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***Parsleya* nomen novum: a replacement name for the preoccupied *Kailidiscus* Zhao, Sumrall, Parsley et Peng, 2010 (Echinodermata: Edrioasteroidea)**

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<http://zoobank.org/3FB8C32D-C6E1-48F2-9633-C6A0320B37EC> 

Abstract: This paper introduces *Parsleya* nomen novum, a replacement name for the preoccupied *Kailidiscus* Zhao, Sumrall, Parsley et Peng, 2010.

Keywords: echinoderm, homonymy, ichnofossil, Kaili Biota, nomen novum

Introduction

Zhao et al. (2010) proposed new edrioasteroid grade echinoderm genus *Kailidiscus* Zhao, Sumrall, Parsley & Peng, 2010 with type species *Kailidiscus chinensis* Zhao, Sumrall, Parsley & Peng, 2010 from the Kaili Biota of the basal lower Middle Cambrian Kaili Formation from Guizhou Province, China.

However, the genus name *Kailidiscus* is preoccupied and was initially introduced by Wang (2006) for an early Middle Cambrian ichnofossil species *Kailidiscus taijiangensis* Wang, 2006, as the type species and another species *Kailidiscus triasterism* Wang, 2006, from the Kaili Biota, a Burgess Shale-type biota, from the middle Kaili Formation in Taijiang County, Guizhou Province, southern China. Thus, echinoderm genus *Kailidiscus* Zhao, Sumrall, Parsley & Peng, 2010 is a junior homonym of *Kailidiscus* Wang, 2006. Since no synonyms are available, according to Article 60 of the International Code of Zoological Nomenclature (ICZN, 1999), a replacement name is needed for *Kailidiscus* Zhao, Sumrall, Parsley & Peng, 2010.

Parsleya U.B.Deshmukh **new name**

= *Kailidiscus* Zhao, Sumrall, Parsley & Peng, 2010: 674 (a junior homonym of *Kailidiscus* Wang, 2006: 29)

Etymology. The generic name is dedicated to Professor Emeritus Ronald L. Parsley who is one of the authors of the preexisting generic name *Kailidiscus*. The gender is feminine.

Parsleya chinensis (Zhao, Sumrall, Parsley & Peng, 2010), **new combination**

= *Kailidiscus chinensis* Zhao, Sumrall, Parsley & Peng, 2010: 675

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A new species of *Thylacella* Enderlein, 1911 (Psocoptera: Lepidopsocidae) with an identification key to the species from Africa and Madagascar

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Abstract: A new species of *Thylacella* was collected from Unguja Island (Zanzibar, Tanzania) and described in this paper. A simple identification key is also proposed for all the species known from Africa and Madagascar. Now from this genus a total of 19 recent and two fossil species are known.

Keywords: Africa, identification key, Madagascar, new species, Psocoptera

Introduction

The genus *Thylacella* Enderlein, 1911 (Psocoptera, Lepidopsocidae) is comprised of 18 recent and two fossil species. The type species of the genus was described from Holocene copal from Zanzibar by Enderlein (1911). Later 16 new recent species were found in Central and East Africa and Madagascar (Badonnel 1949, 1955, 1967, 1969, 1973, Smithers 1964, Broadhead & Richards 1982), one from Cuba (Banks 1941), and one from South America (García Aldrete 2001).

A new species of *Thylacella* was collected from Unguja Island (Zanzibar, Tanzania) and described in this paper. A simple identification key is also proposed for all the species known from Africa and Madagascar.

Material and methods

Psocoptera were collected from the east coast of Unguja Island – at the north part of Michamwi Peninsula by beating the vegetation. The specimens were stored in 96% ethanol.

The photos (specimens in glycerin) were taken by a camera Canon PowerShot SX500IS through the eyepiece of a light microscope Optika.

Type material was deposited at the National Museum of Natural History (NMNH) – Sofia, Bulgaria.

The species discussed in the paper were considered according to original descriptions, redescrptions, and published identification keys (Enderlein 1911, Badonnel 1949, 1955, 1967, 1969, 1973, Broadhead & Richards 1982).

Measurements abbreviations: LC = body length; F+tr = hind femur and trochanter length; T = hind tibia length; t1, t2, t3 = tarsomeres of hindtarsus (lengths measured from condyle to condyle), FW = forewing, HW = hindwing.

Results and discussion

Reexaminations of *Thylacella* specimens erroneously reported as *Thylacella angustipennis* Broadhead & Richards, 1982 by Georgiev (2021) for Unguja Island revealed that they belong to a new species to science.

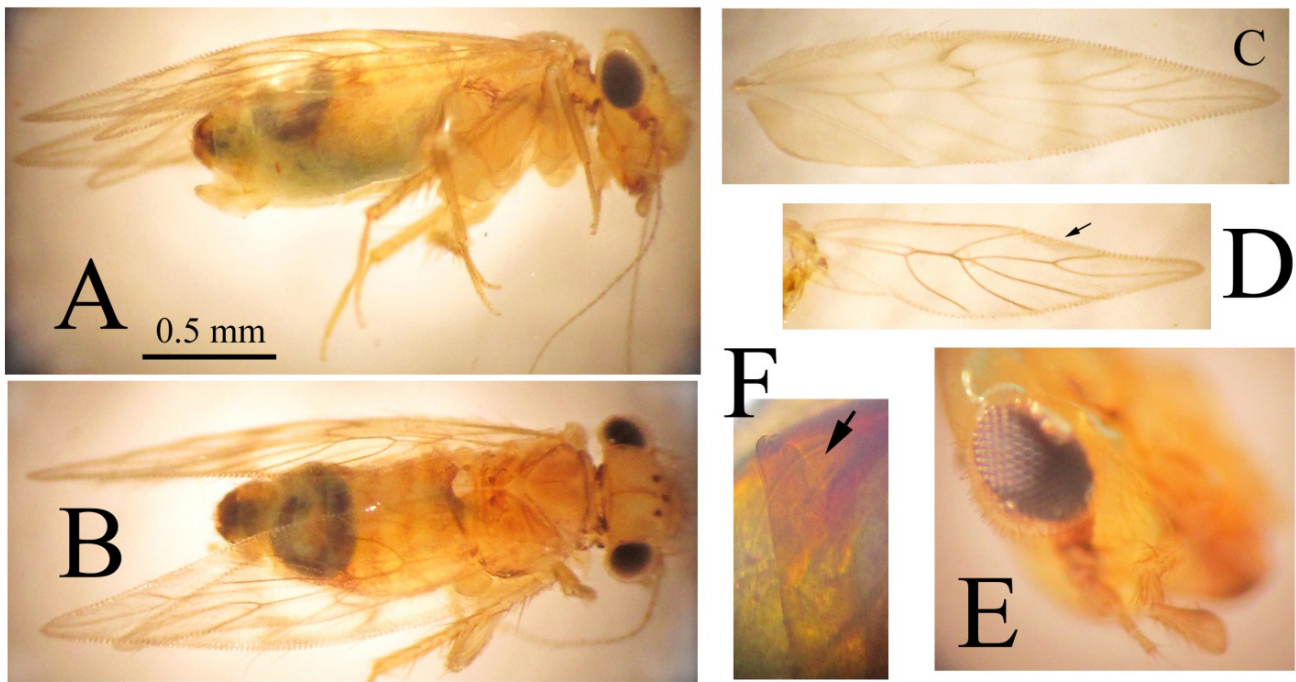


Fig. 1. *Thylacella zanzibarica* n. sp., female, paratype: A – lateral view, B – dorsal view, C – forewing, D – hindwing (pigmentation shown by an arrow), F – apex of the lacinia, E – side view of the head (F and E not to scale). Photographed in glycerin, after 11 months in ethanol.

Thylacella zanzibarica n. sp.

Material examined: Holotype: 1 ♀, from the type locality, 5.3.2021, NMNH – Sofia, Bulgaria; paratype: 1 ♀, from the type locality, 5.3.2021, NMNH – Sofia, Bulgaria.

Type locality: Tanzania, Zanzibar, Unguja Island, Michamwi Peninsula, sandy coastal area with scrubs, from a pile of old palm leaf mats, S06 07 55.5 E39 29 31.2, 6 m a. s. l.

Description. Female. Colouration. The whole body is light brown in freshly preserved specimens (Fig. 2, A), and turning brown-yellowish after time (Fig. 1, A, B). The eyes are black. The head is light brown (lighter than the thorax and the abdomen) with a darker lateral band on each side from anterior margin of the eye to the antennal socket (Fig. 1, A, E). Thorax brown. Abdomen brown with darker transverse bands on each tergite. Forewing pale brownish with lighter middle part, where some darker pigment is located at Sc and the distal part of the central cell. A fuzzy dark transverse stripe forms at the distal half of the wing, followed by another paler section. All veins pale, but a little darker than the membrane (Fig. 1, C). Hindwing in most of its

part colourless but having a very pale brown irregular stripe at its upper periphery. This band is much thicker between veins R1 and R2+3 (Fig. 1, D).

Morphology. Head densely setosae. The apex of the lacinial pick is broadened and having two denticles, a longer and a shorter one. The longer one is bearing an apex with two small cusps (Fig. 1, F). Pretarsal claws with a preapical tooth and with a minute denticle near middle of the claw (Fig. 2, D). Wings with long hairs and without scales, moderately pointed. The nodulus of the forewing consists of truncated spines set close together. In hindwing M1 and M2 arise separately from Rs (Fig. 1, D). The gonapophyses slightly sclerotised at the base and with very long hairs (Fig. 2, C). Paraprocts with strong spurs each (Fig. 2, B).

Measurements. Holotype (female): LC = 1.66 mm, t1 = 0.29 mm, t2 = 0.04, t3 = 0.05 mm, T = 0.75 mm, F+tr = 0.54 mm, FW = 1.6 mm, HW not measured (as not to violate the integrity of the holotype); Paratype (female): LC = 1.94 mm, head = 0.6 mm, hind leg: t1 = 0.3 mm, t2 and t3 both = 0.03 mm, T = 0.8 mm, F+tr = 0.5 mm, FW = 1.58 mm, HW = 1.24 mm.

Diagnosis. The presence of pigmentation on the hindwing discerns the new species from most of the

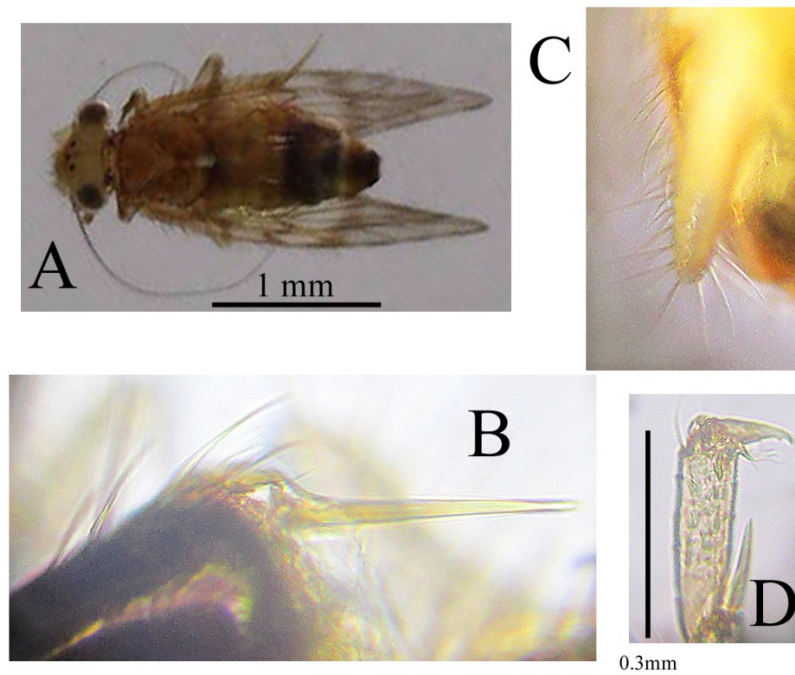


Fig. 2. *Thylacella zanzibarica* n. sp., female, paratype: A – dorsal view when freshly preserved (by Georgiev, 2021), B – spine of the paraproct, C – lateral view of the gonapophysis, D – claw with t3 (C and B not to scale). Photographed in glycerin.



Fig. 3. Habitat and microhabitat of *Thylacella zanzibarica* n. sp.: coastal scrubs at the type locality (left) and an old pile of dry mats made from palm leaves on the ground (right).

species from the genus which have hyaline wing membrane. Similar light pigmented band on the upper hindwing periphery present in *T. montana* Badonnel, 1967 from Madagascar, but this species have less pointed brown forewings (Badonnel, 1967).

In external view, having relatively uniformly brown body and striped wings, *T. zanzibarica* n. sp. is

similar with *T. congolensis* (Badonnel, 1949) (Congo, Nigeria, Togo), *T. fasciata* Badonnel, 1955 (Angola, Congo, Mozambique, Nigeria, Tanzania, Zimbabwe) and *T. angustipennis* Broadhead & Richards, 1982 (Kenya). From *T. congolensis* it differs by the longer hairs of the gonapophyses, more pointed wings, and the tip of the lacinia; from *T. fasciata* by the curved and

tilted back Sc (in *fasciata* it is straight or just a little tilted back), lack of two large brown spots on the vertex and not so clear brown bands on the forewing; from *T. angustipennis* differs by its less pointed wings and the tip of the lacinia.

The new species is similar in appearance and with the fossil *T. eversiana* Enderlein, 1911 (type species of the genus), described from Holocene copal from Zanzibar too. From this species (possible ancestor?) *T. zanzibarica* n. sp. differs by the venation of the hindwing. In the new species M2 is as long as M1, and not connected with it. In *T. eversiana* M2 is shorter and connects to M1. Both species differ and by their forewing venation – cells r3 and m1 are much shorter in the new species.

Habitat. The species was collected from a pile of dry old mats made from palm leaves on the sand among coastal scrubs (Fig. 3).

Identification key to the recent and fossil species of the genus *Thylacella* known from Africa and Madagascar

- 1. Wings with pointed apex 2.
- Wings with rounded apex *T. fenestrata* Smithers, 1964
- 2. Hindwing vein M2 is shorter and connected to M1 3.
- Hindwing vein M2 is longer and is not connected to M1 5.
- 3. Head with a specific x-like pattern on frons *T. angulifrons* Badonnel, 1967
- Head colour different 4.
- 4. Forewing uniformly brownish *T. madagascariensis* Smithers, 1964
- Forewing with a darker transverse stripe *T. eversiana* Enderlein, 1911
- 5. Forewings strongly pointed 6.
- Forewings moderately pointed 10.
- 6. Forewings hyaline *T. vitripennis* Badonnel, 1967
- Forewings with pigmentation 7.
- 7. Forewings uniformly light brown 8.
- Forewing with darker transverse stripe 9.
- 8. Lacinia widely broadens at its distal part, larger denticle with 3 cusps *T. acutipennis* Badonnel, 1967
- Lacinia slightly broadens at its distal part, larger denticle with 2 cusps *T. immaculata* Badonnel, 1955


- 9. Apex of the lacinia narrow, denticles gathered close each other *T. angustipennis* Broadhead & Richards, 1982
- Apex of the lacinia broad, denticles not gathered close each other *T. fasciata* Badonnel, 1955
- 10. Vertex smoothly concave in the middle, eyes protruding to the side *T. fasciifrons* Badonnel, 1967
- Vertex and eyes normal 11.
- 11. Head with characteristic reticulated pattern *T. annulata* Badonnel, 1976
- Head coloration different 12.
- 12. Head with anchor like pattern on frons *T. trifurcata* Badonnel, 1976
- Head coloration different 13.
- 13. Foreings uniformly brownish *T. montana* Badonnel, 1967
- Forewing with darker transverse stripe 14.
- 14. Hindwing with pale brown pigmentation on its front periphery *T. zanzibarica* n. sp.
- Hindwing hyaline 15.
- 15. Forewing cell r5 not extending the tip of cell m2 *T. pilipennis* (Enderlein, 1912)
- Forewing cell r5 extending over the tip of cell m2 16.
- 16. Gonapophyses with long hairs *T. similis* Badonnel, 1967
- Gonapophyses with relatively short hairs *T. congolensis* (Badonnel, 1949)

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