

*Representation of the proportions of structures being illustrated*

An electron microscope must be critically adjusted to avoid distortion along the axes normal to the viewing axis. Otherwise square objects would appear oblong or rhomboid, depending on their orientation. The same applies when a square object is foreshortened when viewed obliquely, through being tilted away from the image plane. Astigmatism and curvature of field can likewise distort the perception of shape. Depth perception by the eye is confused by the deep focus of scanning micrographs, so that it is not possible to judge whether a given structure, such as the head of a *Dacotinops* specimen, or the scape of an antenna on that head, is parallel to the image plane or not. Nor can one estimate the angles of inclination involved, without intimate knowledge of appropriate dimensions of the subject specimen – Head Length, Head Width, and Scape Length in this example. For these reasons scanning micrographs cannot be used to calculate or to confirm the exact proportions of an illustrated structure, or the dimensions of one structure relative to another. These matters are indicated above for the species of *Dacotinops* using critical measurements and indices (Table 1), since this is the only way they can be communicated accurately. The scanning micrographs contain a wealth of other relevant information, but they cannot represent relative proportions in exact detail.

**Key to the species of *Dacotinops* (workers)**

1.    *a* Species of peninsular Malaysia or Borneo ..... 2
- b* New Guinean species ..... 5
- 2(1) *a* Smaller species, HW 0.54–0.61 mm; eyes relatively small and obscure, with about 10 distinct facets; maximum ocular diameter clearly much less than width of apical antennomere ..... 3
- b* Larger species, HW 0.70–1.10 mm; eyes relatively large and prominent, with 18 to 40 distinct facets; maximum ocular diameter about equal to, or clearly exceeding, width of apical antennomere ..... 4
- 3(2) *a* Head relatively narrow, CI<75; mandibles smooth and shining, median portions of their outer borders distinctly and strongly concave (Fig. 28); longitudinal costation of mesosomal dorsum somewhat obscure, the costae broken and wavy in outline, intervening spaces strongly microsculptured, with some transverse elements contributing to an overall rugose appearance. (Fig. 29) ..... *D. solivagus* n.sp.
- b* Head relatively broad, CI>81; mandibles almost entirely strongly striate, their outer borders more-or-less evenly convex (Fig. 31); longitudinal costae of mesosomal dorsum strongly defined, essentially straight and unbroken, relatively with little intervening microsculpture (Fig. 32) ..... *D. wilsoni* n.sp.