New Genus and Species of Corylophidae (Coleoptera) from Florida, with a Description of Its Larva

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ABSTRACT The adult and larva of a new genus and species, *Foadia maculata*, is described and figured. This species is known only from the Florida Keys, where it has been collected under mangrove bark. A brief discussion of its relationship to other corylophids is included.

THE CORYLOPHIDAE are a poorly known family of small-to-minute clavicorn beetles. Many species have been recorded feeding on the spores of various fungi (Crowson 1984, Lawrence 1985), and a few species have been associated with the inflorescences of certain plants (Scott 1935, Paulian 1950, Pakaluk 1985). *Foadia maculata* represents a new genus and species from the Florida Keys, and its adult and larval stages are described below. My methods for preparing larvae and for recording measurements are those used in previous studies (Pakaluk 1984, 1985). The following acronyms designate the depositories for type-material: Australian National Insect Collection, Canberra (ANIC); British Museum (Natural History), London (BMNH); my collection (JPCC); Museum of Comparative Zoology, Cambridge (MCZC); National Museum of Natural History, Washington (USNM).

The adult-larval association is sound, I think, since larvae and adults (some teneral) were taken together several times on different islands (J. F. Lawrence, personal communication). Virtually nothing is known about the biology of *Foadia maculata* except that they have been collected under the bark of mangroves in southern Florida. The larva of this genus is particularly interesting, since it is the only known corylophid that lacks abdominal defensive glands. I have suggested (Pakaluk 1985) that this is the primitive condition for the family, and the presence of these glands delimits a natural subgroup of corylophids containing about 40 genera.

Although the Orthoperini is paraphyletic (Pakaluk 1985), I am tentatively placing *Foadia* in this tribe until a comprehensive review of corylophids is undertaken. *Conodes*, *Hyplathrinus*, and several undescribed genera may form a monophyletic subgroup of the "primitive" Corylophidae (Pakaluk 1985) united by incomplete coxal lines on ventrite I.

Foadia Pakaluk, gen. nov.

This genus is distinguished from other corylophids by its exposed head, elongate body, emarginate anterior margin of the pronotum, 10-segmented antennae, posteriorly narrowed prothorax, incomplete oblique coxal lines on ventrite I, narrow epipleura, and convex pronotum with deep lateral margins.

Description. Body elongate, slightly flattened. Head exposed. Antennae 10-segmented, club 3-segmented. Maxillary palps 4-segmented, apical segment truncate. Labial palps 3-segmented, apical segment truncate. Pronotum with anterior margin emarginate; prosternum well-developed before coxae, intercoxal process visible; procoxae externally closed. Mesocoxal cavities laterally closed. Elytra truncate; epipleura narrow, incomplete. Six ventrites present, ventrite I with oblique coxal lines. Pygidium exposed.

Type-species. *Foadia maculata* Pakaluk, sp. nov.

Distribution. Florida Keys.

Etymology. The generic name is an arbitrary combination of letters, and the gender is feminine.

Foadia maculata Pakaluk, sp. nov.
(Fig. 1–6)

Description. Length 1.1–1.2 mm. Color light brown, with a large transverse dark brown spot at middle of each elytron; vestiture of sparse, short white hairs barely visible at 10× magnification. Antennal segment II subequal in length to III+IV, III and IV subequal; V, VI, VII subequal; club with segments VIII and IX subequal, X about 1.5-fold longer than IX. Front glabrous, with minute punctures barely visible at 10× magnification. Pronotum about 1.25-fold as wide as long, widest at apical third, anterior margin emarginate; punctation weak; lateral margins visible from above for entire length; basal impression strong, entire. Scutellum about twice as wide as long. Elytra about 2.4-fold longer than pronotum; distinctly punctate, with fine, sparse pubescence; elytral striae visible only in distal half. Pygidium and propygidium exposed. Ventrite I large, with oblique coxal lines; ventrite I subequal in length to ventrites II–V; ventrites II, III, IV subequal; ventrite V equal to II–IV. Median lobe (Fig. 5) about 0.6-fold as long as abdomen.

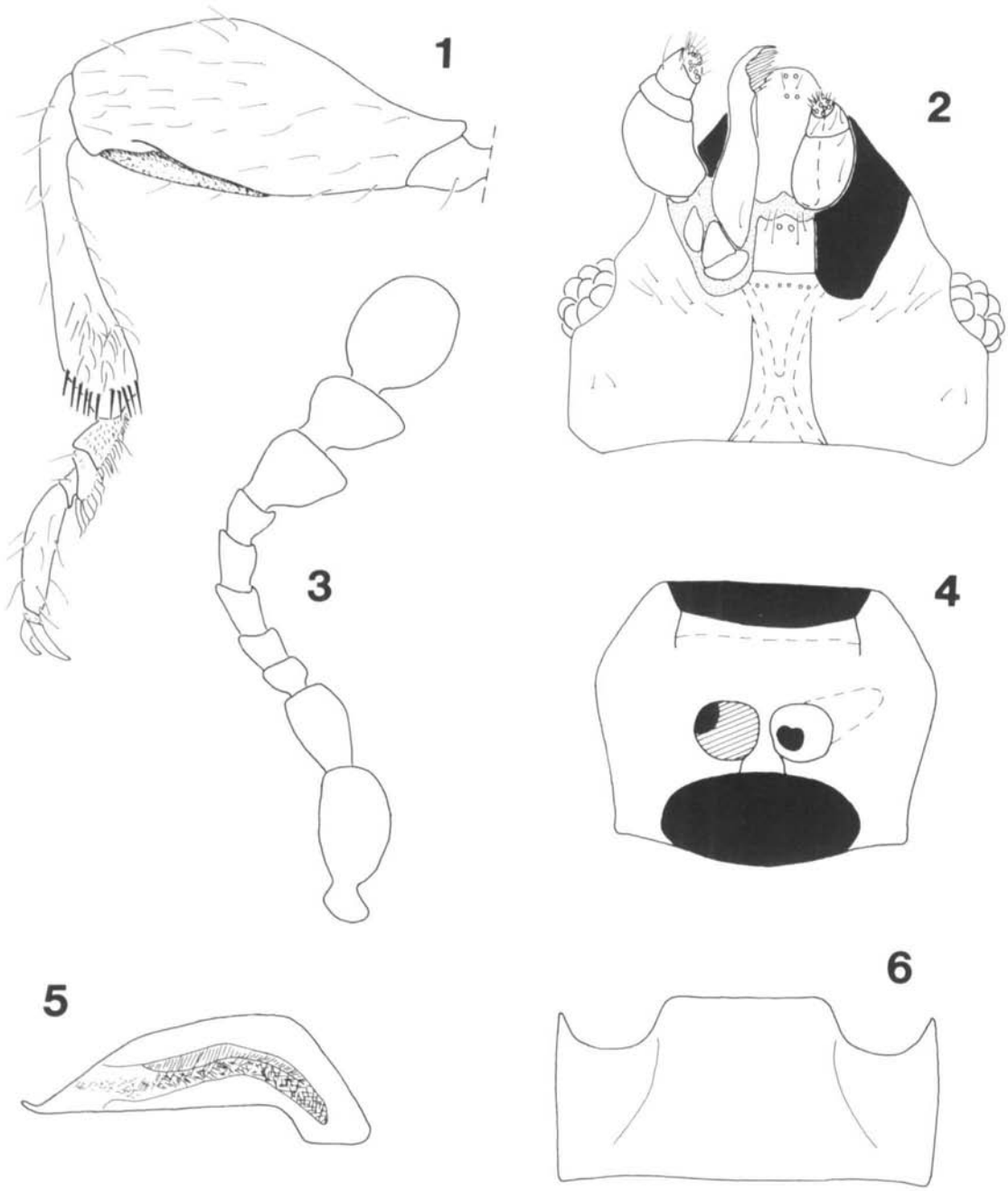


Fig. 1–6. *Foadia maculata*, adult. (1) Front leg, lateral view; (2) head, ventral view; (3) antenna; (4) prothorax, ventral view; (5) median lobe, lateral view; (6) first ventrite.

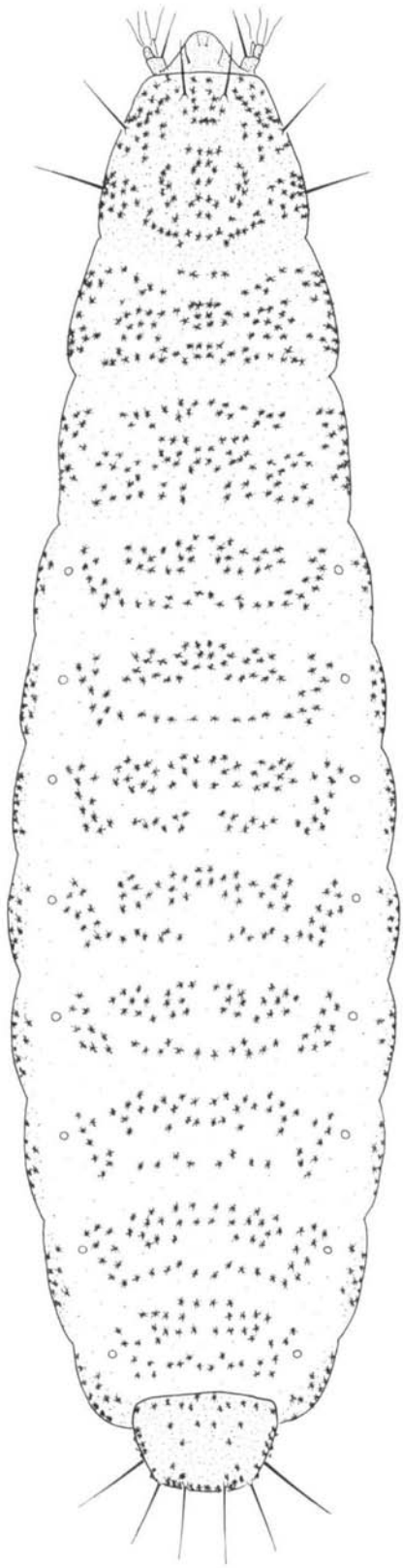
Types. *Holotype*. FLORIDA: Monroe Co., Mud Keys, 4-VII–1969, D. Simberloff (MCZC). *Paratypes*. Same data as holotype (1 ANIC; 1 MCZC); Happy Jack's Key, 24-VIII–1967 (1 ANIC); Island E6, 8-VIII–1970 (1 BMNH; 2 JPCC; 1 USNM); Island IN1, 16-VII–1970 (1 BMNH; 2 JPCC; 2 MCZC; 1 USNM).

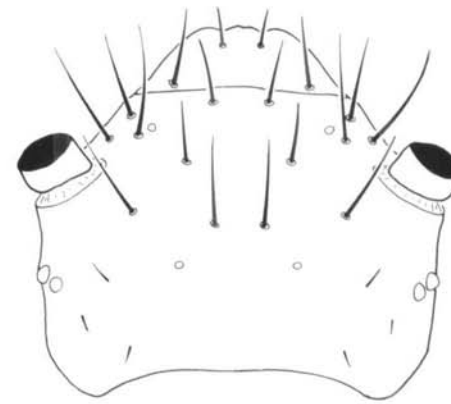
Other Material. FLORIDA: Monroe Co., Mud Keys (1 ANIC); Happy Jack's Key (1 ANIC); Island E6 (4 ANIC); Island IN1 (5 ANIC).

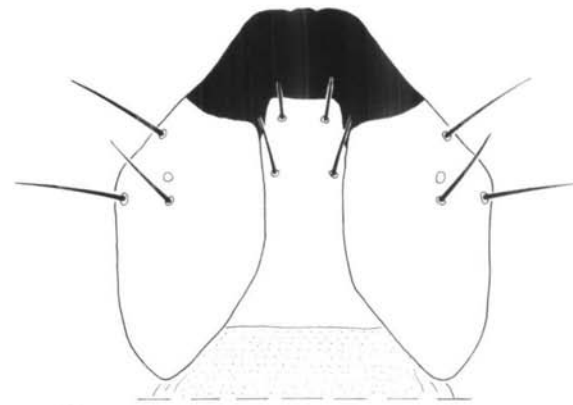
Etymology. The name *maculata* is derived from the Latin *macula*, meaning spot, referring to the spot on each elytron.

Description of Last Instar Larva

Length about 1.8 mm; body elongate (Fig. 7), slightly flattened. Dorsal surface lightly pigmented; head, pronotum, tergum IX darkly pigmented;







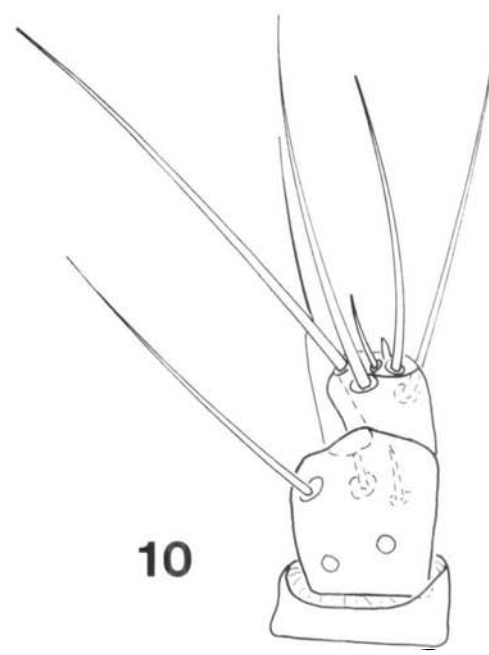


Fig. 7–10. *Foadia maculata*, larva. (7) Habitus, Monroe County, Florida; (8) head, dorsal view; (9) head, ventral view; (10) antenna, dorsal view.

nota and terga I–IX with numerous fan-shaped setae; simple setae on cranium, venter, abdominal segment X, and a few widely scattered on body. Cranium (Fig. 8) partially concealed from above, about as long as wide; lateral margins subparallel posteriorly, converging toward labrum. Two pairs of ocelli. Frontal sutures and fronto-clypeal suture absent. Antenna (Fig. 10) well-developed, three-segmented; segment II longest, segment III reduced. Ventral sensory appendage longer than segment III. Labrum transverse. Endocarinae long, parallel. Mandibles with apex tridentate, broadened basally with tuberculate mola. Prostheca absent. Maxilla with cardo transverse; mala obtuse, broadened apically. Palpifer well-developed; palpus three-segmented. Segments I and II short, broad, ringlike. Segment III elongate, much longer than segments I and II combined. Maxillary articulating area indistinct. Labium undivided; palp two-segmented, segment II longest. Gula (Fig. 9) long, with two pairs of setae; internal ridges well-developed. Prothorax narrower than mesothorax. Procoxae closer together than mesocoxae, mesocoxae closer together than metacoxae. Metathorax with annular spiracles near coxae. Legs five-segmented. Coxa oblong. Trochanter well-developed, subtriangular. Femur and tibia subcylindrical; tibia longer than femur. Tarsungulus unisetose; seta simple, longer than claw. Abdominal terga I–VIII with dorsal annular spiracles; abdominal defensive glands absent. Segment IX darkly pigmented. Urogomphi absent. Segment X reduced, ventrally positioned, with simple setae only.

Material Examined. FLORIDA: Monroe Co., Island IN1, 16-VII-1970, D. Simberloff, Lot #IN-276 (2 JPCC); Island E6, 8-VIII-1970, D. Simberloff, Lot #E-606 (1 JPCC). Additional larvae are in the Australian National Insect Collection, but I have not examined them.

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