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New genus of Cossinae (Lepidoptera: Cossidae) from the Republic of South Africa

Новый род Cossinae (Lepidoptera: Cossidae) из Южно-Африканской Республики

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КЛЮЧЕВЫЕ СЛОВА: биоразнообразие, Южная Африка, таксономия, энтомология, фауна, древоточцы.

ABSTRACT. The article describes a new genus and new species, *Stroehleia timi* Yakovlev **sp.n.** (Lepidoptera, Cossidae: Cossinae) from the Republic of South Africa (Limpopo Province). The apomorphic feature of the new genus is a lamellar harpe in the medium third on the inner surface of the valve.

РЕЗЮМЕ. Описан новый род и новый вид *Stroehleia timi* Yakovlev **sp.n.** (Lepidoptera, Cossidae: Cossinae) из Южно-Африканской Республики (провинция Лимпопо). Апоморфией нового рода является наличие пластинчатой гарпы в средней трети внутренней поверхности вальвы.

Introduction

In the recent years, numerous new species of Cossidae and four new genera of the nominative subfamily [Yakovlev, 2008, 2011, 2014, 2020; Yakovlev, Lenz, 2013; Mey, 2015, 2016, 2017, 2019; Yakovlev, Witt, 2016; Yakovlev et al., 2020] were described from South Africa (South Africa, Zimbabwe, Eswatini, Lesotho, South Mozambique). In total, 15 Cossinae genera are known from Africa (without the Palaearctic portion and Madagascar): *Afrikanets* Yakovlev, 2009 (type species, by original designation: *Afrikanetz inkubu* Yakovlev, 2009), *Afroarabiella* Yakovlev, 2008 (type species, by original designation: *Cossus tahamae* Wiltshire, 1949), *Arctiocossus* Felder, 1874 (type species, by original designation: *Arctiocossus antargyreus* Felder, 1874), *Assegaj* Yakovlev, 2006 (type species, by original designation: *Assegaj clenchi* Yakovlev, 2006), *Brachylia* Felder, 1874 (type species, by monotypy: *Brachylia terebroides* Felder, 1874), *Camellocossus* Yakovlev, 2011 (type species, by original designation: *Cossus abyssinica* Hampson, 1910), *Coryphodema* Felder, 1874 (type species, by monotypy: *Coryphodema capensis* Felder, 1874), *Gumilevia* Yakovlev, 2011 (type species, by original designation: *Gumilevia zhiraph* Yakovlev, 2011), *Koboldocossus* Yakovlev, 2011 (type species, by original designation: *Koboldocossus nigrostriatus* Yakovlev, 2011), *Lichtensteiniana* Mey, 2015 (type species, by original designation: *Lichtensteiniana aloides* Mey, 2015), *Macrocossus* Aurivillius, 1900 (type species, by monotypy: *Macrocossus rudis* Aurivillius, 1900), *Mirocossus* Schoorl, 1990 (type species, by original designation: *Brachylia badiala* Fletcher, 1968), *Meyoarabiella* Yakovlev, 2008 (type species, by original designation: *Afroarabiella* (*Meyoarabiella) meyi* Yakovlev, 2008), *Namibiocossus* Mey, 2015 (type species, by original designation: *Pecticossus gaerdesi* Daniel, 1956), and *Rethona* Walker, 1855 (type species, by subsequent designation by Kirby (1892): *Rethona strigosa* Walker, 1855).

Examining the materials of the rich collection of Manfred Ströhle (Weiden, Germany), we found a representative of Cossinae genus new to science, the description is given below.

Material and methods

The moths were collected in the nighttime on light traps. Male genitalia were mounted in euparal on slides following Lafontaine and Mikkola [1987]. The adults

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were photographed using digital camera of iPhone 7. The genitalia preparations were photographed using an Olympus DP74 camera attached to an Olympus SZX16 stereomicroscope.

Taxonomical part

Stroehleia Yakovlev **gen.n.**

Type species (by original designation) *Stroehleia timi* Yakovlev **sp.n.**

DESCRIPTION. Size medium. Antennae very short (about 1/5 of fore wing in length), bipectinate, crest processes twice longer than antenna rod diameter. Patagia light-grey. Fore wing relatively narrow, apically acute. Fore wing grey with undulated pattern typical for the subfamily, with thin dark wavy stripes. Hind wing grey with poorly expressed thin reticulated dark-grey pattern.

Male genitalia. Uncus long, gradually narrowing from base to apex, apex semicircular; gnathos arms thick, short; gnathos robust, densely covered with tiny spikes; valve relatively narrow, costal and abdominal edges almost smooth and parallel, distal part of valve membranous, apex semicircular, on costal edge (on border between medium and distal third) small crest with tiny denticles and sclerotized fold on proximal border of membranous zone; obliquely positioned lamellar harpe with serrated edge in medium third of valve; transtilla processes uncinately curved, basally thick, apically acute; juxta small with robust crescent lateral processes; saccus robust semicircular; phallus shorter than valve, thin, strongly curved on border between basal and medium thirds, phallus apically obliquely cut, acute, vesica aperture in dorso-apical position, vesica without cornuti.

Female unknown.

DIAGNOSIS. In the structure of the antenna (short, bipectinate, with short crest processes) resembles to the representatives of *Camellocossus* Yakovlev, 2011, *Brachylia* Fletcher, 1874 and *Coryphodema* Felder, 1874. The new genus has an apomorphic feature: the lamellar harpe in the medium third on the inner surface of the valve, which clearly distinguishes it from all the known Cossinae genera.

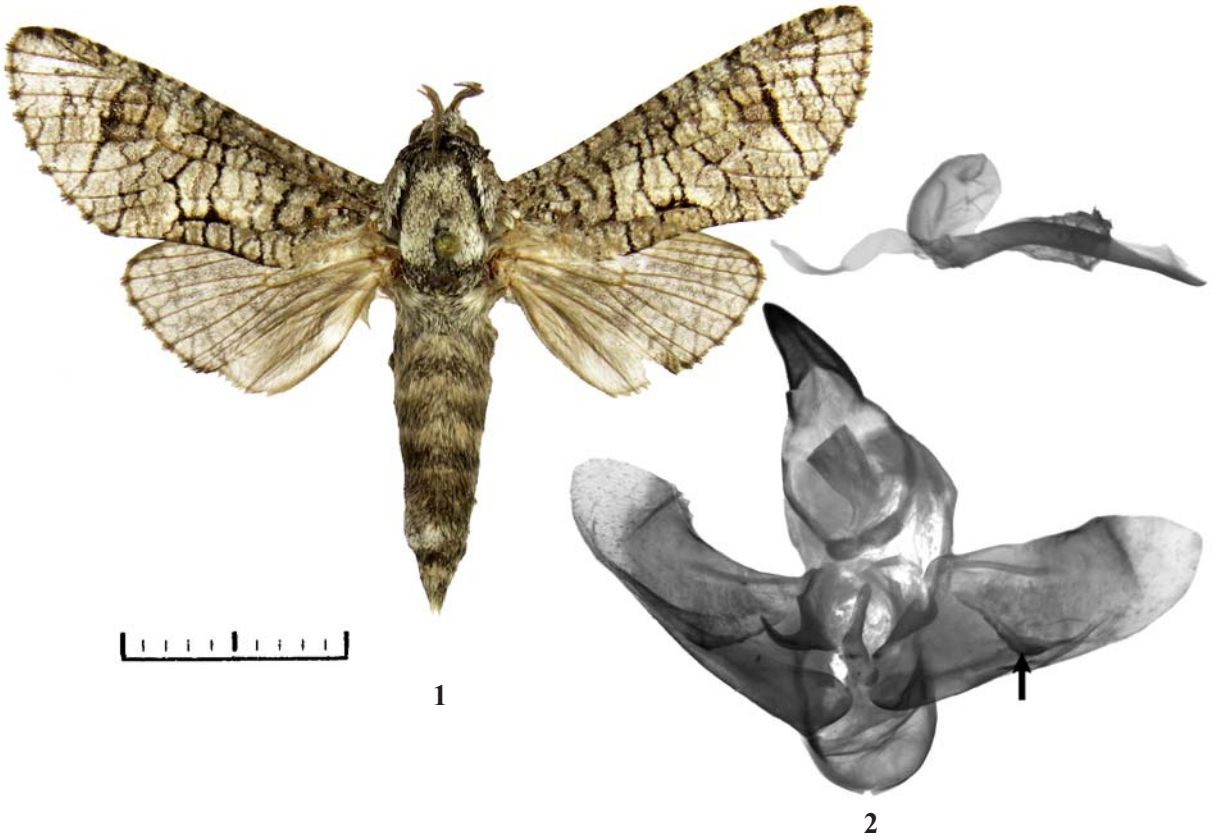
COMPOSITION. Monotypic genus.

ETYMOLOGY. The genus is named after Manfred Ströhle (Weiden, Germany) — enthusiast and traveller, a prominent German collector of Lepidoptera, who collected the moths of the new genus.

Stroehleia timi Yakovlev **sp.n.**
Figs 1–2.

MATERIAL. Holotype, male, South Africa, Limpopo Prov., Makopane, Shikwaru Lodge, 24°13′51.4″S / 028°54′21.9″E, 1395 m, 25–28.xi.2012, leg. Ströhle; slide MSW 2015/22 Coss (deposited in M. Ströhle collection in Weiden, Germany). Paratype: 1 male, same locality and data (M. Ströhle collection in Weiden, Germany).

DESCRIPTION. **Male**. Length of fore wing 17 mm. Antennae very short (about 1/5 of fore wing in length), bipectinate, crest processes twice longer than antenna rod diameter. Patagia light-grey. Fore wing relatively narrow, apically acute. Fore wing grey with thin transverse undulated bands and thin



Figs 1–2. *Stroehleia timi* Yakovlev **sp.n.**, holotype: 1 — habitus; 2 — male genitalia.
Рис. 1–2. *Stroehleia timi* Yakovlev **sp.n.**, голотип: 1 — внешний вид; 2 — гениталии самца.

reticulated dark-grey pattern; poorly expressed ocher spot at top of discal cell; fringe mottled (black at veins, light-grey between veins). Hind wing grey with poorly expressed thin reticulated dark-grey pattern; anal area almost without pattern; fringe mottled (dark at veins, light-grey between veins).

Male genitalia. See the genus description.

Female unknown.

DISTRIBUTION. Republic of South Africa (Limpopo Province, Waterberg Mts.)

ETYMOLOGY. The new species is named after Tim Ströhle (Weiden, Germany) the son of the new species collector.

Discussion

The biodiversity and entomofauna of South-African region is exclusively rich and specific, so on the territory of South Africa, three "hotspots of biodiversity" have been allocated: Cape Floristic Region, Succulent Karoo and Maputaland-Pondoland-Albany [Myers, 1988; Myers et al., 2000]. The Cossidae fauna of the Cape Floristic Region and Succulent Karoo is characterized by numerous endemic species and includes 5 endemic genera: *Coryphodema*, *Lichtensteiniana, Meyoarabiella*, *Namibiocossus* and *Rethona* and one sub-endemic genus *Arctiocossus* (recently found far from the basic part of the genus habitat " in Free State Province) [Mey, 2015, 2016; Yakovlev, 2021]. The Cossidae fauna of Maputaland-Pondoland-Albany hotspots of biodiversity is less specific. Many species of this region are widely spread in Africa, for example *Macrocossus toluminus* (Druce, 1887), *Azygophleps albovittata* Bethune-Baker, 1908, *A. asylas* (Cramer, 1779), *A. junkeri* Yakovlev & Witt, 2017, *A. inclusa* (Walker, 1856), *A. leopardina* Distant, 1902, *A. scalaris* (Fabricius, 1775), *Eulophonotus myrmeleon* Felder, 1874, *Strigocossus capensis* (Walker, 1856), and *Phragmataecia irrorata* Hampson, 1910. There are few described endemic and sub-endemic species: *Tarsozeuzera ustjuzhanini* Yakovlev, 2011, *Azygophleps sponda* (Wallengren, 1875), *A. canadensis* (Herrich-Schäffer, [1854]), A. kovtunovichi Yakovlev, 2011, and *A. thoracostrigalis* Mey, 2019.

Schintlmeister and Witt [2015] point out the specific complex of species, including the endemic Notodontidae, Nolidae, Noctuidae and Geometridae, living mainly in the mountains in the north-east of South Africa (Soutpansberg, Waterberg Mountains, etc.) [Schintlmeister, Witt, 2015: 114–118]. Also in KwaZulu-Natal Province (mainly in the mountains Drakensberg) numerous endemic and sub-endemic Pterophoridae (40% species) have been found [Ustjuzhanin, Kovtunovich, 2010]. The discovery of the new genus *Stroehleia* Yakovlev, **gen.n.** — the endemic of Waterberg Mountains — underlines a high bio-geographical isolation of the mountains in the north-east of South Africa.

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References

Kirby W.F. 1892. A Synonymic Catalogue of Lepidoptera Heterocera (Moths). Vol.1: Sphinges and Bombyces. Gurney & Jackson, London. 951 pp.

Lafontaine J.D., Mikkola K. 1987. Lock-and-key system in the inner genitalia of Noctuidae (Lepidoptera) as taxonomic character // Entomologiske Meddelelser. Vol.55. P.161–167.

Mey W. 2015. Revision of the genus *Arctiocossus* Felder, 1874 and allied genera (Lepidoptera: Cossidae: Cossinae) // Annals of the Ditsong National Museum of Natural History. Vol.5. P.28–55.

Mey W. 2016. A taxonomic and faunistic study of the Cossidae of southwestern Africa (Lepidoptera: Cossoidea) // Annals of the Ditsong National Museum of Natural History. Vol.6. P.146–198.

Mey W. 2017. Corrections and additions to the Cossidae of southern Africa (Lepidoptera: Cossoidea) // Entomologische Zeitschrift. Bd.127. No.4. S.218–222.

Mey W. 2019. On the identity of *Azygophleps asylas* (Cramer, 1779 [1777]) in southern Africa and descriptions of related species (Lepidoptera, Cossidae) // Annals of the Ditsong National Museum of Natural History. Vol.8. P.43–58.

Myers N. 1988. "Threatened biotas: "Hot spots" in tropical forests" // Environmentalist. Vol.8. P.187–208. Doi:10.1007/BF02240252

Myers N., Mittermeier R.A., Mittermeier C.G., da Fonseca G.A.B., Kent J. 2000. Biodiversity hotspots for conservation priorities // Nature. Vol.403. No.6772. P.853–858. doi:10.1038/35002501

Schintlmeister A., Witt Th.J. 2015. The Notodontidae of South Africa including Swaziland and Lesotho (Lepidoptera: Notodontidae) // Proceedings of the Museum Witt Munich. Vol.2. P.1–289.

Ustjuzhanin P.Ya., Kovtunovich V.K. (sic!) 2010. On the fauna of the plume moths (Lepidoptera, Pterophoridae) of KwaZulu Natal province (South-African Republic) // Euroasian entomological Journal. Vol.9. No.4. P.689–719.

Yakovlev R.V. 2008. *Afroarabiella* gen.nov. — a new genus of Cossidae (Lepidoptera) from the African and Arabian Peninsula // Atalanta. Vol.39. P.389–395.

Yakovlev R.V. 2011. Catalogue of the family Cossidae of the Old World (Lepidoptera) // Neue Entomologische Nachrichten. Vol.66. P.1–129.

Yakovlev R.V. 2014. A new species of *Afroarabiella* Yakovlev, 2008 (Lepidoptera, Cossidae) from the Republic of South Africa, including a world catalogue of the genus // Zootaxa. Vol.3793. No.2. P.297–300.

Yakovlev R.V. 2020. Two new species of *Meyoarabiella* Yakovlev, 2008 (Lepidoptera, Cossidae) from Namibia with World Catalogue of the Genus // Ecologica Montenegrina. Vol.38. P.166–171. Doi: 10.37828/em.2020.38.25.

Yakovlev R.V. 2021. New species of *Arctiocossus* Felder, 1874 (Lepidoptera, Cossidae: Cossinae) from Republic of South Africa // Ecologica Montenegrina. Vol.41. P.1–5. Doi: 10.37828/em.2021.41.1

Yakovlev R.V., László G.M., Vetina A.A. 2020. Contribution to the knowledge of the Carpenter Moths (Lepidoptera, Cossidae) of the Maputo Special Reserve in South Mozambique with description of two new species // Ecologica Montenegrina. Vol.28. P.40–52.

Yakovlev R.V., Lenz J. 2013. On the Fauna of Cossidae (Lepidoptera) of Zimbabwe with description of a new species // Zootaxa. Vol.3718. No.4. P.387–397. Doi: 10.11646/zootaxa.3718.4.8

Yakovlev R.V., Witt Th.J. 2016. Carpenter-Moths (Lepidoptera: Cossidae) of Swaziland, South Africa // Far Eastern Entomologist. Vol.311. P.9–12.