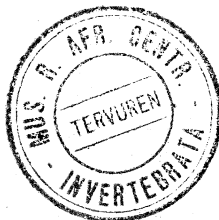
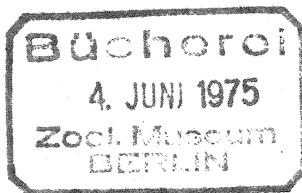


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## THE GENUS *BONZIA* IN THE NEW WORLD (Acarina, Cunaxidae)<sup>1</sup>

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The new world species described below is intermediate between *Cunaxa* v. Heyden, 1826 and *Bonzia* Oudemans, 1927. *Bonzia*, as defined for the two European species, *B. halacaroides* Oudem., 1927 and *B. sphagnicola* Willmann, 1939, is characterized by Thor and Willmann (1941) and Baker and Hoffman (1948) as having a many-branched spine on the dorso-medial surface of the third palpal segment (teloferum), palpi shorter than the chelicerae, a pair of geniculate setae on the anterolateral margins of the hypostome (fig. 2), one pair of eyes, and the leg coxae fused with the venter of the podosoma to form one large ventral plate. However, this new species possesses only one of the above characters, the branched spine on the palpal teloferum, while the other features mentioned above are as in other genera, especially *Cunaxa*. Only the branched spine on the palpal teloferum now appears to be a unique structure for *Bonzia*. Considering the characters of this New World species and those of the two Old World species, it appears desirable to redefine the genus *Bonzia*.

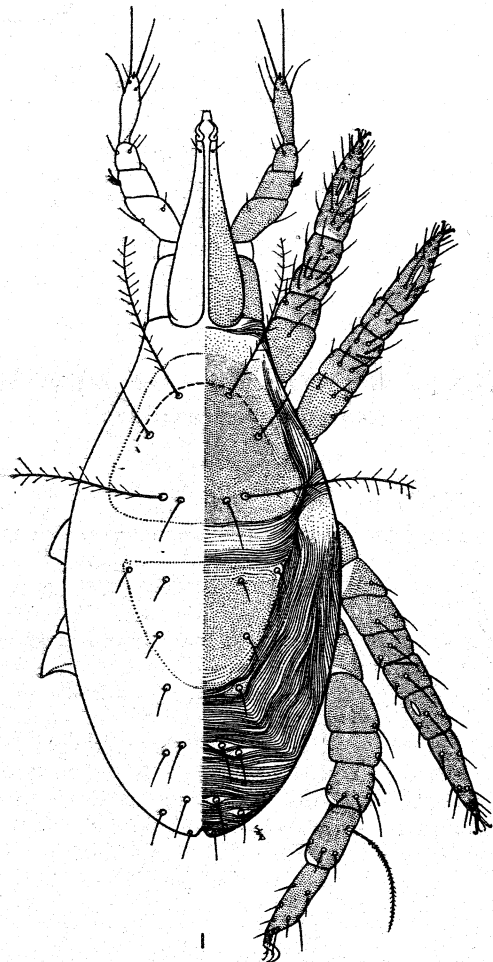
<sup>1</sup>Contribution number 965 from the Department of Entomology, University of Kansas.

Genus *Bonzia* Oudemans

Similar to *Cunaxa* but with a many-branched spine located dorsomedially on third palpal segment (telofemur) and/or one pair of large geniculate setae on anterolateral angles of hypostome; palpi five-segmented, approximately equal in length to chelicerae; leg coxae and venter of podosoma may fuse to form a single plate; one pair or no eyes present; two dorsal shields; prominent apodeme connecting anterior sensilla bases; tarsal apices without lateral extensions.

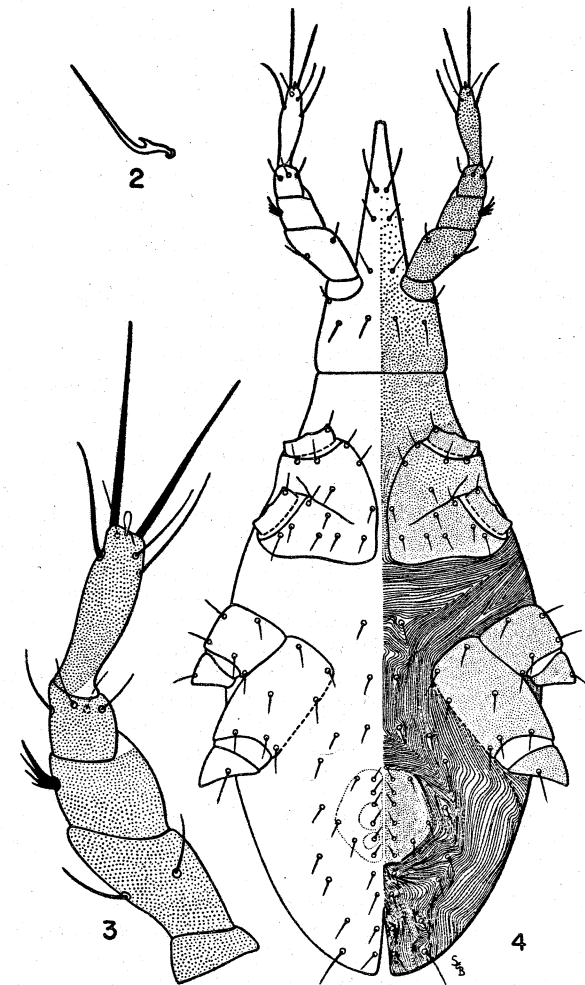
*Bonzia bdelliformis* n. sp.

FEMALE. Color in life, dark brown. Body narrowly oval, including gnathosoma, 383  $\mu$  in length; broadest at coxae III. Dorsum of podosoma



*Bonzia bdelliformis*. Fig. 1, dorsal aspect of holotype.

bearing two finely granulated plates; anterior plate rectangular to trapezoidal, bearing two pairs of tactile setae and two pairs of sensilla; posterior plate semicircular bearing three pairs of setae; punctations of plates merge into fine body striae; eyes wanting. Venter of podosoma finely striated except in regions of the coxae and genital areas. *Gnathosoma*: conical, projecting prominently from idiosoma, integument finely granulated. Chelicerae attenuate (110  $\mu$  in length), broadest at base (20  $\mu$ ); fixed digit wanting; movable digit small, sickle-shaped; one small seta located lateromedially



*Bonzia* sp. Fig. 2, geniculate seta. *B. bdelliformis*. Fig. 3, lateral aspect of right palpus; fig. 4, ventral aspect of holotype.

near base of blade. Hypostome base rectangular (51  $\mu$  wide), distal portion broadly attenuate, base with four pairs of small setae (7  $\mu$  long), distal portion with two pairs of setae, proximal pair 14  $\mu$  in length, distal pair 27  $\mu$ . Palpus short, thick, gently bent (in life the convexity is dorsal), extending slightly beyond tips of chelicerae, five-segmented; lengths of segments: trochanter, 14  $\mu$ ; basifemur, 27  $\mu$ ; telofemur, 19  $\mu$ ; genu, 13  $\mu$ ; tibiotarsus, 34  $\mu$ . Chaetotaxy of palpus: trochanter, nude; basifemur with one seta dorsomedially, one subequal seta lateromedially; telofemur with a many-branched spine dorsomedially; genu with four subequal setae arranged in a single band around segment; tibiotarsus with one strong, sigmoid-shaped seta dorsomedially near apex (27  $\mu$  long), two subequal setae ventromedially near apex, one fine seta lateromedially near apex, one bulbous, hollow, sensory seta arising lateromedially immediately behind insertions of terminal setae, two strong acuminate, terminal setae situated on apex, the dorsal seta 43  $\mu$  in length, ventral seta 36  $\mu$ . *Idiosoma*: two pairs of normal setae and two pairs of finely branched sensilla on anterior plate. Anterior pair of sensilla 92  $\mu$  in length, posterior pair 84  $\mu$  in length, the distance between anterior sensilla bases 23  $\mu$ , distance between posterior sensilla bases 41  $\mu$ . Posterior plate with three pairs of setae arranged in two transverse rows, anterior row with four setae, posterior with two setae; arrangement of remaining setae as in fig. 1. Ventral chaetotaxy as in fig. 4. *Legs*: legs I and II directed forward, legs III and IV directed to the rear; 7-segmented, including coxae; coxae I-II and III-IV form confluent groups delineated by apodemes and finely punctate plates; lengths of legs excluding coxae: I, 151  $\mu$ ; II, 141  $\mu$ ; III, 152  $\mu$ ; IV, 160  $\mu$ ; lengths of segments of leg I: trochanter, 12  $\mu$ ; basifemur, 34  $\mu$ ; telofemur, 15  $\mu$ ; genu, 17  $\mu$ ; tibia, 18  $\mu$ ; tarsus, 56  $\mu$ . Two simple claws; empodium reduced to small plate with four prominent rays. Chaetotaxy of legs: nude, acuminate, tactile setae and attenuate, bluntly tipped, apically slightly curved, hollow sensory setae arranged as in fig. 1. Hollow, thin-walled, conical setae with constricted bases on dorsal surfaces occurring as follows: tarsus I, three, large, central, arranged in oblique triangle; tibia I, two, small, medial; tarsus II, one, large, central; tibia III, one, small, near proximal end. Tibia IV with dorsal branched trichoboth (long sensory seta) 58  $\mu$  in length located centro-medially in large socket. *Genital area*: aperture 43  $\mu$  long; two finely granulated, lateral plates each bearing nine small, nude setae, of which six are arranged in a longitudinal row, three around periphery (fig. 4); one pair of setae within aperture at posterior end; two pairs of subequal genital suckers.

MALE. Unknown.

*Holotype*: female, Roane Co., Tenn., AEC Controlled Area, near Oak Ridge, October, 1956, S. Auerbach, D. A. Crossley, Jr., beech treehole (Berlese).

*Paratypes*: 23 females, same data as holotype.

*Location of types*: holotype and 19 paratypes deposited in the Snow Entomological Museum, University of Kansas, Lawrence, Kansas. One paratype at each of the following: Ecology Group, Health Physics Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee; United States National Museum, Washington 25, D.C.; British Museum (Natural History), Lon-

don, S.W. 7, England; South Australian Museum, Adelaide, South Australia.

This species is easily distinguished from the other described species of *Bonzia* by the absence of the geniculate setae, the large ventral plate, and the eyes. It is possible that *B. bdelliformis* is an aberrant *Cunaxa*, but at the present time it does not seem advisable to reevaluate the genera of the family Cunaxidae.

In life *B. bdelliformis* closely resembles Mesostigmata nymphs, and as a result could be easily overlooked in sorting miscellaneous material. In slide preparations, the two end bristles at the apex of the palpus give this species a superficial resemblance to the family Bdellidae, hence the specific name.

The author would like to thank Mrs. Sylvia Barr for the preparation of the illustrations and Dr. S. I. Auerbach, Ecology Group, Health Physics Division, Oak Ridge National Laboratory, for the material used in this study.

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