

New taxa of the Largidae and Pyrrhocoridae (Hemiptera: Heteroptera) from the Oriental Region

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Abstract. The following new taxa are described in the Largidae and Pyrrhocoridae: Largidae – *Delacampius alboarcuatus* sp. nov. (Indonesia: Bali), *D. parvulus* sp. nov. (Thailand), *D. siberutensis* sp. nov. (Indonesia: Siberut), *Iphita fasciata* sp. nov. (India: Maharastra), *I. fuscorubra* sp. nov. (India: Maharastra), *I. heissi* sp. nov. (Indonesia: Sumatra), *I. rubricata albolutea* subsp. nov. (Malaysia: Sabah), *I. varians rubra* subsp. nov. (Indonesia: Nias), *Physopelta kotheae* sp. nov. (Indonesia: Sumatra, Java), *Ph. melanopyga ruffemur* subsp. nov. (Indonesia: Seram), and *Ph. trimaculata* sp. nov. (India: Maharastra); Pyrrhocoridae – *Armatillus sulawesiensis* sp. nov. (Indonesia: Sulawesi), *Brancucciana (Rubriascopus) orientalis* sp. nov. (Indonesia: Alor, Sumatra, Timor, Yamdena; Philippines: Mindanao), *Dindymus (Dindymus) baliensis* sp. nov. (Indonesia: Bali), *D. (Dindymus) sundaensis* sp. nov. (Indonesia: Alor), *D. (Pseudodindymus) albicornis siberutensis* subsp. nov. (Indonesia: Siberut, Nias), *D. (Pseudodindymus) styxi* sp. nov. (Indonesia: Butung Island), *Dysdercus (Paradysdercus) transversalis castaneus* subsp. nov. (Indonesia: Yamdena, Banda Islands), *Ectatops riedeli* sp. nov. (Indonesia: Sulawesi), *E. schoenitzeri* sp. nov. (Indonesia: Sulawesi), and *Euscopus tristis* sp. nov. (India: Kerala). Two new combinations within the Largidae are established: *Iphita fimbriata* (Stål, 1863) comb. nov. (originally *Physopelta fimbriata*) and *Tauberella hirta* (Blöte, 1933), comb. nov. (originally *Delacampius hirtus*). *Armatillus orthocephaloides* (Breddin, 1912) is recorded from Malaysia: Sarawak, for the first time. The stridulatory organs of the Physopeltinae (Largidae) are reported for the first time.

Key words. Heteroptera, Largidae, Pyrrhocoridae, taxonomy, new taxa, new combinations, morphology, stridulatory organs, India, Indonesia, Malaysia, Philippines, Thailand, Australia

Introduction

The knowledge of the Largidae and Pyrrhocoridae fauna of the Oriental Region and Malesia was substantially improved during the past decade, resulting in the description of four new genera, six subgenera, 58 species, and one subspecies (AHMAD & QADRI 2007; KERZHNER & VOIGT 2001; SCHAEFER 1999; SCHAEFER & AHMAD 1999, 2002; STEHLÍK 2003, 2005a,b, 2006, 2007a,b,c; STEHLÍK & JINDRA 2003, 2006a,b,c,d, 2007; STEHLÍK & KERZHNER 1999; STEHLÍK & KMENT 2008), as well as the first comprehensive elaborations of the Pyrrhocoroidea of Thailand (STEHLÍK & JINDRA 2003), Nepal (STEHLÍK 2003), Laos (STEHLÍK 2005, 2007c), and the Meghalaya state in India (STEHLÍK 2007b). However, the presumably high biodiversity of the Oriental Pyrrhocoroidea is still insufficiently known and many undescribed taxa are still awaiting discovery.

In this paper we describe 15 new species and five new subspecies from the Oriental Region and present two new combinations for already described taxa. We also discovered the stridulatory organs of one brachypterus species of *Delacampius* Distant, 1903, the first known in the subfamily Physopeltinae of the Largidae. They are similar to the same structures in the Arhaphini (Largidae: Larginae) and *Limadindymus* Stehlík, 2005 (subgenus of *Dindymus* Stål, 1861, Pyrrhocoridae) (for detailed description see LATTIN (1958)).

Materials and methods

To a large extent, we follow the terminology of body parts by VAN DOESBURG (1968), but for the genital capsule we use the more specific terms as proposed by SCHAEFER (1977). The measurements are presented as means with minimum and maximum values in parentheses. Locality data are standardized. The species are listed in alphabetical order.

The following codens of the collections are used:

- BMNH Natural History Museum, London, United Kingdom;
- EHIA Ernst Heiss Collection, Tiroler Landesmuseum, Innsbruck, Austria;
- ISNB Institut Royal des Sciences Naturelles de Belgique, Bruxelles, Belgium;
- MHNG Muséum d'Histoire Naturelle, Genova, Switzerland;
- MMBC Moravian Museum, Brno, Czech Republic;
- NHRS Naturhistoriska Riksmuseet, Stockholm, Sweden;
- NMPC National Museum, Praha, Czech Republic;
- PPUA Czech University of Agriculture, Department of Plant Protection, Praha, Czech Republic;
- USNM National Museum of Natural History, Washington, D.C., USA;
- ZJPC Zdeněk Jindra Collection, Praha, Czech Republic;
- ZSMC Zoologisches Staatssammlung, München, Germany.

Results

Largidae

Delacampius alboarcuatus sp. nov.

(Fig. 3)

Type material. HOLOTYPE: ♂ (brachypterous), **INDONESIA: BALI:** Badingkau, 300-500 m a.s.l., 10.-14.xi.1991, I. Löbl lgt. (MHNG).

Description. Colouration (Fig. 3). Blackish on head, entire antennomeres 1-3, slightly more than apical third of antennomere 4, pronotum except of lateral margins, scutellum, clavus, most of corium (except of costal and distal margin, and part of corium between corial cleft and cubital vein up to apex of scutellum), mesotergites, sternum (except of posterior pleural flange I), legs, and zygosterna. Labium brownish. Lateral margin of pronotum and posterior pleural flange I reddish, dorsal and ventral laterotergites in lateral half red, in median half darkened. Costal and distal margin of corium, hypocostal lamina, and part of corium between corial cleft and cubital vein (up to scutellar apex) whitish. Whitish colouration of costal margin continued arcuately on distal margin of corium.

Structure. Body larger. Antennomere 3 as thick as antennomere 2 apically and about as thick as antennomere 4. Callar lobe large and gibbous; pronotal lobe short and flat. Lateral margin between callar and pronotal lobe strongly concave. Corium reaching mesotergite V. Posterolateral angle of corium strongly rounded, arcuate; rudiment of membrane very small, situated on inner side of corium and not reaching posterior corial margin.

Pygophore. In lateral view, ventral part of ventral wall gibbous and delimited from dorsal part by a furrow; dorsal part also gibbous. Medially, ventral rim arcuately elevated and slightly deflected into genital chamber; submedially merging into elevated and incrassated lateral rim. Ventral rim infolding in place of rounded process on dorsal rim concave and steeply sloping into genital chamber. Apices of parameres erected sideways, approaching each other and reaching upper margin of process on ventral rim.

Punctuation. Pronotal lobe with coarse punctures (except of distal margin), scutellum with more pronounced punctuation in basal half, and with rows of punctures along corial cleft; punctures on corium fading in black colouration.

Pilosity. Antennomeres 1-3 with coarse black hairs; rest of body with longer pale pubescence; pubescence on mesotergites and ventrites shorter and adpressed.

Measurements (all in mm). Male (holotype, brachypterous). Body length 6.97; head: width (including eyes) 1.39, interocular width 0.92, length 1.05; lengths of antennomeres: 1 – 1.20, 2 – 1.13, 3 – 0.68, 4 – 1.48; pronotum: length 1.40, width 2.21; scutellum: length 1.08, width 1.19; corium: length 2.70, width 1.32.

Differential diagnosis. *Delacampius alboarcuatus* sp. nov. differs from the related *D. parvulus* sp. nov. by its larger size, different colouration (especially the whitish arcuate stripe in the posterolateral angle of the corium, Fig. 1), and longer hemelytron that reaches mesotergite V and is arcuate apically; the hemelytron is shorter, only slightly surpassing mesotergite IV,

and apically truncate in *D. parvulus* sp. nov. Corium in *D. alboarcuratus* sp. nov. is widely rounded posteriorly and possesses a rudiment of membrane (in *D. parvulus* sp. nov. posteriorly truncate, without any rudiment of membrane).

Etymology. The species epithet describes the characteristic whitish colouration on the costal and distal margins of the hemelytron; it is composed from the Latin adjectives *albus* (= white) and *arcuratus* (= forming an arch).

Distribution. Indonesia, Bali.

Note. The pygophores of all known species of *Delacampius* Distant, 1903, are very similar and of limited value for species identification. The external female genitalia of the Largidae also have no value in taxonomy.

Delacampius parvulus sp. nov.

(Figs. 1-2)

Type material. HOLOTYPE: ♂ (brachypterous), **THAILAND: PHETCHABURI PROVINCE:** Kaeng Krachan National Park, 300-400 m a.s.l., 17.xi.1985, D. Bureckhardt & I. Löbl lgt. (MHNG).

Description. Colouration (Fig. 1). Head, labium, antennomeres 1-3, antennomere 4 in ca. apical quarter, pronotum (except of lateral margins), scutellum, clavus, mesotergites, and legs brownish black; sternum and zygosterna blackish. Lateral pronotal margin and hypocostal lamina reddish, ventral and dorsal laterotergites vividly red, corium whitish. Corium with prominent, nearly triangular black spot with upper margin skewed anteriorly towards outer margin of corium and delimited laterally by radial vein and medially by cubital vein.

Structure. Body very small. Head in front of eyes more elongated than in other congeners; antennomere 4 stouter than antennomere 3. Callar lobe strongly gibbous, with shallow impressions in distal half; pronotal lobe flat; lateral margin between callar and pronotal lobe strongly concave; lateral margin of pronotal lobe sharp, with inconspicuous strigil. Costal margin of hemelytra very sharp with distinct strigil in form of very small, regular denticles distributed along its entire length. Corium surpassing base of mesotergite IV; lateral margins of hemelytra nearly straight; posterior margin horizontally truncated, without any rudiment of membrane; radial vein elevated.

Pygophore (Fig. 2) similar as in *D. alboarcuratus* sp. nov.; its ventral two-thirds more strongly gibbous in lateral view, not divided by furrow.

Punctuation. Pronotal lobe very coarsely punctate, punctuation of scutellum and clavus less distinct. Corium with rows of black punctures along cubital vein; costal margin with coarse but colourless punctures; rest of corial surface with smaller, scattered black punctures.

Pilosity. Antennomeres 1-3 with coarse black pubescence; rest of body with longer, erect, white pubescence, only on mesotergites slightly shorter and more adpressed.

Measurements (all in mm). Male (holotype, brachypterous). Body length 5.26; head: length 0.86, width (including eyes) 1.13, interocular width 0.76; lengths of antennomeres: 1 – 0.86, 2 – 0.86, 3 – 0.51, 4 – 1.08; pronotum: length 1.03, width 1.67; scutellum: length 0.73, width 0.97; corium: length 1.57, width 0.97.

Differential diagnosis. See above for differences from the closely related *D. alboarcuratus* sp. nov.

Etymology. The species epithet is the Latin adjective *parvulus* (= minute), referring to the small size of this species.

Distribution. Southern Thailand, Phetchaburi province.

***Delacampius siberutensis* sp. nov.**

(Figs. 4, 11)

Type material. HOLOTYPE: ♂ (macropterous), **INDONESIA: MENTAWAI ISLANDS: SIBERUT:** Salappa env., 50-100 m a.s.l., iv.-v.2006, S. Jakl lgt. (PPUA). PARATYPES: The same data, 4 ♂♂ 8 ♀♀ (ZJPC); **SIBERUT:** Mt. Malancan, 200 m a.s.l., 17.-20.i.2004, 1 ♂, S. Jakl lgt. (ZJPC); Boiacan env., v.2004, 2 ♂♂, S. Jakl lgt. (MMBC: coll. P. Bañaf); the same locality, xi.2004, 1 ♂ 2 ♀♀, S. Jakl lgt. (ZJPC).

Additional material examined. **INDONESIA: SUMATRA: SUMATERA UTARA PROVINCE:** Panyabungan, 0°48'38"N 99°34'07"E, 18.ii.2002, 1 ♂, T. Kothe leg. (ZSMC).

Description. Colouration (Fig. 4). Body black. Lateral pronotal margin, pronotal epipleuron, stripe on outer part of corium, hypocostal lamina and laterotergites red. Antennomere 4 whitish, only on base and apex narrowly black. Red lateral stripe on corium occupying its costal margin, basally somewhat extended on corium, regularly widening towards apex of corium, ending just before corial apex.

Structure. Known only in macropterous form. Head wider, less elongate in front of eyes. Lateral pronotal margins very narrow, medially concave; callar lobe wider; strigil not developed. Labium slightly surpassing anterior margin of ventrite III. Profemora along their entire length with minute denticles ventrally and with two (rarely only one) larger teeth in apical part. Pygophore similar to *D. parvulus* sp. nov., only ventral half of ventral wall slightly gibbous in lateral view. Paramere (Fig. 11).

Punctuation on pronotal lobe and scutellum distinct and dense, on clavus and corium dwindling in black colouration, only with sparse black punctures near inner margin of red-coloured margin of corium.

Pilosity. Body covered with semierect greyish hairs.

Measurements (all in mm). Males (n = 5). Body length 7.22 (6.80-7.67); head: length 0.98 (0.92-1.03), width (including eyes) 1.39 (1.35-1.43), interocular width 0.75 (0.70-0.81); lengths of antennomeres: 1 – 1.09 (1.03-1.13), 2 – 1.12 (1.03-1.19), 3 – 0.67 (0.65-0.70), 4 – 1.71 (1.67-1.73); pronotum: length 1.37 (1.24-1.48), width 2.41 (2.21-2.54); scutellum: length 1.12 (1.05-1.19), width 1.25 (1.19-1.40); corium: length 3.60 (3.35-4.00), width 1.34 (1.24-1.40).

Females (n = 5). Body length 8.01 (7.72-8.64); head: length 1.04 (0.97-1.13), width (including eyes) 1.50 (1.46-1.62), interocular width 0.75 (0.70-0.81); lengths of antennomeres: 1 – 1.23 (1.19-1.35), 2 – 1.19 (1.08-1.24), 3 – 0.79 (0.76-0.92), 4 – 1.80 (1.73-1.94); pronotum: length 1.37 (1.32-1.51), width 2.56 (2.43-2.75); scutellum: length 1.27 (1.19-1.35), width 1.39 (1.30-1.46); corium: length 4.02 (3.78-4.43), width 1.45 (1.40-1.57).

Variation. The single male from Sumatra differs from the Siberut population by its distinctly smaller size. Its measurements are (all in mm): body length 5.83; head: length 0.76, width (including eyes) 1.19, interocular width 0.76; lengths of antennomeres: 1 – 0.92, 2 – 0.97, 3 – 0.59, 4 – 1.30; pronotum: length 0.97, width 1.94; scutellum: length 0.94, width 1.08;

corium: length 2.92, width 1.19. However, more specimens from both Sumatra and Siberut are needed to evaluate these differences.

Differential diagnosis. Similar to *D. villosus* (Breddin, 1901), known from Laos, Sumatra, and Sulawesi (STEHLÍK 2005a), which has a slightly narrower head and callar lobe but wider lateral margins of the pronotum. Both species also differ in the shape of the red stripe on the outer corial margin: it is distinctly narrowing towards the corial apex in *D. villosus* but widening towards the corial apex in *D. siberutensis* sp. nov.

Etymology. Patronymic, named after the Siberut Island.

Distribution. Indonesia, Mentawai Islands (Siberut), and Sumatra.

Iphita fasciata sp. nov.

(Fig. 5)

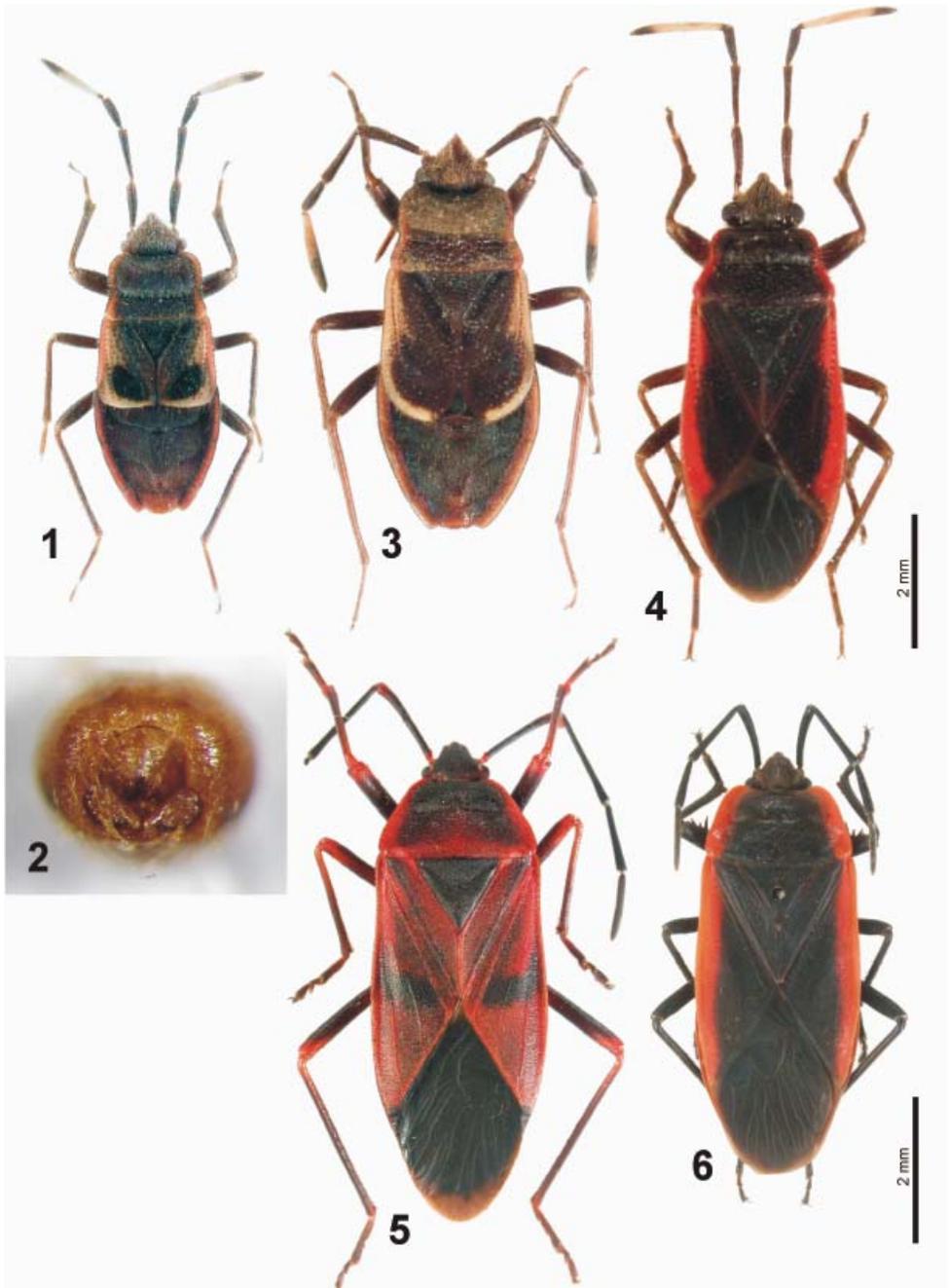
Type material. HOLOTYPE: ♀, INDIA: MAHARASTRA: Western Ghats Mts., Amboli env., 50 km W Belgaum, 21.-23.v.2006, O. Šafránek lgt. (PPUA).

Description. Colouration (Fig. 5). Body above mainly red. Black colouration confined to dorsal surface of head (except apex of clypeus and antennifers), antennae (except base of antennomere 1), callar lobe, two large but less distinct spots laterally on pronotal lobe, scutellum, narrow lateral stripe on base of clavus and less distinct stripe along anal vein, transversal median stripe on corium and small spot on corial apex, membrane, sternum (except of ostioles), and ventrites (except of laterotergites); stripe on corium slightly skewed towards lateral margin, bending near to subcosta and continued by less apparent prolongation on costal margin towards corial base. Apex of clypeus, antennifers, extreme base of antennomere 1, head ventrally, bucculae, labium, lateral margins of pronotum, pronotal lobe (except of two less distinct large lateral spots), clavus (except of outer base and darkened stripe along anal vein), corium (except median transverse stripe), metathoracic scent gland ostioles, and laterotergites of abdomen red. Legs largely black, only coxae, trochanters, bases and apices of all femora, and wide bases of tibiae red.

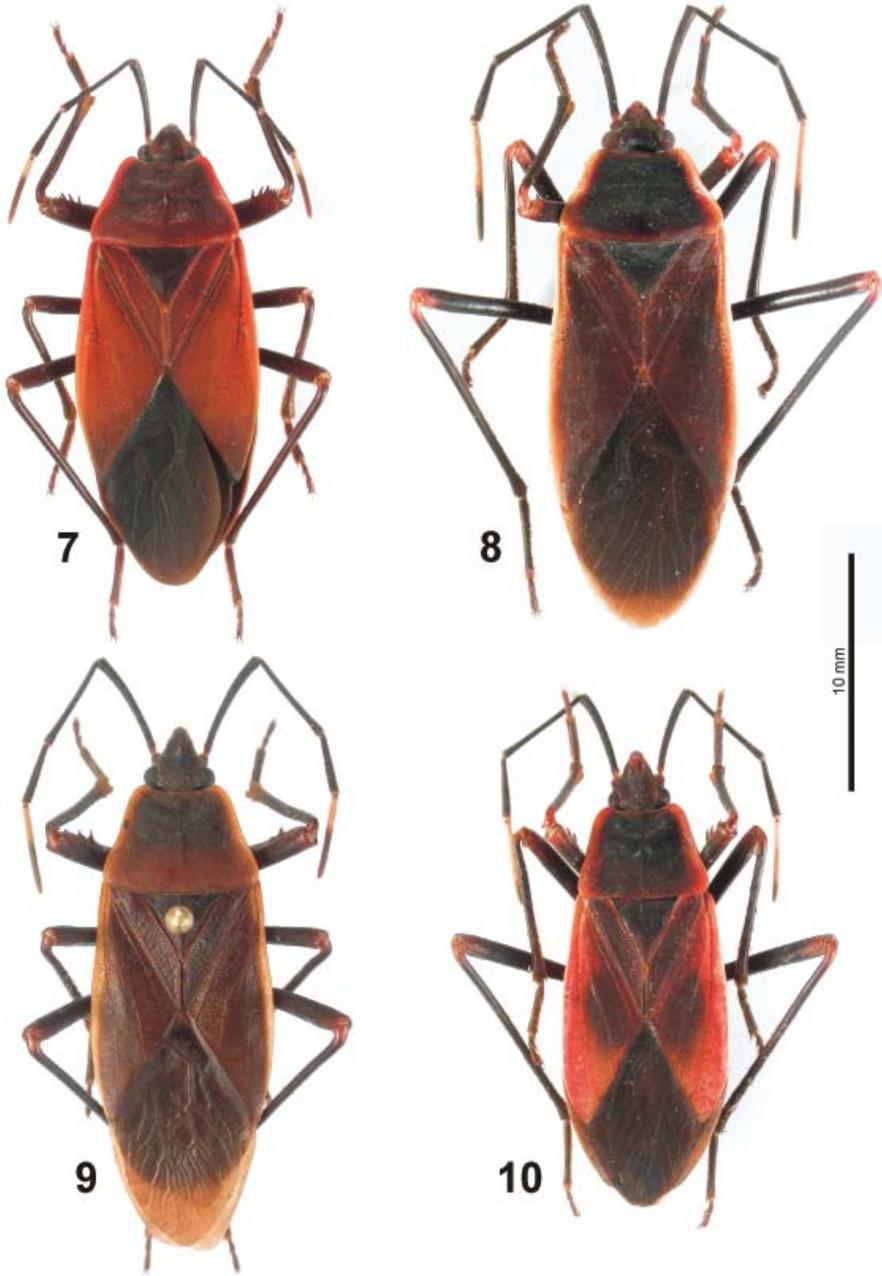
Structure. Large species. Pronotal collar very narrow, callar lobe less gibbous and strongly approaching anterior pronotal margin. Lateral pronotal margins less wide and only slightly elevated dorsally, more strongly rounded anteriorly, only slightly concave medially and strongly divergent laterally. Profemora in apical third with numerous smaller teeth on both sides of longitudinal furrow; basal two-thirds with only small denticles. Labium reaching two-thirds of ventrite III.

Measurements (all in mm). Female (holotype). Body length 16.47; head: length 2.16, width (including eyes) 2.32, interocular width 1.46; lengths of antennomeres: 1 – 3.29, 2 – 3.40, 3 – 2.32, 4 – 2.43; pronotum: length 3.05, width 5.24; scutellum: length 2.48, width 2.81; corium: length 9.07, width 2.97.

Differential diagnosis. This species differs from all described species of the genus, namely *Iphita coimbatorensis* (Distant, 1919), *I. dubia* (Breddin, 1901), *I. fimbriata* (Stål, 1863) (Fig. 6), *I. fuscorubra* sp. nov. (Fig. 7), *I. grandis* Distant, 1903, *I. heissi* sp. nov. (Fig. 8), *I. kubani* Stehlík, 2005a, *I. limbata* Stål, 1870, *I. lycoides* (Walker, 1873), *I. rubricata* Stehlík & Jindra, 2006b, and *I. varians* (Breddin, 1901) (Figs. 9-10), by the colouration of corium, consisting of a black transversal stripe on a red background.



Figs. 1-6. 1-2 – *Delacampius parvulus* sp. nov. (holotype, ♂, 5.26 mm): 1 – habitus, 2 – pygophore, dorsal view; 3 – *D. alboarcuatus* sp. nov. (holotype, ♂, 6.97 mm); 4 – *D. siberutensis* sp. nov. (♂, 7.50 mm); 5 – *Iphita fasciata* sp. nov. (holotype, ♀, 16.47 mm); 6 – *I. fimbriata* (Stål, 1863) (♀, 14.50 mm). Photo: L. Dembický (1, 3-6) and J. Kabiček (2).



Figs. 7-10. Habitus. 7 – *Iphita fuscorubra* sp. nov. (holotype, ♀, 19.44 mm); 8 – *I. heissi* sp. nov. (holotype, ♂, 22.19 mm); 9 – *I. varians varians* (Breddin, 1901) (macropterous ♂, 22.0 mm); 10 – *I. varians rubra* ssp. nov. (holotype, brachypterous ♀, 19.44 mm). Photo: L. Dembický.

Etymology. The species epithet is the Latin adjective *fasciatus* (= striped), referring to the colour pattern.

Distribution. Western India, Maharashtra state.

***Iphita fimbriata* (Stål, 1863) comb. nov.**

(Fig. 6)

Physopelta fimbriata Stål, 1863: 392.

Physopelta fimbriata: STÅL (1870): 101 (catalogue); BREDDIN (1909): 296 (note); BLÖTE (1931): 97 (distribution); BLÖTE (1938): 307 (distribution).

Type material examined. HOLOTYPE: ♀, INDONESIA: 'Insula Timor' (coll. A. Dohrn, deposited in NHRS).

Additional material examined. INDONESIA: NUSA TENGGARA TIMUR PROVINCE: TIMOR: 50 km S of Kupang, 28.i.-9.ii.2006, 7 ♂♂ 3 ♀♀, S. Jakl lgt. (ZJPC); 28 km S of Kupang, 16.-21.xii.2006, 1 ♂ 2 ♀♀, S. Jakl (ZJPC).

Taxonomic note. This species fits into the genus *Iphita* Stål, 1870, by all relevant characters: wide lateral pronotal margin at the level of callar lobe, less gibbous callar lobe, indistinct sexual dimorphism, and absence of allometries typical for *Physopelta* Amyot & Serville, 1843 (i.e., individual differences in body size, gibbosity of callar lobe, thickness of profemora, and incurvation of protibiae and number of denticles on legs; see also STEHLÍK (2007b)). Therefore we transfer this species to *Iphita*.

Variation. Measurements (all in mm). Male. Body length 14.80; head: length 1.67, width (including eyes) 2.43, interocular width 1.57; lengths of antennomeres: 1 – 2.54, 2 – 2.59, 3 – 1.84, 4 – 2.16; pronotum: length 3.35, width 4.75; scutellum: length 2.38, width 2.59; corium: length 7.99, width 3.02.

Female. Body length 15.77; head: length 1.73, width (including eyes) 2.55, interocular width 1.62; lengths of antennomeres: 1 – 2.48, 2 – 2.75, 3 – 1.78, 4 – 2.32; pronotum: length 3.08, width 5.35; scutellum: length 2.38, width 2.92; corium: length 7.94, width 2.92.

Comparative note. *Iphita fimbriata* (Fig. 6) is similar to *I. lycoides* but differs in much wider and distinctly red margins of the pronotum and corium; the margins of the callar lobe are red and the red colouration of corium distinctly surpasses the costal margin. In *I. lycoides* the pronotal and corial margins are whitish or white orange. Moreover, *I. fimbriata* has the pronotum wider but shorter than in *I. lycoides*, its lateral pronotal margins are hardly concave medially, the pronotal collar is very short and only indistinctly set-back from the callar lobe, and the antennae and legs are shorter and stouter.

Distribution. Indonesia: Timor (STÅL 1863). Records from Java (BLÖTE 1931) and Buru (BLÖTE 1938) need further confirmation.

***Iphita fusciorubra* sp. nov.**

(Fig. 7)

Type material. HOLOTYPE: ♀, INDIA: MAHARASTRA: Chiplun env., 12.vi.2006, V. Ryjáček lgt. (PPUA).

Description. Colouration (Fig. 7). Black on head, antennomeres 1-3, antennomere 4 narrowly at base and nearly in apical two-thirds, scutellum, legs (except of coxae, trochanters, narrow stripe on bases of femora and very narrow stripe on bases of tibiae before flexion), membrane, and pleura I-III including epicoxal lobe. Pronotum (except of lateral margins) blackish brown, base of pronotum slightly paler. Red colouration confined to lateral pronotal

margin, pronotal epipleuron, clavus (slightly darker), corium, scent gland ostiole, coxae, trochanters, narrow stripe on bases of femora, and very narrow stripe on bases of tibiae (before flexion). Clavus, especially anal vein as well as postcubital vein and claval commissure, pale red. Ventrites blackish, medially reddish. Prosternal collar, posterior pleural flanges I-III and laterotergites dark red to reddish black. Outer margins of laterotergites narrowly red. Labium reddish. Antennomere 4 with pale ring in basal third.

Structure. Large and broad species. Head smaller, less elongated forwards, antennomere 1 relatively short. Anterior pronotal margin distinctly roundedly concave; pronotal collar long; callar lobe quite flat; anterior part of pronotum not narrowed; pronotal lobe proximally somewhat depressed. Pronotum medially with longitudinal ridge beginning on pronotal collar and continuing on base of callar lobe and pronotal lobe nearly up to its base. Lateral pronotal margin wide, distinctly elevated dorsally, medially slightly concave, anterior angles slightly produced forwards. Profemora apically with three teeth situated on dorsal side of longitudinal furrow and one tooth on its ventral side. Labium nearly reaching posterior margin of ventrite III.

Punctuation sparse on lateral sides of calar lobe; punctures on entire pronotal lobe smaller than on clavus. Prominent black punctures present laterally along cubital vein on level of claval commissure; rest of corium with smaller punctures; punctures between cubital and median vein colourless, nearly obsolete.

Measurements (all in mm). Female (holotype). Body length 19.44; head: length 2.27; width (including eyes) 2.62, interocular width 1.67; lengths of antennomeres: 1 – 3.51, 2 – 3.89, 3 – 2.21, 4 – 2.81; pronotum: total length 3.89, pronotal collar length 0.76, callar lobe length 0.92, pronotal lobe length 2.21, width 5.94; scutellum: length 2.65, width 3.24; corium: length 9.99, width 3.62.

Differential diagnosis. *Iphita fuscorubra* sp. nov. (Fig. 7) can be recognized as follows. *Iphita limbata*, *I. heissi* sp. nov. (Fig. 8), and *I. rubricata* are easily distinguished by having the apices of femora red and not black as in *I. fuscorubra* sp. nov. *Iphita heissi* sp. nov., *I. rubricata*, *I. fasciata* sp. nov. (Fig. 4), and *I. fimbriata* (Fig. 5) differ from *I. fuscorubra* sp. nov. by having the pronotal collar narrow, such that the callar lobe approaches the anterior pronotal margin. *Iphita rubricata* also differs by having antennomeres 1 and 4 longer and antennomeres 2 and 3 shorter. *Iphita varians* (Figs. 9-10) differs by a larger size, longer and stouter antennomere 1, more elongated head, longer and anteriorly narrowed pronotum, stouter legs, and concolorous black clavus and corium. *Iphita coimbatorensis*, *I. fasciata* sp. nov., and *I. fimbriata* do not have the whitish ring on antennomere 4. *Iphita coimbatorensis* also differs by a larger and longer head, stouter and somewhat longer antennomere 1, shorter antennomere 2, black clavus and corium, and lateral margin of the pronotum lacking the punctures at the level of the callar lobe (similarly as in *I. varians*). *Iphita fasciata* sp. nov. has a median transverse band across the corium (corium unicolorous in *I. fuscorubra* sp. nov.). Finally, *Iphita fimbriata* and *I. lycoides* are distinctly smaller and have black clavus and corium and pale costal margin as do *I. limbata* and *I. heissi* sp. nov.

Etymology. The species epithet is composed of the Latin adjectives *fuscus* (= dark) and *ruber* (= red), describing the dark reddish colouration of the species.

Distribution. Western India, Maharashtra state.

***Iphita heissi* sp. nov.**

(Figs. 8, 12-13)

Type material. HOLOTYPE: ♂, INDONESIA: SUMATRA: SUMATERA BARAT PROVINCE: Sindar Raja, 18.xi.1976, E. Diehl lgt. (EHIA).

Description. Colouration (Fig. 8). Black on head (except of apical half of clypeus and apices of paraclypei), antennomeres (except basal two thirds of antennomere 4), scutellum, membrane, ventral surface of body (except of laterotergites), and legs (except of coxae, trochanters, extreme apices of femora, and narrow bases of tibiae). Pronotum, clavus, and corium black with brown tinge. Laterotergites darkened, only their lateral margin pale. Apical half of clypeus, apices of paraclypei, coxae, trochanters, extreme apices of femora, and bases of tibiae red. Lateral pronotal margins, costal margin of corium, pronotal epipleura, and hypocostal lamina orange (under higher magnification whitish yellow).

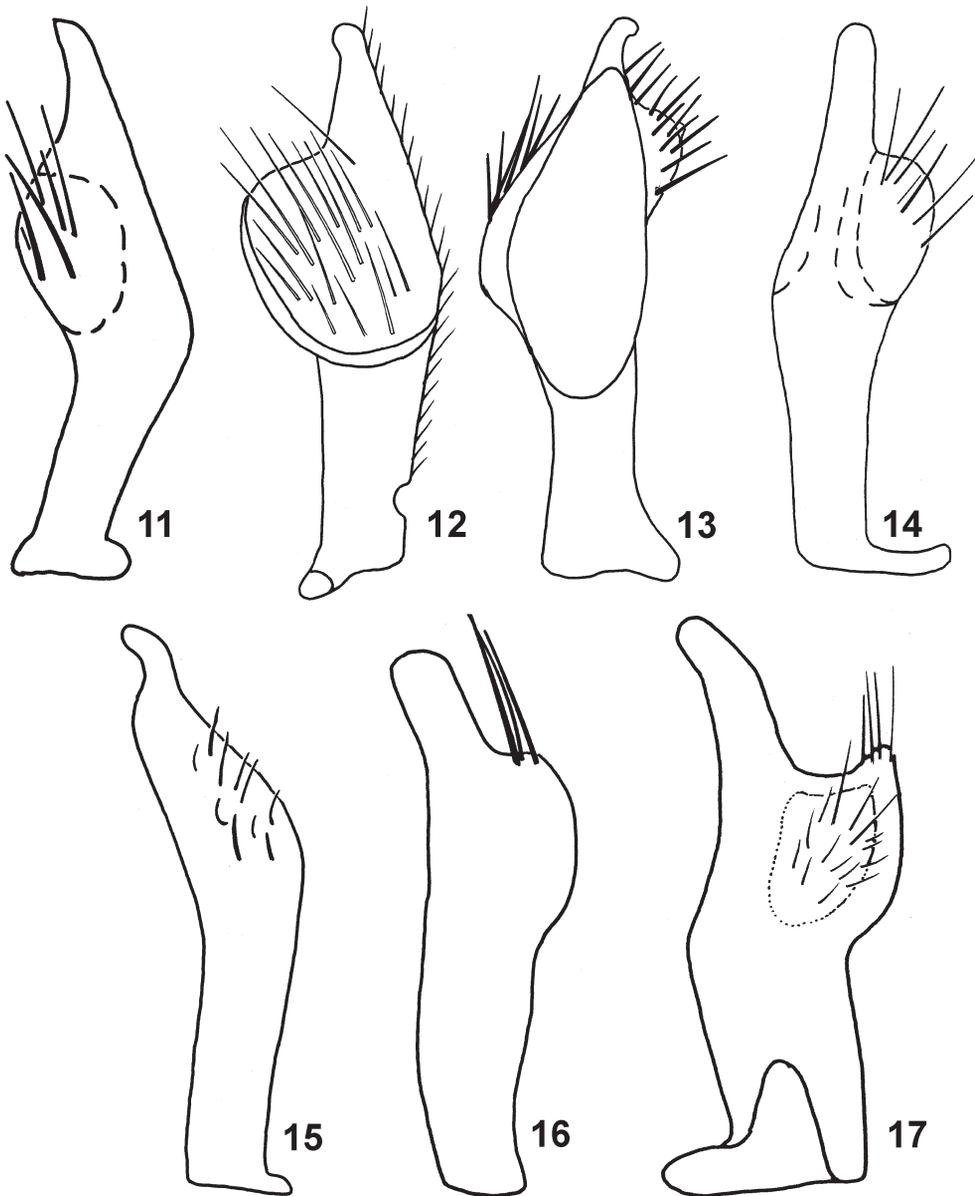
Structure. Body large. Head in front of eyes short. Pronotum short, its margins distinctly widening towards base. Anterior portion of pronotum rather wide; anterior pronotal margin only slightly concave. Lateral pronotal margins distinctly concave at the level of callar lobe, their anterior angles not produced. Pronotal collar medially with transverse, incrassate, slightly arcuate ridge; callar lobe not distinctly widened laterally; pronotal lobe lacking median ridge. All femora slender, with only three very small denticles on apex of profemur.

Pygophore. Entire pygophore densely hairy. Ventral wall in basal part strongly gibbous in lateral view. Ventral rim medially with distinct rounded process, concave from within, fully covering convergent parameres. Processus hamatus of paramere forming slender blunted cone, its apex rounded, on the opposite side with very small tip. Processus sensualis gibbous, not forming the usual arch but somewhat narrowed. Sensorial hairs covering entire processus sensualis. An incision present laterally near base of paramere under processus hamatus; entire margin of this side of paramere with sensorial hairs (Figs. 12-13).

Punctuation minute, black, therefore hardly conspicuous on pronotal lobe, scutellum, clavus, and corium; only costal margin medially near its inner margin with distinct black punctures.

Measurements (all in mm). Male (holotype). Body length 22.19; head: length 2.59; width (including eyes) 2.70, interocular width 1.35; lengths of antennomeres: 1 – 4.32, 2 – 3.94, 3 – 2.21, 4 – 4.43; pronotum: total length 3.73, pronotal collar length 0.76, callar lobe length 0.76, pronotal lobe length 2.21, width 5.89; scutellum: length 2.48, width 2.92; corium: length 10.64, width 3.56.

Differential diagnosis. *Iphita varians* (macropterous morph) (Fig. 9) differs from *I. heissi* sp. nov. (Fig. 8) by the following characters: head in front of eyes more elongated; pronotum longer, anteriorly more distinctly narrowed; pronotal collar flat, only with median longitudinal ridge interrupted in anterior two-thirds of callar lobe and then continued from base of callar lobe nearly to two-thirds of pronotal lobe; callar lobe longer, laterally very wide; anterior angles of lateral pronotal margins produced; corium (as compared to pronotum) shorter and wider; femora stouter, apices of profemora with much stouter teeth; and different ratios of antennomeres. The measurements of a macropterous male of *I. varians* from Sumatra are given here for a better comparison (all in mm): body length 22.9; head: length 3.08, width



Figs. 11-17. Parameres. 11 – *Delacampius siberutensis* sp. nov.; 12-13 – *Iphita heissi* sp. nov. (two different views); 14 – *I. varians varians* (Breddin, 1901); 15 – *Physopelta kotheae* sp. nov.; 16 – *Ph. cincticollis* Stål, 1863; 17 – *Ph. trimaculata* sp. nov.

(including eyes) 2.81, interocular width 1.62; lengths of antennomeres: 1 – 4.21, 2 – 4.21, 3 – 2.59, 4 – 3.75; pronotum: total length 4.37, pronotal collar length 0.76, callar lobe length 1.19, pronotal lobe length 2.38, width 6.59; scutellum: length 2.97, width 3.24; corium: length 9.13, width 3.73.

Iphita limbata differs from *I. heissi* sp. nov. by its smaller size, more elongated head, shorter antennae and legs, longer pronotal collar and callar lobe, and very strong teeth in apical part of fore femora (for colour photo of *I. limbata* see STEHLÍK & JINDRA (2006b)).

Etymology. We dedicate this species to Prof. Ernst Heiss (Innsbruck, Austria), an outstanding heteropterist and the current President of the International Heteropterists' Society.

Distribution. Indonesia, west of central Sumatra.

Iphita rubricata albolutea subsp. nov.

Type material. HOLOTYPE: ♂, MALAYSIA: KALIMANTAN: SABAH: Danube Valley Reserve, Field Centre, 40 NV trap in 1° forest, 5°01'N 117°47'E, i.-iii.1994, W. R. Hynd lgt. (BMNH).

Description. Colouration. Body mainly brown black. Head red, ventrally darkened along labial groove. Labial segment I basally blackish, rest of segment as well as entire segment II red, segment III darkend, segment IV black. Antennae black, only apical third of antennomere 4 whitish. Coxae, trochanters, bases and apices of femora, and tibiae basally narrowly red, remaining parts of legs black. Pronotal collar, entire callar lobe, median part of pronotal lobe, scutellum, clavus and corium (except of margins) brownish red. Membrane black, its margins widely pale grey. Lateral pronotal margin, pronotal epipleura, costal margin, hypocostal lamina, and dorsal and ventral laterotergites whitish yellow. Whitish-yellow colouration on lateral pronotal margins extended to margins of pronotal lobe, and on corium from costal margin up to median cleft; whitish-yellow colouration behind level of scutellar apex limited only to costal margin. Ventral side of body blackish brown, only prosternal collar red and posterior pleural flange III with reddish tinge.

Structure. Pronotal collar narrower in its entire width, less delimited from pronotal lobe; callar lobe only slightly gibbous; pronotal lobe distinctly elevated towards its posterior margin. Lateral pronotal margin distinctly concave at the level of median furrow. Posterior part of scutellum gibbous in lateral view. Body margins nearly parallel-sided. Profemora apically with four teeth on dorsal margin of longitudinal furrow and a row of small denticles (slightly larger before apex) on its ventral margin.

Pygophore. Ventral side of ventral wall medially strongly gibbous, with elongated small ridge heading towards ventral rim. Ventral rim strongly incrassate, medially broken, with shallow longitudinal furrow present under its incrassate part.

Punctuation. Fine punctures laterally along callar lobe, on entire surface of pronotal lobe (except of its basal margin); scutellum in its anteromedian impressed part and clavus punctured; corium nearly without punctures.

Measurements (all in mm). Male (holotype). Body length 17.93; head: width (including eyes) 2.75, interocular width 1.40; lengths of antennomeres: 1 – 3.67, 2 – 3.29, 3 – 2.05, 4 – 4.16; pronotum: length 3.24, width 5.40; scutellum: length 2.43, width 2.97; corium: length 8.86, width 3.19.

Differential diagnosis. *Iphita rubricata albolutea* subsp. nov. is similar to the nominotypical subspecies in the structure of the pronotum (STEHLÍK & JINDRA 2006b: Fig. 1) but is easily distinguished by the whitish-yellow colouration of the pronotal margin, costal margin, and laterotergites (red in the nominotypical subspecies). The apparently smaller size of *I. r. albolutea* subsp. nov. is due to the fact that the description is based on a male, while the description of the nominotypical subspecies is based on a female.

Etymology. The subspecies epithet is composed of the Latin adjectives *albus* (= white) and *luteus* (= yellow), referring to the diagnostic whitish-yellow colouration of the body margins.

Distribution. Malaysia, Kalimantan, Sabah state. *Iphita rubricata rubricata* is distributed in the Meghalaya state in north-eastern India (STEHLÍK & JINDRA 2006b).

Iphita varians rubra subsp. nov.

(Fig. 10)

Type material. HOLOTYPE: ♀ (brachypterous), **INDONESIA: MENTAWAI ISLANDS: NIAS:** Lawalo, 16.iii.1980, E. Diehl lgt. (EHIA).

Description. Colouration (Fig. 10). Body predominately black with red clypeus, anterior pronotal margin (slightly) and lateral pronotal margins (distinctly), anal vein and claval commissure, corium (except median spot), apices of femora (narrowly), and bases of tibiae. Black median spot on corium large, oval, indistinctly delimited, reaching inner corial margin and merging with blackish colouration of clavus.

Measurements (all in mm). Female (holotype, brachypterous). Body length 19.44; head: length 2.65, width (including eyes) 2.65, interocular width 1.62; lengths of antennomeres: 1 – 4.05, 2 – 4.27, 3 – 2.54, 4 – 3.83; pronotum: total length 3.83, pronotal collar length 0.86, callar lobe length 1.08, pronotal lobe length 1.89, width 5.29; scutellum: length 2.92, width 2.65; corium: length 9.94, width 3.35.

Differential diagnosis. The nominotypical subspecies, *I. varians varians* (Fig. 9), differs in having the corium completely black with only the costal margins whitish yellow with an orange tinge.

Etymology. The subspecies epithet is the Latin adjective *ruber* (= red), referring to the colouration of the corium.

Distribution. Indonesia, Mentawai Islands, Nias. The nominotypical subspecies occurs in Sumatra (BREDDIN 1909, BLÖTE 1931).

Note. The morphological characters of the examined brachypterous female from Nias fully correspond with brachypterous females of *I. v. varians* from Sumatra. It is interesting that some of the Sumatran populations of *I. v. varians* consist only of macropterous specimens, while others (e.g., a population from Soekaranda) are morphologically variable with common occurrence of brachypterous and cryptobrachypterous specimens; this variability inspired BREDDIN (1909) to name this species as 'variens'. Brachyptery and cryptobrachyptery are manifested in smaller-sized specimens, especially by a distinctly narrowed pronotum, lateral pronotal margins nearly straight and only hardly concave medially, shortened hemelytra and developed membrane that does not usually surpass the apex of abdomen.

Physopelta kotheae sp. nov.

(Figs. 15, 18)

Type material. HOLOTYPE: ♂, **INDONESIA: SUMATRA: SUMATERA BARAT PROVINCE:** Bukittinggi, hotel Bukit Tinggi View, 00°15'30"S 100°21'13"E, 13.-23.ii.2002, T. Kothe lgt. (ZSMC). PARATYPES: **INDONESIA: JAVA:** without details, 1 ♀ (ISNB); **JAVA BARAT PROVINCE:** Gede-Panggrango National Park, Mt. Kencana, north slopes, 15.-18.iii.2007, 1 ♀, S. Jakl lgt. (ZJPC). **SUMATRA: SUMATERA BARAT PROVINCE:** Solok district, Mt. Intan, 900 m a.s.l., ii.2006, 3 ♂♂ 2 ♀♀, S. Jakl lgt. (ZJPC); Landai village 30 km N of Payakumbuh, Mt. Sanggul, 1500 m a.s.l., i.2007, 1 ♂, S. Jakl lgt. (ZJPC). **SUMATERA UTARA PROVINCE:** Parapet, xii.2007, 1 ♀, M. Habart lgt. (ZJPC).

Description. Colouration (Fig. 18). Black colour on head, antennae (except of slightly more than apical half of antennomere IV which is white), callar lobe, large oval median and smaller oval apical spot on corium, legs, sternum, ventrites (except of laterotergites), and membrane (except of slightly paler veins). Pronotal lobe and scutellum (except of apex) darkened. All pronotal margins, scutellar apex, clavus and corium, anal vein, postcubital vein and claval commissure on clavus, cubital vein on corium, and costal margins yellowish; both clavus and corium basally and between median and apical spot darker. Anterior margin of callar lobe reddish. Labium pale reddish or black.

Structure. Body large and robust; antennae and legs stout. Antennomere 1 shorter, distinctly widening towards apex. Profemora in both sexes very stout, dorsal margin of longitudinal furrow with indicated denticles along its entire length, only apically with two strong teeth; ventral margin of longitudinal furrow along its entire length with medium-sized, somewhat curved teeth and small denticles. Meso- and metafemora ventrally along its entire length with shallow, wider impression, bordered on both sides with small denticles (slightly smaller in females). Labial segment I not approaching head base. Callar lobe strongly gibbous in both sexes; pronotal lobe nearly flat, with indicated median longitudinal ridge.

Pygophore. Ventral wall nearly flat, ventral rim nearly horizontally inclined into genital chamber, with bowl-shaped depression, medially ridge-like gibbous. Lateral rim rounded, median part of lower margin of lateral rim infolding elevated dorsally. Paramere stout, basally almost parallel-sided, outer side distinctly incrassate, apically narrowed, round and straight, apex rounded; the opposite side under the narrowed apical part distinctly arcuately gibbous (Fig. 15).

Punctuation. Pronotal lobe, scutellum, clavus and corium with distinct black and coarse punctures, those on pronotal lobe and scutellum uniformly dense. Costal margin of corium impunctate.

Pilosity. Dorsal surface of body covered with black erect hairs, only posterior pronotal margin with row of horizontal pale hairs. Ventrites with pale adpressed and longer erect hairs.

Measurements (all in mm). Males (n = 5). Body length 14.03 (12.80-14.85); head: width (including eyes) 2.15 (2.07-2.24), interocular width 1.36 (1.27-1.43); lengths of antennomeres: 1 – 2.13 (2.00-2.21), 2 – 2.40 (2.21-2.54), 3 – 1.63 (1.57-1.67), 4 – 2.60 (2.43-2.75); pronotum: length 3.00 (2.70-3.40), width 4.39 (4.10-4.75); scutellum: length 2.14 (1.97-2.38), width 2.61 (2.48-2.97); corium: length 7.20 (6.86-7.67), width 2.51 (2.43-2.62).

Females (n = 5). Body length 14.19 (13.55-14.63); head: width (including eyes) 2.18 (2.08-2.24), interocular width 1.41 (1.35-1.46); lengths of antennomeres: 1 – 1.94 (1.57-2.11),

2 – 2.33 (2.16-2.48), 3 – 1.61 (1.40-1.73), 4 – 2.64 (2.54-2.70); pronotum: length 2.79 (2.56-2.97), width 4.39 (4.10-4.59); scutellum: length 2.15 (1.94-2.29), width 2.43 (2.16-2.75); corium: length 7.19 (6.80-7.67), width 2.46 (2.29-2.59).

Differential diagnosis. The new species is related to *Physopelta cincticollis* Stål, 1863 (Fig. 19), which is widely distributed from eastern India to Japan, Korea, Taiwan, and Sumatra (KERZHNER 2001, STEHLÍK 2005a) and differs from *Ph. kotheae* sp. nov. by its smaller size, distinctly slender antennae and legs. Additional characters that can distinguish the two species are as follows: antennomere 1 slender and regularly widening towards apex in *Ph. cincticollis* (stouter and distinctly widened apically in *Ph. kotheae* sp. nov.); apices of profemora with two medium-sized, well separated teeth ventrally (with two large teeth placed side-by-side in *Ph. kotheae* sp. nov.); distinctly slender tibiae with more slender spines (stout with very conspicuous spines in *Ph. kotheae* sp. nov.); anterior portion of pronotum much narrower, callar lobe less gibbous, lateral margins of pronotum from the level of pronotal lobe distinctly widening towards pronotal base, especially in females (pronotal margins less widening posteriorly in *Ph. kotheae* sp. nov.); longitudinal furrow on meso- and metafemora much narrower; paramere of *Ph. cincticollis* as in Fig. 16.

Etymology. Named in honour of Tanja Kothe (ZSMC), the collector of the holotype.

Distribution. Indonesia, Sumatra and Java.

Physopelta melanopyga rufifemur subsp. nov.

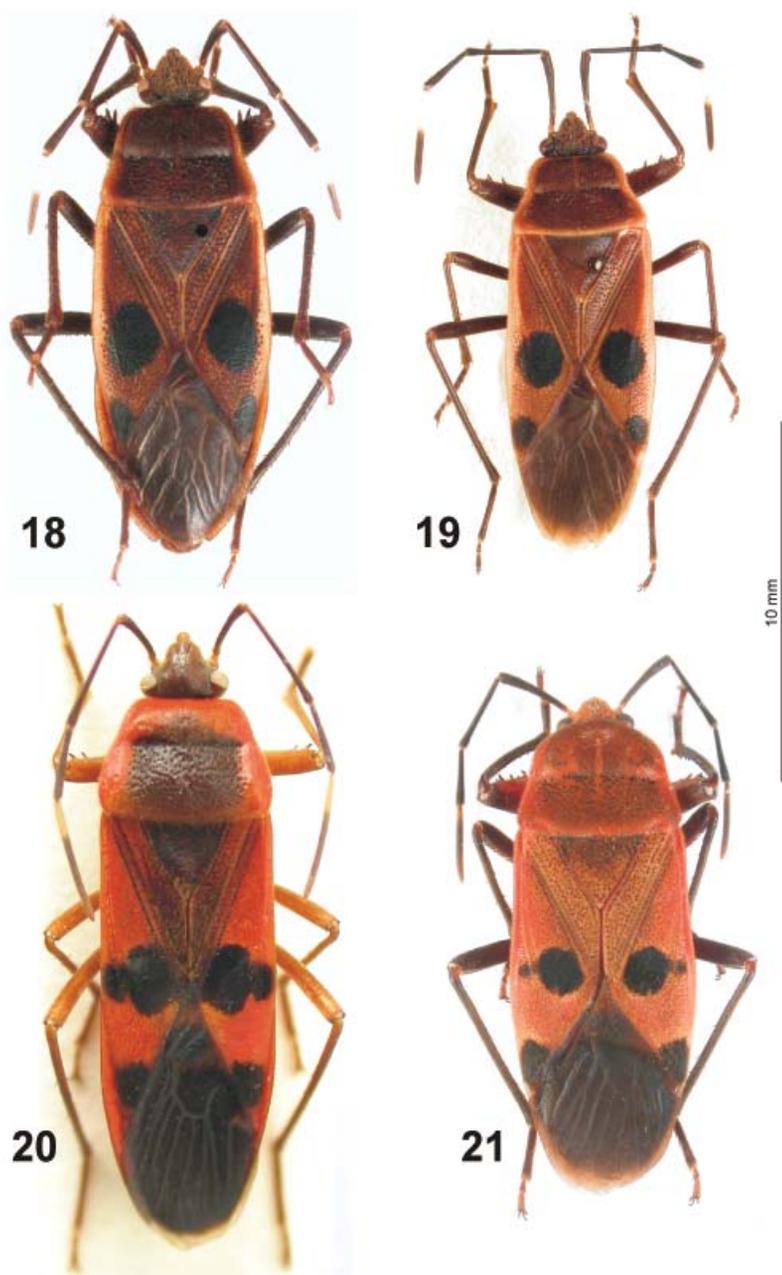
(Fig. 20)

Type material. HOLOTYPE: ♀, INDONESIA: MALUKU ISLANDS: SERAM: Solea 12 km SE of Wahai, 17.i.-6.ii.1997, J. Horák lgt. (EHIA). PARATYPE: The same data, ♀ (EHIA).

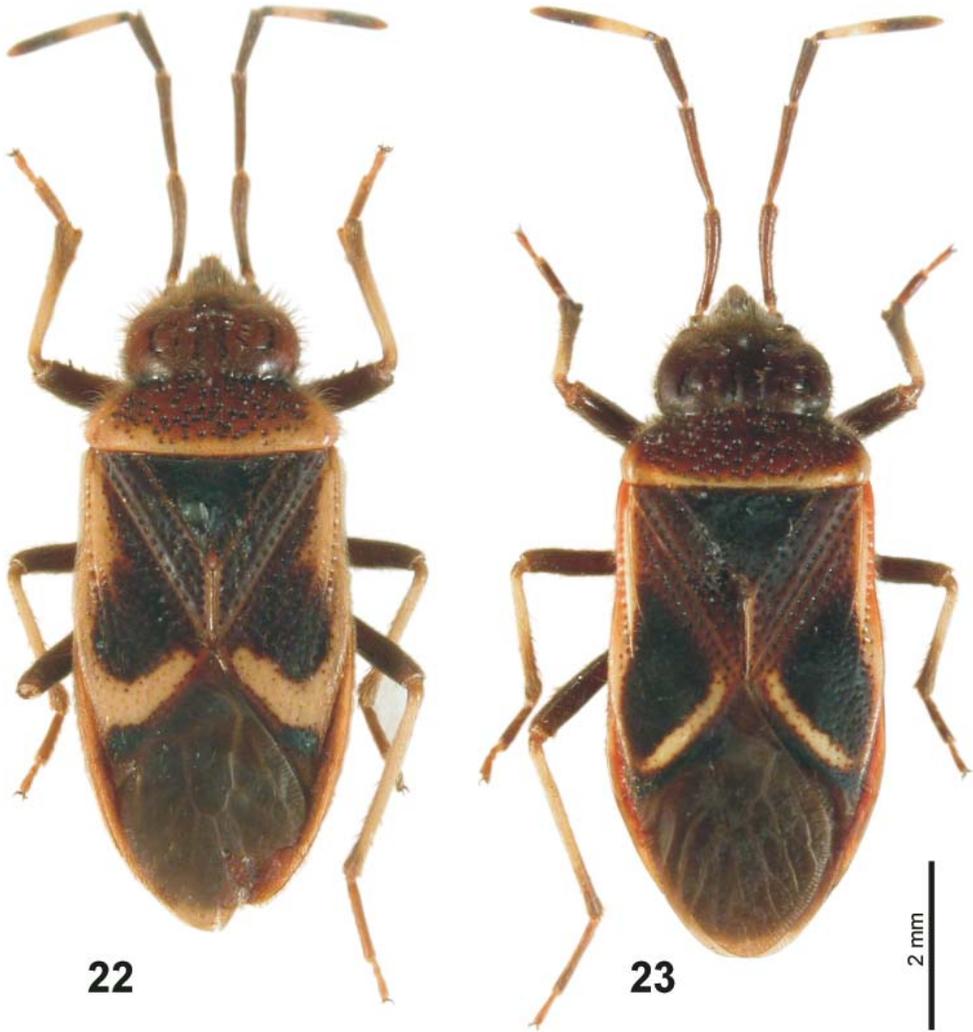
Description. Colouration (Fig. 20). Black on head, labium, antennae (except of base of antennomere 4), pronotal lobe (except of margins), scutellum, clavus (except of base), transversal median stripe and oval apical spot on corium, pleura I (except of dorsal margin), II and III, posterior pleural flanges I, II (except of small spot on dorsal margin), and III (except of dorsal third), entire ventrite II, shorter but wider crescent-shaped spots laterally on ventrites IV-VI, entire ventrite VII, and membrane (partly). Callar lobe basally somewhat blackend. Median stripe and apical spot on corium very prominent, their black colouration more intense than dark colouration of scutellum and clavus. Median transversal stripe consisting medially (up to corial cleft) of large, nearly rounded spot, which merges laterally with smaller spot on lateral corial margin. Basal third of antennomere 4 whitish. Membrane basally black, then with transversal grey stripe and another grey spot near apex of corium; grey colouration sometimes nearly obsolete (holotype). Apex of corium (sometimes), callar lobe (partially), wide lateral margins of pronotal lobe, claval base, corium (except of the black spots), pronotal epipleuron, dorsal margin of pleuron I, small spot on dorsal margin of posterior pleural flange II, entire dorsal third of posterior pleural flange III, ventrites III-VI, and all femora and tibiae reddish.

Structure. Body large, parallel-sided. Pronotal margins wide, strongly rounded and gibbous.

Measurements (all in mm). Female (holotype first, paratype second). Body length 16.96/15.77; head: width (including eyes) 2.19/2.19, interocular width 2.92/2.81; lengths of antennomeres: 1 – 2.92/2.81, 2 – 3.13/2.81, 3 – 1.94/1.78, 4 – 3.29/3.02; pronotum: length



Figs. 18-21. Habitus. 18 – *Physopelta kotheae* sp. nov. (♂, 14.03 mm); 19 – *Ph. cincticollis* Stål, 1863 (♂, 12.0 mm); 20 – *Ph. melanopyga ruffemur* subsp. nov. (holotype, ♀, 16.97 mm); 21 – *Ph. trimaculata* sp. nov. (holotype, ♂, 13.79 mm). Photo: L. Dembický (18-19, 21) and J. Kabiček (20).



Figs. 22-23. Habitus. 22 – *Tauberella hirta* (Blöte, 1933) (♂, 8.0 mm); 23 – *T. papuensis* Schmidt, 1932 (♂, 8.0 mm). Photo: L. Dembický.

3.19/2.97, width 4.27/4.24; scutellum: length 2.27/2.05, width 2.21/1.94; corium: length 8.26/8.32, width 2.11/2.16.

Differential diagnosis. *Physopelta melanopyga melanopyga* Blöte, 1938, differs from *Ph. m. rufifemur* subsp. nov. by having the entire clavus red (except the apex) and femora black (only bases red).

Etymology. The subspecies epithet is composed by the Latin adjective *rufus* (= red) and the noun *femur*, referring to one of its diagnostic characters; used as noun in apposition.

Distribution. Indonesia, Maluku Islands, Seram. The nominotypical subspecies occurs on the neighbouring Island of Buru (BLÖTE 1938).

***Physopelta trimaculata* sp. nov.**

(Figs. 17, 21)

Type material. HOLOTYPE: ♂, **INDIA: MAHARASTRA:** Mahabalestwar env., 70 km SSW of Pune, 1400 m a.s.l., 30.ix.-2.x.2005, J. Bezděk lgt. (NMPC). PARATYPES: **INDIA: MAHARASTRA:** 4 km S of Lonavala, Bhusi dam env., 500 m a.s.l., 24.-28.ix.2005, 1 ♂ 1 ♀, J. Bezděk lgt. (NMPC); Mulshi env., 40 km W of Pune, 30.ix.-2.x.2005, 1 ♀, F. Kantner lgt. (ZJPC); Wai env., 70 km S of Pune, 3.-8.x.2005, 1 ♀, F. Kantner lgt. (ZJPC); Western Ghats Mts., Panchgani, Wai env., 3.-5.vi.2006, 2 ♀♀, O. Šafránek lgt. (MMBC: coll. P. Baňář).

Description. Colouration (Fig. 21). Terracota red on head, labium, pronotum, scutellum (to varying extent), clavus, profemora (except of apices) and bases of meso- and metafemora, pronotal epipleuron, hypocostal lamina, dorsal and ventral laterotergites. Callar and pronotal lobe (except of margins) darkened but never black. Pronotal margins concolorous with remaining pronotal surface. Antennae black, only antennomere 4 basally slightly paler. Apices of profemora, mid and hind legs (except bases), and all tibiae and tarsi black. Corium medially with two rounded black spots (larger median one situated between cubital vein and median cleft, smaller lateral one between median cleft and costal margin) and one round apical spot (occupying entire corial apex). Sternum black; ventrites blackish, ventrites IV-VI laterally with crescent-shaped velvety black spot.

Structure. Body large and wide. Head, antennae, and legs comparatively short. Antennomere 1 rather short and distinctly widened towards apex. Callar lobe in males strongly gibbous. Lateral pronotal margins very narrow; pronotal lobe flat, slightly elevated. Male profemora ventrally on both sides of longitudinal furrow with larger and smaller teeth, in basal half with 3-4 larger ones (not larger than remaining femoral teeth), additional larger teeth situated apically. Female profemora only with apical teeth. Meso- and metafemora of males with longitudinal furrow developed only in apical part; mesofemora with small denticles along its entire length, denticles on metafemora nearly obsolete. Female meso- and metafemora without longitudinal furrows and denticles. Male protibiae curved, with small denticles on ventral side along its entire length, apically with 1-3 larger teeth; female tibiae straight, without denticles.

Pygophore. Ventral two-thirds of genital capsule straight and not gibbous in lateral view, with horizontal furrow under ventral rim; ventral rim medially slightly elevated, inclined into genital chamber. Lateral rim strongly rounded, indistinctly verging into slightly concave lateral rim infolding. Dorsal rim lower than lateral one. Anal tube reaching about half-length of genital chamber and laterally touching rim infolding. Genital capsule with long pale hairs (making inner structures less distinct). Processus hamatus of paramere apically bent. Body of paramere robust. Processus sensualis at base of its upper margin concave, in apical part produced into blunt tip, dish-like excavated; dish-like depression with pale sensoric hairs, longest ones situated near apex. Basal part of paramere as robust as body, only slightly narrowing towards base (Fig. 17).

Punctuation. Pronotal lobe (except elevated lateral margins and posterior margin), scutellum, clavus and corium regularly punctate; corium laterally and posteriorly with punctuation less distinct; costal margins impunctate.

Pilosity. Body covered with fine silvery pubescence; callar lobe with dense, very short setae.

Measurements (all in mm). Male (holotype first, paratype second). Body length 15.66/14.63; head: width (including eyes) 2.43/2.32, interocular width 1.35/1.35; lengths of antennomeres: 1 – 2.38/2.27, 2 – 2.43/2.27, 3 – 1.84/1.73, 4 – 2.48/2.27; pronotum: length 3.73/3.24, width 5.02/4.48; scutellum: length 2.21/1.84, width 2.81/2.32; corium: length 7.83/7.34, width 2.70/2.48.

Female (n = 5). Body length 13.79 (13.18-14.53); head: width (including eyes) 2.24 (2.11-2.35), interocular width 1.34 (1.30-1.40); lengths of antennomeres: 1 – 1.91 (1.73-2.00), 2 – 2.11 (1.92-2.21), 3 – 1.62 (1.51-1.67), 4 – 2.20 (2.05-2.27); pronotum: length 2.76 (2.59-2.94), width 4.39 (4.16-4.59); scutellum: length 2.16 (1.89-2.38), width 2.41 (2.32-2.54); corium: length 7.54 (7.02-7.94), width 2.54 (2.43-2.59).

Differential diagnosis. *Physopelta trimaculata* sp. nov. (Fig. 21) differs from all other *Physopelta* species known from the Indian subcontinent with a dark round median spot on the corium (i.e., *Ph. cincticollis* (Fig. 10), *Ph. gutta gutta* (Burmeister, 1834), *Ph. indra* Kirkaldy & Edwards, 1902, *Ph. quadriguttata* Bergroth, 1894, and *Ph. slanbuschii* (Fabricius, 1787)) by having an additional small spot on the corium mesad of a much larger median spot, and entirely black antennomere 4 that is only slightly paler basally (all but one other species have the base of antennomere 4 more widely whitish). Only in *Ph. slanbuschii* is antennomere 4 entirely black, but at the same time the median corial spot is small, the pronotal lobe has two rectangular black spots, and the pronotum is lustrous and red.

Collecting notes. The type series was collected in the following habitats: margins of low primary forest in mountain area (Mahabalestwar env.), meadows with scattered groups of trees near a water reservoir (Bhushi dam env., Mulshi env.), a transition from small fields at a city margin into meadows with solitary trees (Wai env.) (J. Bezděk, pers. comm.).

Etymology. The species epithet is composed from the Latin numeral *tres* (= three) and the adjective *maculatus* (= spotted), referring to the three characteristic black spots on corium.

Distribution. Western India, Maharashtra state.

Tauberella hirta (Blöte, 1933) comb. nov.

(Fig. 22)

Delacampius hirtus Blöte, 1933: 558.

Delacampius hirtus: STEHLÍK & KERZHNER (1999): 122 (generic placement); CASSIS & GROSS (2002): 625 (catalogue, distribution, ecology).

Type material examined. HOLOTYPE: ♀, AUSTRALIA: NORTHERN TERRITORY: Darwin (BMNH).

Taxonomic note. Reexamination of the holotype revealed that this species does not belong to the genus *Delacampius*, but to *Tauberella* Schmidt, 1932, sharing the following essential characters of the latter genus: callar lobe distinctly hairy and strongly gibbous with ornamental impressions, and strongly constricted basally compared with the pronotal lobe; the latter without lateral margins. Thus, we establish the following new combination: *Tauberella hirta* (Blöte, 1933) comb. nov.

Comparative note. CASSIS & GROSS (2002) mentioned that *Delacampius hirtus* also occurs in New Guinea. However, the New Guinea *Tauberella* belongs to another species, *T. papuensis* Schmidt, 1932. Both species differ in the following characters: *T. papuensis* (Fig. 23) has the corium blackish brown except the costal margin, the adjacent part of the corial cleft and a narrow stripe parallel with the apical margin of the corium pale, impressions on the callar lobe are more distinct, and the pubescence slightly shorter than in *T. hirta*. In *T. hirta* (Fig. 22), the corium is pale with the median black spot coalescent with the black stripe running along the claval suture.

Distribution. Australia, Northern Territory (BLÖTE 1933, CASSIS & GROSS 2002).

Pyrrhocoridae

Armatillus orthocephaloides (Breddin, 1912)

(Figs. 26-27, 36)

Material examined. MALAYSIA: KALIMANTAN: SARAWAK: Kapit distr., Rumah Ugap env., Sut riv., 3.-9.iii.1994, 1 ♂ 2 ♀♀, P. Bílek lgt. (ZJPC); Kapit distr., Kapit env., 1.iii.1994, 1 ♀, J. Horák lgt. (ZJPC); Kapit distr., Sebong, Baleh riv., 9.-21.iii.1994, 1 ♂ 4 ♀♀, S. Bílý lgt. (NMPC).

Variation. For comparison with *A. sulawesiensis* sp. nov., we provide measurements (all in mm) of one male and one female from Sarawak.

Male (brachypterous). Body length 3.83; head: length 0.54; width (including eyes) 1.24, interocular width 0.84; lengths of antennomeres: 1 – 0.65, 2 – 0.49, 3 – 0.27, 4 – 0.57; pronotum: total length 0.97, width 1.89; scutellum: length 0.81, width 1.13; corium: length 2.21, width 1.08.

Female (brachypterous). Body length 4.51; head: length 0.54; width (including eyes) 1.46, interocular width 1.03; lengths of antennomeres: 1 – 0.73, 2 – 0.54, 3 – 0.30, 4 – 0.62; pronotum: total length 1.13, width 2.21; scutellum: length 0.92, width 1.30; corium: length 2.75, width 1.51.

Distribution. Described from Malaysia, Sabah (BREDDIN 1912). BLÖTE (1931) mentioned this species from the Indonesian part of Kalimantan (Kalimantan Timur province, Upper Mahakan river), close to the border with Sarawak. New for Sarawak.

Armatillus sulawesiensis sp. nov.

(Figs. 24-25, 35)

Type material. HOLOTYPE: ♂, INDONESIA: SULAWESI: SULAWESI TENGAH PROVINCE: 15-25 km S of Pendolo, Mayo env., 7.-10.iv.1999, Bečvář & Zábranský lgt. (PPUA). PARATYPE: The same data, 1 ♀ (MMBC: coll. P. Baňář).

Description. Colouration (Figs. 24-25). Body black, only tibiae and tarsi dark red. Corium entirely black in male, in female apically with small, rounded, yellowish-white spot and a nearby minute spot near costal margin.

Structure. Head wider, its anterior part orthogonal, directed ventrally; frons less gibbous, with indicated longitudinal row basally. Anterolateral margin of antennifer with small spine. Pronotum wide both anteriorly and posteriorly; lateral margins in the level of base of callar lobe very slightly concave. Corial margins only slightly convex, especially in female nearly parallel-sided.

Male brachypterous, clavus and corium indistinctly separated, membrane reduced (both left and right membrane only partly overlapping), only minutely surpassing anterior margin of tergite VII. Females fully macropterous, clavus and corium distinctly separated, both left and right membrane fully overlapping.

Pygophore (Fig. 35). Ventral rim with small triangular incision, lateral margins of incision slightly elevated above remaining parts of ventral rim. Lateral rim infolding semicircular, roundly concave, its lower margin raised.

Female genitalia. Both sides of valvifer I parallel basally, ca. in one-third of genitalia gaping sideways and ending horizontally. Valvifer II completely flat. Laterotergite VIII much larger than laterotergite IX; laterotergite IX smaller, oval, furrowed medially.

Punctuation. All body surface with regular coarse punctuation, only head, callar lobe and narrow stripe anteriorly on scutellum impunctate.

Measurements (all in mm). Male (holotype, brachypterous). Body length 3.83; head: length 0.38; width (including eyes) 1.40, interocular width 0.94; lengths of antennomeres: 1 – 0.59, 2 – 0.49, 3 – 0.30, 4 – 0.59; pronotum: total length 1.08, width 2.11; scutellum: length 0.92, width 1.24; corium: length 2.35, width 1.30.

Female (paratype, macropterous). Body length 5.13; head: length 0.49; width (including eyes) 1.51, interocular width 1.03; lengths of antennomeres: 1 – 0.86, 2 – 0.57, 3 – 0.38, 4 – 0.70; pronotum: total length 1.32, width 2.62; scutellum: length 1.13, width 1.51; corium: length 3.13, width 1.51.

Differential diagnosis. Another similar species, *A. orthocephaloides* (Figs. 26-27) from Kalimantan, shares with *A. sulawesiensis* sp. nov. the small spine on the anterolateral margin of antennifer, but differs in the following characters: both sexes brachypterous, head narrower, anterior part of pronotum narrow, corial margins more convex, body generally more rounded, small pale apical spots on corium present in both sexes, ventral rim of pygophore roundly concave, and margins of this incision distinctly roundly elevated (more distinctly than in the new species) (Fig. 36). See above for measurements of *A. orthocephaloides*.

Etymology. Patronymic, named after the island of Sulawesi.

Distribution. Indonesia, central Sulawesi.

Brancucciana (Rubriascopus) orientalis sp. nov.

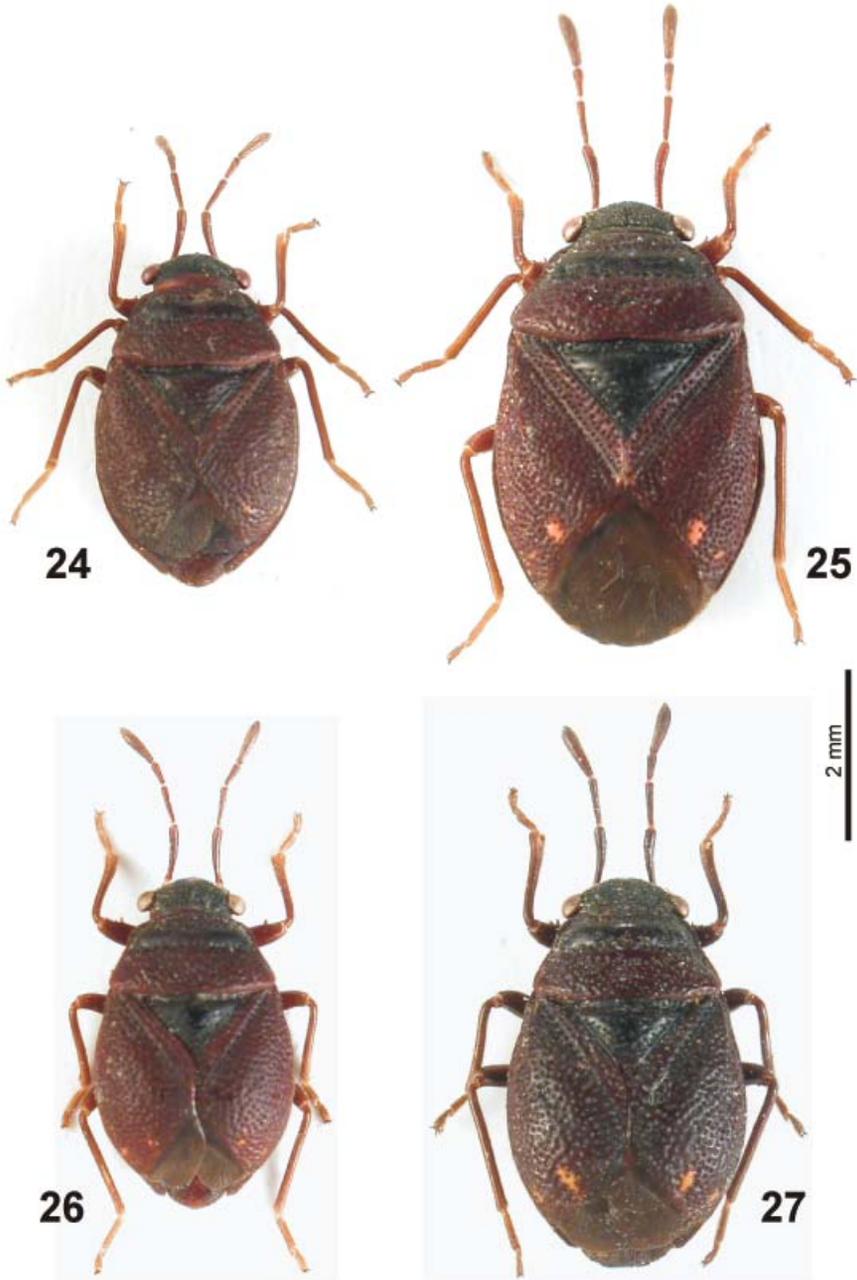
(Figs. 28, 37)

Type material. HOLOTYPE: ♂, **INDONESIA: TANIMBAR ISLANDS: YAMDENA:** S Yamdena, Lorulun village 20 km NE of Saumlaki, 10.i.-5.ii.2007, S. Jakl lgt. (PPUA). PARATYPES: The same data as holotype, 8 ♂♂ 9 ♀♀ (ZJPC). **NUSA TENGGARA TIMUR PROVINCE: ALOR:** 5 km NW of Kalabahi, 1.-8.iii.2006, 1 ♀, S. Jakl lgt. (ZJPC). **TIMOR:** W Timor, Bursen env., 50 km S of Kupang, 28.i.-9.ii.2006, 2 ♂♂, S. Jakl lgt. (ZJPC). **SUMATRA: BANDA ACEH PROVINCE:** Langsa, 20.xii.1976, 1 ♂ 1 ♀, E. Diehl lgt. (EHIA). **PHILIPPINES: MINDANAO:** Dapitan, 1 ♂, Baker lgt. (USNM).

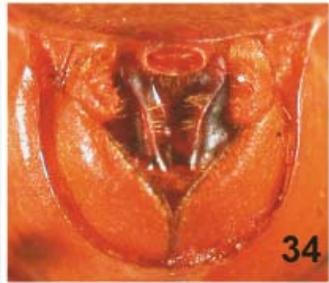
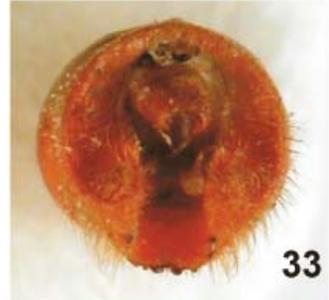
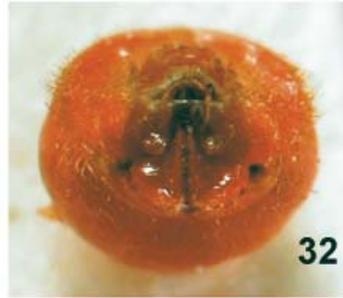
Description. **Colouration** (Fig. 28). Body pale brown with reddish tinge. Antennae, apex of clypeus, labium, membrane, and legs black.

Structure. Paraclypei strongly gibbous; clypeus medially rounded, not ridged, depressed before apex, distinctly widened apically; antennifers prominent, laterally rounded. Lateral pronotal margins rather narrow. Profemora with one larger and one small tooth apically.

Pygophore (Fig. 37). Ventral wall nearly flat, ventral rim medially distinctly elongated and raised vertically, sides of this projection parallel, ending horizontally with small erect hairs.



Figs. 24-27. Habitus. 24-25. *Armatillus sulawesiensis* sp. nov.: 24 – holotype, ♂ (3.83 mm); 25 – paratype, ♀ (5.13 mm). 26-27 – *A. orthocephaloides* (Breddin, 1912): 26 – ♂ (3.83 mm); 27 – ♀ (4.51 mm). Photo: L. Dembický.



Ventral rim infolding orthogonally falling into genital chamber. Lateral rim only slightly rounded; lateral rim infolding stretching away from median projection on ventral rim and regularly round concave. Parameres long, convergent, gradually slenderized, adpressed on ventral rim infolding, and ending in apex of ventral rim median projection; body of the paramere pale, apex blackened and rounded with two minute denticles one above another in form of a pipe wrench.

The species fully agrees in other structural characters including the punctuation with the subgeneric diagnosis of *Rubriascopus* Stehlík & Jindra, 2006 (STEHLÍK & JINDRA 2006d).

Measurements (all in mm). Males (n = 6). Body length 8.65 (8.50-9.50); head: width (including eyes) 1.61 (1.51-1.73), interocular width 0.89 (0.84-0.92); lengths of antennomeres: 1 – 1.14 (1.03-1.29), 2 – 1.24 (1.19-1.35), 3 – 0.73 (0.70-0.86), 4 – 1.66 (1.57-1.73); pronotum: total length 1.57 (1.43-1.70), pronotal collar length 0.33 (0.32-0.35), callar lobe length 0.30 (0.24-0.35), pronotal lobe length 0.97 (0.86-1.05), width 2.84 (2.54-3.13), scutellum: length 1.16 (0.97-1.35), width 1.43 (1.24-1.67); corium: length 4.48 (4.05-5.02), width 1.71 (1.57-1.84).

Females (n = 7). Body length 9.02 (7.99-10.31); head: width (including eyes) 1.68 (1.57-1.84), interocular width 0.94 (0.86-1.03); lengths of antennomeres: 1 – 1.25 (1.13-1.35), 2 – 1.34 (1.24-1.40), 3 – 0.84 (0.76-0.92), 4 – 1.64 (1.57-1.75); pronotum: total length 1.68 (1.57-1.89), pronotal collar length 0.34 (0.30-0.40), callar lobe length 0.33 (0.30-0.38), pronotal lobe length 1.04 (0.92-1.13), width 3.05 (2.81-3.40), scutellum: length 1.23 (1.13-1.57), width 1.60 (1.48-1.84); corium: length 4.73 (4.32-5.45), width 1.87 (1.73-2.11).

Variation. In the specimens from Sumatra, antennomere 4 is whitish with only its apex black.

The size of the specimens varies considerably among populations from various islands; relatively small specimens originate from the Tanimbar Islands. Similar variability was recorded also in *Brancucciana* (*Rubriascopus*) *pygmaea* (Distant, 1903), in which specimens from Sri Lanka are smaller than those from India (STEHLÍK & JINDRA 2006d).

Differential diagnosis. The only described species of the subgenus, *B. (R.) pygmaea*, differs from *B. (R.) orientalis* sp. nov. by the following characters: body colouration vividly red, paraclypei less gibbous, clypeus narrower with indicated longitudinal median ridge, its apex very narrow and not widened, and lateral margins of the pronotum narrower. Pygophores of both species have similar structure, but in *B. (R.) pygmaea* (Fig. 38) the median projection on the ventral rim is somewhat lower and somewhat wider basally and its lateral margins are not parallel.

Etymology. The species epithet is the Latin adjective *orientalis* (= eastern), referring to the more eastern distribution of this species compared to *B. (R.) pygmaea* (India, Sri Lanka).

Distribution. Widely distributed in Indonesia (Sumatra; Nusa Tenggara (= Lesser Sunda) Islands: Alor, west of Timor; Tanimbar Islands: Yamdena) and Philippines (Mindanao).

Figs. 28-34. 28-31 – habitus: 28 – *Brancucciana* (*Rubriascopus*) *orientalis* sp. nov. (♂ from Yamdena Is., 8.65 mm); 29 – *Dindymus* (*Dindymus*) *baliensis* sp. nov. (holotype, ♂, 9.94 mm); 30 – *D. (D.) sundaensis* sp. nov. (paratype, ♀, 14.42 mm); 31 – *D. (Pseudodindymus)* *stysi* sp. nov. (holotype, ♀, 13.18 mm). 32-33 – pygophore: 32 – *D. (D.) baliensis* sp. nov.; 33 – *D. (D.) rubiginosus* (Fabricius, 1787). 34 – External female genitalia of *D. (D.) sundaensis* sp. nov. Photo: L. Dembický & Z. Jindra.

***Dindymus (Dindymus) baliensis* sp. nov.**

(Figs. 29, 32)

Type material. HOLOTYPE: ♂, INDONESIA: BALI: Badinkau, 300-500 m a.s.l., 10.-14.xi.1991, I. Löbl lgt. (MHNG). Antennae and left middle and hind leg of the holotype missing.

Description. Colouration (Fig. 29). Body dorsally mostly pale red. Scutellum black with only apex red. Membrane grey, translucent, with median rounded black spot near level of half-length of posterior corial margin, but not reaching it. Red colouration on ventral surface of head, pronotal epipleuron, pleuron I and posterior pleural flange I in dorsal half, and ventrites (except of large lateral spot). Black colouration on legs, entire labium, pleura II and III and large lateral spot on ventrites reaching nearly posterior margin of ventrite VI. Posterior pleural flange II dark, somewhat lightened; posterior pleural flange III and epicoxal lobe III whitish.

Structure. Body slender. Head somewhat elongated in front of eyes, frons narrower, eyes less gibbous; lower margin of head only slightly rounded in lateral view. Pronotum narrower; callar lobe only slightly gibbous; lateral pronotal margins rather narrow, near level of callar lobe base slightly concave, narrowing towards pronotal base, not gibbous sideways; pronotal lobe rather flat. Profemora ventrally on apices with one small denticle. Labium reaching base of ventrite III.

Pygophore (Fig. 32). Ventral rim posteriorly gibbous in lateral view; in frontal view detached from ventral wall by distinct furrow, regularly widely incised, with one prominent tooth on both ends of the incision. Ventral rim infolding nearly horizontal, medially with high longitudinal ridge, its upper edge sharp, narrowly black. Divided parts of ventral rim infolding dish-shaped, parameres placed near the end of ridge. Parameres medially nearly flat, this part directed forward and sideways; apically projected into acicular, rather long and thin processus hamatus directed medially, in apical part rounded and pointing even more medially. Parameres touching but not crossing each other. Dish-like depression on ventral rim infolding laterally emarginated by high, widely rounded ridge extended towards middle of pygophore; with slightly dish-like lateral rim infolding behind it. Anal tube wide.

Punctuation on pronotal lobe, scutellum, clavus, and corium very fine, less dispersed on pronotal lobe than on other parts.

Measurements (all in mm). Male (holotype). Body length 9.94; head: length 1.78; width (including eyes) 1.67, interocular width 1.00; pronotum: total length 1.89, width 2.86; scutellum: length 1.13, width 1.29; corium: length 4.86, width 1.73.

Differential diagnosis. *Dindymus (D.) baliensis* sp. nov. (Fig. 29) is unique within the nominotypical subgenus *Dindymus* Stål, 1861, by the parameres, whose apices are only touching but not crossing each other, which is possibly caused by the presence of a sharp median ridge (Fig. 32), also unique within all known *Dindymus* species. *Dindymus (D.) rubiginosus* (Fabricius, 1787) further differs from *D. (D.) baliensis* sp. nov. in the following characters: pronotal base with pale margin; scutellum red; small black spot on the membrane base and an oval black spot between apices of corium, which is touching these apices (in some rare cases extended nearly towards the apical margin of the membrane which is only narrowly rimmed with grey); labial segment I red except apex; all posterior pleural flanges and epicoxal lobes creamy, pleuron I (except of dorsal margin) red; large black lateral spot on ventrites reaching

only posterior margin of ventrite V; ventral rim of pygophore with two large teeth and laterally sometimes with one small denticle; ventral rim without high median ridge; aciculate processus hamati of both parameres crossed (Fig. 33).

Etymology. Patronymic, named after the Bali Island.

Distribution. Indonesia, Bali.

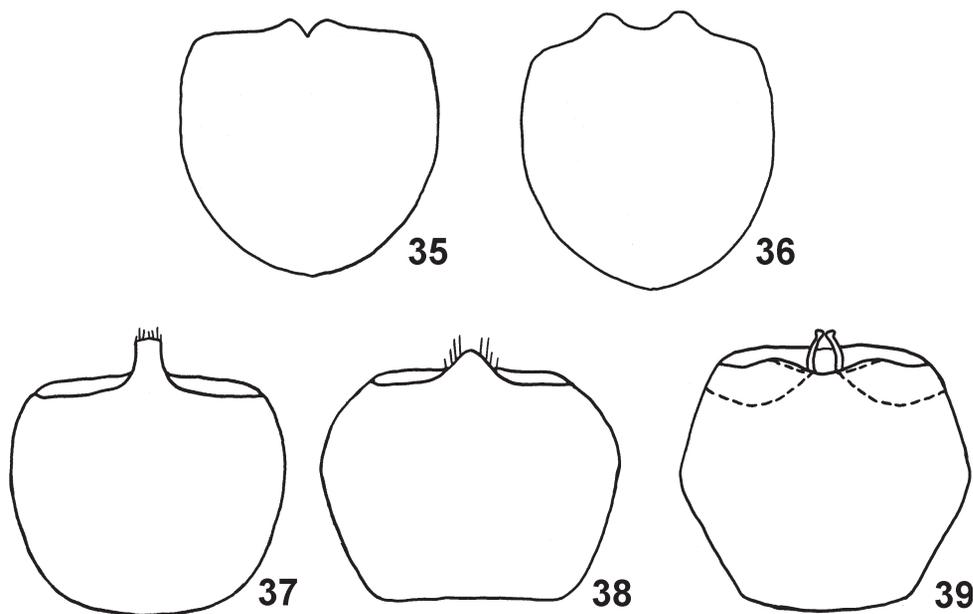
Dindymus (Dindymus) sundaensis sp. nov.

(Figs. 30, 34)

Type material. HOLOTYPE: ♀, INDONESIA: NUSA TENGGARA TIMUR PROVINCE: ALOR: Moru env., 500 m a.s.l., 22.iii.-3.iv.2006, S. Jakl lgt. (PPUA). PARATYPE: The same data, 1 ♀ (ZJPC).

Description. Female. Colouration (Fig. 30). Head, antennomere 1 (except of apex), antennomere 2 in basal half, and basal half of labial segment 1 dark red. Antennomere 1 apically, antennomere 2 in apical half, entire antennomeres 3 and 4, pronotum, scutellum, labium (except basal half), entire sternum, and large spot medially on ventrites (not reaching posterior margin of ventrite VI) black. Clavus and corium completely red; entire membrane pale grey with small black spot basally. Legs red, femora basally blackened (colouration continually changing to red towards apex). Ventrites (except of large median black spot) and laterotergites orange.

Structure. Head relatively narrow, longer than wide, rather elongated in front of eyes, not



Figs. 35-39. Pygophore (posterior view). 35 – *Armatillus sulawesiensis* sp. nov.; 36 – *A. orthocephaloides* (Breddin, 1912); 37 – *Brancucciana (Rubriascopus) orientalis* sp. nov.; 38 – *B. (R.) pygmaea* (Distant, 1903); 39 – *Euscopus tristis* sp. nov.

very high in lateral view; frons less gibbous and ventral outline slightly rounded; eyes less protruding. Anterior pronotal margin strongly concave; pronotal collar somewhat depressed; callar lobe more strongly gibbous; pronotal lobe distinctly elevated towards base and depressed laterally. Lateral pronotal margin wide, slightly concave at level of callar lobe base, distinctly raised dorsally, its anterior angles somewhat protruding. Mesoscutum strongly depressed; scutellum smooth, gibbous, apically wrinkled. Apices of profemora ventrally with one tooth.

Female genitalia (Fig. 34). Both halves of valvifer I widely divergent not far from base (thus entire valvifer II visible), its dorsal margin skewed sideways and narrowly bent inwards. Valvifer II large, its lateral margins strongly elevated, skewed towards middle, straight (except of slightly concave dorsal part). Valvifer II strongly depressed medially. Laterotergite VIII triangular; laterotergite IX more prolonged ventrally; inner margin incised, with minute pale pubescence and with round depression on dorsal margin.

Punctuation. Pronotal lobe regularly punctured except of impunctate posterior pronotal margin and coarser punctures in lateral depressions. Mesoscutum with coarse punctures; entire surface of clavus and corium with regular, minute, colourless punctuation.

Measurements (all in mm). Females (holotype first, paratype second). Body length 15.82/14.42; head: length 2.21/2.21, width (including eyes) 2.13/2.00, interocular width 1.35/1.24; lengths of antennomeres: 1 – 3.24/2.97, 2 – 2.16/2.00, 3 – 1.94/1.84, 4 – 2.86/2.75; pronotum: length 3.08/2.92, width 4.54/4.18; scutellum: length 1.78/1.78, width 2.11/2.16; corium: length 7.88/7.29, width 2.81/2.70.

Differential diagnosis. *Dindymus (Dindymus) bicolor* (Herrich-Schaeffer, 1840), known from Java and Timor, has also a black pronotum and scutellum, combined with a red clavus and corium. However, it differs from *D. (D.) sundaensis* sp. nov. (Fig. 30) by a smaller size, shape of the head and pronotum, and slender antennae. The diagnostic characters of *D. (D.) bicolor* could be summarized as follows: head wider in dorsal view, basally narrowed, less elongated in front of eyes, distinctly higher in lateral view because both distinctly gibbous frons and ventral side. Pronotum generally narrower, more strongly narrowed anteriorly, lateral pronotal margins much narrower. Colouration of head red except of blackish basal part, antennomere 4 yellow except of black apex, legs including tibiae black, and posterior pleural flange III (in males also posterior pleural flange I) creamy.

Etymology. Patronymic, named after the Little Sunda Islands.

Distribution. Indonesia, Little Sunda, Alor Island.

Dindymus (Pseudodindymus) albicornis siberutensis subsp. nov.

Type material. HOLOTYPE: ♂, INDONESIA: MENTAWAI ISLANDS: SIBERUT: Boiacan env., ix.2004, S. Jakl lgt. (PPUA). PARATYPES: the same locality, 9 ♂♂ 4 ♀♀ (ZJPC); SIBERUT: Salappa env., 50-100 m a.s.l., iv.-v.2005, 3 ♂♂ 5 ♀♀, S. Jakl lgt. (ZJPC). NIAS: no further data, 30.iv.1910, 1 ♀, no collector (MMBC).

Description. Posterior pronotal margin with yellow stripe, not reaching posterior pronotal angles.

Differential diagnosis. The nominotypical subspecies, *D. (P.) a. albicornis* (Fabricius, 1805), differs from *D. (P.) a. siberutensis* subsp. nov. only in the presence of two large median yellow spots on the posterior pronotal margin. Only two additional species of *Dindymus*, *D. daiacus* Breddin, 1901 (Philippines: Palawan) and *D. sandakan* Stehlik, in press (Malaysia: Sabah), have the posterior pronotal margin yellow. However, *D. daiacus* does not have the posterior

part of corium red but pale yellow, and has black bases of femora and epicoxal lobes I and II. In *D. sandakan* the yellow stripe on the posterior pronotal margin is disproportionally smaller and the pronotum narrower at base (STEHLÍK, in press).

Etymology. Patronymic, named after the Siberut Island.

Distribution. Indonesia, Mentawai Islands, Siberut. The nominotypical subspecies *D. (P.) a. albicornis* occurs in Myanmar, southern Thailand, Malaysia (Melaka, Pahang, Sabah, Sarawak, Selangor), Indonesia (Sumatra, Java, Bali, Sulawesi, Timor) (STEHLÍK & JINDRA 2003; STEHLÍK, in press).

Dindymus (Pseudodindymus) stysi sp. nov.

(Fig. 31)

Type material. HOLOTYPE: ♀, **INDONESIA: SULAWESI TENGGARA PROVINCE: BUTUNG ISLAND:** South Lasalimu region, vii.2005, local collector (PPUA). Last ventrites of the holotype deformed, left hind leg missing.

Description. Female. Colouration (Fig. 31). Head dorsally and ventrally orange; corium posteriorly from half-length of claval commissure, posterior two-thirds of costal margin, legs (except of tarsi), and ventrites (except of apical ones) pale red. Black colouration dorsally opaque, ventrally shiny, and confined to antennomeres 1-3, apex of antennomere 4, callar and pronotal lobe (except of margins), scutellum, clavus (except of apex and claval commissure), ca. basal third of corium, dorsal third of posterior pleural flange I, tarsomeres 2-3, entire ventrite II, and ventrite III anteromedially. Apical abdominal ventrites darkened. Pronotal and prosternal collar, lateral and posterior pronotal margins, ca. basal third of corium, pronotal epipleura, posterior pleural flanges (I except of dorsal third, II in dorsal half, and III entirely), epicoxal lobes (I and II medially, III entirely), antennomere 4 (except of apex), and tarsomere I white. Membrane grey, including veins.

Structure. Body large. Head large, frons wide, temple rather elongated, antennomeres relatively long. Callar lobe gibbous, pronotal lobe distinctly elevated towards basal margin. Lateral pronotal margin wider, distinctly elevated, concave medially, equally wide at level of callar and pronotal lobe. Costal margin wide, distinctly dorsally elevated.

Punctuation. Pronotal lobe (except of impunctate posterior margin) and clavus uniformly punctate. Punctuation on corium uneven, minute and colourless in apical part, black and more distinct between subcostal and radial, as well as radial and medial veins in median part of corium.

Measurements (all in mm). Female (holotype). Body length 13.18; head: width (including eyes) 2.83, interocular width 1.35; lengths of antennomeres: 1 – 3.02, 2 – 1.94, 3 – 1.73, 4 – 2.59; pronotum: length 2.59, width 3.78; scutellum: length 1.46, width 1.78; corium: length 6.05, width 2.16.

Differential diagnosis. *Dindymus (Pseudodindymus) stysi* sp. nov. is the only species of the subgenus *Pseudodindymus* Stehlík, in press, with an orange head (Fig. 31), while almost other species (*D. albicornis* (Fabricius, 1805), *D. daiacus* Breddin, 1901, *D. limbaticollis* Breddin, 1901, *D. pulcher* Stål, 1863, *D. sandakan* Stehlík, in press, *D. semirufus* Stål, 1863, *D. talau-densis* Stehlík & Jindra, 2006) have a shiny black head; only part of the population of *D. vinulus* Stål, 1863, has the anterior part of head red (see STEHLÍK (in press) for further details).

Etymology. We name this conspicuous species in honour of Prof. Pavel Štys, a renowned Czech heteropterist, at the occasion of his 75th anniversary.

Distribution. Indonesia, Butung Island (situated south-east of Sulawesi).

***Dysdercus (Paradysdercus) transversalis castaneus* subsp. nov.**

(Fig. 40)

Type material. HOLOTYPE: ♀, **INDONESIA: TANIMBAR ISLANDS: YAMDENA:** Lorulun village, env. 20 km NE Saumlaki, 28.xi.-24.xii.2006, S. Jakl lgt. (PPUA). PARATYPES: The same locality, 10.i.-5.ii.2007, 2 ♀♀, S. Jakl lgt. (ZJPC). **YAMDENA:** S Yamdena, Mam's village, 21 km of Saumlaki, xii.2006, 1 ♀, S. Jakl lgt. (ZJPC); 20 km NE of Saumlaki, 1.-30.i.2007, 2 ♀♀, M. Obofil lgt. (MMBC: coll. P. Baňaf). **BANDA ISLANDS:** Gross Isl. [= Banda Besar or Great Banda Island], 1 ♀ (ZSMC).

Description. Female. **Colouration** (Fig. 40). Head reddish; lateral pronotal margins, pronotal lobe (usually more distinctly), scutellum, clavus, corium (its margin usually more distinct), femora, and pleura I-III orange; callar lobe chestnut to red. Ventrites whitish yellow without black stripes on anterior ventrite margins; ventrite VII red.

Measurements (all in mm). Female (n = 5, excluding the specimen from Great Banda Island). Body length 15.10 (13.77-18.25); pronotum width (at base) 3.84 (3.51-4.16).

Variation. The female from Great Banda Island is smaller: body length 11.39 mm; pronotum width 2.97 mm.

Differential diagnosis. The nominotypical subspecies, *D. (P.) t. transversalis* Blöte, 1931, differs from *D. (P.) t. castaneus* subsp. nov. in the following characters: basic colouration ochraceous (not orange); callar lobe, scutellum, pleura I-III, femora and ventrite VII largely black; ventrites usually with black stripe on proximal margin; black colouration on ventrite VII laterally and posteriorly pale bordered. *Dysdercus (P.) t. hippotigrisoides* Stehlík & Jindra, 2006, differs from the new subspecies in having red ventral laterotergites; the red colouration extends to the adjacent parts of zygosternites, and the distal part of zygosternites II-VII has a distinct, sharply outlined white band, while the remaining parts of zygosternites (between the white bands) are black (STEHLÍK & JINDRA 2006c).

Etymology. The subspecies epithet is the Latin adjective *castaneus* (= chestnut-coloured), referring to the colouration of the pronotal lobe.

Distribution. Indonesia, Tanimbar Islands (Yamdena), and Banda Islands (Banda Besar). The nominotypical subspecies is known from Wetar, Java, Bali, Timor, Key (BLÖTE 1931), Damar, Sulawesi, Ternate (FREEMAN 1947), Flores, and Sumbawa (STEHLÍK & JINDRA 2006c). *Dysdercus (P.) t. hippotigrisoides* Stehlík & Jindra, 2006 was described from Seram (STEHLÍK & JINDRA 2006c). The record of *D. transversalis* from Tanimbar (FREEMAN 1947) and the single female of *Dysdercus t. hippotigrisoides* from Banda Islands (STEHLÍK & JINDRA 2006c) belong in fact to *D. t. castaneus* subsp. nov.

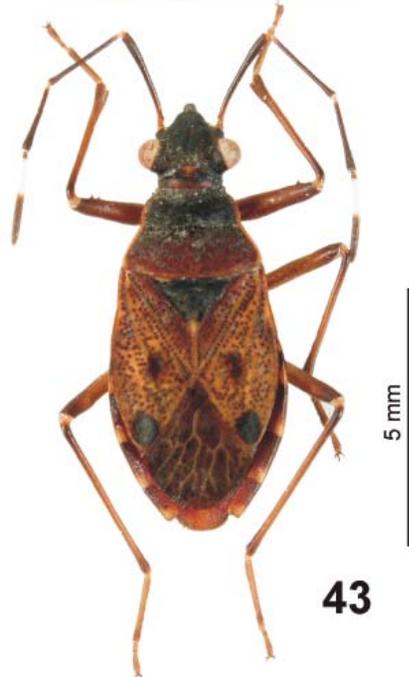
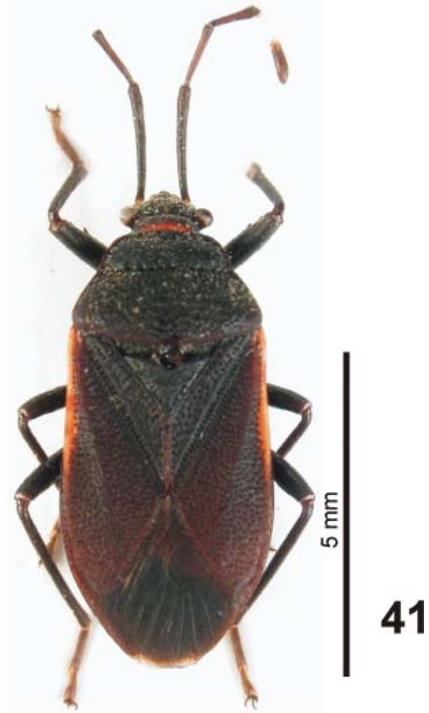
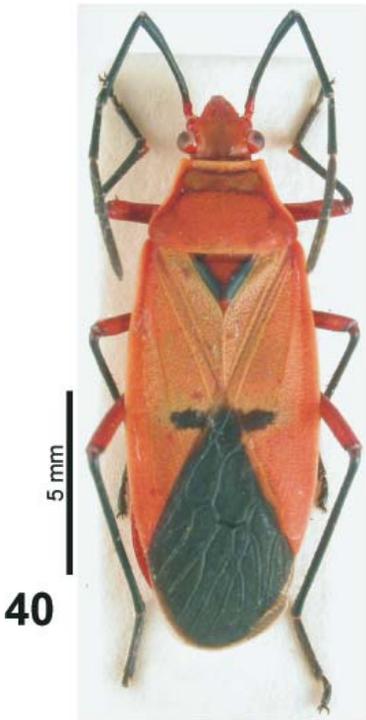
***Ectatops riedeli* sp. nov.**

(Figs. 42, 44, 48)

Type material. HOLOTYPE: ♂, **INDONESIA: SULAWESI: SULAWESI SELATAN PROVINCE:** ca. 15 km W of Palopo, 18.-19.viii.1990, A. Riedel lgt. (ZSMC). PARATYPES: The same data, 1 ♂ 1 ♀ (ZSMC).

Description. **Colouration** (Fig. 42). Black on head (except orange spot on vertex), antennomeres 1-3 (except bases), antennomere 4 narrowly at base and slightly more than its apical half, scutellum (except of apex), membrane (except of base), and entire ventral side of body.

Figs. 40-43. Habitus. 40 – *Dysdercus (Paradysdercus) transversalis castaneus* subsp. nov. (holotype, ♀, 15.10 mm); 41 – *Euscopus tristis* sp. nov. (holotype, ♂, 7.40 mm); 42 – *Ectatops riedeli* sp. nov. (holotype, ♂, 8.99 mm); 43 – *E. schoenitzeri* sp. nov. (holotype, ♂, 8.27 mm). Photo: L. Dembický.



Pronotal lobe, clavus, and corium brown (somewhat darkened towards apex, veins of corium also darkened); in females all of them somewhat darker with costal margin laterally pale at level of claval commissure. Narrow basal ring on antennomeres 1-3, ring in basal half of antennomere 4, lateral margin of pronotum, and sometimes also pronotal collar and pronotal epipleuron pale brown. Apices of scutellum and corium white yellow. Ventral laterotergites black, dorsal laterotergites dark brown with outer edge somewhat paler. Profemora black, meso- and metafemora basally very pale brown, then gradually blackend towards apex; narrow rings on apices of femora and bases of tibiae and tarsomere 1 (except of apex) whitish or yellowish. Rather wide rings on bases of tibiae, narrow rings at their apices, apex of tarsomere 1 and entire tarsomeres 2 and 3 blackish.

Structure. Body relatively small. Eye sockets strong, produced laterally and distinctly raised. Anterior part of head shorter, more strongly sloping. Antennae slender; antennomere 1 slightly thickened towards apex; antennomere 2 very slightly thickened apically; antennomere 3 gradually widening from base, apically wider than antennomere 2; antennomere 4 widest. Callar lobe regularly gibbous; lateral pronotal margin at level of callar lobe rounded, at level of callar lobe concave, at level of pronotal lobe more distinctly diverging sideways.

Pygophore (Fig. 44). Ventral part of ventral wall strongly gibbous, emarginated by submedially skewed furrows pointing ventrally; upper part of ventral wall medially rather widely depressed. Ventral rim submedially (on both sides) with whitish, rather wide process skewed inwards genital chamber, covered by long pale hairs; dorsal margin of the process rounded, its posterior corner (directed into genital chamber) slightly pointed. Lower margin of lateral rim infolding strongly elevated and nearly semicircularly enfolding two dark, back-to-back standing processes, whose upper facet is medially concave. Body of paramere thickened, distal part thinner and narrowed before apex; edge of apex medially slightly concave and produced laterally into small spines. Inner side of paramere with another dark comb (Fig. 48). Distal part of vertical process nearly rectangular, margins slightly concave, apex rounded.

Female outer genitalia much wider than high. Both sides of valvifer parallel near base, then arcuately diverging, its upper margin only slightly raised dorsally. Laterotergite VIII triangular; laterotergite IX large, triangularly narrowed towards centre of genitalia, flat, only its margins narrowly ridged. Anal tube slit-like. Upper margin of valvifer and laterotergite IX pale pubescent.

Punctuation on pronotal lobe, clavus, and corium prominent, black, of similar size. Mesoscutum punctate; punctures in apical part of scutellum hardly visible on black colouration.

Measurements (all in mm). Males (holotype first, paratype second). Body length 8.99/8.96; head: length 1.57/1.46, width (including eyes) 2.32/2.32, interocular width 1.24/1.30; lengths of antennomeres: 1 – 1.73/1.40, 2 – 1.35/1.40, 3 – 1.16/1.16, 4 – 1.43/1.43; pronotum: length 1.81/1.89, width 2.27/3.02; scutellum: length 1.13/1.19, width 1.57/1.57; corium: length 3.89/4.19, width 1.51/1.67.

Female (paratype). Body length 9.94; head: length 1.51, width (including eyes) 2.52, interocular width 1.35; lengths of antennomeres: 1 – 1.94, 2 – 1.62, 3 – 1.35, 4 – 1.57; pronotum: length 2.27, width 3.48; scutellum: length 1.35, width 1.94; corium: length 4.97, width 2.00.

Differential diagnosis. *Ectatops riedeli* sp. nov. (Fig. 42) is very similar both in colouration and external morphological characters to *E. sulawesiensis* Stehlik & Jindra, 2006 (from northern Sulawesi) and *E. subjectus* Walker, 1873 (from central Sulawesi, Butung Island). However, all three species are easily recognizable by the structure of the ventral rim on the pygophore and the paramere. *Ectatops sulawesiensis* is larger (body length 9.45-10.0 mm in males); ventral rim on its pygophore submedially with one stout, dark process on each side, slightly inclined medially and inwards the genital chamber, on outer side slightly concave, apically rounded, on inner side of apex somewhat spinous; dorsal part of ventral wall and ventral rim medially depressed (as in *E. riedeli* sp. nov.); vertical process more slender, apically somewhat widened and rounded (as in *E. riedeli* sp. nov.) (Fig. 46); body of paramere basally wide, before end of this part with a small denticle and longer sensory setae above the denticle; apical part of paramere long, slender, somewhat curved in two thirds, apex horizontally truncated with minute denticles directed sideways (Fig. 50).

Ectatops subjectus is of the same size as *E. riedeli* sp. nov. but well recognizable by the following characters: ventral rim submedially with one pale stylus on each side, somewhat thickened towards apex and bearing prominent pale pilosity (very different from the wide, nearly quadrangular process of *E. riedeli* sp. nov.); ventral rim widely incised (not depressed as in *E. riedeli* sp. nov. and *E. sulawesiensis*), incision flat and horizontal; vertical process wider than in *E. riedeli* sp. nov. and *E. sulawesiensis*, parallel-sided, deeply triangularly incised (Fig. 45); body of paramere wider, on outer side shorter, on inner side slightly longer, with longer dark comb, above the comb incised, with short pale hairs; apical part wider, narrowed before apex, curved; apex black with small spicula on one side and the other side projected into long, elevated spicula (Fig. 49).

Etymology. We dedicate this species to Alexander Riedel (Karlsruhe, Germany), whose field trips to the Oriental Region and New Guinea resulted in the discovery of many undescribed species.

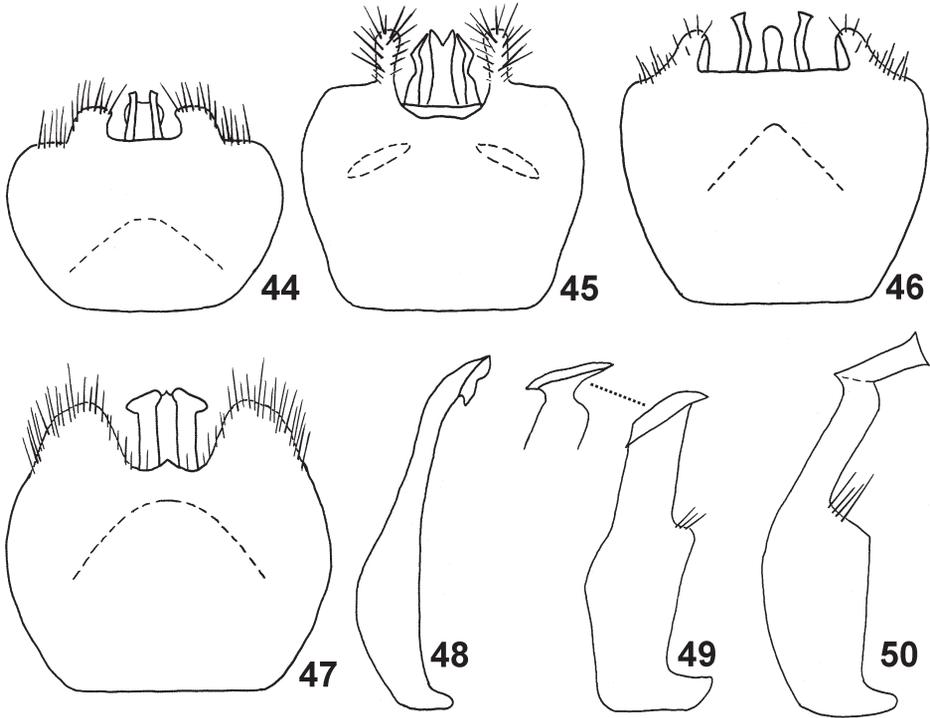
Distribution. Indonesia, south-western Sulawesi.

Ectatops schoenitzeri sp. nov.

(Figs. 43, 47)

Type material. HOLOTYPE. ♂, INDONESIA: SULAWESI: SULAWESI SELATAN PROVINCE: ca. 15 km W of Palopo, 18.-19.viii.1990, A. Riedel lgt. (ZSMC). PARATYPES: The same data, 2 ♂♂ 2 ♀♀ (ZSMC).

Description. Colouration (Fig. 43). Head, callar lobe, scutellum (except of apex), smaller median and larger apical oval spot on corium, membrane (except of veins), sternum and zygosternites black. Antennomeres 1-3 black, antennomeres 2-3 basally narrowly whitish; antennomere 4 basally and in apical half black, rest of basal half white. Pronotal lobe dark brown. Femora pale brown, in distal third towards apex gradually blackened; tibiae of males pale brownish, basally narrowly whitish, then narrowly blackish as well as on apex; tibiae of females sometimes nearly black; tarsi paler, especially at base. Labium darker yellowish. Apex of scutellum, lateral pronotal margin, pronotal epipleuron, and hypocostal lamina whitish yellow. Veins of membrane pale. Ventral and dorsal laterotergites black with pale



Figs. 44-50. 44-47 – pygophore (posterior view): 44 – *Ectatops riedeli* sp. nov.; 45 – *E. subjectus* Walker, 1873; 46 – *E. sulawesiensis* Stehlik & Jindra, 2006; 47 – *E. schoenitzeri* sp. nov. 48-50 – parameres: 48 – *E. riedeli* sp. nov.; 49 – *E. subjectus* (two different views of apical portion); 50 – *E. sulawesiensis*.

spots in posterior part; spots on dorsal laterotergites across entire width. Clavus and corium brownish; smaller median black spot on corium not well delimited with diffuse margin; larger apical black spot well delimited.

Structure. Head smaller, narrow; frons nearly flat; eye sockets only slightly raised; eyes small, distance between anterior margin of eye to antennifer short, distinctly shorter than distance from antennifer to apex of clypeus. Head in lateral view not horizontal but somewhat sloping. Antennae very slender; antennomere 3 only apically widened. Labium of male reaching or even surpassing half-length of ventrite VI, in female surpassing only anterior margin of ventrite VI. Callar lobe shorter; pronotal lobe longer (ratio in male 11 : 20, in female 12 : 22), distinctly widened towards base and rather gibbous; lateral pronotal margin narrow. Scutellum strongly gibbous and rounded in lateral view, apex flat. Costal margin basally narrow, at level of two thirds of scutellum length distinctly widened and strongly rounded towards apex of corium; laterotergites similarly rounded.

Pygophore (Fig. 47). Ventral wall with distinctly curved furrow (its ends pointing ventrally), ventral wall under this furrow medially strongly gibbous. Ventral rim strongly incised, medially markedly thickened with triangular spicula, these separated by a furrow from remaining parts of incision. Margins of incision strongly elevated, black pubescent, then slowly sloping towards lateral margins. In lateral view, margin distinctly depressed at intersection of ventral and lateral rim; lateral rim more strongly raised, sharp, nearly straight, skewed towards dorsal rim; dorsal rim sharp, slightly round incised. Lateral rim infolding gibbous with keel-like, nearly horizontal formation behind elevated margins of ventral rim incision, and separated by a furrow from remaining parts. Black fovea-shaped depression present behind the furrow, rest of lateral rim infolding of triangular shape, sloping into genital chamber, barely concave. Lower margin of lateral rim incised, leaving space for parameres. Anal tube wide, horizontally positioned, reaching middle of genital chamber. Parameres stout, apically rounded, projected into small beak-like process curved into genital chamber. Parameres leaning against rectangular vertical process with upper margin rounded.

Punctuation. Pronotal lobe, clavus, and corium with very distinct black punctures (except the black apical spot on corium).

Measurements (all in mm). Male (n = 3). Body length 8.27 (7.99-8.67); head: width (including eyes) 2.00 (1.94-2.08), interocular width 1.08 (1.03-1.13); lengths of antennomeres: 1 – 1.96 (1.89-2.05), 2 – 1.68 (1.59-1.73), 3 – 1.48 (1.43-1.51), 4 – 1.82 (1.78-1.89); pronotum: length 1.64 (1.57-1.78), width 2.61 (2.48-2.81); scutellum: length 1.08 (1.08-1.08), width 1.55 (1.40-1.62); corium: length 3.53 (3.46-3.62), width 1.58 (1.57-1.59).

Female (n = 2). Body length 10.04/9.72; head: width (including eyes) 2.21/2.19, interocular width 1.19/1.13; lengths of antennomeres: 1 – 2.27/-, 2 – 2.11/-, 3 – 1.67/-, 4 – 1.94/-; pronotum: length 1.94/1.84, width 3.18/3.02; scutellum: length 1.40/1.19, width 1.84/1.78; corium: length 4.43/4.32, width 2.00/1.89.

Differential diagnosis. This species seems to be related to *E. notatus* Stehlik & Jindra, 2006 (Kalimantan: Sarawak), and *E. nervosus* Breddin, 1901 (Kalimantan), all of them sharing the same shape of the head. The latter two species differ from *E. schoenitzeri* sp. nov. by their slender body; larger and nearly horizontal head, eyes more elevated upwards, the distance between eye and antennifer larger than distance from the antennifer to apex of clypeus; callar lobe larger than pronotal lobe, and far less distinct punctuation. Neither *E. notatus* nor *E. nervosus* possess the black median spot on the corium. *Ectatops nervosus* is also easily distinguished by having the laterotergites unicolorously dark and the corium dark brown with a pale, somewhat L-shaped pattern. In *E. notatus* the laterotergites have a pale spot, which is however situated anteriorly and only on the outer margin (in *E. schoenitzeri* sp. nov. it is situated posteriorly and spread across the entire width of the laterotergite).

Etymology. This species is dedicated to Prof. Klaus Schönitzer (Zoologische Staatssammlung, Munich, Germany), a renowned specialist in the Hymenoptera, as an acknowledgment for the loan of the Pyrrhocoroidea from the ZSMC collection.

Distribution. Indonesia, south-western Sulawesi.

***Ectatops subjectus* Walker, 1873**

(Figs. 45, 49)

Material examined. **INDONESIA: SULAWESI: SULAWESI TENGAH PROVINCE:** Lindu National Park, Palu Palolo, 25.-27.viii.1990, 2 ♂♂ 2 ♀♀, A. Riedel leg. (ZSMC). **SULAWESI TENGGARA PROVINCE:** Butong Island, South Lasalimu region, vii.2006, 2 ♂♂ 6 ♀♀, local collector (ZIPC).

Variability. STEHLÍK & JINDRA (2006b) mentioned that the colouration of this species is rather variable; this variability was described based on specimens from Palu Palolo. On the other hand, the newly collected specimens from Butong Island have a uniform colouration, very similar to both *E. sulawesiensis* and *E. riedeli* sp. nov.

Distribution. So far known only from the main island of Sulawesi. First record for the Butong Island.

***Euscopus tristis* sp. nov.**

(Figs. 39, 41)

Type material. HOLOTYPE: ♂, **INDIA: KERALA:** Pomba, Sabramila, 09°24.4'N, 77°03.9'E, 3.v.2005, M. Halada lgt. (PPUA).

Description. Colouration (Fig. 41). Entire body black, only basal half of antennomere 4 white and costal margin and hypocostal lamina in anterior half orange.

Structure. Body smaller. Anterior part of head rather strongly sloping, lower margin of head distinctly rounded in lateral view; eyes small, moderately narrow in dorsal view; frons without longitudinal furrow. Antennomere 1 long. Labial segment 1 surpassing posterior head margin. Lateral pronotal margin very narrow, developed only on callar lobe, only slightly overlapping posteriorly over median furrow; consequently also pronotal epipleuron very narrow. Pronotal lobe strongly gibbous. Profemora ventrally in apical half with two remote teeth and several minute denticles. Hypocostal lamina relatively wide. Pleura I and II dorsally with round gibbous spot, even more apparent on pleuron III.

Pygophore (Fig. 39). Ventral part of ventral wall rather gibbous, laterally with skewed furrow under ventral rim. Ventral rim submedially somewhat elevated, medially with wide and round incision. Ventral and lateral rim sharp, gradually merging. Lateral rim infolding regularly concave, not distinctly sloping into genital chamber. Anal tube wide, reaching nearly middle of genital chamber, its margins touching lateral rim infolding. Parameres stout, evenly curved under lateral rim infolding, in two-thirds approaching each other, in apical third tapering and vertically positioned, ending with small beak-like process directed to ventral rim and somewhat surpassing base of ventral rim incision.

Punctuation. Pronotal collar, pronotal lobe, scutellum, clavus, and corium with dense and coarse concolorous punctures.

Measurements (all in mm). Male (holotype). Body length 7.40; head: width (including eyes) 1.44, interocular width 0.86; lengths of antennomeres: 1 – 1.78, 2 – 0.97, 3 – 0.70, 4 – 1.16; pronotum: length 1.78, width 2.86; scutellum: length 1.27, width 1.67; corium: length 4.21, width 1.57.

Differential diagnosis. This species belong to the group of species of *Euscopus* Stål, 1870, with a black corium, which includes *E. distinguendus* Blöte, 1933, *E. fuscus* Hsiao, 1964,

E. indecorus (Walker, 1872), *E. parviceps* Breddin, 1901, *E. robustus* Stehlik, 2005, and *E. stigmaticus* Breddin, 1909. *Euscopus tristis* sp. nov. (Fig. 41) differs from all of them especially by the lack of the median longitudinal furrow on frons (so far regarded as a diagnostic character of the genus!), nearly undeveloped different colouration of the lateral pronotal margin (in other species the lateral pronotal margin is red, orange, or yellow in contrast to the black rest of the pronotum), and completely black ventrites (in other species the ventrites are more or less red while the trichobothrial areas are velvety black).

Etymology. The species epithet is the Latin adjective *tristis* (= mournful), referring to the dark colouration of the species.

Distribution. South-western India, Kerala.

Acknowledgements

We would like to thank Petr Baňar (MMBC, Brno, Czech Republic), Ernst Heiss (Innsbruck, Austria), Petr Kment (NMPC, Prague, Czech Republic), Klaus Schönitzer and Tanja Kothe (ZSMC, Munich, Germany), Peter Schwendinger (MHNG, Genova, Switzerland), and Mick D. Webb (BMNH, London, United Kingdom) for the loans of specimens from collections under their care. We also thank Luboš Dembický (MMBC, Brno) and Jan Kabiček (PPUA, Prague) for taking the photographs, Petr Stehlik (Brno) for technical assistance, and Petr Kment for comments on the manuscript. This work was partly supported by the Ministry of Education, grant no. MSM6046070901.

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