

morphology before any attempt was made to distinguish species. The range of variation in those traits which showed appreciable differences between series was then apportioned into two or more discrete character states, regardless of whether the trait varied continuously or in a discrete manner. The resulting character state codes were then used in delineating species and for phylogenetic analysis.

The characters used in this revision are defined below (excluding characters for which one of two character states is unique to one species), along with the coding for each character state. Definitions of several commonly used terms are also given here. Sculpturing terminology follows that of Harris (1979). Measurements were made with an ocular micrometer on a Leitz microscope; all are significant to at least 0.01 mm. Indexes such as CI were calculated before converting micrometer units to millimeters. Scanning electron micrographs were prepared with a AMR 1000a SEM, using uncoated or gold-palladium coated specimens.

When not otherwise indicated, descriptions apply to both minors and majors.

CHARACTERS ON HEAD CAPSULE (EXCLUDING CLYPEUS)

Cephalic hollow (major workers). **Character states:** large, medial depression in vertex of head [0] either shallow and ill-defined or absent; or [1] prominent.

CI (Cephalic index). $100 \times \text{HW}/\text{HL}$. **Character 1, states** (minor workers): [0] at most 110; [1] intermediate; or [2] > 120. **Character 2, states** (major workers): [0] at most 95; or [1] > 95.

Darkly pigmented streak (major workers). Medial black line on head visible in dorsal full-face view [0] absent; [1] very short, only at back margin of head; or [2] longer, extending farther rostrad onto dorsal surface of head.

EL (Eye length). Diameter of eye in full-face view.

Frontal sulcus. **Character 1, states:** [0] mi-

nor workers without a short, wide sulcus conspicuous immediately above frontal area; or [1] sulcus present. **Character 2, states:** [0] major workers without a wide, deeply impressed sulcus between cephalic hollow and frontal area; or [1] sulcus present.

Full face. Head viewed dorsally so as to attain the maximum length.

Greatest head width. **Character states:** maximum HW is [0] about equal above and below eyes (difference 2% or less); or [1] greatest above the eyes.

Head shape (minor workers). **Character states:** in dorsal full-face view, back margin of head [0] rounded except for a very shallow medial concavity (e.g., Fig. 57); [1] moderately concave all the way across (Fig. 15); or [2] deeply concave, so that the posterior corners of the head are produced back into prominent, lateral lobes (Figs. 9, 44).

Head shape (major workers). **Character states:** in full-face view, back margin of head [0] distinctly bilobed (Fig. 11); or [1] evenly rounded, at most slightly emarginate medially (Fig. 48, 59).

HL (Head length). The maximum distance from the base of the medial hair on the clypeus to the medial point on the posterior margin of the head.

HW (Head width). The maximum width across the head in full-face view, excluding the eyes.

Hypostomal teeth (major workers; invariably present in minors). Small rounded projections, one located laterally near base of each mandible. **Character states:** teeth [0] absent; or [1] present.

Pilosity density. **Character states:** long erect to suberect hairs on head [0] numerous; or [1] very scattered.

Pilosity height. **Character states:** longest of the hairs on dorsum of head extending [0] < 0.10 mm; or [1] > 0.12 mm.

Sculpture (cephalic) (minor workers). **Character states:** dorsal and lateral surfaces of head capsule with [0]