

New records of Psocoptera (Insecta) from Uganda

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Abstract. A new collection of Psocoptera from Uganda revealed 37 species. Thirty six were new records for the country. After this study the current list of barklice of Uganda is comprised of 50 species.

Key words: biodiversity, East Africa, insects.

Introduction

Faunistic and taxonomic works on the psocid fauna of Uganda are very scarce. Information about this insect group was published in the papers of Karny (1924), Pearman (1934), Smithers (1960), and Mockford (1993). Only 14 species of Psocoptera were known from this region till now (Lienhard 2016). In this paper I report on 37 species, from which only one was known from Uganda. All the rest are new country records.

Material and Methods

The study was carried out between 24.7-1.8.2022 at two areas of Uganda: Buvi, Wakiso (near Lake Viktoria) and Ziobwe, Mubende (N of Kampala) (Tab. 1, Fig. 1). Beating the vegetation and sieving techniques were mainly used for collection, and the specimens were stored in 96% ethanol. The species discussed in the paper were identified according to original descriptions, redescriptions, and/or published identification keys (Badonnel 1931, 1932, 1946, 1948, 1955, 1967, 1969, 1973, 1976, Broadhead & Richards 1980, 1982, Enderlein 1909, Lienhard 1998, Mockford 1953 and other).

Table 1. Collection localities of Psocoptera in Uganda during present study; № - locality number, Alt. – altitude in meters.

No	Date	Locality	Coordinates	Alt.	Habitat and microhabitat
1	24.7.2022	Buvi, Buvi Lodge	N00 07 17.4 E32 27 07.5	1146	yard of a lodge, branches of Cupressaceae sp.
2	24.7.2022	Buvi, near Buvi Lodge	N00 07 28.9 E32 27 04.2	1162	banana plantation, dry banana leaves on the ground
3	25.7.2022	Buvi, NE of Buvi Lodge	N00 07 26.4 E32 27 25.8	1146	semiopen wetlands, dry <i>Cyperus papyrus</i>
4	25.7.2022	Buvi, near Buvi Lodge	N00 07 23.0 E32 27 13.6	1133	banana and sugar cane plantation, dry palm leaves and fallen <i>Ploceus cucullatus</i> nests
5	26.7.2022	Buvi, near Buvi Lodge	N00 07 27.0 E32 27 02.0	1151	banana plantation, dry banana leaves
6	26.7.2022	Buvi, near Buvi Lodge	N00 07 26.0 E32 27 03.0	1151	eucalypt plantation with bushes, from branches of bushes and trees
7	27.7.2022	Buvi, NE of Buvi Lodge	N00 07 26.5 E32 27 25.5	1138	grasses, bushes and single trees, from my hand
8	27.7.2022	Buvi, N of Buvi Lodge	N00 07 36.5 E32 27 18.8	1034	a stripe of pine trees, dry pine needles and cones on the ground
9	28.7.2022	Ziobwe, E of Dulo school	N00 42 11.8 E32 42 58.2	1061	eucalypt plantation and agricultural lands, dry leaves of palms, bushes and grasses
10	29.7.2022	Ziobwe, W of Dulo school	N00 42 18.6 E32 42 37.8	1089	agricultural lands, dry palm leaves
11	29.7.2022	Ziobwe, W of Dulo school	N00 42 10.8 E32 42 40.7	1084	eucalypt, coffee and cassava, with lianas and bushes, branches of bushes and trees
12	30.7.2022	Buvi, bank of Lake Viktoria	N00 07 40.4 E32 27 28.8	1133	swampy area with bushes, palms and hygrophyt, dry palm leaves
13	31.7.2022	Buvi, NW of Buvi Lodge	N00 08 20.7 E32 26 44.7	1125	large eucalypt plantation, dry branches with leaves
14	1.8.2022	Buvi, bank of Lake Viktoria	N00 07 23.1 E32 27 22.3	1143	small hill with a patch of native rainforest, dry leaves of bushes and trees



Fig. 1. Views from some of the collection localities: A – loc. 9: 28.7.2022, Zirowwe, E of Dulo school N00 42 11.8 E32 42 58.2, 1061 m a.s.l., eucalypt plantation and agricultural lands overgrown by bushes and lianas; B – loc. 8: 27.7.2022, Buvi, N of Buvi Lodge, N00 07 36.5 E32 27 18.8, 1034 m a. s. l., a stripe of pine trees between eucalypt plantation and corn field; C, D – loc. 14: 1.8.2022, Buvi, bank of Lake Viktoria, N00 07 23.1 E32 27 22.3, 1143 m a. s. l., small hill with a patch of native rainforest.

Results

A total of 37 species of Psocoptera were registered, from which 36 are new records to Uganda.

Species list (localities numbers correspond with those in Table 1; * - new country record):

Lepidopsocidae Enderlein, 1903

1. *Echmepteryx lunulata** Thornton, Lee & Chui, 1972: loc. 4, 1♀; loc. 12, 5♀; loc. 14, 3♀.
2. *Echmepteryx madagascariensis** (Kolbe, 1885): loc. 12, 1♀.
3. *Echmepteryx similis** Badonnel, 1955: loc. 8, 1♀.
4. *Soa flaviterminata** Enderlein, 1906: loc. 13, 1♀.
5. *Thylacella angustipennis** Broadhead & Richards, 1982: loc. 9, 1♀.
6. *Thylacella congolensis** (Badonnel, 1949): loc. 12, 1♀.

Liposcelididae Enderlein, 1911

7. *Embidopsocus vilhenai** Badonnel, 1955: loc. 8, 2♀.
8. *Liposcelis angolensis** Badonnel, 1955: loc. 9, 11♀.
9. *Liposcelis bostrychophila** Badonnel, 1931: loc. 8, 3♀; loc. 9, 1♀.

Pachytroctidae Enderlein, 1904

10. *Nanopsocus oceanicus** Pearman, 1928: loc. 14, 1♀.
11. *Pachytroctes aglyphus** Badonnel, 1955: loc. 4, 2♀.
12. *Tapinella curvata** Badonnel, 1949: loc. 4, 5♀.
13. *Tapinella* sp. 1* (n. sp.): loc. 11, 1 nymph.
14. *Tapinella* sp. 2*: loc. 5, 1 nymph.

Caeciliusidae Mockford, 2000

15. *Maoripsocus africanus** (Ribaga, 1911): loc. 8, 2♀.
16. *Stenocaecilius casarum** (Badonnel, 1931): loc. 5, 1♀.
17. *Valenzuela anomalus** (Badonnel, 1959): loc. 8, 1♀; loc. 13, 1♀.
18. *Valenzuela brunneonitens** (Pearman, 1932): loc. 11, 1♀; loc. 13, 1♂.
19. *Valenzuela marginalis** (Badonnel, 1955): loc. 6, 1♀; loc. 8, 2♀.
20. *Valenzuela similis** (Badonnel, 1949): loc. 3, 1♀, 1♂.

Amphipsocidae Pearman, 1936

21. *Harpezoneura* cf. *indotata** Broadhead & Richards, 1982: loc. 12, 1♀.

Peripsocidae Pearman, 1936

22. *Peripsocus ghesquierei** Badonnel, 1948: loc. 9, 1♀; loc. 10, 1♀; loc. 11, 1♀.
23. *Peripsocus machadoi** Badonnel, 1955: loc. 1, 18♀.
24. *Peripsocus* sp.*: loc. 12, 12♀.

Ectopsocidae Roesler, 1944

25. *Ectopsocus briggsi** McLachlan, 1899: loc. 8, 2♀; loc. 12, 1♀; loc. 13, 3♀, 3♂.
26. *Ectopsocus pilosus** Badonnel, 1967: loc. 10, 1♀; loc. 13, 1♀.
27. *Ectopsocus pumilis** (Banks, 1920): loc. 5, 2♀; loc. 9, 4♀, 2♂; loc. 10, 1♂; loc. 11, 3♀, 4♂; loc. 13, 2♀.
28. *Ectopsocus vilhenai** Badonnel, 1955: loc. 5, 3♀; 13, 1♀.

Lachesillidae Pearman, 1936

29. *Lachesilla acutiloba** Broadhead & Richards, 1982: loc. 9, 2♀; loc. 13, 1♀; loc. 14, 1♀.
30. *Lachesilla mucronata* Badonnel, 1946: loc. 5, 1♂; loc. 9, 5♀, 1♂; loc. 11, 14♀, 5♂; loc. 13, 3♀.
31. *Lachesilla tectorum** Badonnel, 1931: loc. 9, 1♀.

Archipsocidae Pearman, 1936

32. *Archipsocopsis machadoi** (Badonnel, 1955): loc. 4, 1♀; loc. 6, 2♀; loc. 9, 3♀, 2♂; loc. 10, 2♀; loc. 11, 1♀.
33. *Archipsocus neens** Enderlein, 1914: loc. 7, 1♀.

Pseudocaeciliidae Pearman, 1936

34. *Mepleres* cf. *pictus** (Badonnel, 1977): loc. 14, 1♀; loc. 6, 1♀.

Hemipsocidae Pearman, 1936

35. *Hemipsocus africanus** Enderlein, 1907: loc. 2, 1♀, 1♂; loc. 4, 6♀; loc. 6, 1♂; loc. 9, 4♂; loc. 11, 3♀; loc. 12, 1♀, 1♂.

Psocidae Hagen, 1865

36. *Blaste nairobiensis** New, 1975: loc. 1, 1♂.
37. *Trichadenotecnum circularoides** Badonnel, 1955: loc. 6, 1♀; loc. 9, 1♀; loc. 10, 2♀.

References

- Badonnel, A. (1931) Contribution a l'étude de la faune de Mozambique. Voyage de M. P. Lesne (1928- 1929). 4e note-Copeognathes. *Annales des Sciences naturelles, Zoologie Paris*, (10) 14(16): 229-260.
- Badonnel, A. (1932) Contribution l'étude de la faune du Mozambique. Voyage de M. P. Lesne (1928-1929). 7e note-Supplement aux Copeognathes. *Bulletin de la Societe Zoologique de France*, 57: 105-117.
- Badonnel, A. (1946) Psocopetres du Congo belge. *Revue de Zoologie et de Botanique Africaines, Bruxells*, 39 (2): 137-196.
- Badonnel, A. (1948) Psocopteres du Congo belge (2' note). *Revue de Zoologie et de Botanique Africaines, Bruxells*, 40 (4): 266-322.
- Badonnel, A. (1955) Psocopteres de l'Angola. *Publicacoes culturais da Companhia de Diamantes de Angola*, 26: 1-267.
- Badonnel, A. (1967) Insectes psocopteres. *Faune Madagascar*, 23: 1-235.
- Badonnel, A. (1969) Psocopteres de l'Angola et de pays voisins, avec revision de types africains d'Enderlein (1902) et de Ribaga (1911). *Publicacoes Culturais da Companhia de Diamantes de Angola*, 79: I 152.
- Badonnel, A. (1973) Psocoptères de l'Angola: IV. *Publicações culturais da Companhia de Diamantes de Angola*, 87: 59-104.
- Badonnel, A. (1976) Complements a l'étude des Psocopteres de Madagascar. *Bulletin du Muséum national d'Histoire naturelle*, 3, 287: 1143-1197.
- Broadhead, E. & Richards, A. (1980) The Peripsocidae and Psocidae (Psocoptera) of East Africa. *Systematic Entomology*, 5: 357-397.
- Broadhead, E. & Richards, A. (1982) The Psocoptera of East Africa - a taxonomic and ecological survey. *Biological Journal of the Linnean Society*, 17: 137-216.
- Enderlein, G. (1909) Neue Gattungen und Arten von Copeognathen aus Transvaal sowie aus der Ohaus'schen Ausbeute aus Ecuador. *Stettiner Entomologische Zeitung*, 70: 266-273.
- Karny, H. (1924) On a new Empheriid from Uganda (Copeognatha). *Annals and Magazine of Natural History*, 14(9): 245-246.
- Lienhard, C. (1998) Psocoptères euro-méditerranées. *Faune de France*, 83: 1-517.
- Lienhard, C. (2016) *Country checklists of the Psocoptera species of the World, extracted from Lienhard & Smithers, 2002: "Psocoptera (Insecta) - World Catalogue and Bibliography"*, Psocid News. 123 pp., Sapporo, Japan.
- Mockford, E. L. (1993) *North American Psocoptera (Insecta)*. Flora and Fauna Handbook 10: XVIII+455 pp. Sandhill Crane Press, Gainesville, Florida.
- Pearman, J. (1934) New and little known African Psocoptera. *Stylops*, 3(6): 121-132.
- Smithers, C. (1960) Psocoptera. *Annales du Musée Royal du Congo Belge, Tervuren, Zoologie*, 88: 365-376.