

maximal diameter of eye. Frontal carina and antennal scrobe present only around antennal insertion. Antenna with 3-segmented club; in full-face view scape extending beyond posterior border of head by its 1/5 length; terminal segment ca. 1.1 times as long as preceding two segments together. Promesonotum convex, without any prominence on its posterior declivity (Fig. 9F). Mesopleuron sometimes with a transverse impression. Propodeal spine 1.5-2 times as long as diameter of propodeal spiracle. Petiole ca. 1.8 times as long as postpetiole (excluding helcium); petiolar node in posterior view not emarginate at apex. Postpetiole in dorsal view subhexagonal, 1.4-1.6 times as broad as petiolar node.

Head including clypeus and promesonotum smooth and shining; remainder of alitrunk weakly punctured at least partly; lateral face of petiole weakly punctured; dorsum of petiole, and postpetiole and gaster smooth and shining. Body yellowish-brown (alitrunk sometimes a little lighter than head and gaster); antennae and legs a little lighter than alitrunk.

Recognition This species is recognised among Indo-Malayan congeners by a combination of the following characteristics: hypostoma of the major bearing three median processes (Fig. 9C); frontal carina of the major inconspicuous; promesonotal dome highly raised in the major; lower part of mesopleuron margined dorsally in the major (Figs. 9D); head and promesonotum of the minor smooth and shining. *P. butteli* is separated from the most similar *P. tawauensis* sp. nov. in which frontal lobe of the major is relatively large and erect (Fig. 50B), and occipital carina of the minor is stronger (Fig. 50D) (see under *P. tawauensis* sp. nov.).

Distribution Southern Malay Peninsula, Borneo, Sumatra and Java.

Bionomics This species inhabits well-developed forests in lowlands and hill areas. Two colonies each (Eg97-BOR-524, Eg99-BOR-085) included at least two dealate queens.

8. *Pheidole cariniceps* sp. nov. (Fig. 10)

Holotype Major, colony: Eg98-BOR-840, Logging area nr. Ranau, Sabah, E. Malaysia (Borneo), K. Eguchi leg., 1998, deposited in UMS.

Paratypes 9 majors, 15 minors and 5 males from the same colony to which the holotype belongs, deposited in BMNH, MBD, MCSN, MCZ, MHNG, MSNM, NHMW and UMS.

Other specimens examined BORNEO. Sabah, Malaysia: Danum Valley, 1 minor, CB, 1998-1999; Poring, ca. 600 m alt., 2 majors and 6 minors (06Q44B6), TK; Sepilok forest, 1 major and 4 minors (Eg97-BOR-420); Tawau Hills Park, 1 major (GC), KE, 1996 / 1 major and 19 minors (GC; soil-12), SKY, 1996. Sarawak, Malaysia: Bt. Entimau (390 m alt.), 5 minors (GC), Mahmud leg., 1994; Lambir Hills N. P., 1 major, 6 minors and 1 queen (Eg98-BOR-801) / 1 major and 40 minors (GC), SKY, 1993 and 1994. Brunei: Belalong Forest Section, 3 majors, 4 minors and 1 queen (Eg99-BOR-218); Merimbun Heritage Park, 17 majors, 34 minors and 6 queens (Eg99-BOR-049, 050, 063, 133, 135, 137, 561, 562, 579). E. Kalimantan, Indonesia: Bukit Soehart (UNMUL forest), 2 minors (GC), SKY, 1992; Kutai N. P., 4 majors and 11 minors (GC), SKY, 1993. MALAY PENINSULA. Malaysia: Ulu Gombak, 2 majors, 3 minors and 1 male (FI96-725, FI99-90). SUMATRA, Indonesia. Ulu Gadut, Padang, W. Sumatra, 2 majors and 4 minors (FI96-107) / 12 minors, SNS; Maninjau, W. Sumatra, 1 minor (GC), SNS; Sako nr. Tapan, W. Sumatra, 1 minor, SNS.

Major Measurements and indices (n=10): TL 3.7-4.6 mm, HL 1.57-1.85 mm, HW 1.45-1.63 mm, SL 0.83-0.88 mm, FL 1.27-1.38 mm, CI 88-93, SI 54-58, FI 83-89. Head broadest at 1/2-3/5 distance of head (as measured from the mid-point of a transverse line spanning the anteriormost and posteriormost projecting points, respectively (cf. Fig. 2A)) (Fig. 10A), in profile gently impressed on vertex (Fig. 10B). Hypostoma without distinct median processes. Clypeus rarely with a median