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Choroterpes (Choroterpes) lindrothi, a New Species of Mayfly from Morocco (Ephemeroptera: Leptophlebiidae)

William L. Peters

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Peters, W. L. [Lab. Aquat. Entomol., Florida A & M Univ., Tallahassee, Florida 32307, U.S.A.]: **Choroterpes (Choroterpes) lindrothi, a New Species of Mayfly from Morocco (Ephemeroptera: Leptophlebiidae).** – Entom. Gen. 6 (2/4): 371–373; Stuttgart-New York 1980. – [Note].
Choroterpes (Choroterpes) lindrothi Peters 1980 a new species of Leptophlebiidae is described from the ♂ imago from the savanna of Morocco. The relationships of this new species to African and European members of the subgenus *Choroterpes* Eaton 1881 are discussed.

1 Introduction

At present, four species of *Choroterpes (Choroterpes)* Eaton 1881 have been described from the Eastern Hemisphere. They are *C. ndebele* Agnew 1962 and *C. nigrescens* Barnard 1932 from southern Africa, *C. picteti* Eaton 1871 from Europe, and *C. proba* Ulmer 1940 from Sumatra (known only from the nymph). Described herein is a new species of *Choroterpes* s.s. from Morocco. Venational terminology is as given in Peters & Edmunds [1970].

2 Description

Choroterpes (Choroterpes) lindrothi n. sp.

♂ imago (in alcohol): Length: body, 6.5 mm; praealae, 7.1 mm. Upper portion of eyes separated on meson of caput by distance equal to 3/4 width of median ocellus; upper portion yellowish-gray, lower portion black. Basal half of ocelli dark brown, apical half brownish-white. Scapus and pedicellus of antennae dark brown, flagellum of antennae broken off and missing. Caput dark brown, carinae darker. Thorax dark brown, sutura paler, carinae darker. Coxae of pedes dark brown washed with black, remainder of pedes-II and pedes-III yellowish-brown except femora lightly washed with darker brown, remainder of pedes-I broken off and missing. Alae (Fig. 1–3): longitudinal veins of praealae and postalae light brown except veins C, Sc, and R_1 brown basally, cross veins pale; membrane of prae- and postalae transparent except apical 1/3 of cell C of praealae translucent, base of praealae light brown. Abdomen: light brown, segments 1–7 translucent, segment 8 and 9 opaque; terga 1–9 washed with blackish-brown, lateral and posterolateral margins darker; terga 1–8 with a pale, longitudinal, median bar running entire length of tergum (Fig. 6); spiracula dark brown, tracheae pale (Fig. 5); anterolateral corners of sternum 9 darker. Genitalia (Fig. 4): pale, length of exposed penes about 1/3 length of forceps, apex of penes rounded. Caudal filaments pale, darker annulations at alternate articulations.
♀ imago: Unknown.
Mature nymph: Unknown.
Specimens: Holotype ♂ imago, Morocco: Oued Massa (River), bridge on Agadir-Tiznit road, 2.III.1970, P. Ohm. Holotype is in alcohol and deposited in the collections of Florida A & M University.

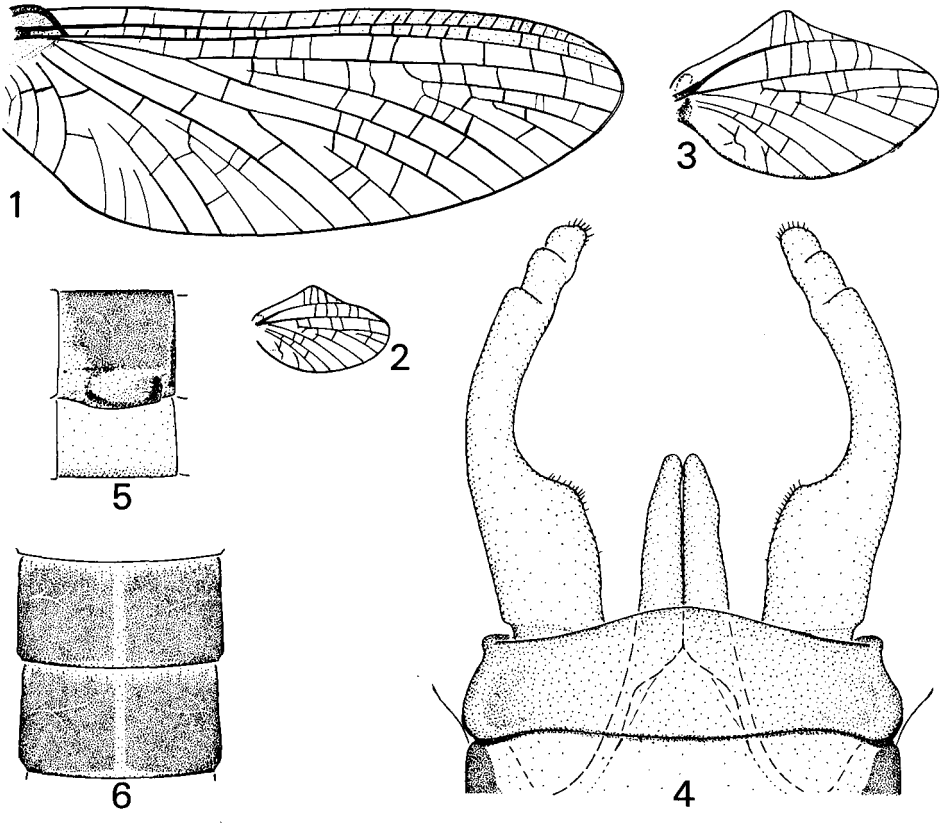

Fig. 1–6: *Choroterpes* (s.s.) *lindrothi n. sp.*, ♂ imago: **1** praeala; **2** postala; **3** postala enlarged; **4** genitalia, ventral view; **5** lateral view of abdominal segment 5; **6** dorsal view of abdominal terga 5–6 [Ephemeroptera: Leptophlebiidae].

Biology: The Qued Massa where the collection was made runs through a dry savanna with some agriculture. The river contained much water at the time with normal river vegetation on the banks and sandbanks.
Etymology: Species is named in dedication to the late Swedish entomologist Professor Dr. Carl H. Lindroth.

3 Discussion

C. lindrothi n. sp. can be distinguished from all known species of *Choroterpes* s. s. in Africa and Europe by the following combination of ♂ imaginal characters: (1) femora are yellowish-brown and lightly washed with darker brown, (2) abdominal terga 1–8 are washed with blackish-brown and possess a pale, longitudinal, median bar running entire length of each tergum (Fig. 6); (3) exposed length of penes of genitalia is about 1/3 length of forceps and apex of penes is rounded (Fig. 4), and (4) caudal filaments are pale with darker annulations at alternate articulations.

As is documented by Eaton [1899] and Lestage [1925], much of the mayfly fauna of Morocco and Algeria consists of European species. In fact, Lestage [1925] lists *C.* (s.s.) *picteti* from Algeria. Based on study of specimens of *C. picteti* from Portugal, *C. lindrothi* n. sp. does not appear closely related to *C. picteti*. *C. picteti* can be readily distinguished by the dark brown membrane in cells C and Sc of the praealae, the pale triangular-shaped marks on the abdominal terga, and the relatively long, apically acute penes.
Of the three described species, *C. lindrothi* n. sp. appears most closely related to *C.* (s.s.) *nigrescens* from southern Africa based on the similar tergal color patterns, relatively short penes, and the annulated caudal filaments. However, the species can be distinguished by the four specific characters given above.

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5 References

Eaton, A. E. (1899): List of Ephemeridae hitherto observed in Algeria, with localities. – Entomol. Mon. Mag. (2) 10: 4–5; London.

Lestage, J. A. (1925): Ephéméroptères, Plécoptères et Trichoptères recuillis en Algérie par M. H. Gauthier et liste des espèces connues actuellement de l'Afrique du Nord. – Bull. Soc. Hist. Nat. Afr. Nord 16: 8–18; Algiers.

Peters, W. L., & Edmunds, G. F., Jr. (1970): Revision of the generic classification of the Eastern Hemisphere Leptophlebiidae (Ephemeroptera). – Pac. Insects 12: 156–240; Honolulu.

Anschrift des Verfassers – Author's address: Dr. William L. Peters, Laboratory of Aquatic Entomology, Florida A&M University, Tallahassee, Florida 32307; U.S.A.

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Afrika südlich etwa des 9. oder 10.⑨ S ist Gegenstand von 41 Beiträgen, deren thematische Gruppierung das Inhaltsverzeichnis angibt. «Environment, present and past» steht über Geomorphologie, Klima- und Bodenkunde, aber auch über zwei Kapiteln Vegetationsgeschichte seit der späten Kreidezeit. Als «Biogeography and ecology» schließen sich ein historischer Abriß der biogeographischen Unterteilung des Gebietes an und 24 Artikel, die die Flora (nach phytogeographischen Regionen geordnet) und (in systematischer Folge) Teile des Tierreichs (Megadrilacea, Onychophora, Arachnida, Myriapoda, Insecta -s.u.-, Landmollusken, Herpetofauna, Vögel, Säuger) behandeln, dazu «Patterns of man-land relations». Mit Ausnahme der Libellen hat man die Fauna von Binnengewässern (Fische, Mollusken, übrige Evertebraten) abgetrennt