the posttergite plus poststernite, and a girdling constriction is nonexistent. In general, however, a strong girdling constriction usually separates the pre- and postsclerites. The constriction is frequently more strongly developed ventrally and may be so pronounced that the poststernite is concave anteroventrally (Figs 1, 15). Pretergite and presternite are usually large and convex in outline, the latter often more extensive than the former. Presclerites may be small and narrow in species where segment 3 is much reduced (Figs 20, 21), but even here the presclerites are always much larger than the helcium. Spiracle visible, situated anteriorly on side of posttergite. Posttergite and poststernite about the same size in profile, the postsclerites together larger than those of segment 3 (Figs 1, 15), sometimes enormously larger in species where advanced reduction of 3 has taken place (Figs 19–23). Segment 4 is the largest abdominal segment in all Cerapachyini except in some *Sphinctomymex* where the postsclerites are somewhat reduced and slightly smaller than those of segment 3 (Fig. 11), and in those mentioned below where segments 4–6 or 7 are much the same size. Tergite and sternite not fused.

Abdominal segments 5–7 (Figs 1, 11, 15, 17–23). Either pre- and postsclerites differentiated by lack of pilosity on the former or by a reduction of sculpture, or separated on each segment by strong girdling constrictions (*Sphinctomyrmex*, Fig. 11), or with strong girdling constrictions except preceding segment 7 (*Leptanilloides*, Figs 22, 23). In some *Cerapachys* the postsclerites are set at an angle to the presclerites, and the outline of each segment narrows posteriorly (Fig. 21). In general the segments reduce in size from 4–7, but in *Leptanilloides* and in many *Sphinctomyrmex* segments 4–6 or 4–7 are of much the same size in profile (Figs 11, 22, 23), or segment 6 may even be slightly larger than 5. All spiracles visible. Tergite 7 (pygidium) large and flattened dorsally in *Cerapachys*, *Simopone*, and *Sphinctomyrmex*, the margin of the flattened portion generally armed with denticles, teeth or small spines (Figs 1, 11, 15, 17–21), though these may be reduced in some *Cerapachys* and *Simopone*. In *Leptanilloides* (Figs 22, 23) the pygidium is very specialized, being reduced in size, distinctly displaced ventrally, and partially overhung by the tergite of segment 6; armament of the pygidium has been secondarily lost. Sternite 7 (hypopygium) downcurved posteriorly, usually flattened.

Cerapachys: 94 species examined (14 dissected).
Simopone: eight species examined (three dissected).
Sphinctomyrmex: 10 species examined (four dissected).
Leptanilloides: two species examined (one dissected).

Holophyly of the Cerapachyinae

Analysis of the abdominal characters of cerapachyine ants, and a comparison of the results with ants constituting the remainder of the Ponerinae, shows five critical features. These are discussed below, following which some other characters, both old and new, are mentioned.

(i) *Sternite of segment 2 (petiole)* (Figs 2–5, 8–10, 12, 14, 16)

In ventral view the posterior margin of the sternite in cerapachyines is a simple shallow convexity which projects posteriorly over the helcial sternite (Figs 5, 8). With segments 2 and 3 dissociated (Fig. 2) the posterior foramen of segment 2 is very simple (Figs 2, 12, 16). The tergite forms an arch above and the sternite forms a simple U-shaped floor beneath. The tergite overlaps the sternite laterally and the two are fused