

SHORT COMMUNICATION
**On the identity of *Crematogaster schimmeri* Forel, 1912 and the
distribution of subgenus *Decacrema* in Asia
(Hymenoptera: Formicidae)**

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Taxonomy of *Crematogaster* species is confounded by intra- and inter-specific variation. Although most recent taxonomic works on ants avoid subgenus classification, for *Crematogaster* we follow the traditional subgenus framework as a working hypothesis, a recognised approach to solving taxonomic problems in such a huge group (Ward 2007). Ants of the *Crematogaster* subgenus *Decacrema* are generally known as obligate plant-ants associated with *Macaranga* (Euphorbiaceae) (Federle *et al.* 1997; Itioka *et al.* 2000; Feldhaar *et al.* 2003; Quek *et al.* 2004, 2007). *Decacrema* has been recorded from Southeast Asia (Malaya, Sumatra, Borneo, Sulawesi, southern Philippines), Taiwan, New Guinea, Africa and Madagascar (Bequaert 1922; Bolton 1995; Maschwitz & Fiala 1995; Fiala *et al.* 1999). In Asia, no species of *Decacrema* is known from the mainland between Taiwan and the Malay Peninsula, raising the question of its discontinuous distribution. (*Macaranga* species are widely distributed in this region (Whitmore 2008), although not all are ant-plants).

The Taiwan distribution of *Decacrema* (Bolton 1995; Quek *et al.* 2004) is based on the record of *C. schimmeri* Forel, collected from Pilam, Taiwan (Forel 1912); there have been no

subsequent records. But Emery (1922) referred this species to the subgenus *Orthocrema*, based on the following characters: 11-segmented antenna, 2-jointed antennal club, petiole with subparallel sides, and postpetiole without median sulcus. Bolton (1995) misquoted Emery's treatment and placed the species in *Decacrema*, influencing later work on the distribution of the subgenus (Quek *et al.* 2004). Later Bolton *et al.* (2006) transferred the species to the subgenus *Crematogaster* without any comment. Thus, the subgenus placement of *C. schimmeri* is confusing. But workers of the subgenus *Decacrema* can be easily distinguished from the workers of other subgenera by their 10-segmented antenna.

Recently, we had an opportunity to examine the type-specimens of *Crematogaster schimmeri*. Examination of syntype workers in BMNH (The Natural History Museum, London, U.K.), NHMB (Naturhistorisches Museum, Basel, Switzerland) and MHNG (Musée d'Histoire Naturelle, Geneva, Switzerland) revealed the following character states: 11-segmented antenna; anterolateral margins of clypeus not protruded anteriorly; petiole with node-like process posteriorly. This combination is not observed in subgenus *Crematogaster*, but are characteristic of

Orthocrema. We, therefore, refer *C. schimmeri* to *Orthocrema*, following Emery (1922). The species can be distinguished from other *Orthocrema* species by its sculptured head and shining surface of lateral pronotum and mesopleuron (Figs. 1-2).

The finding clarifies the known range of the subgenus *Decacrema* in Southeast Asia (Fig. 3). In Asia, *Decacrema* is confined to between $\sim 10^{\circ}\text{N}$ and 10°S ; it appears to have its centre of distribution in the Malesia region.



Figs. 1-2. *Crematogaster (Orthocrema) schimmeri* Forel. Scale bars are all 0.5mm. 1, lateral view; 2, full face view.

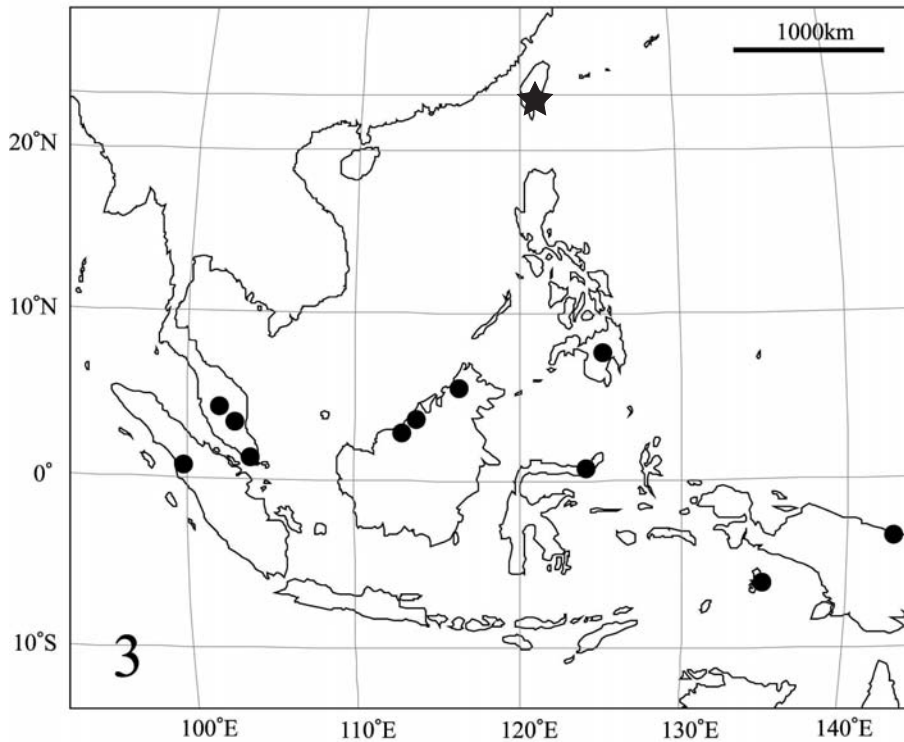


Fig. 3. Distribution of *Crematogaster (Decacrema)* ants in Asia. *Crematogaster (O.) schimmeri* is represented by a star on the map and *Decacrema* by closed circles. These records include all those known to us.

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