basally broad and straight with rounded apex, sparsely covered with short fine hairs. Posterior apophyses well developed; anterior apophyses vestigial. Sterigma broad and open. Ductus bursae at top partially heavily sclerotized with lengthwise slender triangular plate, short and broad (only sightly longer than diameter) opening into tear-shaped corpus bursae, the top of which bulges slightly above junction with ductus bursae. Signum a large stylized six-pointed star with central outwardly projecting oblong plate perpendicular to base; plate is nearly rectangular with rounded edges and corners. Ductus seminalis originates from upper quadrant of corpus bursae.

Downloaded From: https://bioone.org/journals/The-Journal-of-the-Lepidopterists'-Society on 28 Mar 2024
Terms of Use: https://bioone.org/terms-of-use



FIGS. 1–7. *Antaeotricha utahensis*. **1,** adult male holotype and female paratype. **2–5,** male genitalia. **2,** genital capsule, aedeagus removed and flattened. **3,** unflattened genital capsule showing spatulate uncus and aedeagus *in situ*. **4,** aedeagus, vesica partially expanded (enlarged; arrow points to setal brush). **5,** aedeagus of second specimen (enlarged and vesica slightly everted; arrow points to setal brush). **6–7,** female genitalia. **6,** full genitalia. **7,** signum (enlarged).

Downloaded From: https://bioone.org/journals/The-Journal-of-the-Lepidopterists'-Society on 28 Mar 2024
Terms of Use: https://bioone.org/terms-of-use

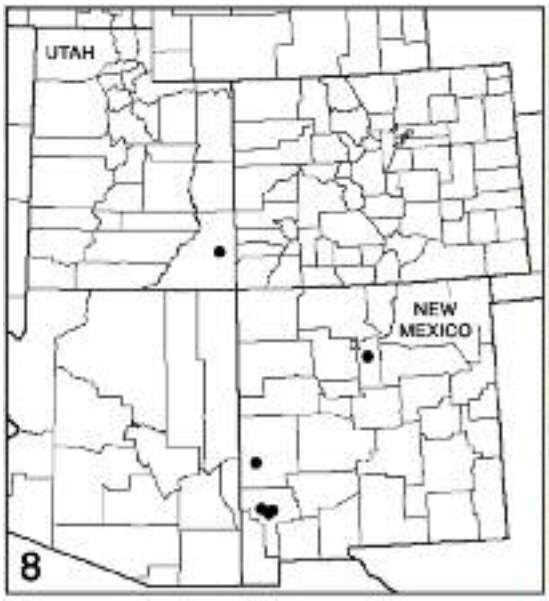


FIG. 8. Distribution map.



FIG. 9. Type locality habitat, San Juan Co., Utah.

Discussion. Based upon the male genitalia, *Antaeotricha utahensis* is closest to *A. fuscorectangulata* (adult forewings heavily maculated), but the tegumen is not produced into a dorsally projecting process in front; the aedeagus is shorter and broader with a different complement of cornuti. The female genitalia are closest to *A. thomasi*, but the signum in *A. thomasi* is a cross with a projecting element. In *A. thomasi*, the ductus seminalis originates from the midpoint of the ductus bursae, while it originates from the upper quadrant of the corpus bursae in *A. utahensis*.

Types. Holotype male (Fig. 1): UTAH, San Juan Co., 37°44.90'N, 109°24.75'W, 7280' (2220m), 30 July, 2011. Deposited in Carnegie Museum, Pittsburgh, PA. Paratypes: 4m (2 dissected), 1f (dissected), same data as holotype; NEW MEXICO, Catron Co., 33°39.97'N, 108°52.74'W, 6290' (1918m), 5.vii.07, 1m (dissected); Grant Co., 32°64.86'N, 108°13.44'W, 6820' (2080m), 19.vii.07, 1m (dissected), 33°03.70'N, 108°12.68'W, 6200' (1890 m), 1.viii.11, 1m. Paratypes in author's collection. Two additional paratypes in National Museum of Natural History, Washington DC: NEW MEXICO, Grant Co., Pinos Altos Mts., 6500' (1980m), nr. Silver City, 14.viii.87, R. Leuschner, 1f; Santa Fe Co., Tesuque, 26.vii.89, R. Leuschner, 1m.

Biology. Unknown; adults from early July to early August. The type locality (Fig. 9) and the three sites in southwestern New Mexico are moderately dry oak–conifer forest.

Distribution. Known from southeastern Utah and New Mexico (Fig. 8).

Etymology. The name *utahensis* (adjective) denotes the geographic locality where the holotype was collected.

ACKNOWLEDGEMENTS

My thanks to John W. Brown, Smithsonian Institution, National Museum of Natural History, Washington, DC for the loan of specimens for examination. Two anonymous reviewers provided helpful comments that clarified the content of this manuscript.

LITERATURE CITED

DUCKWORTH, W. D. 1964. North American Stenomidae (Lepidoptera: Gelechioidea). Proceedings of the United States National Museum. 116:23–72.

FERRIS, C. D. 2010. A new *Antaeotricha* species from southeastern Arizona (Gelechioidea: Elachistidae: Stenomatinae). ZooKeys 57:59–62.

Received for publication 29 January 2012; revised and accepted 28 February 2012

Downloaded From: https://bioone.org/journals/The-Journal-of-the-Lepidopterists'-Society on 28 Mar 2024
Terms of Use: https://bioone.org/terms-of-use

Downloaded From: https://bioone.org/journals/The-Journal-of-the-Lepidopterists'-Society on 28 Mar 2024
Terms of Use: https://bioone.org/terms-of-use