identifications have been based on comparison with the type materials in most cases, and redescriptions are given for Bornean populations. Biological notes are given as far as possible. Finally biogeographical notes on the Indo-Chinese and Indo-Malayan *Pheidole* faunas are given. External morphological characters of the worker (both the major and minor workers) examined under a dissecting binocular microscope are mainly used in the species descriptions. My recognition of species is guided by the principle that the most powerful evidence for the existence of more than one species is the sympatric occurrence of morphologically and / or biologically discrete forms. Therefore the species enumerated below are expected to be real biological species except in cases where specimens are available from only a few localities.

The genus *Pheidole* is one of the prevalent ground-dwelling genera (in both species-richness and abundance) in world tropics, including, of course, the Indo-Malayan subregion (Brühl *et al.*, 1998, Table 2; Ito *et al.*, 2001; Yamane, 1997; Yamane *et al.*, 1996; Ward, 2000), and the species appear to play important roles in the forest ecosystem as omnivores, scavengers and predators of small invertebrates. However, difficulties in sorting and identification at species level have hindered us from accumulating any kind of biological information on most species. As pointed out by Ito *et al.* (2001), we are often not confident of the association of minor and major workers in the samples collected using Winkler bags, pitfall traps, etc. that are often used to assess biodiversity of ant. Therefore, the present revision of the Bornean *Pheidole* including information on the combination of the subcastes may contribute to various fields of biology especially those concerning biodiversity. Biological information arising from such biological fields will in turn improve the recognition of *Pheidole* species in line with biological species concept. In other words this revision presents a starting point from which a biologically acceptable taxonomy of *Pheidole* may become established.

MATERIALS AND METHODS

Environments of Main Collection Sites

Kinabalu Park Headquarters area Mt. Kinabalu (Low's Peak: 6°05'N 116°33'E, 4101 m alt.) lies northeast of Kota Kinabalu, Sabah. The area around the Kinabalu Park Headquarters (1500-1800 m alt.) is covered with mixed oak forests (20-30 m in height) with tropical elements (Dipterocarpaceae, Musaceae, Palmae, Araceae, etc.) (Kobayashi & Hotta, 1978), and annual rainfall and mean annual temperature estimated at 1560 m alt. are 2714 mm and 18.9°C, respectively (Aiba & Kitayama, 1999). The substrate of the area is formed of non-ultrabasic Tertiary (40 mya) sedimentary rocks typically characterised by shale, slate, siltstone and thin sandstone beds (Trusmadi Formation) (Choi, 1996). Collections were made mainly by Toru Kikuta and me from 1500 to 1800 m alt.

Poring This area (6°03'N 116°42'E, inside the Kinabalu Park) lies east of Mt. Kinabalu, and I made collections in lowland-type to hill-type dipterocarp forests (500-600 m alt.) which provide leafy forest floor and thick leaf litter, damp soil, fallen-down tree trunks and moist debris of flaky rocks (Kobayashi & Hotta, 1978). Collections were also made by Toru Kikuta at ca. 600 m, 900 m and 1200 m alt., and by Carsten Brühl along East Ridge from 500 to 1930 m alt.

Sayap Kinabalu (= Sayap Substation area of the Kinabalu Park) This area (6°12'N 116°33'E, ca. 1000 m alt.) lies north of Mt. Kinabalu, and in a transitional zone between lowland forest and lower