

DIPTERA: TRICHOCERIDAE OF KERGUELEN ISLAND<sup>1</sup>By Christine Dahl<sup>2</sup>

*Abstract:* One species of the Family Trichoceridae (Dipt. Nemat.) is reported from Kerguelen Island. Previously it was described under the name of *Palaeopetaurista dubitata* Séguy. On base of the comparison of the type, the collections in the Museum National d'Histoire Naturelle, Paris, and the present material with the species *T. maculipennis* Meigen from Scandinavia, the Genus *Palaeopetaurista* and the species *dubitata* were made synonymous with the genus *Trichocera* and the species *maculipennis* Meigen. The possibility that the species is introduced is briefly discussed.

By the kind intermediation of Dr C.P. Alexander, I had the opportunity to study the trichocerid species, collected by Dr M. Hay on Kerguelen Island. I wish to express my thanks to Dr J. L. Gressitt, Bishop Museum, Honolulu, where the collection is preserved, and to Dr L. Matile, who gave me valuable help during my visit at the Museum Nationale d'Histoire Naturelle, Paris.

From the Kerguelen Island an endemic, monotypic genus *Palaeopetaurista* was described by Séguy (1940) with the species *dubitata*. A comparison of the type, all material dealt with by Séguy (1953) and the present specimens revealed that all belong to the same species.

The genus *Palaeopetaurista* was founded on the presence of an additional wing-rib between  $R_{4+5}$  and  $MA_1$ , present in the ♀ type which Séguy later (1953: 607) found to be an abnormality. The tendency for variations in wing-rib pattern is strong in the species and is demonstrated by various other abnormalities. With much more specimens on hand now, it is obvious that the genus is synonymous with the genus *Trichocera*, which it covers in all other features, c.f. Edwards (1928: 33). The species *dubitata* was described mainly on the shape of the palps, antennae and wing-ribs. The identification of the species as *T. maculipennis* Meigen is made by additional description of several features of the Kerguelen specimens and the comparison with European material.

The brown spots on the wings between  $R_1-MA_2$  and  $MA_2-CuA$  (c.f. Séguy, 1940: fig. 46) are often less continuous than indicated. It is the 3rd antennal segment and not the 2nd (l.c.: 226) which is somewhat longer than the following ones.

In the ♀, the hypogynal valves, ovipositor and vaginal plate have the same shape as indicated by Dahl (1966a: Fig. 56, 51, 61), but the supravaginal plate bears only 2 bristles. A comparison with specimens from northern Sweden and Finland showed that forms with only 2 bristles occur frequently.

The ♂ has a more accentuated tubercle on a slightly longer distal part of forceps (Séguy, 1953: Fig. 60), and sometimes a smaller 2nd tip at the basal apodeme of forceps as Swedish specimens (Dahl 1966a: Fig. 20). Variations in breadth of the paramere apodeme are found in European specimens, so the more slender apodeme of Kerguelen ♂♂ falls within the range of variability of the species, (l.c.: Fig. 25). The 9th sternite in the Kerguelen specimens has not always such deep dentations as indicated (l.c.: Fig. 31).

The larvae of the Kerguelen specimens were also described by Séguy (1953: Fig. 61-63). The hind fringe and the shape of the mandible correspond with figures of Karandikar (1931: Fig. 10-14), for *T. maculipennis*.

The species is known from Greenland, European subarctic islands, Scandinavia (Dahl 1967a,

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1968), from all other parts of Europe (a.o. Czizek, 1931; Dahl, 1966b), North America (Alexander 1965) and Asia (Nielsen 1962).

*T. maculipennis* lives either synanthropic, in caves or wild in the same biotypes as other trichocerid species, and the adults occur during summer and early autumn in the northern Hemisphere (Dahl 1967a, b).

Some specimens of the present samples were taken in a grotto, others near human settlements. As far as can be judged from the small collections, *T. maculipennis* occurs in the Kerguelen Island during Southern Hemisphere summer (I-III), winter (VII, VIII) and spring (IX), when also larvae were found.

Probably the species has been introduced and spread from one of the ports. An active invasion over so long distances of such fragile insects with narrow temperature tolerance for the adults and terrestrial larvae, seems quite impossible.

DISTRIBUTION: Olsen Valley 20.-26.I.65, inside grotto on N side of valley, 2 ♂♂, 1 ♀, 1 spec.; Port Jeanne d'Arc, 20-31.I.65, 7 ♂♂, 4 ♀♀; Port aux Francais, 3.II.65, 1 ♀.

#### REFERENCES

- Alexander, C., P.** 1965. Family Trichoceridae. *In*: A Catalog of the Diptera of America north of Mexico. Agriculture Handbook 276, Agr. Res. Serv. Dep. Agr. Washington.
- Czizek, K.** 1931. Die Mährischen Arten der Dipterenfamilien Limoniidae und Cylindrotomidae. Brünn.
- Dahl, C.** 1966a. Notes on the taxonomy and distribution of Swedish Trichoceridae (Dipt. Nemat.). *Opusc. Ent.* **31**. Lund.
- 1966b. Trichoceridae aus Bayern nebst Beschreibung einer neuen Art. *Beitr. Ent.* **16**. Berlin.
- 1967a. Notes on the taxonomy and distribution of Arctic and Subarctic Trichoceridae (Dipt. Nemat.) from Canada, Alaska and Greenland. *Opusc. Ent.* **32**. Lund.
- 1967b. Additional notes on the taxonomy and distribution of Swedish Trichoceridae (Dipt. Nemat.). *ibid.* **32**.
1968. Notes on the taxonomy and distribution of Trichoceridae (Dipt. Nemat.) from Finland and adjacent areas in USSR. *ibid.* **33**.
- Edwards, F.** 1928. Family Trichoceridae.—*Gen. Ins.* **190**. Bruxelles.
- Karandikar, K. R.** 1931. The early stages and bionomics of *Trichocera maculipennis* (Meig.) (Diptera, Tipulidae). *Trans. Ent. Soc. Lond.* **79**. London.
- Nielsen, P.** 1962. Nematocera (Insecta) from Afghanistan. *Vidensk. medd. fra Dansk Naturh. Foren.* **124**. Copenhagen.
- Séguy, E.** 1940. IV. Diptères. Mem. Mus. National d'Hist. Nat. nov. ser. 14 fasc. unique. Paris.
1953. Insectes Mallophages, Anoplures et Dipteres recueillis par M. P. Paulian aux Iles Kerguelen. *Mem. Inst. Sci. Madagascar* ser. E. IV. (Tananarive) Paris.