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A new species of the genus *Crossocerus* Lepeletier et Brullé, 1835 from south-eastern Asia (Hymenoptera: Crabronidae)

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ŘÍHA M. 2008: A new species of the genus *Crossocerus* Lepeletier et Brullé, 1835 from south-eastern Asia (Hymenoptera: Crabronidae). *Acta Musei Moraviae, Scientiae biologicae* (Brno) **93:** 131–134. – *Crossocerus nemeci* sp.nov., a new species of the genus *Crossocerus* Lepeletier et Brullé, 1835 (the subgenus *Yambal* Tsuneki, 1990), from Thailand and Malaysia is described, illustrated and compared with other known species of the genus.

Key words. Hymenoptera, Crabronidae, Crabronini, *Crossocerus*, *Yambal*, taxonomy, new species, South-eastern Asia

Introduction

The genus *Crossocerus* Lepeletier et Brullé, 1835 is worldwide in distribution, but only one species is known from the Australasian region (BOHART & MENKE 1976). BOHART & MENKE (1976) listed approximately 200 species classified into twenty subgenera. Since this time more than forty new species have been described, mainly by LECLERCQ (2000, 2008).

The new species described herewith is a member of the subgenus *Yambal* Tsuneki, 1990. Previously, this subgenus included only one species: *Crossocerus* (*Yambal*) *minor* Tsuneki, 1990 from Japan (Okinawa). The diagnostic characters for the subgenus are given by TSUNEKI (1990) and, to judge by his work, the presence of a curved process between the ends of the occipital carina in both sexes appears to be a very useful subgenus identification mark.

Crossocerus (*Yambal*) *nemeci* sp.nov. (Figs 1–5)

Type material. Holotype (labelled): male, "MALAYSIA-W; PAHANG; Cameron Highlands; ~1500m; TANAH RATA (35km SEE IPOH); 4°28´N 101°23´E; 19.–31.iii.2003; Říha M&M Němec leg.". Paratype: female, "THAI, NE, Loei prov., Phu Kradung N.P., ~1300 m, 16°53´N 101°47´E, 11.–15.v.1999, M. Říha leg". Coll. M. Říha , Brno, Czech Republic.

Description. Holotype, male. Length 5.2 mm. Body colour black. Antennal scape, pedicellum and flagellum beneath, mandible largely (except bifid apex), labium, palpi, pronotal collar medially, pronotal lobe, spot on tegulae and praecostal plates, apices of coxae, all trochanters, fore- and mid-femora beneath, fore- and mid-tibiae except brown spot on inner side, basal half and outer side of hind tibiae, all basitarsi, lemon yellow. Apex of mandible ferruginous. Pedicellum and flagellum above, spots on inner sides of

fore- and mid-tibiae, all tarsi (except basitarsus), light brown. Spots on fore- and mid-femora, two apical spots on hind tibiae, tegulae and praecostal plates, dark brown. Pterostigma, costal and subcostal veins dark brown, other veins light brown.

Head very smooth and lustrous. Head length : width ratio 19:31 (dorsal view). Scapal basin depressed, covered with dense silver pubescence. Frons convex, divided by medial (frontal) furrow into two convexities. Frontal furrow continued between postocelli. Ocellar impressions feeble but present, close to inner orbit. Ocello-postocellar distance : postocellar distance ratio 5:4. Frons, vertex and genae smooth and lustrous, without microsculpture. Occipital carina high, crenate, ending in sharp angle. Occipital area below with medial process as in *Crossocerus minor* (Tsuneki 1990: Fig 31). Clypeus, see Fig. 1. Scape ecarinate. Flagellomere I with seven long, curved whitish setae beneath, flagellomeres II and III with five of them (Fig. 2). Relative length of antennal scape : pedicellum: flagellomeres I, IX, X, XI = 18:4:5:3:3:6 respectively. Mandible bifid apically, evenly rounded, without tooth on inner margin medially.

Anterior slope of pronotum flattened, pronotal collar anteriorly ecarinate, lateral corners tuberculate (Fig. 3). Postero-lateral part with carina projecting from posterior furrow and reaching pronotal lobus. Scutum micropunctate, lustrous, anterior part with a number of irregular punctures (mainly around medial line between notauli), posterior part without striae. Notauli replaced by lines. Parapsidal lines distinct. Admedian lines appear in two striae. Prescutellar furrow deep, crenate (with seven depressions). Scutellum and metanotum rather dull, micropunctate, scutellum with a number of irregular punctures. Propodeum smooth and lustrous, without microsculpture, with only medial furrow and lateral carinae on posterior slope. Anterior margin with a number of short longitudinal carinae. Prosternal tubercle strong, pointed. Epicnemial area sparsely punctate. Epicnemial furrow narrow. Mesopleuron smooth and lustrous, lower part micropunctate. Praecoxal area without tooth with only very feebly indicated tubercule. Upper part of metapleuron lustrous, lower part somewhat reticulate.

Abdomen sessile. Terga lustrous, with microsculpture. Last tergum with a number of irregular punctures. Sterna lustrous with microsculpture. Sterna II–VI with two long spines (some broken) on posterior margin, each in lateral third (the strongest on sternum VI). Sternum VI covered with erect pubescence.

Fore-trochanter with tooth on posterior margin. Fore-femur flattened antero-apically and postero-basally, without setae, with translucent tooth beneath (Fig. 4). Apical half of fore-tibia with a number of spines beneath. Mid-tibia without spur. Scapal basin, clypeus, epicnemium and mesosternum covered with silver pubescence. Aedeagus, see Fig. 5.

Paratype, female. As in holotype, with the following differences: Length 4.9 mm. Mid-femur with small, yellow apical spot only. Scutellum and metanotum largely yellow. Apex of pygidium light brown. Antennae without setae. Mandible with distinct tooth on inner margin medially. Mesopleuron with strong precoxal tooth. Pygidium depressed and smooth apically, basal half with V-shaped punctate elevation. Legs without modification.

Distribution. Malaysia, Thailand.

Derivatio nominis. This species is dedicated to my friend Martin Němec (Brno), who collaborated in collecting the type material.

Differential diagnosis. *C. nemeci* sp.nov. differs from the related species *C. minor* in the features stated in the following key.

1. Male: fore-coxa and fore-femur without setae, fore-femur with translucent tooth beneath, fore-trochanter with tooth, flagellomeres I–V with more dense whitish setae (5–7 setae on each), flagellomere III not swollen, pronotal collar with lateral tubercle, aedeagus as Fig. 5, (clypeus black, mandible without inner tooth, mesopleuron without praecoxal tooth). Female: clypeus black, pronotal collar with lateral tubercle, anterior part of scutum with a number of irregular punctures. ... ***C. nemeci* sp.nov.**

– Male: fore-coxa and fore-femur covered with long setae beneath (Tsuneki 1990: Fig 35), fore-femur without translucent tooth, fore-trochanter without tooth, flagellomeres I–V with 2–3 setae on each segment, flagellomere III swollen (Tsuneki 1990: Fig 34), pronotal collar laterally rounded, aedeagus see Tsuneki 1990: Figs 41, 42, (clypeus yellow with black anterior margin, mandible with inner tooth, mesopleuron with praecoxal tooth). Female: clypeus yellow, pronotal collar rounded laterally, scutum very minutely and closely punctured. ..... ***C. minor* Tsuneki, 1990**

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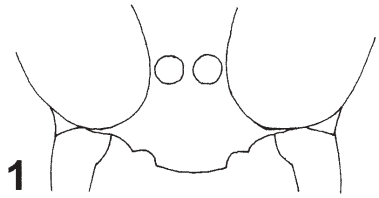

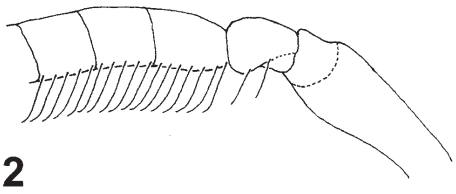



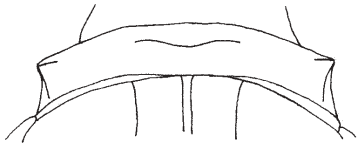

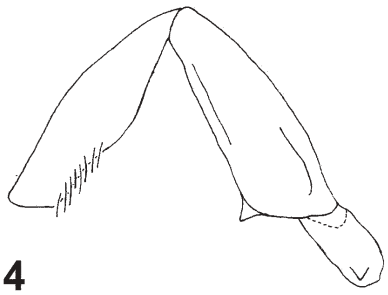

Figs 1–5. 1 – Clypeus, frontal view; 2 – antennal scape, pedicellum, flagellomeres I–III; 3 – pronotal collar, dorsal view; 4 – fore-leg: trochanter, femur, tibia; 5 – aedeagus, latero-ventral view.