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DESCRIPTION OF HISTIOSTOMA CONJUNCTA (NEW COMB.)  
(ACARI: ANOETIDAE), AN ASSOCIATE OF  
CENTRAL AMERICAN BARK BEETLES

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ABSTRACT—The adult female and male plus the tritonymph of *Histiostoma conjuncta* (Woodring and Moser, 1970) (new comb.) are described. The species is known to be associated with various pine bark beetles from Honduras, Guatemala, and Louisiana.

Woodring and Moser (1970) described 5 new species of *Anoetus* associated with North American Scolytidae. One of these was *A. conjuncta*, which was based however only on the deutonymph. Fresh material has revealed the adult stages of *conjuncta*, which are herein described. The species is placed in the genus *Histiostoma*, a new combination, based on a redefinition of the genera *Histiostoma* and *Anoetus* by Woodring (1973).

*Histiostoma conjuncta* Woodring & Moser, (1970) new combination

FEMALE (Fig. 1, 4, 6, 7): Length of single female 256  $\mu$ ; probably a young female (based on the short opisthosoma and length being in range of male). Cuticular surface smooth with minute, dark conical projections as in retangular inset of Fig. 1. Propodosomal shield not heavily sclerotized, but boundaries clearly distinguishable. Anterior margin of hysterosoma indistinct. All dorsal setae gently curved, evenly tapered, and of approximate equal length. Dorsal opisthosomal setae (do1–do7) arise from small mounds. Opening of opisthosomal gland (gl) heavily sclerotized, large, and cup shaped. All ventral leg apodemes except a8 present, thick and dark in color. Cuticular area around anterior ring (r1) dark. Apodemes A1 join in midline to form short sternum (St1). Seta vm1 minute. Leg I largest and thickest, legs II and IV near equal length (II slightly thicker), and legs III shortest and thinnest. Outer, anterior edge of each coxa with distinct, thickened lip. Tarsal I setae e and f short, thick and blunt (Fig. 4). Distal cheliceral digit flattened, strongly curved at tip with 2 subapical teeth (Fig. 7).

MALE (Fig. 2, 5, 6, 7): Length of 2 specimens 242 and 260  $\mu$ . Entire dorsum thick and heavily sclerotized. Irregular areas of slightly thinner cuticle forms an uneven, irregular pattern over entire dorsum except propodosomal shield (Fig. 2). Dorsal hysterosomal shield curves over posterior end of body and extends onto ventrum. Anterior edge of hysterosoma distinct. All dorsal setae slightly curved, evenly tapered, and all of approximate equal length. Only median areas of ventor with thin cuticle. All leg apodemes thick and very dark. Edges of all coxal cavities and of camerostome with very thick, dark cuticle; most of coxal

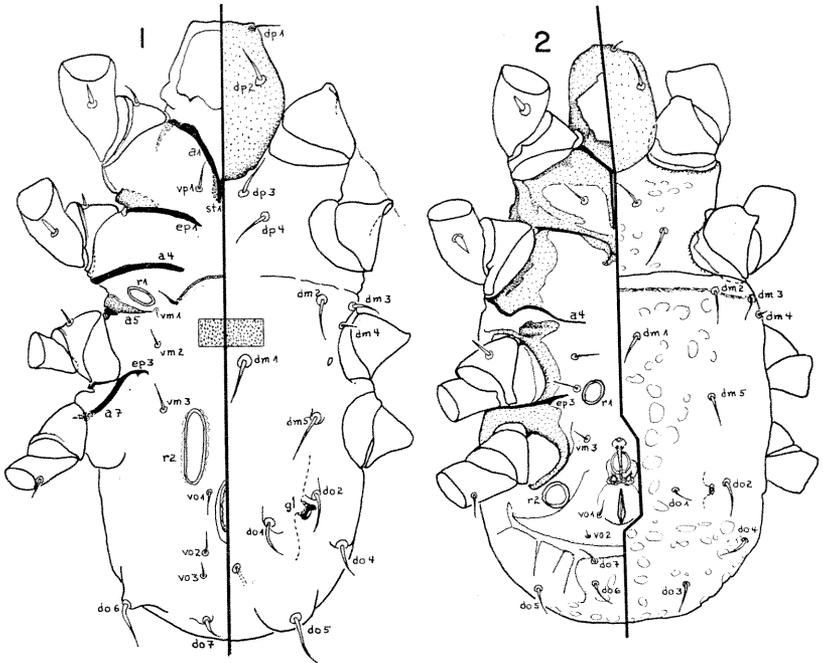


Fig. 1-2, *Histiotostoma conjuncta*. 1, ventral-dorsal view of adult female. 2, ventral-dorsal view of adult male.

plate I so thickened. All vm setae of equal length and shape. Anterior and posterior rings of equal size and shape. Cuticular wall of all leg segments very thick (Fig. 5). Tarsal I seta e very fine, short and pointed; seta f as typical in this genus formed as a claw overhanging the true claw. Cheliceral digit and pedipalps as in female. Legs I and IV of equal length and slightly longer than II and III; legs I and II stouter than III and IV. Penis straight, thin and slightly longer than anal slit.

TRITONYMPH (Fig. 3, 6, 7): Average of 7 tritonymphs  $222 \mu$  (213 to  $232 \mu$ ). Seven distinct plates on dorsal idiosoma, whose exact shape varies slightly among individuals. Plates thicker and darker (more sclerotized) than surrounding cuticle; and plates bear evenly distributed dense concentration of minute bright points (pores or at least thinner cuticle). Cuticle surrounding plates like that of female dorsum; smooth with minute, dark, conical, evenly spaced projections. All dorsal setae of approximate equal length, finely tapered and strongly curved. Ventrum smooth except for ill defined area of darker cuticle at posterior end. Leg apodemes reduced in number, length and thickness compared to adults; apodemes a2, a4, a6, and a8 lacking. Pedipalps and distal cheliceral digit as in female. Legs near equal length, though sequence of longest to shortest clearly I, IV, II, III; and legs I and II slightly heavier than III and IV.

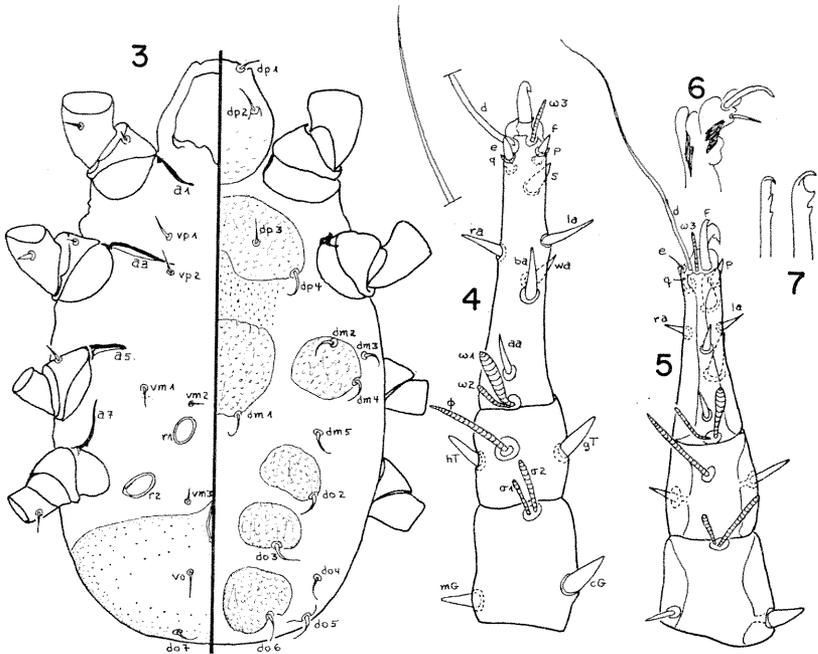


Fig. 3-7, *Histiotoma conjuncta*. 3, ventral-dorsal view of tritonymph. 4, dorsal view of female left leg I. 5, dorsal view of male left leg I. 6, pedipalps of male or female. 7, two views of distal cheliceral digit.

DEUTONYMPH: Described by Woodring and Moser, 1970, p. 1250-51.

DISTRIBUTION: The holotype and paratype deutonymphs from boring dust of *Dendroctonus frontalis* and *Ips cribricollis* in *Pinus oocarpa* from Tegucigalpa, Honduras; collected by R. C. Wilkinson. Additional deutonymphs were also collected from inner bark of *Pinus taeda* infested with *Ips avulsus*, *I. calligraphus*, and *D. frontalis* in Elizabeth, Louisiana; collected by J. C. Moser. New locality records: 1 ♀, 2 ♂ ♂, 1 tritonymph, 1 deutonymph and 1 larva from inner bark of *Pinus rudis* infested with *Ips* sp. (undetermined) from Department Totonicipan, Guatemala; collected by E. W. Clark. Also from the same locality 6 tritonymphs from galleries of *D. frontalis* in *P. rudis* and 1 deutonymph from inner bark of *Pinus montezuma* infested with *D. frontalis*. One deutonymph taken under elytra of an *Ips* sp. in galleries of *P. rudis* from Department Totonicipan, Guatemala.

TYPES: The holotype and paratype deutonymph was deposited in USNM in 1970. Plesiotypes of ♀, ♂, and tritonymph (3 slides total) are now also in USNM. These plesiotypes were taken from inner bark of *Pinus rudis* infested with *Ips* sp. from Totonicipan, Guatemala. Remaining specimens (1 ♂, 5 tritonymphs, and 8 deutonymphs) retained in first author's collection.

COMMENTS: Deutonymphs of *H. conjuncta* are now known from bark beetle galleries in Honduras, Guatemala, and Louisiana, USA. The species appears not to be restricted to an association with any single bark beetle on pine trees. The deutonymph and female are very typical of the genus and family, but the tritonymph and adult male are somewhat unusual. The adult male is as heavily armoured as many oribatid species, and such a degree of thickness and sclerotization of cuticle is very atypical of anoetids. Some of the tritonymphs were reared from deutonymphs, so it is certain the above described adults stages do belong to the previously described deutonymphs.

#### REFERENCES

- Woodring, J. P. and J. C. Moser. 1970. Six new species of anoetid mites associated with North American Scolytidae. *Can. Entomol.* 102:1237-57.
- Woodring, J. P. 1973. Four new anoetid mites associated with halictid bees. *J. Kansas Entomol. Soc.* 46:310-327.

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