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and New Species from Ecuador
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the Sister Group of *Leptosalda chiapensis*

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RANDALL T. SCHUH¹ AND JOHN T. POLHEMUS²

ABSTRACT

Saldolepta kistnerorum, new species is described from the nest of *Nasutitermes dendrophilus* from the western lowlands of Ecuador. It is considered the sister group of *Leptosalda chia-*

pensis from Tertiary Chiapas amber, and as such is the first recent member of the Leptosaldinae. It is the first known apparent inquiline in the Leptopodomorpha.

INTRODUCTION

In the present paper we describe a new leptopodomorphan, *Saldolepta kistnerorum*, from Ecuador. The single female specimen was collected in the nest of *Nasutitermes dendrophilus* (Holmgren) by K. M. C. Kistner, and was kindly sent to us for study by Dr. David H. Kistner. *Saldolepta kistnerorum* possesses features found in the Leptopodidae, Omaniidae, and Saldidae, making the taxon of particular phylogenetic interest. Also, if *S. kistnerorum* is truly an inquiline, this would represent a unique habitat for a leptopodomorphan. We hope this report will stimulate further collecting because examination of male specimens will provide im-

portant phylogenetic information and additional habitat information would be of great interest.

We thank Ms. Kathleen Schmidt for the preparation of all the figures and for assisting us in interpreting structures of the specimen, and Ms. Brenda M. Massie for helping prepare the manuscript. All measurements are in millimeters.

SALDOLEPTA, NEW GENUS

Figures 1–7

DIAGNOSIS: *Saldolepta* can be recognized by its *Micracanthia*-like facies, anten-

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nal segments three and four fusiform, rostrum not quite attaining posterior margin of prosternal xyphus and with a short second segment, eyes reaching well onto anterior angles of pronotum, pronotum with eight long, reclining setae, very long corial fracture, and membrane with three closed cells. Most of these characters appear to be shared with *Leptosalda chiapensis* although in the single amber fossil of that species the pronotal setae are not evident. The two taxa can be separated by the proportions of the lengths of the antennal segments which are in *Saldolepta* .08, .18, .13, and .18 and in *Leptosalda* .09, .24, .19, and .21.

DESCRIPTION: Adult female. Small, ovoid, basic facies *Micracanthia*-like; head, pronotum, and scutellum rugose, weakly shining, hemelytra dull, except for marginal area of membrane along mesial half of corium; head, pronotum and scutellum covered with pale, dull, rather long, woolly setae; posterior margin of pronotum and entire corium and clavus covered with very long, reclining, pale setae; abdominal venter covered with decumbent, rather long setae.

Body appearing weakly flattened; eyes large, reniform, covering nearly entire sides of head, projecting posteriorly well past anterior pronotal margin (fig. 1), covered with numerous erect setae of length slightly greater than diameter of an ommatidium; vertex with posterior margin concavely curved and sharply demarcated by a fine carina; ocelli widely separated, removed from inner margin of eye by a distance slightly greater than the diameter of an ocellus; vertex and frons with eight pairs of pale, long, posteriorly directed trichobothrium-like setae (figs. 1, 2); postclypeus not developed; antennae inserted between eyes and buccal cavity just below ventral margin of clypeus, segment one short, weakly globose, segments two, three, and four subequal in length, two of greatest diameter distally, three and four terete, all segments with reclining setae of length less than or equal to diameter of segment (fig. 4); buccal cavity broadly oval, bucculae narrow, length of gula about equal to length of buccal cavity; labium very short, not quite attaining posterior margin of prosternal xyphus, seg-

ments one and two together about as long as buccal cavity, segment one three times length of two, segments three and four subequal in length, segment three stout, segment four strongly tapered to apex (figs. 3, 4); pronotum with anterior lobe two times length of posterior lobe on midline, with a well-developed and demarcated collar, lateral margins carinate on posterior half of anterior lobe and posterior lobe, anterior one-half of anterior lobe rounded and excavated laterally, receiving posteromesial margin of eyes; anterior lobe of pronotum with four pairs of very long, curved, reclining setae (figs. 1, 2); scutellum large, nearly flat, with a sublateral impression and some long, reclining setae just mesad of this impression (figs. 1, 2); mesoscutum almost totally obscured by pronotum; hemelytra as in figure 1, possibly submacropterous, hind wings fully developed, venation reduced (fig. 5); clavus distinctly punctured on mesial two-thirds, with a neat row of heavy punctures along claval commissure and a corresponding row on the corium (fig. 1); corial fracture very long (fig. 2); membrane with three complete cells; legs short, all femora of more or less equal size, profemur with one "trichobothrium" basally (fig. 5), mesofemur and metafemur without such setae, protibiae and mesotibiae subequal in length, metatibiae longer, all tibiae with reclining, pale, short spines of length no greater than tibial diameter; all tarsi three-segmented, segment one very short, segment two about two times length of segment one, segment three about two times length of segment two; claws long and slender, curved slightly apically; parempodia short, setiform, arolium absent; metepisternum expanded as in figure 4; abdomen with last complete sternite excavated mesially as in figure 4; tergites moderately sclerotized, inner laterotergites either very weakly developed or absent, laterotergites heavily sclerotized, spiracles located dorsally near lateral margin of laterotergites; no scar from nymphal organ; pregenital glands apparently absent; genital segments of abdomen platelike (figs. 4, 7); ovipositor not developed (single specimen not dissected).

ETYMOLOGY: Named for its possession

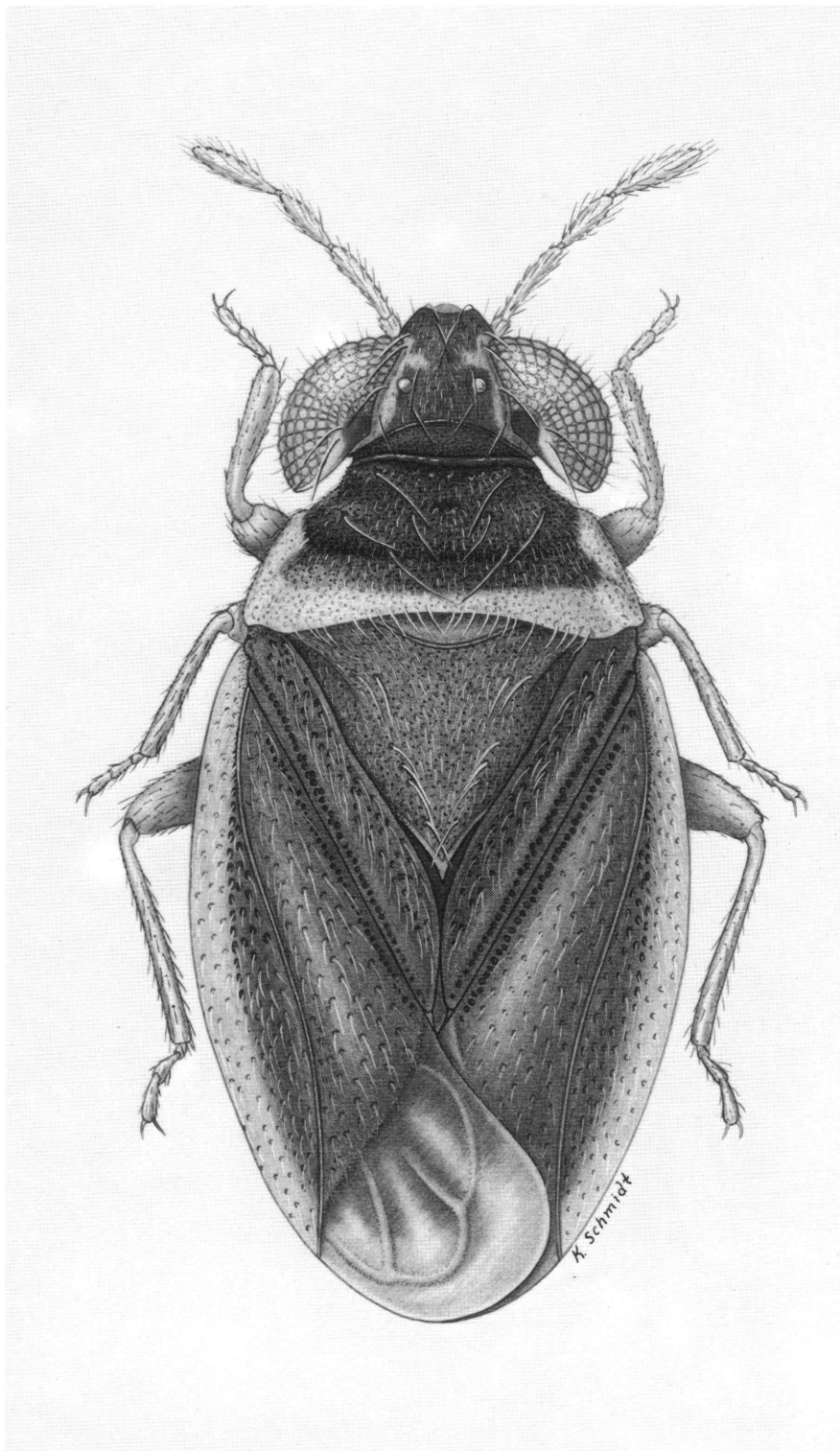
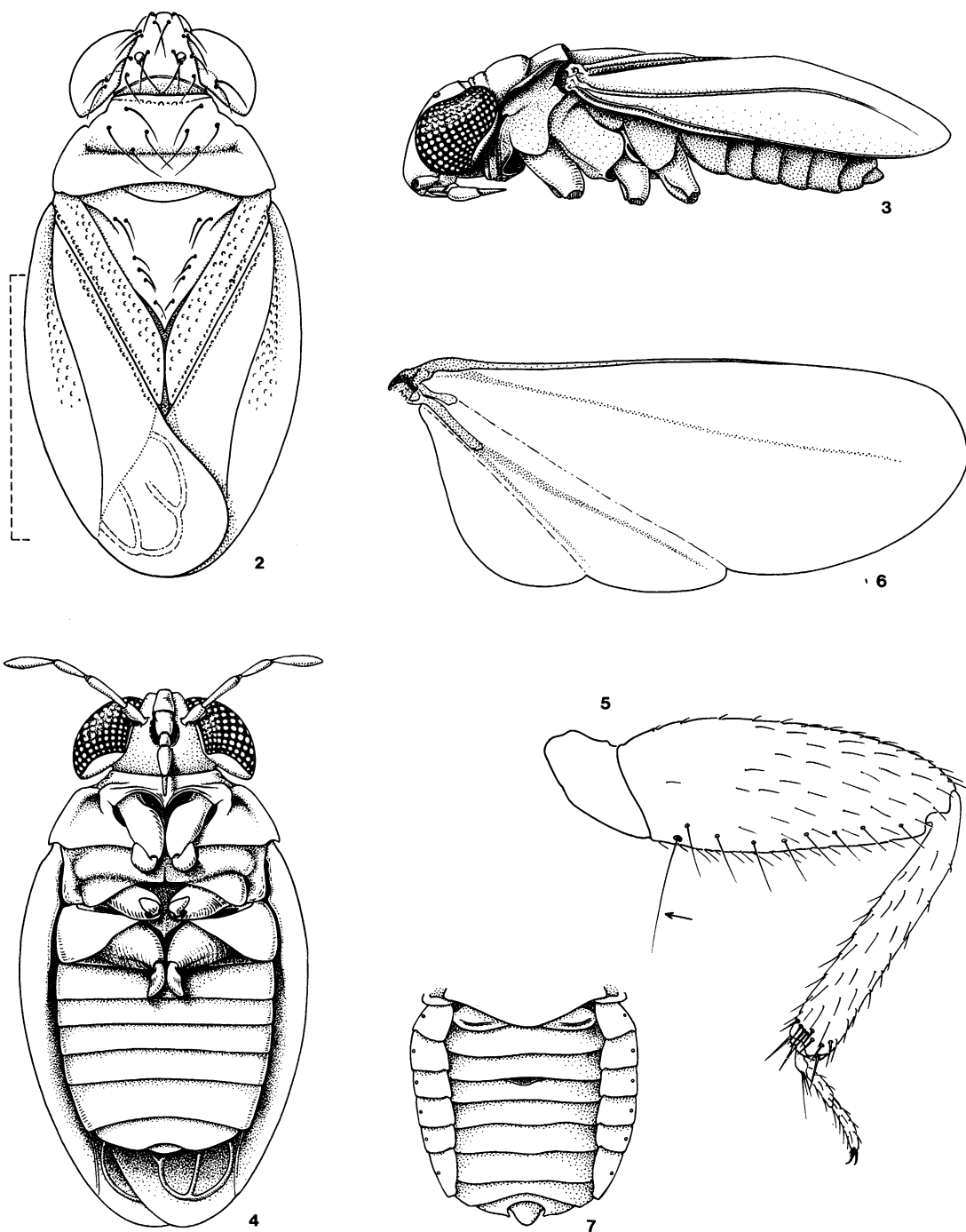


FIG. 1. *Saldolepta kistnerorum*, new species.



FIGS. 2-7. *Saldolepta kistnerorum*. 2. Dorsal view with corial fracture indicated by bracket. 3. Lateral view. 4. Ventral view. 5. Front leg, arrow indicating trichobothrium-like seta. 6. Hind wing. 7. Dorsal view of abdomen.

of a saldid-like facies and leptopodid characters. Masculine.

TYPE SPECIES: *Saldolepta kistnerorum*, new species.

DISCUSSION: See discussion under *Saldolepta kistnerorum*.

***Saldolepta kistnerorum*, new species**

Figures 1-7

DIAGNOSIS: Recognized by the characters in the generic diagnosis.

DESCRIPTION: Adult female. Length 1.83, maximum width .98; dorsum mostly dark brown; inner margins of eyes, carinate portion of lateral pronotal margin, posterior pronotal margin, and lateral margin of hemelytra yellowish; tylus and face laterad of tylus, antennae, rostrum, legs (including coxae), and most of thoracic pleura and sternum light brown to yellow; abdomen, except posterior margin, dark brown; membrane dark brown to level of apex of corium, light brown to yellowish apically. Structurally as in generic description.

MEASUREMENTS: Length, 1.83; maximum width, .98; width of head, .63; interocular space, .28; length of head at midline, .20; length of head from apex tylus to posterior margin of eyes, .30; maximum height of head, .30; length of pronotum on midline, .30; width of pronotum, .75; length of scutellum, .49; length of metatibia, .50; antennal segments: I, .08, II, .18, III, .13, IV, .18; length of labium, .30.

MALE: Unknown.

ETYMOLOGY: Named for Dr. David H. Kistner, and his daughter K. M. C. Kistner, who collected the only known specimen.

HOLOTYPE: ECUADOR: Rio Palenque, University of Miami Field Station, December 27, 1975, from nest of *Nasutitermes dendrophilus*, K. M. C. Kistner, collector; deposited in the American Museum of Natural History.

HABITAT: The only known specimen was taken from an active nest of *Nasutitermes dendrophilus* (Holmgren) about three feet up on an old fence post.

DISCUSSION: *Saldolepta kistnerorum* superficially resembles members of the genus *Micracanthia*. Yet, the presence of dorsal

abdominal spiracles suggests a relationship with the Leptopodidae and Omaniidae, eight cephalic trichobothria with the Omaniidae, and the short rostrum and claval and corial punctures with the Leptopodidae, Leotichidae, and *Leptosalda chiapensis*. The presence of a row of punctures on the corium along the clava structure, found elsewhere only in *Leptosalda chiapensis* Cobben, suggests that these two taxa are sister groups, and in combination with the other characters mentioned above, that Cobben's Leptosaldinae shows a relationship with the Leptopodidae (and Leotichidae), not with Saldidae. In a paper (Schuh and Polhemus, 1980), we discuss in detail the phylogenetic relationships within the Leptopodomorpha, including the placement of *Saldolepta* and the Leptosaldinae.

Several characters cannot be studied on a comparative basis in the Leptosaldinae at this time because of the nature of available material. For example, the pronotal setae (and some cephalic trichobothria), and the venation of the hindwings, cannot be observed in the amber fossil of *Leptosalda chiapensis*. Neither can the male genitalia, found to be valuable in the taxonomy of the Leptopodomorpha by Cobben, be studied in detail in *Leptosalda* and not at all in *Saldolepta* until male specimens become available.

The apparent ecological association of *Saldolepta kistnerorum* is unique among those known for the Leptopodomorpha. The dorsoventrally flattened body and reclining long setae suggest that this bug may live in tight places. Only further collecting will improve documentation of its inquiline nature.

The proposed sister group relationship with *Leptosalda* increases the known distribution of the Leptosaldinae from Mexico to Ecuador. Further implications of that distribution are discussed by us elsewhere (Schuh and Polhemus, 1980).

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