

Zeitschrift: Mitteilungen der Schweizerischen Entomologischen Gesellschaft = Bulletin de la Société Entomologique Suisse = Journal of the Swiss Entomological Society

Herausgeber: Schweizerische Entomologische Gesellschaft

Band: 63 (1990)

Heft: 1-2

Artikel: Terellia (Cerajocera) rhapontici n. sp., a new tephritid fly from the Swiss alps (Diptera : Tephritidae)

Autor: Merz, B.

DOI: <https://doi.org/10.5169/seals-402388>

Nutzungsbedingungen

Die ETH-Bibliothek ist die Anbieterin der digitalisierten Zeitschriften auf E-Periodica. Sie besitzt keine Urheberrechte an den Zeitschriften und ist nicht verantwortlich für deren Inhalte. Die Rechte liegen in der Regel bei den Herausgebern beziehungsweise den externen Rechteinhabern. Das Veröffentlichen von Bildern in Print- und Online-Publikationen sowie auf Social Media-Kanälen oder Webseiten ist nur mit vorheriger Genehmigung der Rechteinhaber erlaubt. [Mehr erfahren](#)

Conditions d'utilisation

L'ETH Library est le fournisseur des revues numérisées. Elle ne détient aucun droit d'auteur sur les revues et n'est pas responsable de leur contenu. En règle générale, les droits sont détenus par les éditeurs ou les détenteurs de droits externes. La reproduction d'images dans des publications imprimées ou en ligne ainsi que sur des canaux de médias sociaux ou des sites web n'est autorisée qu'avec l'accord préalable des détenteurs des droits. [En savoir plus](#)

Terms of use

The ETH Library is the provider of the digitised journals. It does not own any copyrights to the journals and is not responsible for their content. The rights usually lie with the publishers or the external rights holders. Publishing images in print and online publications, as well as on social media channels or websites, is only permitted with the prior consent of the rights holders. [Find out more](#)

Download PDF: 15.03.2026

ETH-Bibliothek Zürich, E-Periodica, <https://www.e-periodica.ch>

Terellia (Cerajocera) rhapontici n. sp., a new tephritid fly
from the Swiss alps (Diptera: Tephritidae)

B. MERZ

Entomologisches Institut ETH, Clausiusstr. 21, CH-8092 Zürich

Terellia (Cerajocera) rhapontici n. sp. is described and illustrated, and its phylogenetic relationships are discussed. The fly was reared from flowerheads of the composite *Rhaponticum scariosum*, which is remarkable as this plant is not among known tephritid host genera.

INTRODUCTION

Cerajocera, considered as subgenus of *Terellia* by KORNEYEV (1987), has a holarctic distribution. It contains 13 species and 2 subspecies. Two species occur in the nearctic, the others in the palaeartic region. All species with known biology feed on capitula or stems of members of the composite, tribe Cardueae. The species described below was reared and swept from the flowerheads of *Rhaponticum scariosum* (= *Centaurea rhapontica*, *Leuzea rhapontica*), an endemic composite of the Western and Central alps (HESS, LANDOLT & HIRZEL, 1980). This plant has not yet been recorded as host for fruit-flies.

Several *Terellia* spp. and other fruit-fly genera have been introduced to North America as biological control agents against adventive, originally West palaeartic composites, which have become noxious weeds (HARRIS, 1984; JULIEN, 1982).

The tribe Terelliini was revised by KORNEYEV (1985). He considered *Terellia* and *Cerajocera* as distinct genera differing in wing pattern and in the shape of the ♂ aedeagal glans. Recently, KORNEYEV (1987) described *Terellia (Cerajocera) clarissima* from *Jurinea mollis* in the Southern Ukraine with entire hyaline wings (as in typical *Terellia*) and the shape of the ♂ aedeagal glans as in *Cerajocera*. He concluded that *Cerajocera* is a subgenus of *Terellia* differing only in the shape of the ♂ aedeagal glans. Furthermore species of *Cerajocera* tend to attack plants with larger capitula than in *Terellia* s. str. (STRAW 1989).

The subsequently adopted terminology follows MCALPINE (1981), with the modifications proposed by FOOTE & STEYSKAL (1987) and KORNEYEV (1985).

DESCRIPTION

Terellia (Cerajocera) rhapontici n. sp.

General body colour yellow-brownish in dry mounted specimens, yellow-greenish in life.

Head (fig. 2): Scapus and pedicel with dark spots and black hairs on upper margin. First flagellomere, palpi and proboscis orange. Pedicel without enlarged

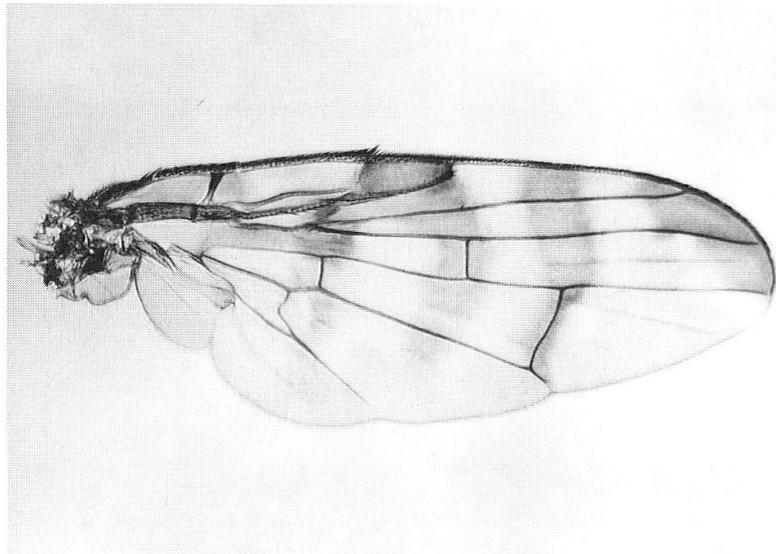


Fig. 1. Wing of *Terellia (Cerajocera) rhapontici* n. sp.

process. Antennae closer together than the diameter of an antenna base. Palpi and proboscis with white and black hairs, palpi not extending beyond oral margin. Gena about $\frac{1}{4}$ as high as eye. Orbits with white and black hairs. All main bristles black, except postocellar and postocular bristles.

Thorax (fig. 3): Scutum covered with dense white hairs, blackish dull except laterally and posteriorly, with 3 longitudinal darker stripes. Hind margin of black area of scutum with a deep triangular incision in the middle reaching the anterior supraalar bristle. Prescutellar acrostichal and dorsocentral setae on black spots. Scutellum uniformly yellow-brownish, only laterally at the base with one pair of small black spots. Pleural stripes distinct. Katepisternum and meron each with deep black area. All bristles black, except proepisternal bristles.

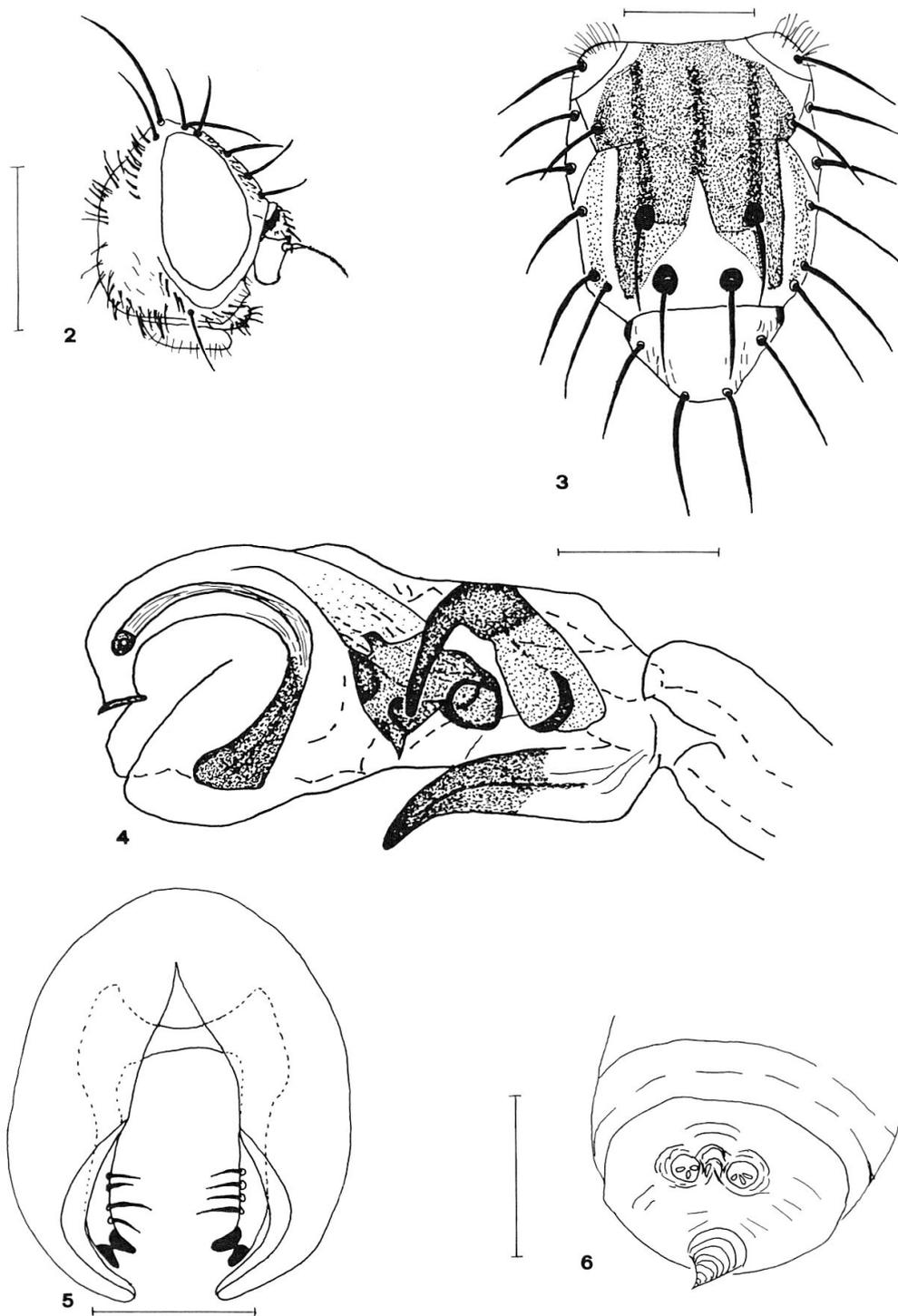
Legs: Yellow-brown, femora sometimes with indistinct black markings.

Wing (fig. 1): With 4 orange, brownish-framed crossbands: subbasal crossband stretching from R1 to CuA2, c entirely hyalin; discal crossband ranging from C to the middle of dm; subapical and apical crossband entirely separated, sometimes only narrowly.

Abdomen: Covered with black and white hairs; black hairs especially at hind margin of the tergites. ♂: Tergites 3–5 each with a lateral and a medial pair of dark spots along upper margin of tergite. Aedeagal glans as in fig. 4. Epandrium as in fig. 5. ♀: Tergites 3–6 each with a medial pair of dark spots, lateral spots indistinct, sometimes absent. Oviscape brown, black at base and apex, covered with black hairs, shape as in fig. 7. Tip of aculeus evenly rounded as in fig. 8. Oviscape longer than last 4 tergites combined.

Measurements (in mm). General body size ♂ 4.32–6.64 (5.78 ± 0.52) (n = 18), ♀ 4.96–6.24 (5.61 ± 0.37) (n = 10). Wing length ♂ 3.84–5.52 (4.97 ± 0.45) (n = 19), ♀ 4.56–5.6 (5.02 ± 0.29) (n = 11). Aculeus length ♀ 2.82–3.16 (2.97 ± 0.15) (n = 5).

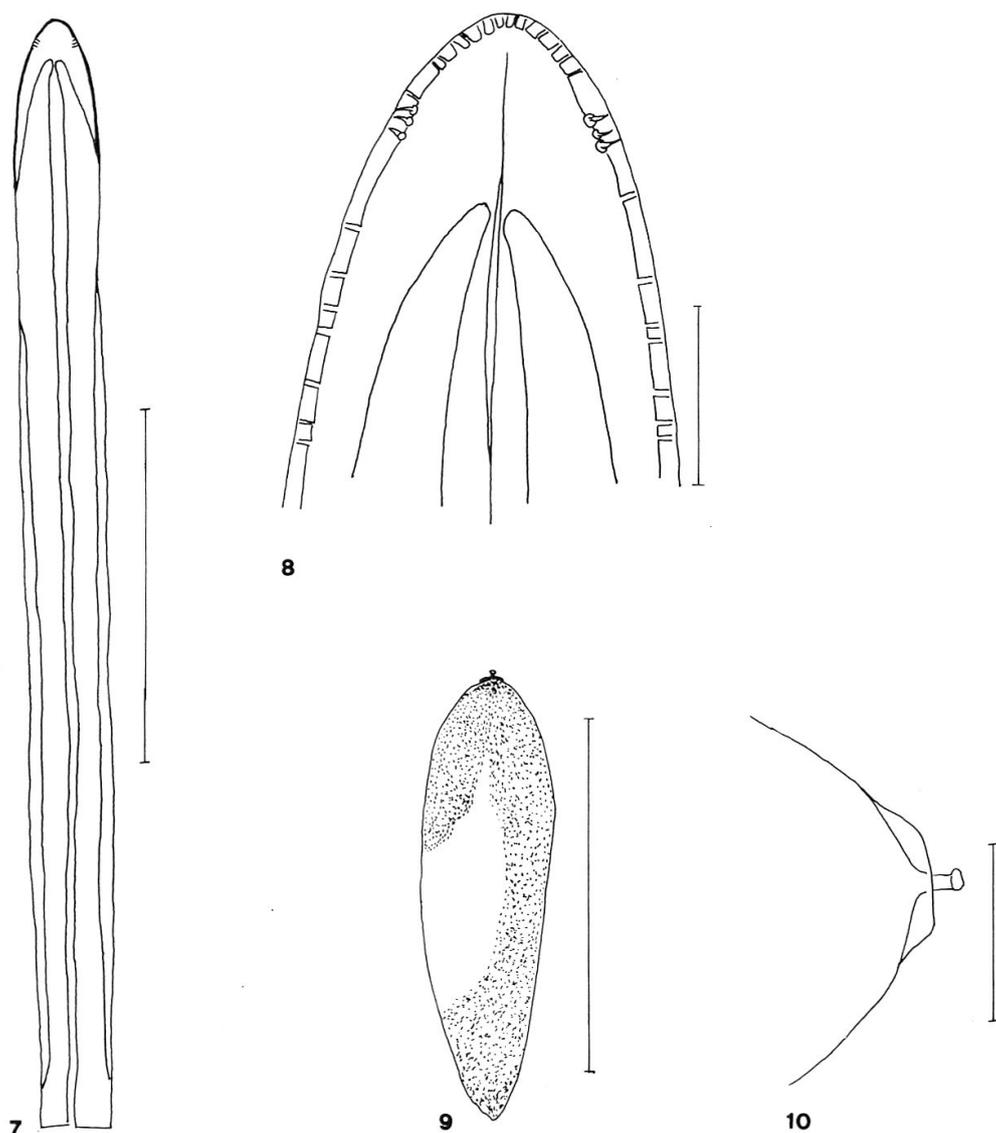
Puparium (fig. 6): mostly orange-brown, but dark brown posteriorly, anterior spiracle with 8 openings (only one puparium checked), with one central, needle-like process below posterior spiracles. Length: 4.7–5.6 mm (n = 3).



Figs. 2–6. *Terellia (Cerajocera) rhapontici* n. sp. 2, Head profile ♂. 3, Scutum, dorsal view ♂. 4, Aedeagal glans ♂. 5, Epandrium, dorsal view ♂. 6, Puparium, posterior view. – Scale lines: Figs. 2, 3, 6 = 1 mm, fig. 4 = 0.1 mm, fig. 5 = 0.2 mm.

Eggs: Oblong-oval, as in fig. 9, micropyle as in fig. 10. Length: 1.2–1.4 mm (n = 13).

Material examined: HOLOTYPE ♂ (not dissected, but aedeagal glans exposed), *Switzerland*: Graubünden, Samedan, 1950 m, 27.IX.1988, reared from



Figs. 7–10. *Terellia (Cerajocera) rhapontici* n. sp. 7, Aculeus ♀. 8, Tip of Aculeus ♀. 9, Egg. 10, Micropyle of egg. – Scale lines: Figs. 7, 9 = 1 mm, figs. 8, 10 = 0.1 mm.

flowerheads of *Rhaponticum scariosum*, emerged 28.III.1989 (B. MERZ) (author's collection).

PARATYPES, *Switzerland*: 2 ♂♂, 1 ♀, Ticino, Cadagno, 2000 m, 21.VII.1983, swept on *Rhaponticum scariosum* (W. SAUTER); 3 ♂♂, 1 ♀, Graubünden, S-chanf, VIII.1958, reared from flowerheads of *Rhaponticum scariosum*, emerged V.1959 (P. WEBER); 5 ♂♂, 3 ♀♀, Graubünden, Samedan, 1950 m, 23.VII.1988, swept on *Rhaponticum scariosum* (B. MERZ); 10 ♂♂, 4 ♀♀, Graubünden, Samedan 1950 m, 22.VII.1989, swept on *Rhaponticum scariosum* (B. MERZ) (Federal Institute of Technology, Entomology, Zürich; Tel Aviv University; British Museum (Natural History), London; Schmalhausen Institute of Zoology, Kiev; author's collection).

BIOLOGY

Terellia (Cerajocera) rhapontici lives in flowerheads of *Rhaponticum scariosum* (Compositae), where it feeds first on the seeds and later on the receptacle. Pupation and overwintering seems to take place in soil or in the host. In the laboratory flies emerged from March to May, but it is probable that in nature they would emerge only in July. Flies were swept on subalpine and alpine meadows between 1600 and 2000 m, where they were sitting on the host plant.

PHYLOGENETIC CONSIDERATIONS

Terellia rhapontici belongs to a group constituted by *T. lappae* CEDERHJELM, *T. ceratocera* HENDEL and *T. plagiata* DAHLBOHM which is defined by the evenly rounded tip of aculeus and 4 well developed crossbands. *T. lappae*, which lives in the flowerheads of *Onopordum* spp., can be distinguished from *T. rhapontici* by the yellow-brownish bristles and the short oviscape (as long as last 3 tergites combined). *T. plagiata* and *T. ceratocera*, which both live on *Centaurea scabiosa* s. lat., have the antennae more separated than the width of the scapus. The ♂ have a characteristic process on the upper margin of the pedicel, which is missing in *T. rhapontici*.

T. tussilaginis FABRICIUS, which lives in the flowerheads of *Arctium* spp., has a similar wing pattern as *T. rhapontici*, but the subbasal crossband stretches from C to cup not only from R1 to cup as in *T. rhapontici*. Furthermore *T. tussilaginis* has orange-brown scutum and katapisternum, and the tip of the aculeus is angular rather than rounded (WHITE, 1988).

T. rhapontici resembles externally the nearctic *T. occidentalis* SNOW. But both nearctic species, *T. occidentalis* and *T. palposa* LOEW, are separated clearly from all palaeartic species by the narrow, pointed tip of aculeus.

T. nigronota KORNEYEV, *T. clarissima* KORNEYEV and *T. armeniaca* KORNEYEV, which are described from Russia, have all a reduced wing pattern.

ACKNOWLEDGEMENTS

I thank Prof. Dr. W. Sauter, Zürich, Dr. A. Freidberg, Tel Aviv and Dr. D. Burckhardt, Geneva for their useful comments on the manuscript and Prof. Dr. Camenzind, Zürich, for his help in preparing the photograph of the wing.

ZUSAMMENFASSUNG

Terellia (Cerajocera) rhapontici n. sp. wird beschrieben und abgebildet. Ihre phylogenetische Stellung in der Untergattung *Cerajocera* wird diskutiert. Die neue Art wurde aus Blütenköpfen der Compositae *Rhaponticum scariosum*, einer endemischen Pflanze der West- und Zentralalpen, gezüchtet. Diese Pflanze wird zum ersten Mal als Wirt für Tephritidae nachgewiesen.

REFERENCES

- FOOTE, R. H., & STEYSKAL, G. C. 1987. 66. Tephritidae (Trypetidae). In: J. F. MCALPINE et al. (Eds.). *Manual of Nearctic Diptera – 2. Monogr. Biosyst. Res. Inst.* 28: 817–831.
- HARRIS, P. 1984. 26. Current approaches to biological control of weeds. In: J. S. KELLEHER & M. A. HULME (Eds.). *Biological control programs against insects and weeds in Canada 1969–1980*, pp. 95–104. Slough.

- HENDEL, F. 1927. 49. Trypetidae. In: E. LINDNER (Ed.). *Die Fliegen der Palaearktischen Region* 5 (1), Stuttgart, 221 pp.
- HESS, H., LANDOLT, E. & HIRZEL, R. 1980. *Flora der Schweiz und angrenzender Gebiete*. 2. Aufl. Basel, 876 pp.
- JULIEN, M. H. 1982. *Biological control of weeds. A world catalogue of agents and their target weeds*. 108 pp. Slough.
- KORNEYEV, V. A. 1985. Fruit flies of the tribe Terelliini Hendel, 1927 (Diptera: Tephritidae) of the fauna of the USSR. *Ent. Obozr.* 64: 626–644 (In Russian).
- KORNEYEV, V. A. 1987. A revision of the subgenus *Cerajocera* stat. n. of the genus *Terellia* (Diptera, Tephritidae) with description of a new species of fruit flies. *Zool. Zh.* 66 (2): 237–243 (In Russian).
- MCALPINE, J. F. 1981. Morphology and terminology – adults. In: J. F. MCALPINE et al. (Eds.). *Manual of Nearctic Diptera – 1. Monogr. Biosyst. Res. Inst.* 27: 9–63.
- STRAW, N. A. 1989. Taxonomy, attack strategies and host relations in flowerhead Tephritidae: a review. *Ecol. Entomol.* 14 (4): 455–462.
- WHITE, I. M. 1988. Tephritid flies – Diptera: Tephritidae. *Handbk Ident. Br. Insects* 10 (5a): 134 pp.

(received April 27, 1990)