

Cylapopsallops kerzhneri gen. et sp. n. — a new peculiar mirid from Baltic amber (Heteroptera: Miridae: Psallopinae)*Cylapopsallops kerzhneri* gen et sp. n. — новый своеобразный клоп-слепняк из балтийского янтаря (Heteroptera: Miridae: Psallopinae)

Yu. A. Popov¹ & A. Herczek²
Ю.А. Попов¹, А. Херчек²

¹ Paleontological Institute, Russian Academy of Sciences, Profsoyuznaya street 123, 117997 Moscow, Russia; e-mail: elena@advize.dol.ru

¹ Палеонтологический институт РАН, Профсоюзная ул. 123, 117 997 Москва, Россия.

² Silesian University, Department of Zoology, Bankowa 9, 40-Katowice, Poland; e-mail: herczek@us.edu.pl

² Кафедра зоологии университета Силезии, Банкова 9, 40-Катовице, Польша.

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КЛЮЧЕВЫЕ СЛОВА: Heteroptera, Miridae, Cylapinae, Psallopinae, ископаемый род и вид, балтийский янтарь.

ABSTRACT. A new genus and one new species of the psallopine mirid bug from the Eocene Baltic amber are described. The relationships of the phylogenetically closed mirid groups is shortly discussed.

РЕЗЮМЕ. Описываются новый род и новый вид псаллопинного клопа-слепняка из эоцена балтийского янтаря. Кратко обсуждается родственные связи филогенетически близких миридных групп.

Introduction

The present article is continuation of a series of papers on fossil plant bugs of the closely related subfamilies Isometopinae, Cylapinae, and Psallopinae from Baltic amber [see Herczek & Popov, 2005; Popov & Herczek, 2006]. The first two families are dominating in Baltic amber of the Late Eocene and consist of 16 genera and 30 described species [Popov & Herczek, 2006]. The small subfamily Psallopinae contains two recent genera: *Psallops* Usinger (4 species) and *Isometocoris* Carvalho & Sailer (1 species) mostly inhabiting tropical and subtropical regions. The first fossil psallopine bug, *Isometopsallops schuhi* Herczek & Popov was described from the Eocene Baltic amber in 1992.

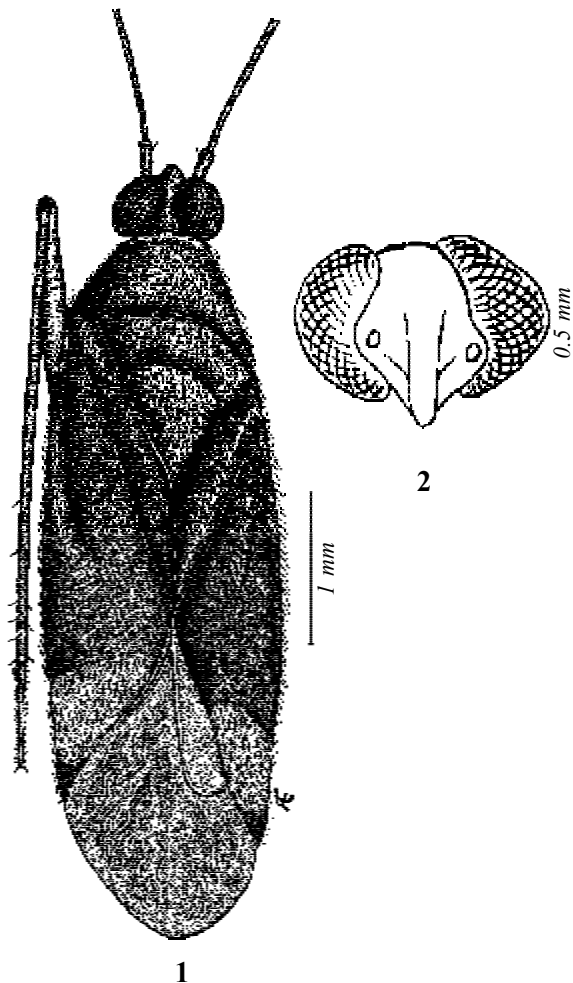
Such features as large eyes covering the greater part of head, very deeply inserted antennae, the absence of ocelli, and the presence of subapical tooth on claws are typical characters for the subfamily Psallopinae, and this combination of characters allows us to place a new genus *Cylapopsallops* in this subfamily. There is also one more undescribed psallopine bug of the extant genus *Psallops* from Baltic amber. Its known distribution is in South Africa, South Arabia, South East Asia, and on the South-West Pacific islands, hence it is prob-

ably a relict group [Schuh, 1976]. The discovery of fossil psallopine bugs in Baltic amber indicates that the appearance and spreading of this peculiar group happened during the early Cenozoic.

Genus *Cylapopsallops* Popov & Herczek gen.n.

DIAGNOSIS. An elongate and large size body, about 5 mm; dorsal surface smooth, with dense hairs; large eyes semiglobular; head nearly vertical; pronotum trapezoidal, with carinated lateral margins and emarginated posterior margin, collar distinct; one cell in crumpled membrane of hemelytra; hind legs very long and slender, femora are not flattened (incrassate); tarsi 3-segmented, subapical tooth on each claw very small; general coloration yellow-brown.

DESCRIPTION. Macropterous. Body length not less than 5 mm. Generally elongate body parallel-sided; dorsal surface smooth, impunctate, with moderately short, erect and suberect hairs, densely covering dorsal surface of body and posteriorly directed (Fig. 1). Head rather large, vertical-transverse, not flattened from above, distinctly transverse, nearly twice as wide as long (Fig. 1); height equal to width (Fig. 2); antennae cylindrical, inserted at inner side of eyes about 1/3 of their lower level; eyes very large, almost semiglobular, covering much of dorsal surface of head, bare, emarginated along inner side of genae, interocular space much narrower than width of eye, hind margins touching anterior margin of pronotum. Rostrum reaching at least a middle of abdomen. Trapezoidal pronotum a little longer than head and some over twice as wide as long; collar well developed from above, in middle part of it widest; without distinct calli; lateral margins slightly carinate and posterior margin distinctly emarginated. Mesoscutum 2 times shorter than scutellum. A single cell of hemelytral membrane very long which branches supplementary vein; membrane rather crumples, hairs absent. Femora of hind legs slender and quite long, tibiae much longer than femora; tibiae with delicate spines on distal part of it; 3-segmented tarsi are more or less of equal size; claws equal size and almost straight.



Figs 1–2. *Cylapopsallops kierzneri* sp.n., holotype: 1 — general view of plant bug; 2 — head, frontal view.

Рис. 1–2. *Cylapopsallops kierzneri* sp.n.: 1 — голотип, общий вид клопа-слепняка; 2 — голова, вид спереди.

DERIVATIO NOMINIS. The name is a combination of two mirid generic names *Cylapus* Say and *Psallops* Usinger reflecting the phylogenetic relationship between the two subfamilies Cylapinae and Psallopinae.

Cylapopsallops kierzneri Popov & Herczek sp.n.

Figs 1–2.

MATERIAL. Holotype, Typ.Kat. Nr. 4478, male from Baltic amber, deposited in the collection of Geologisch-Paläontologisches Institut und Museum, Universität Hamburg (ex coll. C. Gröhn, Glinde, nr. 5279).

DESCRIPTION. General coloration of body except cuneus yellow-brown; the latter is pale, only the most apex is of general colour. Pubescence pale, with backwardly directed hairs arising from each, these hairs much longer individually than distance between hairs. Antennal joints I and II bare; 2nd joint more than 4 times longer and slightly thinner than first one; 1st joint with one bristle at apex. Pronotum with distinctly narrowing toward lateral sides, pronotal disc smooth and without any elevations. Costal margins of hemelytra covered by quite dense erect hairs. Hind legs slender and long; tibiae 1.6 times longer than femora; tibiae with 6–8 spines on

their distal half; tarsal joints of equal size. Ventral sides of femur and tibiae of all pairs of legs covered with short and pressed pale hairs; ventral sides of all tarsi with dense brush of very short hairs.

Dimension (in mm.): Length of body from apex of hemelytra 5.3, width 1.7; length of hemelytra 0.4; length of head 0.5, width 0.8, height 0.6; width of eye ~ 0.3, height 0.6; distance between eyes 0.12; antennal joints I: 0.35, II: 1.3...; labial segments: I: 0.8, II: 0.75, III: 0.75, IV...; length of pronotum 0.75, width 0.55 (min.) and 1.25 (max.); length of mesoscutum 0.37, length of scutellum 0.75; claval commissure 0.9; hind legs: femora: length 2.5, width 0.3; tibiae: length 4.0, width 0.05; tarsal joints I: 0.3, II: 0.35, III: 0.3.

DERIVATIO NOMINIS. The species is dedicated to one of the outstanding heteropterologists Prof. Dr. Izyaslav M. Kerzhner, who made a great contribution to the study of true bugs, especially the family Miridae.

Discussion

The new genus *Cylapopsallops* is quite important for understanding classification and relations of the closely related mirid groups Isometopinae, Psallopinae (sensu Schuh, 1976) and Cylapinae [see Gorczyca, 2000]. These subfamilies are considered to be the most primitive sister groups among other mirids and their taxonomical composition, geographical distribution or the life history are still poorly known. The combination of characters of this genus (e.g. enlarged eyes covering the majority of head, trapezoid pronotum, distinct collar, crumpled hemelytral membrane, 3-segmented tarsi, and large body size) points out its affinity with the extinct genus *Isometopsallops* Hercz. & Pop. from the Late Eocene Baltic amber. On the other hand, *Gigantometopus* of the Isometopinae has such features as large body size (ca. 5 mm. and larger) and 3-segmented tarsi. At the same time *Cylapopsallops* has its own characters differing from other psallopinae genera, such as semiglobular eyes and quite strongly elongated body (3 times as long as wide). As for other characters, like pronotal collar (the upturned anterior pronotal margin or apical ring), hemelytral membrane two- or single celled, two-segmented tarsus or subapical tooth on the claw, they are mosaicly spread among Isometopinae, Psallopinae and Cylapinae [see also Gorczyca, 2000].

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References

- Gorczyca J. 2000. A systematic study on Cylapinae with a revision of the Afrotrropical Region (Heteroptera, Miridae) // Prace Nauk Univ. Sl. W Katowicach. No.1863. 174 pp.
- Herczek A. & Popov Yu.A. 1992. A remarkable psallopinae bug from Baltic amber (Insecta: Heteroptera, Miridae) // Mitt. Geol-Paläont. Inst. Univ. Hamburg. H.73. S 235–239.
- Herczek A. & Popov Yu.A. 2005. New cylapine plant bugs (Heteroptera: Miridae: Cylapinae) from Baltic amber // Pol. Pismo Entomol. Vol.74. P.299–307.
- Popov Yu.A. & Herczek A. 2006. A short review of fossil plant bugs, with an extinct mirids (Heteroptera: Cimicomorpha, Miridae) // Prace Muz. Ziemi. No.49. (in press).
- Schuh R.T. 1976. Pretarsal structure in the Miridae (Hemiptera) with a cladistic analysis of relationships within the family. // Am. Mus. Novit. No.2601. P.1–39.