

First study on the psocids (Insecta: Psocodea) of Rwanda

DILIAN GEORGIEV

University of Plovdiv "Paisii Hilendarski", Faculty of Biology, Department of Ecology and Nature Conservation, 24 Tsar Assen Str., 4000 Plovdiv, Bulgaria, diliangeorgiev@gmail.com

Abstract. This study presents the first investigation into the species diversity of psocids (Insecta: Psocodea) in Rwanda. Over a week-long period in July 2024, psocid specimens were collected from three distinct localities: Mount Kigali, Kitabi Village, and the shores of Lake Kivu. Eight species were identified, all of which are new records for Rwanda.

Key words: insects, equatorial, distribution.

Introduction

The species diversity of psocids (Insecta, Psocodea) has never been studied in the territory of Rwanda (Lienhard 2016). In this article, the first investigation of this insect group within the country is reported.

Material and Methods

All material was collected by beating the vegetation between July 25 and July 31, 2024, at three locations in Rwanda: Mount Kigali, Kitabi Village, and the shores of Lake Kivu. The specimens were stored in 96% ethanol and later studied under an Optika light microscope.

Results and Discussion

A total of eight species were registered, all new records for Rwanda:

Caeciliusidae Mockford, 2000

***Fuelleborniella intermedia* (Badonnel, 1946)**

Material examined: 30.07.2024, near Kitabi Village, S02 31 37.2 E29 24 28.0, 2307 m a. s. l., *Pinus kesiya* plantation, dry leaves of *Macaranga* sp. and *Senecio* sp., 1 ♂.

Previous records: Congo (Badonnel 1946), Ivory Coast (Badonnel 1949a), Angola (Badonnel 1955) and Uganda (Smithers 1960).

***Paracaecilius mokotensis* (Badonnel, 1949)**

Material examined: 29.07.2024, near Kitabi Village, S02 31 44.8 E29 24 28.2, 2341 m a. s. l., *P. kesiya* plantation, *P. kesiya* branches, 1 ♂.

Previous records: Congo (Badonnel 1949b) and Nigeria (New 1973).

***Valenzuela similis* (Badonnel, 1949)**

Material examined: 26.07.2024, near Kigali City, Mount Kigali, along the path to the top, S01 58 27.5 E30 02 09.9, 1798 m a. s. l., eucalyptus plantation, branches of Cupressaceae, 1 ♂.

Previous records: Congo (Badonnel 1949b) and Uganda (Georgiev 2023).

Lachesillidae Pearman, 1936***Lachesilla mucronata* Badonnel, 1946**

Material examined: 29.07.2024, bank of Lake Kivu, Kagano area, S02 20 25.6 E29 05 01.1, 1477 m a. s. l., broadleaf forest, dry branches with leaves of bushes, 5 ♀.

Previous records: Congo (Badonnel 1946), Angola (Badonnel 1955) and Uganda (Smithers 1960).

Ectopsocidae Roesler, 1944***Ectopsocus briggsi* McLachlan, 1899**

Material examined: 25.07.2024, near Kigali City, Mount Kigali, S01 58 22.8 E30 02 28.9, 1647 m a. s. l., eucalyptus plantation, dry branches with leaves of bushes, 1 ♀, 1 ♂; 26.07.2024, near Kigali City, Mount Kigali, along the path to the top, S01 58 27.5 E30 02 09.9, 1798 m a. s. l., eucalyptus plantation, branches of Cupressaceae, 1 ♀; 28.07.2024, near Kitabi village, S02 31 53.2 E29 24 27.2, 2337 m a. s. l., eucalyptus plantation, dry leaves of *Senecio* sp., 2 ♀, 3 ♂; 29.07.2024, Kitabi village, S02 31 44.8 E29 24 28.2, 2341 m a. s. l., *P. kesiya* plantation, dry leaves of *Senecio* sp., 2 ♀, 4 ♂; 29.07.2024, near Lake Kivu, Kagano area, S02 20 25.6 E29 05 01.1, 1477 m a. s. l., broadleaf forest, dry branches with leaves of bushes, 2 ♀; 30.07.2024, near Kitabi village, S02 31 37.2 E29 24 28.0, 2307 m a. s. l., *P. kesiya* plantation, dry leaves of *Macaranga* sp. and *Senecio* sp., 2 ♀, 1 ♂; 31.07.2024, near Kitabi village, S02 32 00.6 E29 24 38.8, 2306 m a. s. l., eucalyptus plantation, dry leaves of *Senecio* sp., 2 ♂.

Previous records: This species is widely distributed across the world, with numerous records in continental Africa, including Algeria, Congo, Kenya, Nigeria, South Africa, Tanzania, Tunisia, and Zimbabwe (Lienhard 2016). It was recently recorded in Uganda as well (Georgiev 2023).

***Ectopsocus vilhenai* Badonnel, 1955**

Material examined: 29.07.2024, near Lake Kivu, Kagano area, S02 20 25.6 E29 05 01.1, 1477 m a. s. l., broadleaf forest, dry branches with leaves of bushes, 6 ♀.

The species is known from Africa, Madagascar, South and Latin America and some oceanic islands (Lienhard 2016). Previous records from continental Africa: Angola (Badonnel 1955), Nigeria (Medler 1980), Senegal (Badonnel 1982), and Uganda (Georgiev 2023).

Psocidae Hagen, 1865***Blaste nairobiensis* New, 1975**

Material examined: 29.07.2024, near Kitabi village, S02 31 44.8 E29 24 28.2, 2341 m a. s. l., *P. kesiya* plantation, dry leaves of *Macaranga* sp., 1 ♀.

Previous records: Kenya (New 1975).

***Ptycta apicalis* Broadhead & Richards, 1980**

Material examined: 26.07.2024, near Kigali city, Mount Kigali, along the path to the top, S01 58 27.5 E30 02 09.9, 1798 m a. s. l., eucalyptus plantation, branches of Cupressaceae, 1 ♀.

Previous records: Kenya (Broadhead & Richards 1980).

References

- Badonnel, A. (1946) Psocoptères du Congo belge. *Revue de Zoologie et de Botanique Africaines, Bruxells*, 39(2): 137-196.
- Badonnel, A. (1949a). Psocoptères de la Côte d'Ivoire. Mission Paulian-Delamare (1945). *Revue française d'Entomologie*, 16: 20-46
- Badonnel, A. (1949b) Psocoptères du Congo belge (3e note). *Bulletin de l'Institut Royal des Sciences naturelles de Belgique*, 25(11): 1-64.
- Badonnel, A. (1955) Psocopteres de l'Angola. *Publicações culturais da Companhia de Diamantes de Angola*, 26: 1-267.
- Badonnel, A. (1982) Psocoptères du Sénégal. Note 1: Ectopsocidae. *Nouvelle Revue d'Entomologie*, 12: 211-216.
- Broadhead, E. & Richards, A. (1980) The Peripsocidae and Psocidae (Psocoptera) of East Africa. *Systematic Entomology*, 5: 357-397.
- Georgiev, D. (2023) New records of Psocoptera (Insecta) from Uganda. *ZooNotes*, 214: 1-4.
- 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, Sapporo, Japan, 123 pp.
- Medler, J. (1980) Insects of Nigeria - Check list and bibliography. *Memoirs of the American Entomological Institute*, 30: 1-919.
- New, T. (1973) A collection of Psocoptera from Nigeria. *Occasional Publications of the Entomological Society of Nigeria*, 10: 1-22.
- New, T. (1975) New species and records of Psocidae (Psocoptera) from Kenya. *Journal of Natural History*, 9: 535-544.
- Smithers, C. (1960) Psocoptera. *Annales du Musée Royal du Congo Belge, Tervuren, Zoologie*, 88: 365-376.