

**Ant Larvae of the Subfamily Dolichoderinae:  
Second Supplement**  
(Hymenoptera: Formicidae)

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Subsequent to the publication of our first supplement on the ant larvae of the subfamily Dolichoderinae (1966) we have collected or received from other myrmecologists so much additional material that it has become necessary to publish another supplement, increasing the count of species studied by 20%. The additional larvae described here agree with our original characterization of the Dolichoderinae (1951: 207), with the exception of *Dolichoderus scabridus* Roger, which has paxilliform labial palpi.

**DOLICODERUS** Lund

**REVISION:** In our generic characterization (1951: 172) the second sentence should read: A pair of ventrolateral bosses frequently present on the prothorax.

**DOLICODERUS (DICERATOCLINEA) SCABRIDUS** Roger

Lengths (through spiracles) 2.5 and 6 mm; straight length 1.9 and 4.2 mm. Similar to *D. (H.) taschenbergi* (1951: 173) except as follows. T2 and T3 more swollen. Body hairs numerous on thorax and few on venter of AI. Of two types: (1) 0.025-0.03 mm long, simple, slender, flexuous, without alveolus and articular membrane; (2) about 0.048 mm long, stouter, with alveolus and articular membrane, a few on each somite. Cranium transversely subelliptical. Head hairs 0.05-0.075 mm long, slender, flexuous and numerous (about 200). Labrum subtrapezoidal, narrowed ventrally, width four times the length; anterior surface with 2 sensilla and a few oblique rows of spinules; ventral border with 6 sensilla; posterior surface with 8 sensilla. Maxillary palp a skewed peg with 5 sensilla; galea represented by 2 slightly raised sensilla. Labium small and feebly bilobed; palp a skewed peg with 4 sensilla; an isolated sensillum between each palp and opening of sericteries. Hypopharynx with minute spinules in short subtransverse rows. (Material studied: numerous larvae from New South Wales, Tahmoor, 28-XII-1966, courtesy of Rev. B. B. Lowery.)

**DOLICODERUS (HYPOCLINEA) AUSTRALIS** E. André

Length (through spiracles) about 3.1 mm; straight length about 2.4 mm. Probably very similar to *D. (H.) taschenbergi* (1951: 173) except in the following details. Spiracles on AVIII vestigial. Body hairs 0.006-0.018 mm long, numerous on venter of T1, longest and most numerous on AX. Head with flattened dorsal

areas less distinct. Head hairs shorter (0.006–0.013 mm long). Labrum with 2 sensilla on anterior surface and 4 sensilla on ventral surface. Mandibles with apical tooth straighter. Maxillary palp a raised cluster of 4 sensilla; galea 2 slightly raised sensilla. Labial palp a raised cluster of 4 sensilla; an isolated sensillum between each palp and opening of sericteries. (Material studied: 4 semipupae from South Australia, Lofty Range 1500 ft, Morialta Reserve, 1-III-1969, courtesy of Rev. B. B. Lowery.)

#### DOLICHODERUS (HYPOCLINEA) GERMAINI Emery

Length (through spiracles) about 8.2 mm; straight length about 5 mm. Similar to *D. (H.) taschenbergi* (1951: 173) except as follows. Very short and stout; no lateral welt on T1. Body hairs 0.005–0.03 mm long; very few (mostly on venter of T1). Maxillae with a few minute spinules in encircling rows; palp a slightly raised cluster of 3 sensilla. Labium with minute spinules, isolated or in short rows; palp a slightly raised cluster of 4 sensilla. Hypopharynx with a few minute spinules. (Material studied: 4 larvae from Brazil, Utiariti, 325 m, Rio Papagalo, MT., VIII-1961, courtesy of Dr. K. Lenko.)

#### IRIDOMYRMEX Mayr

**REVISION:** Our generic characterization (1951: 184) should be changed to read: Body slightly curved. Anus ventral or posteroventral. Body and head hairs usually minute. Head moderately large. Antennae small.

#### IRIDOMYRMEX MELLEUS Wheeler

(Fig. 3)

Length (through spiracles) about 1.8 mm, straight length about 1.4 mm. Stout; dorsal profile long and C-shaped; ventral feebly sigmoid; a middorsal boss on AI; AX with a small projection posterior to the anus. Anus posteroventral. Leg and wing vestiges present. Spiracles small, those on AI largest. Integument with minute spinules in transverse rows, most numerous and prominent on venter of anterior somites and dorsum of posterior somites. Body hairs sparse, short and generally distributed. Of 2 types: (1) 0.025–0.036 mm long, on dorsal and lateral surfaces, bifid, the branches short to long; (2) 0.008–0.025 mm long, simple, most numerous on ventral surface of T1. Cranium about a third broader than long, broadest dorsally, suboctagonal in anterior view. Antennae large, each with 3 minute sensilla. Head hairs few, 0.013–0.025 mm long, simple. Labrum about a third broader than long, bilobed, erectile; each lobe with 1 sensillum on anterior surface, 1 on ventral border and with 1 plus a few short rows of minute spinules on posterior surface. Mandibles feebly sclerotized, slightly longer than broad, subtriangular in anterior view, apical tooth small and blunt, with one small subapical tooth, posterior surface with coarse denticles; mandibles erectile. Maxillae adnate; palp a slight elevation with 5 sensilla; galea a short cone with 2 sensilla. Labium small; anterior surface with minute spinules in short transverse rows; palp a slight elevation with 5 sensilla; opening of sericteries a short transverse slit. Hypopharynx densely spinulose, spinules arranged in rows, rows

grouped in 2 subtriangles which have their bases near the middle. (Material studied: numerous larvae, courtesy of Dr. R. Lavigne; in pith chambers of *Cecropia peltata* on forest floor, 2-VII-1970, El Verdi Field Sta., Loquilla Forest, Puerto Rico.)

This is the only species we have seen with erectile mandibles and labrum.

The remaining species of *Iridomyrmex* are compared with *I. pruinosus* (1951: 185); only differences are given here.

#### IRIDOMYRMEX CONIFER Forel

Length (through spiracles) about 3 mm; straight length about 2.8 mm. Spiracles largest on T3 and A1, remainder small. Integument with minute spinules in numerous short arcuate rows. Body hairs 0.005–0.025 mm long. Cranium sub-circular. Head hairs few and minute (about 0.001 mm long). Labrum breadth 3 times length; bilobed; each lobe with 2 sensilla on anterior surface and one on ventral border; entire posterior surface with a few sensilla and with minute spinules. Mandibles with apical tooth more prominent, straighter and longer. Maxillary and labial palps represented by clusters of 5 sensilla each. (Material studied: 2 larvae from Western Australia, Blackwood River near Nannup, 18-XII-1969, courtesy of Rev. B. B. Lowery.)

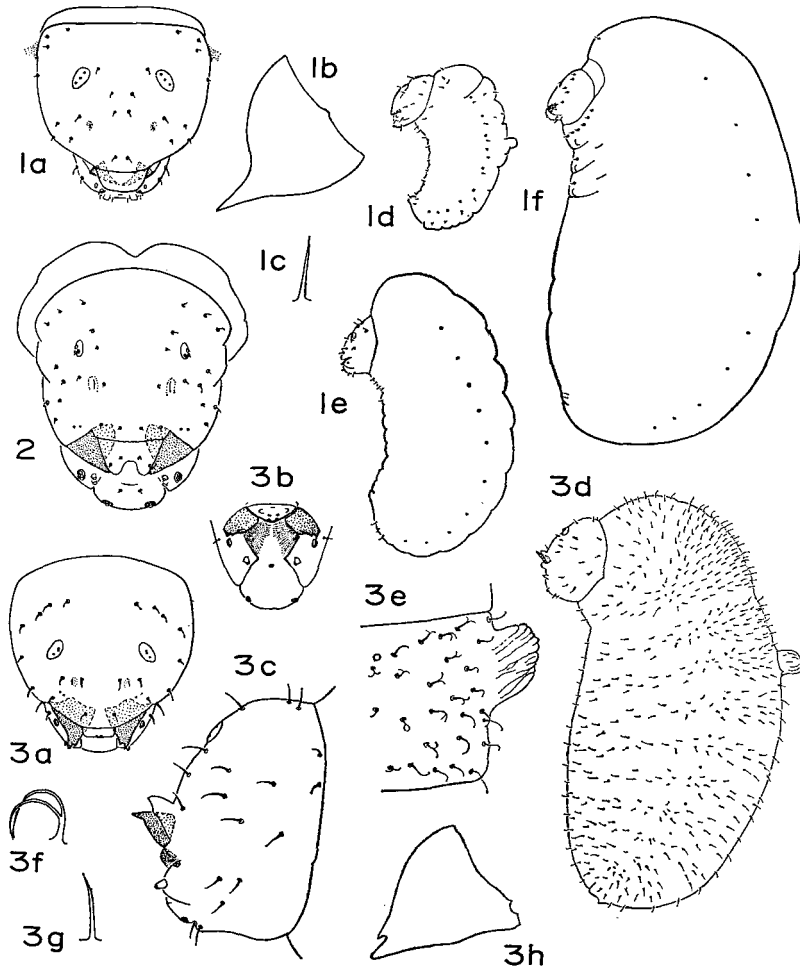
#### IRIDOMYRMEX DETECTUS F. Smith

Length (through spiracles) about 2.9 mm; straight length about 2.7 mm. Body stouter; dorsal profile longer; ventral shorter and more nearly straight. Head and anus ventral. Integument with minute spinules, isolated or in short rows on posterior somites and ventral surface of anterior somites. Body hairs 0.008–0.016 mm long, mostly on T1 and AX. Dorsal cranial outline a smooth curve; integument spinulose, spinules of moderate size and isolated or in short subparallel transverse rows. Head hairs few, 0.013–0.025 mm long. Labrum narrow; distinctly bilobed; each lobe with minute spinules in short rows and 3 sensilla ventrally on anterior surface, with 2 sensilla and several minute spinules on ventral border, and with a few short rows of minute spinules medially and 3 sensilla on the posterior surface. Mandibles with apical tooth more prominent and sharp-pointed. Maxillae lobose. Labial palp a rounded knob. (Material studied: 10 larvae from Queensland, St. George, 6-I-1966, courtesy of Rev. B. B. Lowery.)

#### IRIDOMYRMEX GLABER Mayr

Length (through spiracles) about 3.9 mm; straight length about 3.0 mm. Body short, stout and subovoidal; head applied to ventral surface below anterior end; anus posteroventral. Entire integument spinulose, spinules minute and in short transverse rows ventrally and posteriorly, some isolated spinules laterally. Body hairs moderately numerous and generally distributed, minute (about 0.003 mm long). Dorsal outline of cranium broadly curved; integument with short rows of minute spinules. Head hairs more numerous but still few. Mandibles with larger apical tooth. Maxillary and labial palps represented by clusters of 3 sensilla each.

YOUNG LARVA: Length (through spiracles) about 1.4 mm. Body stouter and



FIGS. 1-3. Fig. 1. *Forelius foetidus*: a, head in anterior view,  $\times 107$ ; b, left mandible in anterior view,  $\times 303$ ; c, body hair,  $\times 677$ ; d, very young larva in side view,  $\times 35$ ; e, young larva in side view,  $\times 35$ ; f, mature larva in side view,  $\times 35$ . Fig. 2. *Iridomyrmex nitidus*: head in anterior view,  $\times 72$ . Fig. 3. *Iridomyrmex melleus*: a, head in anterior view,  $\times 111$ ; b, mouth parts in anterior view with mandibles and labrum erected,  $\times 111$ ; c, head in side view with mandibles and labrum erected,  $\times 133$ ; d, larva in side view,  $\times 47$ ; e, dorsal portion of first abdominal somite showing boss in lateral view,  $\times 133$ ; f and g, two types of body hairs,  $\times 533$ ; h, left mandible in anterior view,  $\times 370$ .

outlines straighter, but with 6 distinct middorsal bosses, one each on T2 and AI-AV. Thirteen feebly differentiated somites. Spinules more prominent on posterior end. Body hairs 0.002-0.015 mm long, longest ventrally. Otherwise similar to mature larva.

Material studied: numerous larvae from New South Wales, DeBurgh's Bridge, Lava Cove, Sydney, 26-V-1966, courtesy of Rev. B. B. Lowery.)

#### IRIDOMYRMEX NITIDUS Mayr

(Fig. 2)

Length (through spiracles) about 4.9 mm; straight length about 3.4 mm. Body stouter. Spiracles on AVIII vestigial. Integument of venter of anterior somites and dorsum of posterior somites with minute spinules, isolated or in short rows. Body hairs 0.001-0.025 mm long, with a slight concentration around AI spiracle. Cranium subquadrangular and with a bilobed flattened dorsal portion. Antennae slightly elevated, each with 3 small sensilla, bearing a spinule each. Head hairs shorter (0.006-0.012 mm long) and more numerous. Labrum width twice length, bilobed, each lobe with 2 hairs on anterior surface, with 2 median sensilla on ventral border and with 3 or 4 sensilla on posterior surface; entire posterior surface spinulose, spinules minute and in subtransverse rows. Mandibles with breadth equal to length; apical tooth moderately sclerotized and base feebly sclerotized; anterior surface of base spinulose, spinules minute and in short rows; apical portion narrowed, tapering only slightly; apex round-pointed or with rounded tip and a small subapical medial tooth. Maxillae adnate; palp a slightly raised, heavily sclerotized base with 5 sensilla; galea a boss with 2 sensilla. Labial palp a heavily sclerotized knob with 5 sensilla; an isolated sensillum between each palp and opening of the sericteries. (Material studied: numerous larvae from New South Wales, Mt. Mullens, Murwillumbah, 2-IX-1966, courtesy of Rev. B. B. Lowery.)

#### IRIDOMYRMEX VIRIDIAENEUS Viehmeyer

Length (through spiracles) about 6.2 mm; straight length about 5 mm. Body with dorsal profile long and C-shaped ventral short and nearly straight; head and anus ventral. Entire integument spinulose, spinules minute and in transverse rows. Body hairs sparse, more numerous ventrally. Of two types: (1) 0.013-0.056 mm long, simple, with fine tip; (2) 0.025-0.05 mm long, with a few fine denticles near tip. Cranium subtriangular in anterior view, a fourth broader than long. Head hairs twice as numerous and shorter (0.006-0.013 mm long). Labrum  $1\frac{1}{2}$  times as broad as long; bilobed, each lobe with 2 sensilla and 1 minute hair on the anterior surface, with minute spinules on ventral border, and with 4 or 5 sensilla in a medial cluster posteriorly; entire posterior surface with minute spinules in transverse subparallel rows. Mandibles nearly as broad as long and with the medial border erose. Maxillary palp a heavily sclerotized cluster of 5 sensilla; galea a sclerotized knob with 2 sensilla. Labial palp a slightly raised cluster of 5 sensilla; an isolated sensillum between each palp and opening of sericteries, the latter a wide transverse slit. (Material studied: 5 larvae from South Australia, 8 miles SW Morgan, courtesy of Rev. B. B. Lowery.)

## FORELIUS Emery

ADDITION to our generic characterization (1966: 729): A mid-dorsal boss on AII.

## FORELIUS FOETIDUS (Buckley)

(Fig. 1)

MATURE LARVA: Length (through spiracles) about 2.3 mm; straight length about 1.6 mm. Plump, chunky and turgid; dorsal profile long and C-shaped; ventral profile feebly sigmoid; a low middorsal boss on AII; both ends broadly rounded; head and anus ventral. Leg, wing and gonopod vestiges present. Spiracles small; diameter of AI greatest, diminishing posteriorly. Entire integument spinulose, spinules minute and isolated or in short transverse rows. Body hairs very few, minute (0.007–0.013 mm long), simple, most numerous on venter of T1. Cranium subhexagonal, with a depressed transverse dorsal band. Antennae large, slightly raised, each with 3 sensilla, each bearing a spinule. Head hairs few, simple and minute (about 0.013 mm long). Labrum short, broad, feebly bilobed: each lobe with 2 sensilla on anterior surface and 2 on posterior surface; entire posterior surface sparsely spinulose, spinules minute and isolated or in short transverse rows. Mandibles very feebly sclerotized, subtriangular in anterior view, base broad, apex sharp-pointed. Maxillae appearing adnate, with apex rather broadly round-pointed; palp a cluster of 5 sensilla; galea represented by 2 sensilla. Labium with ventral border paraboloidal, a few minute spinules near opening of sericteries; palp a slightly elevated cluster of 5 sensilla; an isolated sensillum between each palp and opening of sericteries, the latter a short transverse slit. Hypopharynx densely spinulose, spinules in rows, rows grouped in 2 subtriangles which have their bases near middle.

YOUNG LARVA: Length (through spiracles) about 1.7 mm. Similar to mature larva except as follows. Body more slender; segmentation more distinct. Diameter of spiracles on AI much greater than remainder which are minute. Body hairs about 0.001 mm long.

VERY YOUNG LARVA: Length (through spiracles) about 0.9 mm. Similar to young larva except as follows. Body much more slender; head nearly diameter of body and on anterior end; 10 distinct somites; boss on dorsum of AII very distinct; posterior end narrowly rounded. Anus ventral and with a distinct posterior lip. Body hairs shorter (about 0.008 mm).

Material studied: numerous larvae from Arizona, Organpipe Cactus National Monument, 1600 ft, 10-IV-1968, G. C. and J. Wheeler collection # 108.

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