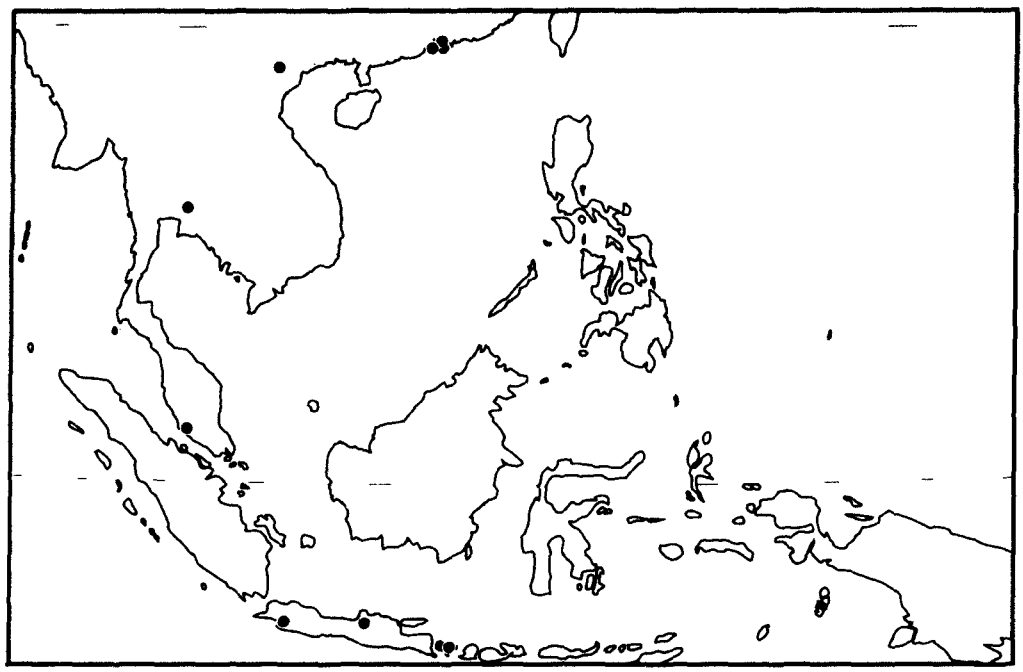

Fig. 63. Distribution of *P. spathifera* Forel group.

P. upeneci in Borneo and Java, and *P. orophila* sp. nov. in the southern Malay Peninsula, Borneo, Sumatra and Java. They can be considered relicts which ranged more widely during the glacial periods, at times of downward expansion of premontane / lower montane vegetation due to lowered temperature (Kaars & Dam, 1995).

6) **Indo-Chinese, with conspecific isolated populations in Java or Java+Bali** (represented by *P. noda*, *P.* sp. eg-75 (? *P. platifrons*), *P. tandjongensis*, and the *P. spathifera* group (Fig. 63), of which the number of species is larger on the continent and only one lineage, *P.* sp. eg-57, is confined to Java and Bali)

These species are widely distributed in the Indo-Chinese subregion and its adjacent areas and have conspecific or closely related population / taxa disjunctively in Java or Java+Bali (*P. tandjongensis* also occurring in Sumatra). They appear to prefer seasonal forests to rainforests. Similar cases are observed in plants: some significant spermatophyte genera, known from Java but absent from Sumatra and Borneo, occur mostly in the monsoon forests of Burma, Thailand and Indochina (Johns, 1995). As mentioned above, Java, especially its eastern part, is now under seasonal climate. Furthermore the Indo-Malayan subregion probably experienced lower humidity and greater seasonal variations in temperature during Pleistocene glacial periods, and the seasonal forests would have been more extensive than now (Kaars & Dam, 1995; Whitten *et al.*, 1996). Thus ancestral lineages of the species with this geographic pattern probably immigrated from the Southeast Asian mainland into the Indo-Malayan subregion, and became more widespread with expansion of seasonal forests during extensive exposure of the Sunda Shelf during the glacial periods. Present populations in Java might have been left there by post-glacial recovery of lowland rainforests after the last glacial maximum. The *Lophomyrmex quadrispinosus* (Jerdon) group (Rigato, 1994) may, if its monophyly is supported, be categorised in the same pattern, because *L. opaciceps* Viehmeyer, a member of the group, is found