

# A revision of the genus *Peritropis* UHLER 1891 from the Oriental Region (Hemiptera, Miridae, Cylapinae)<sup>1</sup>

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**Abstract:** The genus *Peritropis* UHLER from the Oriental Region is revised. Six new species of the genus are described from Brunei, Indonesia, India, Malaysia, Thailand and Vietnam. All type material, except *P. lugubris* POPPIUS, has been examined. All known species from the Oriental Region are redescribed. Photos of the dorsal habitus of all species are presented and keys to the Oriental species are provided.

**Key words:** Cylapinae, Heteroptera, new species, Oriental Region, *Peritropis*, taxonomy.

## Introduction

The genus *Peritropis* UHLER is one of the most numerous genera within the subfamily Cylapinae. Most species are known from the Afrotropical Region, where 25 species have been described (GORCZYCA 2000, 2003a). Additionally, four species have been described from Arabia and Socotra (LINNAVUORI 1994; GORCZYCA 2000; LINNAVUORI & GORCZYCA 2002). Eleven species are known from Indo-Pacific area, including New Caledonia, Loyalty Islands, Australia and New Guinea (SCHUH 1995; GORCZYCA 1997, 1998, 1999; GORCZYCA & CHLOND 2005). Four probably endemic species occur respectively in New Zealand, Far East of Russia, North and South America (SCHUH 1995; GORCZYCA & EYLES 1997). Up to now eleven species are known from the Oriental Region (SCHUH 1995; GORCZYCA 2003b).

*Peritropis* seems to be a relatively young but very diverse genus. Many species are still undescribed, especially from the Indo-Pacific islands and Australia. In the present paper knowledge of the occurrence and distribution of the genus *Peritropis* from the Oriental Region is revised and summarised.

I do not include the illustrations of male genitalia because several species are known only from females and some only as holotypes; most species can be distinguished on the basis of their habitus photograph. In the most difficult complex – the *P. poppiana*-group – *P. poppiana* and *P. javanica* are known only as females.

## Material and Methods

Almost all institutions that might be expected to house material from the Oriental Region have been contacted. The most important historical collections are those in Helsinki, Budapest and Müncheberg, which have most of Poppius' and Bergroth's types, and the British Museum with Distant's material. Other important collections are in Copenhagen, St. Petersburg, Innsbruck, Vienna and additional places listed below.

Morphological terminology used in the descriptions and redescriptions follows SCHUH & SLATER (1995). Pretarsal structure was examined after the legs had been kept for several hours in KOH and put into glycerin. Photos were taken and prepared using stereo-microscope Nikon Eclipse-600 and Lucia net programme. Label data are cited verbatim: a comma denotes the end of a line

<sup>1</sup> I am very happy to dedicate this work to my friend and prominent heteropterologist Ernst Heiss.

of print and a semicolon separates data quoted on different labels.

The borders of the region are given according to LIS (1994) and the study area includes (from west to east): Pakistan, India, Nepal, Bhutan, Bangladesh, southern part of China (including Hainan), Taiwan, Myanmar, Thailand, Laos, Vietnam, Cambodia, Philippines, Malaysia and Indonesia (excluding Irian Jaya).

### Abbreviations

BMNH. . .	Natural History Museum, London, England
BPBM . . .	Department of Entomology Collection, Bernice P. Bishop; Museum, Honolulu, HI USA
DEIC . . . .	Deutsches Entomologisches Institute, Müncheberg, Germany
HNHM . .	Hungarian Natural History Museum, Budapest, Hungary
MZHF . . .	Zoological Museum, Helsinki University, Finland
NHMW . .	Naturhistorisches Museum Wien, Vienna, Austria
US . . . . .	Department of Zoology, Univer- sity of Silesia, Katowice, Poland
TLI . . . . .	Tiroler Landesmuseum, Inns- bruck, Austria
ZMAS . . .	Zoological Institute RAS, St. Petersburg, Russia
ZMUC . . .	Zoological Museum, University of Copenhagen, Copenhagen, Denmark

## Results

### Taxonomy

#### *Peritropis* UHLER

Type species: *Peritropis saldaeformis* UHLER 1891 (monotypy).

*Peritropis* UHLER 1891: 121.

*Peritropis*: KIRKALDY 1906:145; REUTER 1909: 66, 1910: 154, 1912: 42; POPPIUS 1909: 19, 24, 1912: 165, 169; DISTANT 1910: 253; VAN DUZEE 1916: 42, 1917: 366; BERGROTH 1920: 74, 1925: 159; MCATEE & MALLOCH 1924: 71; BLATCHLEY 1926: 880; KNIGHT 1941: 62; CARVALHO 1946: 4, 1952: 48, 1955: 18, 1956: 5, 9, 1957: 21; FROESCHNER 1949: 137; KELTON 1959: 50; SCHMITZ 1970: 504; LINNAVUORI 1975: 5; CARVALHO & LORENZATO 1978: 129; MEDLER 1980: 96; KERZHNER 1988:

790; HENRY & WHEELER 1988: 271; SCHUH 1995: 33; GORCZYCA & EYLES 1997: 226; KERZHNER & JOSIFOV 1999: 9; GORCZYCA 2000: 111, 2003b: 154; YASUNAGA 2000: 191.

*Mevius* DISTANT 1904: 453 (syn. POPPIUS 1909: 24)

Type species: *Mevius lewisi* DISTANT 1904 (original designation).

*Mevius*: KIRKALDY 1906: 156; CARVALHO 1955: 49, 1957: 21; SCHUH 1995:33; KERZHNER & JOSIFOV 1999: 9.

Diagnosis: Among the other representatives of the tribe Fulviini, the genus *Peritropis* can be distinguished by stout, usually oval body, short and broad pronotum, pronotal collar very thin or invisible, eyes contiguous with the anterior margin of pronotum, antenniferous tubercles contiguous or only slightly removed from the margins of eyes, antennae four-segmented, fourth segment sometimes divided, the margins of hemelytra usually distinctly convex, hemelytra smooth, usually distinctly wider than the posterior margin of pronotum, pronotum smooth, in some species rugose, mesoscutum exposed, tarsi very short, two-segmented, second segment usually divided, claws usually with a distinct subapical tooth.

Redescription: Body oval or elongate-oval, head triangular, shorter than wide, eyes large, contiguous with the anterior margin of pronotum, antenniferous tubercles contiguous or only slightly removed from the margins of eyes. First and second antennal segments the thickest, in some species distiflagellum divided. Rostrum straight, thin, reaching at least beyond metacoxae.

Pronotal collar very thin or absent, pronotum broad and short, the posterior margin much longer than pronotum, lateral margins of pronotum usually elevated, calli usually confluent, more or less raised. Pronotum usually smooth but in some species rugose, mesoscutum well exposed, usually with a distinct carina laterally.

Hemelytra well developed, brachypterous forms unknown, hemelytra usually distinctly wider than the posterior margin of pronotum, embolium distinct, costal fracture present, cuneus usually broad, membrane two- or single-celled.

Legs relatively short, tarsi short, two-segmented, second segment often divided,

claws usually with a distinct subapical tooth.

Parameres usually with one arm, but in at least two species, *Peritropis monikae* GORCZYCA from the Loyalty Islands and *P. granulosa* GORCZYCA from the Afrotropics, the left paramere is V-shaped. Aedeagus membranous, often with sclerotized spiculi.

### Key to species groups of the genus *Peritropis* from the Oriental Region

- 1 Membrane without spots or patches ..... *P. suturella*-group
- Membrane with more or less strongly marked paler spots or patches ..... 2
- 2 Pronotum and hemelytra covered with distinct pale swellings, patches or longitudinal lines ..... *P. poppiana*-group
- Body and pronotum without pale swellings or longitudinal lines ..... 3
- 3 Hemelytra entirely dark ..... *P. nigripennis*-group
- Hemelytra at least with pale spots ..... 4
- 4 Posterior margin of pronotum almost straight ..... *P. thailandica*-group
- Posterior margin of pronotum more or less sinuate ..... *P. lewisi*-group

### *P. lewisi*-group

Representatives of *P. lewisi*-group are small or medium-sized insects whose posterior margin of pronotum bears more or less strongly marked incisions.

### Key to the species of *P. lewisi*-group

- 1 Pronotum and head yellow, metatibiae pale ..... *P. popovi* nov.sp.
- Pronotum and head pale or dark brown, metatibiae at least partly dark brown .. 2
- 2 Head and pronotum pale brown, vertex with a distinct, longitudinal sulcus .....  
..... *P. pusilla* POPPIUS
- Head and pronotum brown to dark brown, vertex without a distinct, longitudinal sulcus ..... 3
- 3 Length of the body about 4 mm, in female, second antennal segment long, more than twice as long as pronotum ..... *P. lewisi* DISTANT
- Body shorter than 4 mm, second antennal segment short, shorter than double length



**Fig. 1:** *Peritropis indica* nov.sp., paratype, female.

of pronotum ..... *P. indica* nov.sp.

### *Peritropis indica* nov.sp. (Fig. 1)

Type material: Holotype ♂: NE-India: Meghalaya State, W Garo Hills, Balphakram NP, 22-27 V 1996, 250-550 m, GPS N25°51' E 90°51' (WGSB4), leg. E. Jendek & O. Sausa. Paratypes 3 ♀ ♀ the same data as holotype. Holotype and two paratypes housed in NHMW, one paratype in US.

Diagnosis: This species can be distinguished by its size and the coloration of the body (Fig. 1).

Description: Male. Body elongate, dark brown mottled with very small pale spots and patches. Length of the body 3.0 mm, width 1.20 mm. Head dark brown mottled with small, pale patches, eyes relatively large, occupying almost the whole side of head, vertex with a thin occipital carina. Length of head 0.47 mm, width 0.65 mm, diameter of eye 0.20 mm. Antennae inserted on tubercles contiguous with the margin

**Fig. 2:** *Peritropis lewisi* DISTANT, holotype.



of eye, first segment thin and paler at base, then widened and darkened, second segment dark brown with a small pale patch in the middle, covered with dense, very short, closely fitting, silvery setae. Length of antennal segments in mm: 0.25: 0.87 (third and fourth segments broken in the examined specimen). Rostrum brown, reaching beyond metacoxae, length of individual segments invisible in the specimen examined.

Pronotum dark brown, mottled with small pale patches, anterior lobe slightly raised and tinged with red, with a very thin longitudinal sulcus in the middle, the posterior margin with three pale patches contiguous with mesoscutum. Length of pronotum 0.50 mm, length of the anterior margin 0.65 mm, lateral margins 0.50 mm, posterior margin 1.15 mm. Mesoscutum and scutellum darker than pronotum, with very small pale spots, apex of scutellum pale.

Hemelytra brown, mottled with small, regular, pale spots, cuneus darker with only a few very small dots. Membrane dark with paler spots, venation distinct.

Body dark brown ventrally, coxae and trochanters invisible in the specimen examined, femora dark brown, with only small, pale patches at apex. Fore- and mesotibiae brown with small pale patches, metatibiae dark brown, slightly paler at apex, with a small, indistinct paler ring in the middle, tarsi pale brown.

Female elongate-oval, similar to male but more stout. Length of the body 3.40-3.60 mm, width 1.50-1.55 mm, length of head 0.50-0.55 mm, width 0.70-0.72 mm, diameter of eye 0.20 mm. Length of the antennal segments in mm: 0.27: 0.90-1.0: 0.20: 0.22. Length of pronotum 0.57-0.60 mm, length of the anterior margin 0.70-0.75 mm, lateral margins 0.57-0.62 mm, posterior margin 1.37-1.42 mm.

Distribution: India.

#### *Peritropis lewisi* (DISTANT) (Fig. 2)

*Mevius lewisi* DISTANT 1904: 453.

*Peritropis* (*Mevius*) *lewisi*: POPPIUS 1909: 25.

*Peritropis lewisi*: BERGROTH 1920: 74; CARVALHO 1957: 22; SCHUH 1995: 33; GORCZYCA & EYLES 1997: 229.

Type material examined: Holotype ♀: Circular label with red margin; Ceylon [old, handwritten label]; *Mevius lewisi* DIST. [old handwritten label]; DISTANT Coll, 1911 - 383. Housed in BMNH.

Diagnosis: This species can be recognised by its broad body, fourth antennal segment divided, and metatibiae dark brown in the basal half and pale brown distally.

Redescription: Female (male unknown). Body broad, distinctly convex, stout, brown, length of the body 4.0 mm, width 2.0 mm. Head brown with numerous pale spots (Fig. 2), vertex with occipital carina. Length of head 0.46 mm, width 0.74 mm, diameter of eye 0.20 mm. First antennal segment with a pale ring at base, then dark brown with a few very small paler dots. Second segment brown, almost cylindrical, covered with very short setae, with a small white mark in the middle. Third and fourth segments very short, pale, fourth segment divided. Length of antennal segments in mm: 0.36: 1.26: 0.40: 0.10 + 0.16. Rostrum thin, brown,



reaching at least mesocoxae, but not easily visible in the specimen examined.

Pronotum brown, mottled with pale dots, anterior lobe slightly raised, with a longitudinal, dark stripe in the middle. Lateral margins slightly elevated, length of pronotum 0.60 mm, anterior margin 0.74 mm, lateral margins 0.74 mm, posterior margin 1.56. Posterior margin sinuate, with small pale areas (Fig. 2). Mesoscutum prominent, mesoscutum and scutellum dark brown, covered with pale, small dots, apex of scutellum white.

Hemelytra dark brown with numerous small spots, embolium very wide, apex of clavus pale, cuneus broad, with a small, white mark contiguous with membrane. Membrane dark, venation dark, minor cell not visible in the specimen examined.

Body chestnut ventrally, tinged with red, with paler areas. Ostiolar peritreme small, coxae pale, femora dark brown, fore- and mesotibiae dark brown, only the distal part pale with two small, white marks. Metatibiae dark brown in the basal half and pale distally. Tarsi pale, short, two-segmented.

Distribution: Sri Lanka.

### *Peritropis popovi* nov.sp. (Fig. 3)

Type material: Holotype ♀: S. Vietnam, 14.10 N 108.30 E, 40 km NW of An Khe, Buon Luoi 620-750, 28.3.-12.4.1995, PACHOLATKO & DEMBICKY leg. Housed in NHMW.

Etymology: This species is dedicated to my friend and eminent heteropterologist Yuri A. Popov (Paleontological Institute, Moscow, Russia).

Diagnosis: This species can be distinguished in the group by the yellow head and pronotum and relatively broad vertex.

Description: Small insects, body oval, stout (Fig. 3), pale, length of the body 2.65 mm, width 1.40 mm. Head yellowish with small red spots and very small red and brown patches, length of the head (in top view), 0.45 mm, width 0.67 mm, diameter of eye 0.12 mm. Antennae covered with very short setae. First segment thick, pale at base then dark brown, second segment thick, dark brown with a very small pale patch in the middle. Third and fourth antennal segments paler than second, thin and short. Length of



**Fig. 3:** *Peritropis popovi* nov.sp., holotype.

antennal segments in mm: 0.25: 0.88: 0.20: 0.22. Rostrum pale brown, the length of segments not visible in the specimen examined.

Pronotum yellow, anterior lobe convex with a short longitudinal incision in the middle, covered with small, red patches. Lateral margins of pronotum distinctly elevated, posterior margins with small incisions. Length of pronotum 0.50 mm, length of the anterior margin 0.67 mm, lateral margins 0.55 mm, posterior margin 1.20 mm. Mesoscutum and scutellum brown with numerous pale dots, apex of scutellum white.

Hemelytra pale brown, clavus and corium almost unicolorous, embolium tinged with red with dark and pale small patches, cuneus dark brown, pale at base, covered with small pale spots. Membrane dark brown covered with pale spots, venation



**Fig. 4:** *Peritropis pusilla* POPPIUS, holotype.

brown, not easily visible in the specimen examined.

Body dark brown ventrally with red and pale areas, coxae and trochanters not visible in the specimen examined, femora chestnut, tibiae pale brown, paler in the apical part, tarsi pale, very short, two-segmented, second segment divided, claws with a distinct subapical tooth.

Distribution. Vietnam.

#### *Peritropis pusilla* POPPIUS (Fig. 4)

*Peritropis pusillus* POPPIUS 1915: 49.

*Peritropis pusilla*: BERGROTH 1920: 74; CARVALHO 1957: 22; KERZHNER & JOSIFOV 1999: 9.

*Peritropis pusillus*: GAEDICKE 1971: 150; SCHUH 1995: 34; GORCZYCA & EYLES 1997: 229.

Type material examined: Holotype ♀: Tainan, Formosa, H. Sauter, 1912; 7. IV.; Poppius det; Typus [brown label]; symbol of female; *Peritropis* (pygmaus ?) n.sp., *pusillus* POPP. [old handwritten label]; holotypus [chestnut label]; Eberswalde DEI coll. Housed in DEIC.

Diagnosis: This species can be distinguished by its size and the coloration of the body (Fig. 4).

Redescription: Small insect, body pale brown mottled with paler patches. Length of the body 3.10 mm, width 1.60 mm. Head elongated, pale brown with dark and pale pattern, vertex with a distinct, longitudinal sulcus in the middle, apex of clypeus, maxillary and mandibular plates slightly tinged with red, eyes relatively small in top view. Length of head 0.43 mm, width 0.62 mm, diameter of eye 0.13 mm. First antennal segment short, dark brown, slightly paler at base, second segment thin, dark brown with pale spots at base, in the middle and at apex, covered with very short, pale setae, third and fourth segments short, pale, covered with pale, longer setae. Length of antennal segments in mm: 0.30: 1.14: 0.35: 0.30. Rostrum brown, hardly visible in the specimen examined.

Pronotum pale brown, mottled with pale and brown patches. Anterior lobe of pronotum distinctly raised, with a deep incision in the middle. Lateral margins of pronotum distinctly elevated, posterior margin sinuate (Fig. 4). Length of pronotum 0.55 mm, anterior margin 0.62 mm, lateral margins 0.55 mm, posterior margin 1.35 mm. Mesoscutum dark brown with small pale spots and a rib-like carina on sides, scutellum dark brown with a few small, pale spots, apex of scutellum pale.

Hemelytra pale brown, clavus pale brown with a distinct rib-like vein in the middle, corium pale brown with numerous pale spots and patches. Cuneus relatively short, pale brown, pale at apex, with a larger pale patch at base. Membrane grey with pale spots, venation thin, brown, minor cell invisible in the specimen examined.

Body chestnut ventrally, tinged with red, with white patches. Coxae invisible, trochanters pale, femora chestnut, pale at apex and base, tibiae dark brown, pale at apex, with two small, pale patches in one half, distal part of tibiae paler. Tarsi pale brown, very short, two-segmented, second segment slightly swollen distally, divided in the middle, claws with a distinct subapical tooth.

Distribution: Taiwan: Tainan.

## *P. nigra*-group

This small group includes only three small and medium-sized species described from the Philippines and Singapore.

### Key to the species of *P. nigra*-group

- 1 Small species, length of the body about 3 mm or less . . . . . *P. lugubris* POPPIUS
- Larger species, length of the body more than 3.5 mm . . . . . 2
- 2 Head and pronotum black, head with thin, silvery, longitudinal lines . . . . . *P. nigripennis* BERGROTH
- Head and part of pronotum pale, head without silvery lines . . . . . *P. nigra* GORCZYCA

### *Peritropis lugubris* POPPIUS (Fig. 5)

*Peritropis* (Mevius) *lugubris* POPPIUS 1909: 27.

*Peritropis lugubris*: BERGROTH 1920: 74; CARVALHO 1957: 22, 1980b: 655; SCHUH 1995: 33; GORCZYCA & EYLES 1997: 229.

Material examined: 1 ♀: Kuching, Sept. 1906, T H? [handwritten]; *Peritropis lugubris* POPP. det. J. Gorczyca. Housed in BMNH.

Diagnosis: This species can be distinguished from the other species of the group by its small size and unicoloured mesoscutum (Fig. 5).

Redescription: Female (male unknown). Body stout, dark brown, almost black, covered with short, pale, scale-like setae. Length of the body 2.85 mm, width 1.50 mm, head unicoloured, dark brown, eyes relatively large. Length of head 0.40 mm, width 0.68 mm, diameter of eye 0.22 mm. Antennae brown, covered with short, dense setae. First segment slightly paler at base, second segment brown with a paler area at middle. Length of antennal segments in mm: 0.32: 1.0 (remaining segments broken in the specimen examined). Rostrum brown, relatively short, reaching abdomen, length of individual segments poorly visible in the specimen examined.

Pronotum short, broad, dark brown, anterior lobe raised with a longitudinal sulcus in the middle, the posterior margin paler with three small, pale patches in the middle. Length of pronotum 0.40 mm, length of the anterior margin 0.65 mm, lateral margin 0.42 mm, posterior margin 1.25 mm. Mesoscutum and scutellum dark brown, scutellum paler at apex.



**Fig. 5:** *Peritropis lugubris* POPPIUS, female specimen from Borneo.

Hemelytra dark brown with small, pale, translucent patches on corium and cuneus. Membrane grey with small, pale spots, venation grey, weakly marked.

Body brown to dark brown ventrally, partly tinged with red, coxae and trochanters pale, femora and tibiae brown, tarsi short, brown, slightly paler than tibiae.

Distribution: Malaysia: Borneo, Singapore.

Remarks: The holotype has been destroyed and only the pin with labels remains in HNHM.

### *Peritropis nigra* GORCZYCA (Fig. 6)

*Peritropis nigra* GORCZYCA 2003b: 154.

Type material examined: Holotype ♀: Kolambugan, Mindanao; Staudinger & Bang-Haas; Paratype ♀: Kolambugan, Mindanao; Staudinger & Bang-Haas; *Peritropis* ? *nigripennis* BERG., Kerzhner det. 968 [handwritten]. Both housed in ZMAS.



**Fig. 6:** *Peritropis nigra*  
GORCZYCA, holotype.



**Diagnosis:** This species is very similar to *P. nigripennis* BERGROTH, but it can be distinguished by the almost entirely black head and pronotum (Fig. 6).

**Redescription:** Female (male unknown). Body black, mat, covered with very short, pale, scale-like setae, length of the body 3.75 mm, width 1.70 mm. Head black with five thin, longitudinal, silvery lines, length of head 0.62 mm, width 0.70 mm, diameter of eye 0.17 mm. First antennal segment relatively thin, brown, second segment thin, almost cylindrical, brown, slightly darkened apically. Third and fourth segments brown, very short. Length of antennal segments in mm: 0.42: 0.85: 0.20: 0.20. Rostrum brown, relatively short, reaching beyond mesocoxae. Length of rostral segments in mm: 0.60: 0.60: 0.55: 0.55.

Pronotum almost black, covered with very short, pale, scale-like setae, calli slightly raised with a barely visible, longitudinal sulcus between them. Lateral margins slightly elevated, posterior margin with yellow stripes in the humeral angles and three small, yellow patches in the middle. Mesoscutum entirely black, scutellum black with pale apex. Length of pronotum 0.60 mm, anterior margin 0.70 mm, lateral margins 0.60 mm, posterior margin 1.35 mm.

Hemelytra dark brown to black, covered with very short, pale, scale-like setae, embolium wide, cuneus brown, paler at apex and base. Membrane grey with small, pale spots, venation dark grey, major cell triangular.

Body dark ventrally, abdomen entirely brown, coxae and trochanters pale, femora dark brown, paler and tinged with red at apex, tibiae brown, tarsi pale brown. Tarsi very short, two-segmented, claws with a very distinct subapical tooth.

**Distribution:** Philippines: Mindanao.

#### ***Peritropis nigripennis* BERGROTH (Fig. 7)**

*Peritropis nigripennis* BERGROTH 1920: 81.

*Peritropis nigripennis*: CARVALHO 1957: 22; SCHUH 1995: 33; GORCZYCA & EYLES 1997: 229; GORCZYCA 2003b: 154, 156.

Type material examined: Holotype ♀: Mt. Bana-hao, P. I. BAKER; Mus. Zool. H: fors, Spec. typ. No 3801, *Peritropis nigripennis* BERGR. [handwritten]; *Peritropis nigripennis* BERGR. [handwritten]. Housed in the MZHE.

**Diagnosis:** This species is similar to *P. nigra* GORCZYCA, but differs from it in the characters given above. Both species can be distinguished from all other representatives of the genus by the entirely black hemelytra (Fig. 7).

**Redescription:** Female (male unknown). Body broad, stout, covered with very short, pale, scale-like setae. Length of the body 4.18 mm, width 2.25 mm. Head yellow with a red pattern, vertex with a long, red, longitudinal sulcus, clypeus yellow with two red, longitudinal stripes and a red spot at base. Mandibular and maxillary plates chestnut, rostrum reaching beyond metacoxae, brown, first segment tinged with red, remaining segments very thin. Length of head 0.55 mm, width 0.85 mm, diameter of eye 0.20 mm.



First and second antennal segments brown, covered with small, short, pale setae, first segment narrow at base then relatively thick, 0.48 mm long, second segment broken in the specimen examined. Length of rostral segments in mm: 0.52: 1.32 (second and third segments together): 0.48.

Pronotum broad with a longitudinal sulcus between calli, calli yellow with red spots, anterior sides of pronotum very dark, almost black. Posterior lobe of pronotum yellow with dark patches contiguous with the posterior margin. Humeral angles slightly elevated, yellow with small, dark patches, lateral margins elevated. Length of pronotum 0.70 mm, length of anterior margin 0.75 mm, lateral margins 0.80 mm, posterior margin 1.65 mm. Mesoscutum entirely black, scutellum black with pale apex.

Hemelytra unicoloured, dark brown to almost black, covered with dense, pale, very short, scale-like setae. Embolium wide with a small, pale patch at apex, cuneus dark with small pale patches at apex and base. Membrane dark grey with numerous pale spots, venation thin, brown, major cell triangular with a very small stub.

Body very dark ventrally, propleuron and mesepisternum almost black, ostiolar peritreme small, brown, coxae brown, remaining parts of legs mutilated, abdomen brown, slightly tinged with red.

Distribution: Philippines: Luzon.

### ***P. poppiana*-group**

Representatives of this group are middle-sized and small bugs with pale swellings on the body and a fine network on the hemelytra. This group includes morphologically similar and widely distributed species, which are difficult to determine.

#### **Key to species of *P. poppiana*-group**

- 1 Second antennal segment tinged with red in the basal part, with a pale ring in the middle and a thin, pale, longitudinal stripe ..... *P. javanica* POPPIUS
- Second antennal segment usually dark brown, with or without a pale ring in the middle and without a pale, longitudinal stripe ..... 2

- 2 Small insects, length of the body about 3 mm, tibiae pale with a brown, longitudinal stripe ..... *P. ernsti* nov.sp.

- Length of the body more than 3.50 mm, usually about 4 mm, tibiae brown or brown with pale rings ..... 3

- 3 Second antennal segment usually with a pale ring or patch in the middle, clavus with small, pale patches

..... *P. similis* POPPIUS

- Second antennal segment without a pale ring or patch in the middle, clavus with pale, longitudinal stripes

..... *P. poppiana* BERGROTH

#### ***Peritropis ernsti* nov.sp. (Fig. 8)**

Type material: Holotype ♂: 125W m. v. Light, Brunei: Tamburong District ridge NE of Kuala Belalong; approx. 300 m alt. October 1992, J H Martin coll. B M 1992-172; paratypes 1♂, 2 ♀:

**Fig. 7:** *Peritropis nigripennis* BERGROTH, holotype.



**Fig. 8:** *Peritropis ernsti* nov.sp., paratype, female.



same data as holotype. Holotype and two paratypes in BMNH, one paratype in US.

**Etymology.** This species is dedicated to my friend and prominent heteropterologist Ernst Heiss (Innsbruck, Austria).

**Diagnosis:** This species can be easily distinguished from others in the group by the small size of the body, a very regular pattern of stripes and patches on hemelytra (Fig. 8), the relatively long antennae and the coloration of tibiae.

**Description:** Male. Body small, elongate-oval, brown or chestnut, tinged with red, with pale stripes and patches. Length of the body 2.37-2.45 mm, width 1.02-1.05 mm. Head brown, tinged with red on vertex, with paler areas on vertex contiguous with the margin of eyes. There is a pale transverse line on vertex and three pale, longitudinal lines along frons. Clypeus white with a red or brown longitudinal stripe, mandibular and maxillary plates red or brown with white patches. Length of head 0.37 mm,

width 0.55 mm, diameter of eye 0.12 mm. Antennae inserted on white tubercles almost contiguous with the margin of eye. First antennal segment white at base then brown or reddish, with a small, pale area at middle, second segment brown, slightly thickened towards the apex, covered with short, white, scale-like setae. Third and fourth segments thin, dark, covered with dense, long, semi-erect setae. Fourth segment divided and slightly thickened in the apical part. Length of antennal segments in mm: 0.25: 0.80: 0.25: 0.35. Rostrum pale, relatively thick, reaching pygophore. Length of rostral segments in mm: 0.30: 0.45: 0.50: 0.37.

Pronotum brown, slightly tinged with red, mottled with small, pale patches, posterior and lateral margins pale. Anterior lobe relatively large, raised and paler than the rest of pronotum, with a thin longitudinal sulcus in the middle. Length of pronotum 0.45 mm, length of the anterior margin 0.55 mm, lateral margins 0.45 mm, posterior margin 0.90 mm. Mesoscutum dark brown with yellow area at middle. Scutellum dark brown with numerous small, yellow patches in the middle and a pale longitudinal stripe reaching the apex.

Hemelytra chestnut, tinged with red, with pale longitudinal lines. Clavus with pale margins, a broad, pale longitudinal stripe from base to apex, and thin, dotted longitudinal lines in the middle. Embolium relatively wide, chestnut, with pale longitudinal lines on the margins and a few pale patches inside; also a transverse pale stripe contiguous with costal fracture. Medial fracture dark with a contiguous, pale, longitudinal stripe; also a pale, long, longitudinal line and a large longitudinal patch surrounded by a red area inside corium. Cuneus short, broad, chestnut, with small, pale patches and pale stripes on the margins. Membrane grey to dark grey, with small and larger pale areas, venation brown, distinct, in pale contour. Major cell rounded, minor cell very small.

Body brown to dark brown ventrally, coxae and trochanters contrasting white, abdomen brown with white, pale patches, ostiolar peritreme small, white. Femora dark brown, pale at base and apex, with a red ring

in the apical part; tibiae pale with red and brown longitudinal stripes; tarsi relatively long, two-segmented, the second segment divided; claws with a distinct subapical tooth.

Female similar to male in coloration but larger. Second antennal segment covered only with short, dense setae, without white, scale-like setae. Length of the body 3.07–3.10 mm, width 1.27 mm. Length of head 0.47–0.50 mm, width 0.52–0.55 mm, diameter of eye 0.15 mm. Length of antennal segments in mm: 0.25: 0.77: 0.32: 0.42. Rostrum shorter than in male but the length of individual segments unmeasurable in the specimens examined. Length of pronotum 0.50 mm, length of the anterior margin 0.62 mm, lateral margins 0.50 mm, posterior margin 1.07 mm.

Distribution. Brunei.

### *Peritropis javanica* POPPIUS (Fig. 9)

*Peritropis javanicus* POPPIUS 1909: 25.

*Peritropis javanus*: POPPIUS 1914a: 146.

*Peritropis javanica* BERGROTH 1920: 74; CARVALHO 1957: 21; SCHUH 1995: 33; GORCZYCA & EYLES 1997: 229.

Type material examined: Holotype ♀: Java occident., Pangalengan, 4000', 1899, H. Fruhstorfer; *javanicus* n.sp., det. B. Poppius [handwritten]; *Peritropis javanicus* n.sp. [handwritten]; red label. Housed in NHMW.

Diagnosis: From the other members of this group it can be distinguished by the relatively small size of the body and coloration of antennae (Fig. 9).

Redescription: Female (male unknown). Body elongate-oval, brown with pale areas and stripes, length of the body 3.60 mm, width 1.40 mm. Head brown with numerous regular pale stripes, vertex with pale occipital carina. Length of head 0.65 mm, width 0.65 mm, diameter of eye 0.17 mm. First antennal segment pale at base then reddish, second antennal segment thin, covered with short, dense setae, tinged with red with a white ring in the middle and a thin, pale longitudinal stripe, pale at apex. Length of antennal segments in mm: 0.30: 1.05 (remaining segments broken in the specimen examined). Rostrum thin, pale brown, reaching beyond the middle of abdomen, length of individual segments unmeasurable in the specimen examined.



**Fig. 9:** *Peritropis javanica* POPPIUS, holotype.

Pronotum brown with small pale stripes and patches, margins of pronotum pale, the pale stripe thickest at anterior margin. Anterior lobe of pronotum slightly raised, with a longitudinal sulcus in the middle. Length of pronotum 0.52 mm, length of the anterior margin 0.57 mm, lateral margins 0.57 mm, posterior margin 1.25 mm. Mesoscutum dark brown in the basal part, with pale patches in the area contiguous with scutellum, scutellum brown with pale patches, apex of scutellum pale.

Hemelytra pale brown with pale spots, patches and stripes. Clavus with three pale longitudinal stripes, corium with numerous pale patches forming wide longitudinal stripes, embolium wide with numerous small, pale patches and with a pale area contiguous with cuneus. Cuneus pale brown, slightly tinged with red, with small, pale ar-



**Fig. 10:** *Peritropis poppiana*  
BERGROTH, syntype, female.



eas, membrane pale, damaged in the specimen examined.

Body brown ventrally, propleuron dark brown, abdomen brown, tinged with red, coxae pale, remaining parts of legs broken in the specimen examined.

Distribution. Java.

***Peritropis poppiana* BERGROTH (Fig. 10)**

*Peritropis poppiana* BERGROTH 1918: 118.

*Peritropis poppiana*: BERGROTH 1920: 81; CARVALHO 1957: 22; SCHUH 1995: 34; GORCZYCA & EYLES 1997: 229. GORCZYCA 2003b: 154.

Type material examined: Syntype ♀: Mt. Makiling, Luzon, Baker; 3712; *Peritropis poppiana* BERGR. [handwritten]; Mus. Zool. H: fors, Spec. Typ., No 3806, *Peritropis poppiana* BERGR.; syntype ♀: Mt. Makiling, Luzon, Baker. Housed in MZHF.

Other material examined: 1 ♀: Zamboanga, Mindanao, Baker; *Peritropis poppiana* BERGR., det. J.

Gorczyca; 1 ♀: Los Banos, P. I., Baker; Mus. Zool. H: fors, Spec. Typ., No 3807, *Peritropis poppiana* BERGR. Both housed in MZHF; 2 ♀ ♀: S. Theodoro, Mindoro; Staudinger & Bang - Haas; *Peritropis poppiana* BERGR., det. J. Gorczyca. Housed in ZMAS; 2 ♀ ♀: Calian Davao Prov., Mindanao, Phil. Islds. C. S. Clagg, 16 - VII.; *Peritropis poppiana* BERGR., det. J. Gorczyca. One specimen housed in BPBM, one in US; 1 ♀: Philippine Isls, Leyte, Dagami, 14 Mi. S. W. Tacloban, VII-18-1961; P. I. Natl. Mus. & Am. Mus. Nat. Hist. Expedition; *Peritropis poppiana* BERGR., det. J. Gorczyca. Housed in BPBM.

Diagnosis: Very similar to *P. similis* POPPIUS, but it can be distinguished by the shorter head, more distinct longitudinal lines on hemelytra, thin and almost unicoloured second antennal segment and almost unicoloured antennae (Fig. 10).

Redescription: Female (male unknown): Body pale brown to dark brown, with pale lines and patches (Fig. 10), length of the body 3.80-4.60 mm (in most specimens 4.0 mm), width 1.72-1.80 mm. Head brown or yellow-brown, in some specimens slightly tinged with red, with pale longitudinal and transverse lines more or less marked. Usually two pale transverse stripes on vertex and five longitudinal lines along head. Length of head 0.58-0.62 mm, width 0.70-0.72 mm, diameter of eye 0.20-0.22 mm. Antennae inserted on tubercles contiguous with the margin of eye, first antennal segment thin, pale at base then pale brown to dark brown, often tinged with red. Second segment thin, thinner than the first, pale, tinged with red at base, slightly thickened and darkened towards apex, covered with dense, short, dark setae. Third segment thinner and dark, covered with long, semi-erect setae, partly broken in all specimens examined. Length of the first and second antennal segments in mm: 0.35-0.40: 1.20-1.25. Rostrum brown, reaching the middle of abdomen, but length of individual segments unmeasurable in the specimens examined.

Pronotum brown, mottled with yellow patches and lines. A relatively broad, pale, transverse stripe contiguous with the anterior margin of pronotum, lateral and posterior margins pale; the anterior lobe yellowish, raised, with a very thin, longitudinal sulcus. Length of pronotum 0.50-0.57 mm, length of the anterior margin 0.75 mm, lateral mar-

gins 0.62-0.65 mm, posterior margin 1.25-1.37 mm. Mesoscutum brown with numerous pale or yellow patches at middle; scutellum brown in the middle, with pale or yellow (often tinged with orange) patches on sides, apex yellow or pale.

Hemelytra brown with pale patches and pale longitudinal lines; clavus brown with pale lines along its margins, a pale longitudinal line inside, and dense, small, numerous patches forming a broad, longitudinal stripe inside. Embolium very broad, brown, tinged with red or orange, with numerous, small patches. A pale longitudinal line contiguous with medial fracture reaching costal fracture below. Corium brown with pale longitudinal lines and numerous pale patches; cuneus relatively short, broad, brown with small, pale patches, sometimes tinged with red or orange. Membrane grey with small and larger pale patches, venation distinct, brown, surrounded by a pale area, major cell rounded.

Body brown ventrally, coxae pale, forefemora brown, pale at base and slightly paler and tinged with red at apex. Meso- and metafemora pale and brown only in the apical part, or brown and pale only at base, their apices pale, tinged with red or orange. Tarsi relatively long, two-segmented, the second segment divided, claws with a distinct subapical tooth.

Distribution: Philippine: Leyte, Luzon, Mindanao, Mindoro.

### ***Peritropis similis* POPPIUS (Fig. 11)**

*Peritropis similis* POPPIUS 1909: 26.

*Peritropis similis*: BERGROTH 1920: 74; CARVALHO 1957: 22, 1980a: 644; SCHUH 1995: 34; GORCZYCA & EYLES 1997: 229.

Type material examined: Syntype ♀: Engano, Malacconni VI, Modigliani 1891; Museo Civ. Genova; Mus. Zool. H: fors, Spec. typ. 10039, *Peritropis similis* POPP.; syntype ♀: Engano, Malacconni VI, Modigliani 1891; Museo Civ. Genova; *Peritropis similis* n.sp. [handwritten], B. Poppius det.; Mus. Zool. H: fors, Spec. typ. 9983, *Peritropis similis* POPP. Housed in MZHF.

Other material examined: 1♂: N-Sumatra, Brastagi-Toba, 20 VII 80 Heiss; *Peritropis similis* POPP., det. J. Gorczyca; 1♂, 1♀: Malaysia, Penang an Hevea sp. XI 84 Heiss; *Peritropis similis* POPP., det. J. Gorczyca; 1♀: Malaysia-Sarawak, Skrang River, 30 km upstream, 15. VII. 92, Heiss;



**Fig. 11:** *Peritropis similis* POPPIUS, syntype, female.

*Peritropis similis* POPP., det. J. Gorczyca; 1♀, 1♂: 27 XII 1994 Mal, Pahang Prov. Kuala Lipis; Dr. Wolfgang Ullrich collection; *Peritropis similis* POPP., det. J. Gorczyca. All housed in SU. 3♀, 1♂: S. Vietnam, 14.10 N 108.30 E, 40 km NW of An Khe, Buon Luoi, 620-750 m, 28.3-12.4.1995, Pacholatko & Dembicky leg.; *Peritropis similis* POPP., det. J. Gorczyca; 1♂: S. Vietnam, 14.10 N 108.30 E, 40 km NW of An Khe, Buon Luoi, 620-750 m, 28.3-12.4 1995, Pacholatko & Dembicky leg.; Cylapinae, Fulviini, Cfr. *Peritropis* sp. Thèse Chérot. n° 1215, Det. F. Chérot, 1997; *Peritropis similis* POPP., det. J. Gorczyca; 1♀: Malaysia: Sarawak, Mulu NP, 3.-5. 3. 1993, leg. H. Zettel (14); (d) Benarat Inn am Licht. 3.-5. 3. *Peritropis similis* POPP., det. J. Gorczyca; 1♀: NE-India: Meghalaya State, W Garo Hills, Balphakram NP. 22.-27.V.1996, 250-550 m, GPS N 25°11' E 90°51' (WGSB4), leg. E. Jendek & O. Sausa; Cylapinae, Fulviini, Cfr. *Peritropis* sp. Thèse Chérot. n° 1210, Det. F. Chérot, 1997; *Peritropis similis* POPP., det. J. Gorczyca; 1♀: NE-India: Megha-

laya State, W Garo Hills, Balphakram NP. 22.-27.V.1996, 250-550 m, GPS N 25°11' E 90°51' (WGSB4), leg. E. Jendek & O. Sausa; Cylapinae, Fulviini, Cfr. *Peritropis* sp. Thése Chérot. n° 1211, Det. F. Chérot, 1997; *Peritropis similis* POPP., det. J. Gorczyca; 1 ♀ : NE-India: Meghalaya State, W Garo Hills, Balphakram NP. 22.-27.V.1996, 250-550 m, GPS N 25°11' E 90°51' (WGSB4), leg. E. Jendek & O. Sausa; Cylapinae, Fulviini, Cfr. *Peritropis* sp. Thése Chérot. n° 1212, Det. F. Chérot, 1997; *Peritropis similis* POPP., det. J. Gorczyca; 1 ♀ : NE-India: Meghalaya State, W Garo Hills, Balphakram NP. 22.-27.V.1996, 250-550 m, GPS N 25°11' E 90°51' (WGSB4), leg. E. Jendek & O. Sausa; Cylapinae, Fulviini, Cfr. *Peritropis* sp. Thése Chérot. n° 1214, Det. F. Chérot, 1997; *Peritropis similis* POPP., det. J. Gorczyca; 1 ♀ : NE India: Assam, 5 km N of Umrongso, 700 m 25°27' N 92°43' E, 21.V.1999, Dembicky & Pacholatko leg; *Peritropis similis* POPP., det. J. Gorczyca. Seven specimens housed in NHMW, two in SU. 2 ♀ ♀ : 125 W m. v. Light, Brunei: Temburong District, ridge NE of Kuala Belalong; approx. 300 m alt. October 1992, J. H. Martin coll. B M 1992-171; *Peritropis similis* POPP., det. J. Gorczyca; 1 ♀ : 125 W m. v. Light, Brunei: Temburong District, ridge NE of Kuala Belalong; approx. 300 m alt. October 1992, J. H. Martin coll. B M 1992-171; *Peritropis* spp. Det. G. Stonedahl, 1993; *Peritropis similis* POPP., det. J. Gorczyca; 1♂, 2 ♀ ♀ : Malaya, Kuala Lumpur, on *Alliggia molucana* [handwritten], 12.5.1938; Ex. F.M.S. Museum, B.M. 1955-354; *Peritropis similis* POPP., det. J. Gorczyca; 1 ♀ : Malaya, Kuala Lumpur, on *Alligia*, 29.V.1938; Ex. F.M.S. Museum, B.M. 1955-354; *Peritropis similis* POPP., det. J. Gorczyca; 1 ♀ : Siam: Xieng Khong, 10-12. IV. 1920, R.V. de Salvaza; Indo-China, V. De Salvaza, 1920-280; *Peritropis similis* POPP., det. J. Gorczyca; 1 ♀ : Siamese, Malay States, B.M. 1903-127; *Peritropis similis* POPP., det. J. Gorczyca; 1 ♀ : N. Borneo, Bettotan, Sandakan, July 27, 1927; Ex. F.M.S. Museum, B.M. 1955-354; *Peritropis similis* POPP., det. J. Gorczyca; 1 ♀ : Pahang, F.M.S., Lubok Tamang, 3500 ft, June 23 1923, H. M. Pendlebury; ; Ex. F.M.S. Museum, B.M. 1955-354; *Peritropis similis* POPP., det. J. Gorczyca; 1♂, 1 ♀ : Sabah: 200 ft, R. Karamuak, 7 m SSE, Telupid 1-7. IX. 1977; M.E. Bacchus, B.M. 1978-48; *Peritropis similis* POPP., det. J. Gorczyca; 1♂: detritus around felled tree trunk, Brunei: Temburong District; Kuala Belalong, 21 October 1992, J H Martin coll. B.M. 1992-172; *Peritropis similis* POPP., det. J. Gorczyca. All housed in BMNH. 1 ♀ : Vietnam, Tam Dao, 250 m; No.41., 13.X.1986., leg. Vášárhelyi; *Peritropis similis* POPP., det. J. Gorczyca. Housed in HHNM. 1 ♀ : Kolambugao, Mindanao; Staudinger & Bang-Haas; *Peritropis* ? *poppiana* BERGR. Kerzhner det, 968; *Peritropis similis* POPP., det. J. Gorczyca.

Housed in ZMAS. 1♂, 2 ♀ ♀ : Sumatra: 180 m, Dolok Merangir, April-June 1970, E.W. Diehl; *Peritropis similis* POPP., det. J. Gorczyca; 1♂: Indonesia: Sumatra: Dolok Merangir, E.W. Diehl; *Peritropis similis* POPP., det. J. Gorczyca; 1♂: Sumatra: Dolok Merangir, Sept. 27-30 1970, Diehl; *Peritropis similis* POPP., det. J. Gorczyca; 1 ♀ : 69110, Malaysia Kelanfan, 8.7.1986, Jabatan Pertanian; Caught on *Lansium* sp. [handwritten]; *Peritropis similis* POPP., det. J. Gorczyca. Five specimens BPBM, one in US.

Diagnosis: Very similar to the former species but distinguished by the darker body, second antennal segment very dark, usually with a small, pale patch at middle, and tibiae with pale rings. Also the colour pattern is less regular than in *P. poppiana* BERGR. (Fig. 11).

Redescription: Female. Body stout, usually dark brown, with small and larger pale patches and pale longitudinal lines. Length of the body 3.60-4.60 mm, width 1.60-1.80 mm. Head brown to dark brown, sometimes almost black, with pale transverse lines on vertex (more or less marked) and pale longitudinal lines on vertex, frons and clypeus. Length of head 0.65-0.75 mm, width 0.75-0.82 mm, diameter of eye 0.20-0.22 mm. Antennae inserted on tubercles contiguous with the margin of eye, first segment pale at base then brown to dark brown, second segment pale brown at base with a pale patch at middle, darkened and slightly thickened in the apical part, covered with dense, short, dark setae. In some specimens the second segment is unicoloured in the basal and apical part; in a few cases the pale patch is very small or even absent. Third and fourth segments thin, dark, covered with dense, semi-erect setae. Fourth segment divided, slightly thickened in the apical part. Length of antennal segments in mm: 0.35-0.37: 1.12-1.30: 0.25-0.32: 0.25-0.37. Rostrum brown to dark brown, reaching the middle of abdomen, length of rostral segments in mm: 0.62-0.65: 0.85-0.87: 0.55-0.58: 0.34-0.37.

Pronotum brown to dark brown, more or less mottled with small, pale patches, covered with pale, short setae, margins of pronotum pale or brown, with small, pale patches along the margins. Anterior lobe of pronotum paler, raised, with a thin longitudinal sulcus in the middle. Length of pronotum 0.65-0.70 mm, length of the anterior



margin 0.70-0.75 mm, lateral margins 0.65-0.70 mm, posterior margin 1.45-1.50 mm. Mesoscutum and scutellum brown, mottled with more or less numerous pale patches, covered with short, pale setae, apex of scutellum pale.

Hemelytra brown, with numerous small, pale patches and sometimes pale, longitudinal lines; clavus usually with pale margins and with numerous small, pale patches inside, but sometimes also with pale, longitudinal stripes at middle, apex of clavus pale. Embolium wide, with numerous small, pale patches and with a pale, transverse stripe, contiguous with costal fracture. Cuneus short and broad, dark brown with small, pale patches. Membrane grey to dark grey, with numerous small and larger pale patches, venation brown to dark brown, clearly visible, in pale contour. Major cell rounded, minor cell clearly visible.

Body brown to dark brown ventrally; abdomen brown with pale areas on spiracles; coxae and trochanters white; femora brown, paler at base, apical part also pale with a red ring; tibiae brown, usually with two pale rings and sometimes with a pale patch tinged with red at base. Tarsi relatively long, two-segmented, second segment divided, claws with a distinct subapical tooth.

Male. Similar to female in coloration of the body but smaller. Length of the body 3.20-3.60 mm, width 1.48-1.60 mm. Length of head 0.62-0.65, width 0.70-0.72 mm, diameter of eye 0.20 mm, length of antennal segments in mm: 0.37-0.42: 1.02-1.05: 0.37: 0.42. Rostrum brown, reaching pygophore, length of rostral segments in mm 0.52: 0.75: 0.55: 0.42. Length of pronotum 0.50-0.55 mm, length of the anterior margin 0.65 mm, lateral margins 0.50-0.55 mm, posterior margin 1.20-1.30 mm.

Distribution: Brunei, India, Indonesia: Sumatra, Malaysia: Borneo, Malay Peninsula, Philippines, Thailand, Vietnam.

Remarks. Coloration is highly variable; moreover, it is the most widely distributed species of the genus. Further studies should clarify whether there is really one, variable and widely distributed species, or a group of similar or sibling species.



**Fig. 12:** *Peritropis heissi* nov.sp., holotype.

### *P. suturella*-group

The insects belonging to the *P. suturella*-group are small or medium-sized, of varied coloration, with the membrane lacking spots or patches.

#### Key to the species of *P. suturella*-group

- 1 Posterior lobe of pronotum with pale, longitudinal stripes . . . . *P. suturella* POPPIUS
- Posterior lobe of pronotum without pale, longitudinal stripes . . . . .2
- 2 Second antennal segment very thick, covered with short setae, much shorter than the posterior margin of pronotum . . . . . *P. heissi* nov.sp.
- Second antennal segment thin, covered with long setae, longer than or as long as the posterior margin of pronotum . . . . . *P. setosicornis* BERGROTH

#### *Peritropis heissi* nov.sp. (Fig. 12)

Type material: Holotype ♂: Malaya, Kuala Lumpur, at light, Oct. 22, 1931; Ex. F. M. S., Mu-

**Fig. 13:** *Peritropis setosicornis*  
BERGROTH, male specimen from Laos.



seum, B. M. 1955-354. Housed in BMNH.

**Etymology:** This species is named in honour of Ernst Heiss.

**Diagnosis:** This species can be distinguished from all known species of the genus by the short and thick antennae (Fig. 12).

**Description:** Male (female unknown). Body stout, small, length of the body 2.50 mm, width 1.20 mm. Head short, brown, length of the head 0.32 mm, width 0.55 mm, diameter of eye 0.17 mm. Antennae covered with dense, short, pale setae, inserted on small tubercles contiguous with the margin of eye. First antennal segment very thick, pale, second segment thick, brown, pale at base, in the middle and in the apical part, third segment very short, brown, fourth segment broken in the specimen examined. Length of antennal segments in mm: 0.25: 0.55: 0.20. Rostrum brown, reaching mesocoxae, length of segments unmeasurable in the specimen examined.

Pronotum dark brown with small paler dots on the anterior, lateral and posterior margins. Lateral margins slightly elevated, anterior lobe of pronotum slightly raised, with a thin, short, longitudinal incision in the middle. Length of pronotum 0.37 mm, length of the anterior margin 0.50 mm, lateral margins 0.37 mm, posterior margin 1.0 mm. Mesoscutum dark brown, scutellum dark brown with pale apex.

Hemelytra pale, translucent, clavus damaged in the specimen examined, embolium pale with red areas, cuneus small, pale brown, slightly tinged with red. Membrane pale, shining, venation pale, hardly visible, major cell triangular.

Body brown ventrally with pale areas, coxae and trochanters pale, femora pale with brown rings and small patches tinged with red in the apical part. Tibiae pale with brown rings. The specimen was dissected before my study and the genital segment was lost.

**Distribution:** Malaysia: Malay Peninsula.

***Peritropis setosicornis* BERGROTH  
(Fig. 13)**

*Peritropis setosicornis* BERGROTH 1920: 82.

*Peritropis setosicornis*: CARVALHO 1957: 22; SCHUH 1995: 34; GORCZYCA & EYLES 1997: 229.

Type material examined: Holotype ♂: Palawan: Puerto Princesa, ?; *Peritropis setosicornis* BERG.; Mus. Zool. H: fors, Spec typ. No 11946, *Peritropis setosicornis* BERG. Housed in MZHF.

Other material examined: 1♂: Laos: Sayaboury Prov., Sayaboury, 12.XII.1965; Native Collector, Randon-Bishop Mus. Collection; *Peritropis setosicornis* BERG. det. J. Gorkczyca; 1♂: Laos: Sayaboury Prov., Sayaboury, 17.II.1965; Native Collector Bishop; *Peritropis setosicornis* BERG. det. J. Gorkczyca. Both housed in BPBM. 1♂: Vietnam, isl. Con Dao, 6.IV.1987, A. Ponomarenko leg.; tropical forest; *Peritropis setosicornis* BERG. det. J. Gorkczyca. Housed in ZMAS.

**Diagnosis:** This species is slightly similar to *P. bicolor* GORCZYCA, but it can be easily distinguished by the antennae covered with dense, long, erect setae and the unicoloured membrane (Fig. 13).

**Redescription:** Male (female unknown). Body brown with numerous small, paler patches on hemelytra, length of the body 4.0-4.40 mm, width 1.0-1.10 mm. Head pale with small, red or brown patches and with a

thin longitudinal sulcus on vertex. Length of head 0.57-0.65 mm, width 0.82-0.87 mm, diameter of eye 0.22-0.25 mm. Antennae inserted on tubercles slightly removed from the margin of eye. First antennal segment relatively short, pale to dark brown, second segment pale, slightly darkened and tinged with red in the apical part, covered with pale, long, erect setae, much longer than the diameter of the segment. Third and fourth segments thin, short, dark, covered with long, erect setae. Length of antennal segments in mm: 0.37: 1.57-1.62: 0.55: 0.50. Rostrum brown, almost reaching pygophore, length of individual segments unmeasurable in the specimens examined.

Pronotum pale brown to brown, mottled with pale patches, anterior lobe slightly raised with a thin longitudinal sulcus at middle, posterior margin of pronotum slightly concave. Length of pronotum 0.55-0.57 mm, length of the anterior margin 0.75-0.80 mm, lateral margins 0.75 mm, posterior margin 1.45-1.50 mm. Mesoscutum and scutellum dark brown, mesoscutum unicoloured or with small, pale patches, scutellum unicoloured, pale only at apex.

Hemelytra brown to dark brown, mottled with small, pale spots and patches, cuneus darker than the rest of hemelytra, unicoloured or pale at apex. Membrane pale to grey, slightly shining, venation brown, distinct.

Body brown to dark brown ventrally, forecoxae brown, meso- and metacoxae paler, forefemora brown, paler only at apex, meso- and metafemora pale at base, then brown, paler and slightly tinged with red at apex. Tibiae pale brown, sometimes tinged with red in the apical part, tarsi thin, relatively long, two-segmented, the second segment divided, claws without subapical tooth.

Distribution: Laos, Philippines, Vietnam.

#### ***Peritropis suturella* POPPIUS (Fig. 14)**

*Peritropis suturellus* POPPIUS 1914b: 129.

*Peritropis suturella*: BERGROTH 1920: 74; CARVALHO 1957: 22; SCHUH 1995: 34; GORCZYCA & EYLES 1997: 229.

Type material examined: Holotype ♂: India. Mer., Madura, Jos. Debreuil; *Peritropis suturellus* n.sp. [handwritten], B. Poppius det; Mus. Zool. H:



**Fig. 14:** *Peritropis suturella* POPPIUS, holotype.

fors, Spec typ. No 11946, *Peritropis suturellus* POPP. Housed in MZHF.

Diagnosis: This species can be distinguished by the broad cuneus and brown pronotum with pale, longitudinal stripes (Fig. 14).

Redescription: Male (female unknown). Body brown, relatively broad, covered with fine pale setae, length of the body 3.50 mm, width 1.62 mm. Head brown with paler patches on vertex, frons and clypeus. Antenniferous tubercles contiguous with the inner margins of eye, antennae broken in the specimen examined. Rostrum brown, relatively long, reaching almost pygophore, length of individual segments unmeasurable in the specimen examined. Length of head in top view 0.37 mm, width 0.60 mm, diameter of eye 0.17 mm.



**Fig. 15:** *Peritropis electilis*  
BERGROTH, holotype.



Pronotum brown, anterior lobe only slightly raised, with a yellow pattern, posterior lobe brown with three broad, yellow, longitudinal stripes, the humeral angles pale. Length of pronotum 0.50 mm, length of the anterior margin 0.55 mm, lateral margins 0.50 mm, posterior margin 1.10 mm. Mesoscutum and scutellum brown with a few large, paler patches, apex of scutellum brown.

Hemelytra brown, paler at base, with a white patch contiguous with cuneus, distal part of embolium slightly tinged with red, cuneus dark, broad. Membrane dark grey, venation distinct.

Body chestnut ventrally, forecoxae pale brown, meso- and metacoxae white. Forefemora brown, paler at base and apex, foretibiae pale brown, remaining parts of the legs broken in the specimen examined.

Distribution. India.

## *P. thailandica*-group

So far three species are assigned to this group, one small and the others relatively large, with the body unicoloured or mottled with brown, pale and red patches.

## Key to *P. thailandica*-group

- 1 Length of the body about 3 mm  
..... *P. electilis* BERGRÖTH
- Length of the body 3.5 mm or more ... 2
- 2 First and second antennal segment pale, almost unicoloured, mesoscutum and scutellum dark brown, almost unicoloured (except white apex)  
..... *P. sulawesica* nov.sp.
- First and second antennal segment not pale or unicoloured, mesoscutum and scutellum mottled, not unicoloured (except white apex) ... *P. thailandica* nov.sp.

## *Peritropis electilis* BERGROTH (Fig. 15)

*Peritropis electilis* BERGROTH 1920: 83.

*Peritropis electilis*: CARVALHO 1957: 21; SCHUH 1995: 33; GORCZYCA & EYLES 1997: 229; GORCZYCA 2003b: 154.

Type material examined: Holotype ♂: Mt. Makiling, Luzon, Baker; *Peritropis electilis* BERG. [old, handwritten label]; Mus. Zool. H:dors, Spec. Typ. No 3.808, *Peritropis electilis* BERGR. Housed in MZHF.

Diagnosis: This species can be distinguished by the small size of the body, relatively thick second antennal segment with a pale ring at middle, and the coloration of hemelytra (Fig. 15).

Redescription: Male (female unknown). Body small, brown, elongate-oval, covered with pale, short setae and small, pale patches, length of the body 3.0 mm, width 1.20 mm. Head brown with small, pale patches, length of head 0.40 mm, width 0.65 mm, diameter of eye 0.25 mm. Antennae broken in the specimen examined, rostrum brown, reaching the middle of abdomen, the length of individual segments unmeasurable in the specimen examined.

Pronotum brown with small, pale patches, anterior lobe of pronotum distinctly raised. Length of pronotum 0.42 mm, length of the anterior margin 0.57 mm, lateral margins 0.50 mm, posterior margin 1.05 mm. Mesoscutum and scutellum dark brown with

small pale patches and larger patches laterally and apically.

Hemelytra brown, paler than scutellum, covered with short setae and paler silvery patches. Embolium slightly tinged with orange distally, cuneus dark brown with small pale dots. Membrane pale, shining, with paler, weakly marked spots, venation distinct, brown, major cell triangular.

Body chestnut ventrally, coxae pale, femora pale at base then brown, with pale patches in the apical part, tibiae brown with pale rings, tarsi short, pale.

Distribution: Philippines: Luzon.

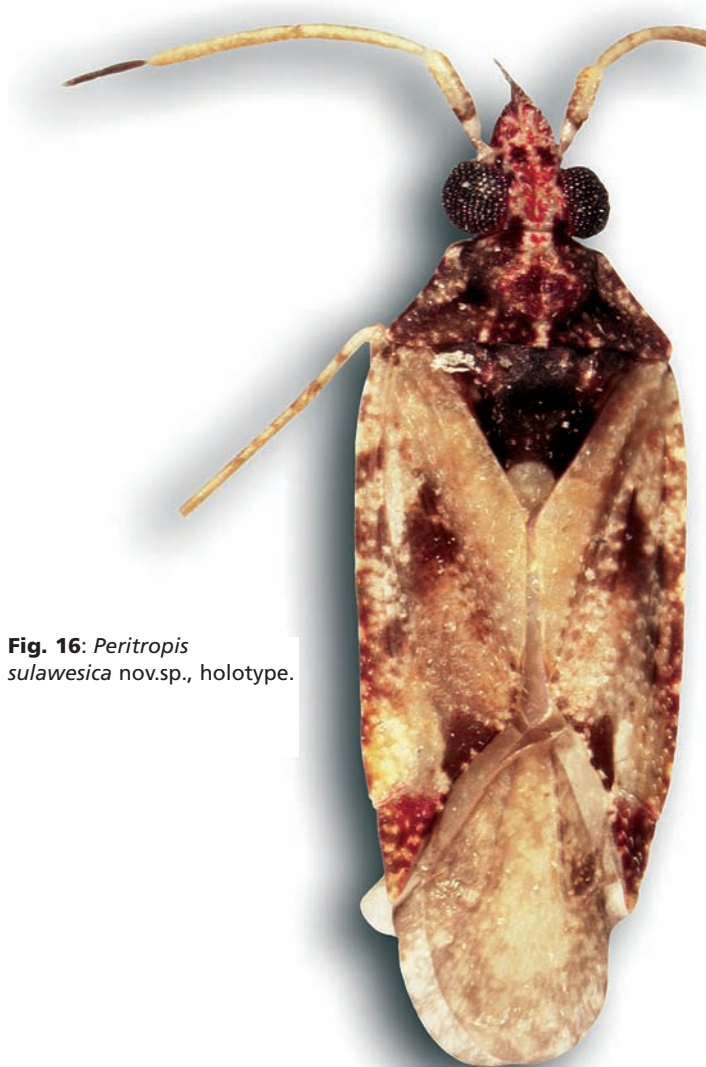
***Peritropis sulawesica* nov.sp. (Fig. 16)**

Type material: Holotype ♂: Tray 7; Fog 25, 1200 m, G. Ambang F. R. Nr. Kotabagu, 31. VII. 1985; Indonesia: Sulawesi Utara, Dumonga-Bone N.P., July 1985; R. Ent. Soc. London. Project Wallace B.M. 1985. Housed in BMNH.

Diagnosis: This species somewhat resembles *Peritropis annulicornis* POPPIUS from Papua New Guinea but can be easily distinguished by the narrow body and coloration of the first and second antennal segments (Fig. 16).

Descriptions: Male (female unknown). Body elongate, narrow, mottled with pale and brown areas, length of the body 3.60 mm, width 1.40 mm. Head pale with numerous small, red patches, two brown patches above clypeus, clypeus thin. Vertex with a thin, longitudinal sulcus at middle, eyes very large, labrum relatively long, thin. Length of head (in top view) 0.57 mm, width 0.67 mm, diameter of eye 0.22 mm. First antennal segment pale with a brown ring in the basal part and small, brown dots laterally, second segment pale, slightly darkened on sides, covered with dense, short setae. Third and fourth segments, dark, short and thin. Length of antennal segments in mm: 0.42: 1.05: 0.37: 0.22. Rostrum brown, reaching the middle of abdomen, length of individual segments not visible in the specimen examined.

Pronotum relatively small, brown with pale spots and patches, pronotal collar invisible. Anterior lobe of pronotum distinctly raised, slightly tinged with red, with a short longitudinal sulcus at middle. Length



**Fig. 16:** *Peritropis sulawesica* nov.sp., holotype.

of pronotum 0.50 mm, length of the anterior margin 0.57 mm, lateral margins 0.52 mm, posterior margin 1.17 mm. Mesoscutum dark brown, slightly paler laterally, scutellum dark brown, apex of scutellum white.

Hemelytra pale with brown patches. Clavus pale, corium with a large brown patch contiguous with claval suture and a large, dark brown patch contiguous with membrane. Embolium with brown patches, cuneus dark brown, tinged with red, with small, pale spots. Membrane pale at middle and grey laterally, with a paler pattern, venation distinct, grey with pale spots, minor cell clearly visible.

Body brown ventrally, slightly tinged with red, coxae and trochanters pale,

**Fig. 17:** *Peritropis thailandica* nov.sp., holotype.



forefemora brown, pale only at base and apex, apex tinged with red, foretibiae pale with small, brown patches. Remaining femora broken in the specimen examined.

Distribution: Indonesia: Sulawesi.

***Peritropis thailandica* nov.sp. (Fig. 17)**

Type material: Holotype ♀: Thailand, Doi Suthep-Pui, natn. Park, Konthathan, waterfall area 600 m 20-27. X. 1979, Zool. Mus. Copenhagen Exped. Housed in ZMUC.

Diagnosis: In coloration, this species is similar to *Peritropis annulicornis* POPPIUS and *P. punctatus* CARVALHO & LORENZATO from Papua New Guinea, but it can be distinguished by the large size of the body and the coloration of the first and second antennal segments (Fig. 17).

Description: Female (male unknown). Body large, elongate-oval, mottled, length of the body 4.0 mm, width 1.75 mm. Head

pale with a red pattern, length of head 0.62 mm, width 0.70 mm, diameter of eye 0.20 mm. First antennal segment pale at base with two small, brown patches, then orange, tinged with red, with a pale longitudinal stripe on the inner side. Second segment thin, covered with dense, pale, very short setae, dark brown with a short, white longitudinal stripe on the inner side at base, a small, white patch at middle of the inner side, white apically. Length of antennal segments in mm: 0.47: 1.25 (remaining segments broken in the specimen examined). Rostrum brown, thin, reaching the middle of abdomen. Length of rostral segments in mm: 0.62: 0.75: 0.50: 0.45.

Pronotum short, broad, brown, mottled with paler patches, lateral margins elevated. Anterior lobe of pronotum distinctly raised but flattened on the top, with longitudinal sulcus at middle. Length of pronotum 0.45 mm, length of the anterior margin 0.62, lateral margins 0.62 mm, posterior margin 1.30 mm. Mesoscutum and scutellum brown with numerous pale spots and patches, apex of scutellum white.

Hemelytra brown, mottled, clavus pale brown, slightly tinged with orange, covered with small, silvery spots, corium brown with a dark brown patch contiguous with cuneus and membrane, cuneus reddish brown with small pale patches, embolium relatively broad, brown with paler patches, tinged with orange in the distal part. Membrane grey with paler spots, venation thin, grey, minor cell weakly marked.

Body chestnut ventrally with paler and red areas, ostiolar peritreme white, tinged with red, coxae and trochanters pale. Forefemora brown, pale and tinged with red at apex, meso- and metafemora pale at base then brown, pale and tinged with red at apex. Tibiae pale and slightly tinged with red at apex, then brown with paler, broad rings, tarsi thin, pale, two-segmented.

Distribution: Thailand.

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## Zusammenfassung

Die Gattung *Peritropis* UHLER der Orientalischen Region wird revidiert. Sechs neue Arten aus Brunei, Indonesien, Indien, Malaysia, Thailand und Vietnam werden beschrieben. Typen aller Arten wurden untersucht, ausgenommen *P. lugubris* POPPIUS. Alle bekannten Arten der Orientalischen Region werden beschrieben. Der dorsale Habitus aller Arten wird abgebildet und ein Schlüssel der Orientalischen Arten erstellt.

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