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## A New Species of Short-palped Crane fly in *Cheilotrichia* (*Cheilotrichia*) (Diptera, Limoniidae) from Switzerland

SIGITAS PODENAS<sup>1</sup> & WILLY GEIGER<sup>2</sup>

*Cheilotrichia* (*Cheilotrichia*) *fully* n. sp. is described and illustrated from adult specimen collected nearby the village of Fully, Valais canton, Switzerland. This new species is similar to few Palaearctic species of same subgenus: *C. aemula* SAVCHENKO, *C. cinerea* (STROBL), *C. meridiana* MENDL, *C. monstrosa* BANGERTER and *C. vagans* SAVCHENKO, which mostly can be separated only by examining structure of male genitalia. New species differs from them in several features including wing venation and morphology of male gonostyles.

Keywords: Limoniidae, *Cheilotrichia*, systematic, new species, Switzerland

### INTRODUCTION

Nominative subgenus of *Cheilotrichia* is small. Species belonging to it are found in Holarctic, Oriental and Ethiopic Regions, with highest diversity in West Palaearctic. Subgenus is represented by eight species in Palaearctic Region (SAVCHENKO et al. 1992, STARY 1992). Only three of them were known from Switzerland (STARY & GEIGER 1998).

Subgenus is characterized by such features: discal cell usually closed; vein Sc2 close to the tip of Sc1; cell m2 shorter than m3; vein M4 branches out at the middle length of discal cell; inner gonostyles of male deeply divided; aedeagus with one or two pairs of well expressed parameres (SAVCHENKO 1989).

### MATERIAL AND METHODS

Crane flies were collected with use of Malaise traps with light in the Fully, Valais canton, Switzerland by C. DUFOUR and W. GEIGER in 1980. Specimens were identified and preserved in 70% ethanol in the Musée d'Histoire Naturelle, Neuchâtel, Switzerland (MHNN). After careful reexamination of *Cheilotrichia* (*Empeda*) specimens, a misidentified specimen, belonging to an unknown species was found. After that, head, wings and terminalia were slide mounted in euparal media, rest of the body was left in ethanol. Specimen was studied with a Zeiss SV8 dissecting microscope and drawn with the aid of a drawing tube. All illustrations were made by S. PODENAS.

Terminology of morphological features generally follows that of MCALPINE et al. (1981).

Type specimen is preserved in MHNN.

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## TAXONOMY

***Cheilotrichia (Cheilotrichia) fully* n. sp.**

Holotype, male: Switzerland, Fully (VS), 550 m, Pt. 574,650/110,050; 26.05.-1.06.1980; T. Malaise lumineuse, C. Dufour and W. Geiger, in MNHN.

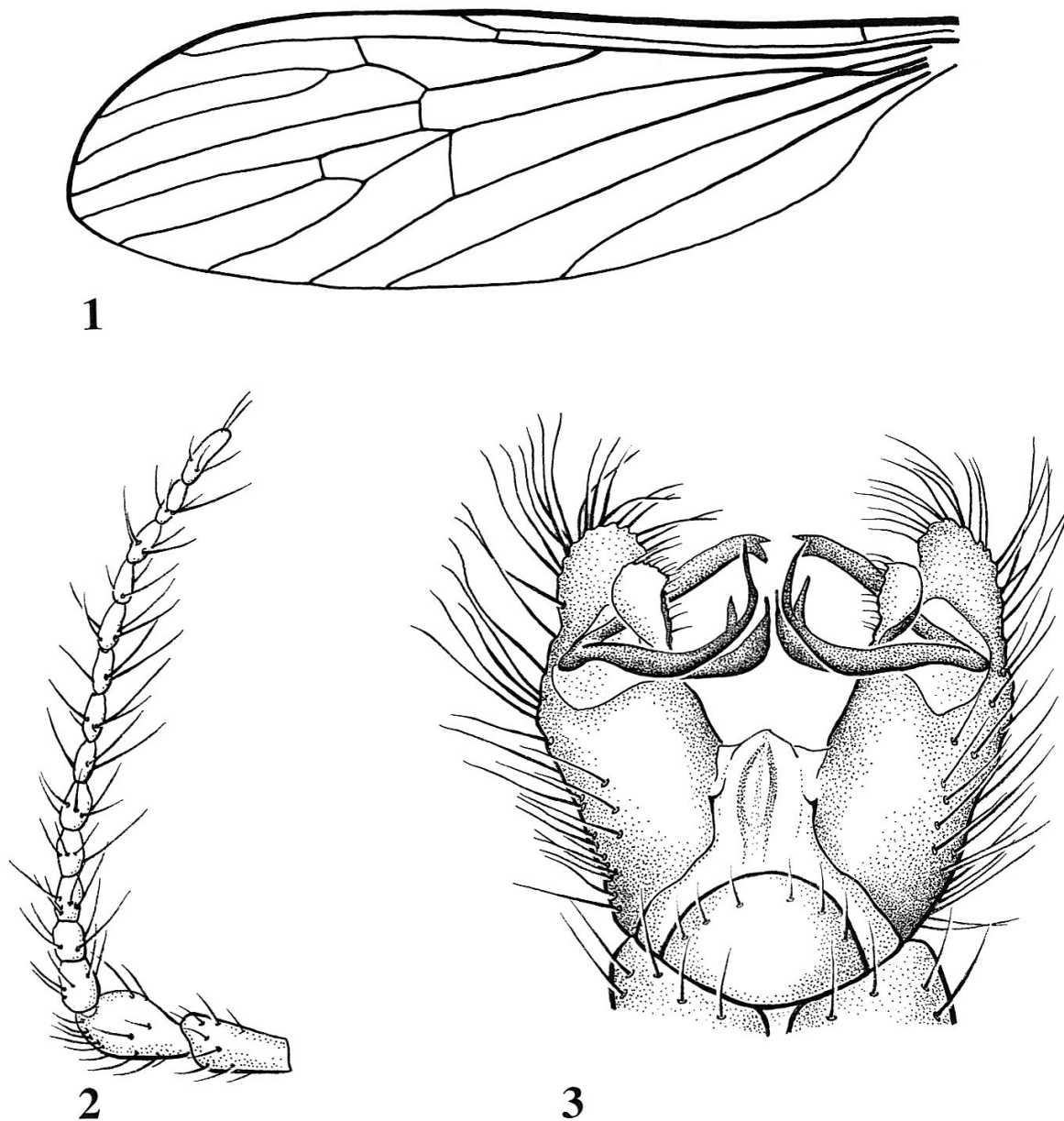
*Diagnosis.* Medium sized (male body length 4.5 mm) brown species of *Cheilotrichia* with clear wings. Discal cell of the wing with acute angled proximal end. Gonocoxite of male genitalia elongated, tip of it wide and extends far beyond the bases of gonostyles, dorsal outgrowth of it comparatively broad and protrudes between outer and inner gonostyles; outer gonostyle with bifid apex; inner gonostyle bifid from the base, so it looks, that there are three pairs of gonostyles; both branches of inner gonostyle with posteriorly curved tips; inner or ventral branch broadened before the tip, apex narrow; outer or dorsal branch narrow with well expressed outgrowth at approximately two thirds of its length.

*Description.* Male: Body length 4.5 mm, wing length 5.5 mm. HEAD: brown; rostrum, halteres and base of antenna brown. Distal part of flagellum light brown. Antenna (Fig. 2) 0.9 mm long; scape elongated with slightly widened distal part; pedicel pear-form, as long as scape; flagellomeres short and oval at base, turning elongated distally; apical flagellomere is longest and nearly cylindrical; longest verticils about twice as long as respective segments. THORAX: mesonotum uniformly brown with slightly expressed narrow yellow longitudinal median stripe, which, most probably occurs, due to preservation in ethanol. Pleurae uniformly brown. Wing (Fig. 1) clear, without any darker marks, veins brownish. Wing venation: Sc1 reaching beyond midlength of Rs; Sc2 close to Sc1 tip; Rs nearly straight, very slightly arcuated; R1 long; R3+4 same length as R2; R3 and R4 nearly parallel to each other; discal cell long and narrow with acute angled proximal end and m-cu branching out from the tip of this angle; both anal veins long. Fore coxa brownish, median and posterior coxae yellow; trochanters yellow. Legs not preserved. Haltere 0.9 mm long, yellow. ABDOMEN: light brown basally, turning darker distally, covered with scarce yellowish hairs.

Male: terminalia (Fig. 3) same color as distal part of abdomen, covered with long yellowish hairs, semi-inverted (ninth tergite and sternite in lateral position). Tergite 9 simple semi-rounded plate; gonocoxite elongated, tip of it wide and extends far beyond the bases of gonostyles, dorsal outgrowth of it comparatively broad and protrudes between outer and inner gonostyles; outer gonostyle with bifid apex; inner gonostyle bifid from the base, so it looks, that there are three pairs of gonostyles; both branches of inner gonostyle with posteriorly curved tips; inner or ventral branch broadened before the tip, apex narrow; outer or dorsal branch narrow with well expressed outgrowth at approximately two thirds of its length; penis simple, elongated, rod-like, tip of it slightly protrudes above the apices of parameres; one pair of rod-like parameres.

Female: unknown.

*Habitat.* Chestnut grove at the border of vineyard (fairly deep soil, from moraine origin with acidic rocks made obvious by the presence of chestnut, contrasting with the calcareous rocks which generally emerge from the adret in Wallis. Fairly distant torrent (200 m) but with irrigation rivulets in the forest nearby. Average temperature from April to October: 15.5°-16.0°; average annual temperature:



Figs 1-3. *Cheilotrichia (Cheilotrichia) fully* sp. n., holotype. 1: wing; 2: antenna; 3: male genitalia.

10.5°-11.0°; vegetation period: 235-245 days. Precipitation is very weak (lower than 80 cm/year) and the „föhn“ (warm wind) is strong.

*Etymology.* This species is named after the nice village of Fully, Valais, Switzerland, where the holotype was caught.

*Discussion.* *Cheilotrichia (Cheilotrichia) fully* sp. n. is closely related to *C. aemula* SAVCHENKO, *C. cinerea* (STROBL), *C. meridiana* MENDEL, *C. monstrosa* BANGERTER and *C. vagans* SAVCHENKO. Only *C. cinerea* and *C. monstrosa* occur in Switzerland. All these five species have deeply split inner gonostyle, thus having appearance that there are three pairs of gonostyles, no one of them has additional appendage on outer (or dorsal) branch of inner gonostyle, which is well expressed in new species. *Cheilotrichia vagans*, *C. meridiana* and *C. monstrosa* have blunt apexed inner (or ventral) branch of inner gonostyle, thus being widest at the tip or

close to it, when new species together with *C. aemula* and *C. cinerea* have acute, posteriorly curved tip of that structure. Additionally dorsal lobe of gonocoxite of new species is wider than in *C. aemula* and *C. cinerea*; parameres of new species are narrow, rod-like structures, when they are broader in these two related species; penis of new species also is long and narrow, rod-like, tip of it slightly protruding above apices of parameres; it is clearly shorter than parameres in *C. aemula* and nearly equal to them in *C. cinerea*. Additional differences are observed in wing venation. No one of mentioned species has so narrow discal cell. Usually its proximal end is wider, not acute-angled as in new species; position of R2 in new species is similar to that of *C. cinerea*, when in *C. aemula* it is situated closer to the apical branching of Rs, thus R2+3+4 being approximately same length as R2 in *C. aemula* and nearly twice as long as R2 in *C. cinerea* and in new species.

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