

The Palearctic species of Largidae (Heteroptera: Largidae: Physopeltinae)

Largidae Палеарктики (Heteroptera: Largidae: Physopeltinae)

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КЛЮЧЕВЫЕ СЛОВА. Heteroptera, Largidae, Physopeltinae, распространение, определительная таблица.

ABSTRACT. Of the eight species of Largidae known from the Palearctic region, only *Physopelta parviceps* Blöte, 1931 is restricted to this zoogeographical region. The other seven species also occur in the Oriental region. *Physopelta gutta famelica* Stål, 1855 is newly recorded for China. A key to the Palearctic species of Largidae is provided.

РЕЗЮМЕ. Из восьми известных для Палеарктики видов Largidae лишь *Physopelta parviceps* Blöte, 1931 встречается исключительно в пределах этой зоогеографической области. Остальные семь видов также известны из Ориентальной области. *Physopelta gutta famelica* Stål, 1855 впервые указывается для Китая. Дана определительная таблица Палеарктических видов Largidae.

Largidae

The Largidae is a relatively small family, represented in the Palearctic region by three genera: *Iphita* Stål, 1870; *Macrocheraia* Guérin-Méneville, 1835; and *Physopelta* Amyot & Serville, 1843. Members of this family are characterized by the lack of ocelli, the hemelytral membrane possessing more than five veins, the seventh sternite in female specimens is divided, and the ovipositor is lanceolate. The first two characters listed above also occur in members of the family Pyrrhocoridae, but in the Pyrrhocoridae, the seventh sternite is not divided and the ovipositor is platelike. *Iphita* and *Macrocheraia* have only one representative each in the Palearctic. Both are very characteristic in size and form. The males of *Macrocheraia* are the largest known land-bugs (≤ 58 mm), and they have antennae which are slightly longer than the length of the body. Members of the genus *Iphita* are usually uniformly brown with the margins of the pronotum and corium ochraceous. The anterior margin of the pronotum, in species of *Physopelta*, is strongly convex and reaches the neck, the first segment of the antennae is much longer than the head, and the base of segment four is white to yellow. All members of this genus are macropterous.

Physopelta Amyot & Serville, 1843

This genus was established in 1843 by Amyot & Serville for the species *Ph. erythrocephalus* (= *Ph. albofasciata* De Geer, 1773). *Physopelta* has many species which are distributed mainly in tropical and subtropical areas of the Afrotropical, Australian, Oriental, and Palearctic regions. It is not found in the Nearctic and Neotropical regions. Systematically, two subgenera are known: *Physopelta* (*Physopelta*) and *Physopelta* (*Delacampius* Distant, 1903) [Stehlik & Kerzhner, 1999], although some scientists regard them as two distinct genera [Cassis & Gross, 2002]. Currently, the two subgenera can be distinguished by size with the 21 larger species belonging in *Ph. (Physopelta)* and the seven smaller species belonging in *Ph. (Delacampius)*. Most species of *Ph. (Delacampius)* are endemic to small, restricted regions; none are known to occur in the Palearctic region.

All species of *Physopelta* are phytophagous, feeding on the sap of various plant species in the family Euphorbiaceae (*Mallotus* spec.) [Ahmad & Schaefer, 1987]. Nymphs and adults feed on the small, green, trilobed fruits in the evening and at night. They are diurnal in habit, and they are attracted to light between 7 pm. and midnight [Leston, 1969].

All 21 species of the nominate subgenus are longer than 9 mm, and their width is between 4 and 7 mm. The pronotum is sericeous. The 4th segment of the antennae is slightly longer than segment 3. This subgenus is relatively widespread with the center of distribution in the Oriental region. Five species are restricted to Africa and Madagascar, another five are known only from the Indo-Malayan region, and another species is endemic to Australia. Six species are Palearctic, including *Physopelta parviceps* Blöte, 1931, which is restricted to the eastern Palearctic.

Physopelta (*Ph.*) *albofasciata* (De Geer, 1773)

According to the literature, this species is known from China and Taiwan [Matsumura, 1905]. Kerzhner [2001] has shown that this species does not occur in the Palearctic region. The Palearctic literature records for *Ph. albofasciata* should apply to either *Ph. cincticollis* Stål, 1863, or *Ph. parviceps* Blöte, 1931. Length: 19–21 mm; width: 7 mm.

DISTRIBUTION. OR: India, Indonesia (Java, Kalimantan, Sumatra), Malaysia (Sarawak), Philippines.

Physopelta (*Ph.*) *cincticollis* Stål, 1863

This species is dark piceous and is very often mistaken for the similar *Ph. parviceps*, but it has a larger head and smaller

eyes. The vertex of *cincticollis* is 4 times broader than an eye. The antennae are more than 0.7 times as long as the body. The pronotum is brown with ochraceous margins, and the posterolateral margin is clearly margined along the posterior half. The anterior pronotal margin is nearly as long as the posterior margin. The corium is brownish with the outer margin clear. The clavus and the base of the corium are pale. The small apical black spot near the membrane is ovoid. The tip of the corium is not black. Length: 11.5–14.5 mm; width: 3.5–4.5 mm.

DISTRIBUTION. PA: China (CE, NE, SE, SW), Korea; OR: India, Indonesia (Sumatra), Laos, Thailand.

Physopelta (Ph.) gutta gutta (Burmeister, 1834)

This is a dull red and ochraceous species with the sides of the body parallel. The head is testaceous with the vertex dark. The pronotum is ochraceous with mesial areas brownish and sericeous. The scutellum is black and also sericeous. The corium is testaceous and ochraceous with a large round spot at the middle and the membrane black at the apex. The margins of the pronotum and corium are pale. Venter is dull red to pale brown; the thorax is dark. Length: 15–17 mm; width: 4.0–4.5 mm.

DISTRIBUTION. PA: Afghanistan, China (SE, SW, WP), Japan, Korea, Taiwan; OR: India, Indonesia (Ceram, Irian Jaya, Java, Kalimantan (=Borneo), Sulawesi, Sumatra, Timor), Laos, Myanmar (=Burma), Nepal, Pakistan, Philippines, Sri Lanka, Thailand, Vietnam; AU: Aru-Isl., New Britain, Papua-Neuguinea, Solomon-Isl., Australia (E, N, QU).

Physopelta (Ph.) gutta famelica Stål, 1855

It has nearly the same characteristics as *Ph. gutta gutta*. The important differences are the sanguineous colours, more extensively black dark areas, and the pronotal elevations are larger and higher. The venter is carmine. Length: 15–18 mm; width: 4.0–4.5 mm.

DISTRIBUTION. PA: Afghanistan, China (SW)*, Japan?; OR: India, Indonesia (Seram, Java, Kalimantan, Maluku, Sulawesi, Sumatra, Timor), Myanmar (=Burma), Philippines, Sri Lanka - AU: Aru-Isl., New-Britain, Australia (QLD NSW, NT, VIC), Papua-New Guinea, Bismarck-Archipelago

* New record: China: Sichuan: Emei-Mountains, 500m, 4–20.V.1989, 1 ♂, Kuban leg., in Coll. Voigt.

Physopelta (Ph.) parviceps Blöte, 1931

This brown species is similar to *Ph. cincticollis*, but with a smaller head and larger eyes. The vertex is narrow, only 2.5–3.0 times broader than an eye. The length of the antennae are about two-thirds the body length. The width along the anterior margin of the pronotum is about 0.6 times the width along the posterior margin. The base of the corium and the clavus are not darker than the hemelytral margins. The round central spot is relatively small (smaller than in *Ph. cincticollis*) and does not reach the margins of the corium. The hemelytral membrane is brown. More than half of the 4th antennal segment is white. Length: 11.0–12.6 mm; width 4.0–4.5 mm.

DISTRIBUTION. PA: China?, Japan, Taiwan.

Physopelta (Ph.) quadriguttata Bergroth, 1894

This species is piceous to brown with four small, black spots on each corium. The apex of the corium is not black, because the black corial markings do not reach the membrane. Head, pronotum, and corium are brown with numerous black punctures. The outer margins of the pronotum and corium are pale. Length: 13–17 mm; width: 4.5–5.5 mm.

DISTRIBUTION. PA: China (CE, SE, SW, WP), Taiwan; OR: India, Laos, Nepal, Thailand.

Physopelta (Ph.) robusta Bergroth, 1863

This is one of the largest species of *Physopelta*. It is ivory coloured, with the head, clavus, and spots on the pronotum and corium orange brown. The large spot on the corium is triangular, not round. The venter is orange brown. Length: 18–21 mm; width: 6–7 mm.

(*Ph. albofasciata* is the same size, but the head, the anterior pronotal disk, and the scutellum are sanguineous, and the triangular spot on the corium is black)

DISTRIBUTION. PA: China (SW, SE); OR: Laos, Myanmar, Nepal, Thailand, Vietnam.

Physopelta (Ph.) slانبuschii (Fabricius, 1787)

This red species has a sanguineous head, pronotum, and corium. On the posterior disc of the pronotum, there are two black spots, separated medially by a red line. The scutellum is black. The centre of each corium has two small black spots (sometimes missing), and near the lateral margin of the black membrane, there are two, small, lunate spots. Length: 14–15 mm; width: 4.5–5.1 mm.

DISTRIBUTION. PA: China (SE, SW), Japan (Ryukyu-Isl.), Taiwan; OR: India, Cambodia, Laos, Malaysia, Myanmar, Nepal, Pakistan, Thailand.

KEY TO THE PALEARCTIC GENERA OF LARGIDAE

- 1 (2) First segment of antennae twice as long as head and pronotum together; antennae longer than length of body. *Macrocheraia* Guérin-Méneville
Only one species in Palearctic region: *M. grandis grandis* (Gray)
- 2 (1) First segment of antennae less than twice as long as head and pronotum together; antennae shorter than length of body 3.
- 3 (4) Anterior disc of pronotum convex, with anterior margin concave near head, lateral margins elevated. ... *Iphita* Stål
Only one species in Palearctic region: *I. limbata* Stål
- 4 (3) Anterior disc of pronotum strongly convex with steep slope to neck region; lateral margins of pronotum not elevated *Physopelta* Amyot & Serville

KEY TO THE PALEARCTIC SPECIES OF *PHYSOPELTA* (S.STR.)

- 1 (2) First segment of antennae longer than second. Lateral margins of pronotum yellow, with two large, orange spots medially, sometimes with black markings, if so, they are divided by a yellow line. Each corium with a large, orange tear-shaped spot. Hemelytral membrane light brown. 19–21 mm *Ph. robusta* Stål
- 2 (1) First segment of antennae equal to or shorter than second. Corium with black spots. 3.
- 3 (4) Each corium sanguineous with two round small black spots in the centre. Pronotum red with 2–4 black spots. 13–16 mm *Ph. slانبuschii* (Fabricius)
- 4 (3) Corium testaceous or brown; pronotum without small black spots 5.
- 5 (6) Hemelytral membrane pale brown; the black spot near the apex of each corium not reaching apical margin. Black spot in the centre of each corium not reaching lateral margins. 13–16 mm *Ph. quadriguttata* Bergroth
- 6 (5) Hemelytral membrane dark brown or black; each corium with one large, round, black central spot and a small, black spot apically 7.
- 7 (10) Head, pronotum, and coria red, testaceous or ochraceous; lateral margins of body nearly parallel. Black spot along lateral margins of the hemelytral membrane reaching apex 8.
- 8 (9) Coria and lateral margins of pronotum testaceous or ochraceous; anterior disc of pronotum not strongly elevated. 15–17 mm *Ph. gutta gutta* Burmeister

- 9 (8) Coria and lateral margins of pronotum sanguineous; anterior disc of pronotum strongly elevated. 15–18 mm *Ph. gutta famelica* Stål
- 10 (7) Pronotum and coria brown, with lateral margins ochraceous; body slightly ovate. Black spot near membrane is small and not reaching apex 11.
- 11 (12) Eyes large; vertex between eyes (synthlipsis) 2.5–3.0 times as broad as one eye. Clavus not darker than the lateral margin of coria. Black central spot small, covering only half of each corium. 11.0–12.6 mm *Ph. parviceps* Blöte
- 12 (11) Eyes small; synthlipsis 4 times as broad as 1 eye. Black spot near hemelytral membrane oval, as large as or slightly smaller than the white part of the membrane. The central spot not reaching the lateral margins of each corium. 11.5–14.5 mm *Ph. cincticollis* Stål

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