

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

Herausgeber: Schweizerische Entomologische Gesellschaft

Band: 58 (1985)

Heft: 1-4: Fascicule-jubilé pour le 80e anniversaire du Prof. Dr. Paul Bovey = Festschrift zum 80. Geburtstag von Prof. Dr. Paul Bovey

Artikel: Adarrus ernesti n.sp., a new leafhopper species from the Lower Engadine, Switzerland, (Hom., Auchenorrhyncha, Cicadellidae)

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DOI: <https://doi.org/10.5169/seals-402178>

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Adarrus ernesti n.sp., a new leafhopper species from the Lower Engadine, Switzerland, (Hom., Auchenorrhyncha, Cicadellidae)

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The diagnosis and some ecological data on the new leafhopper species, *Adarrus ernesti*, are given.

Among the great number of leaf and planthoppers collected in the Lower Engadine, a new species has been detected. Details of this new species are presented here prior to the final report on the zoogeographical and ecological investigations on Auchenorrhyncha of the Lower Engadine valley (GUENTHART, 1985). Belonging to the genus *Adarrus* RIBAUT, 1947 (Cicadellidae, Deltocephalinae, Paralimnini), the new species can be classified in the *Adarrus s.str. multinotatus* (BOH.) group (RIBAUT 1952, NAST 1972). The genitals of the new species, particularly the aedeagus and the styles, can be unequivocally distinguished from those of *exornatus* RIB., 1952 (which is closest to *ernesti*) and of *multinotatus* (BOH., 1847) both of which had frequently been collected in the same valley (but in other biotopes). The new species also differs significantly from the drawings and original descriptions of the following species of *Adarrus s.str.*:

antennalis (HAUPT, 1924)

falcatus LINNAVOURI, 1952

servadeinus DLABOLA, 1958

calabricus DLABOLA, 1961

daedaleus LOGVINENKO, 1966

niphanticus LOGVINENKO, 1966

tirolensis COBBEN, 1979 (which was found only once in the nearby northern Tyrol by Dr. R. COBBEN)

graecornatus REMANE & ASCHE, 1980

siculus REMANE & ASCHE, 1980

Adarrus ernesti new species:

The size and appearance (fig. 1) are comparable to *A. exornatus*; the colored brown spots and white markings are also very similar to those of *exornatus*. One paratype ♂ is only faintly colored, indicating that this is probably a teneral specimen (GUENTHART, 1977, 1979). The length to the apex of the tegmina of the holotype ♂ is 3.0 mm, of the 2 paratypes ♂♂ 2.8–2.9 mm, and of the allotype ♀ 2.9 mm. Wing venation is as shown in fig. 1 and the aedeagus as in figs 2 and 3, the appendages at the end of the aedeagus being characteristically long and broad. The styles, which are shown in fig. 2 and 3, are clearly shorter than those of *exornatus* (fig. 4). The only female

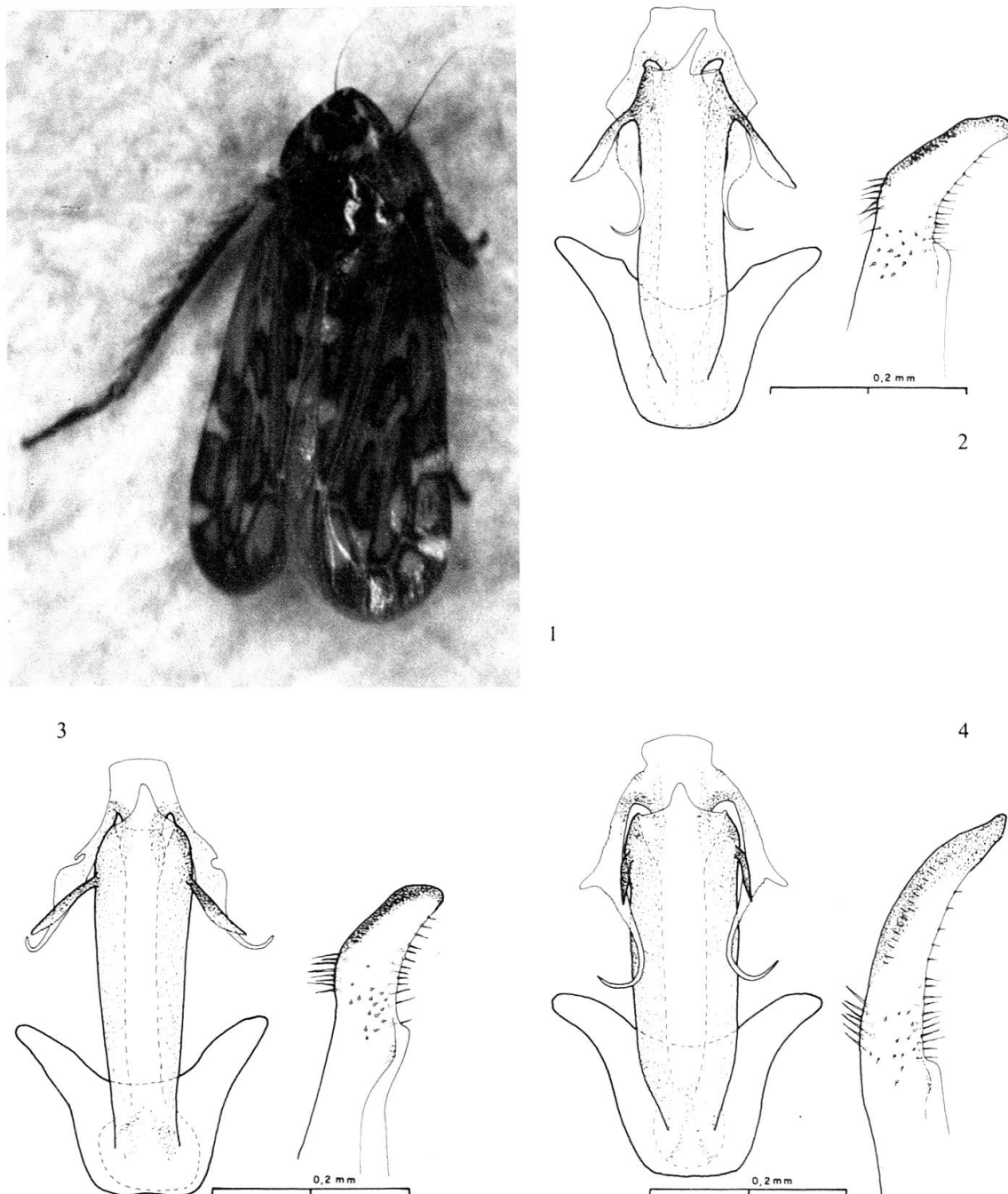


Fig. 1-4: 1.-3. *Adarrus ernesti* n.sp. (1) holotype ♂ (without abdomen), length to apex of tegmina 3.0 mm (on request, a color photo can be supplied); (2) holotype ♂, 23rd August 1977, Ramosch-Resgia GR: *Aedeagus* in postero-ventral aspect, genital *stylus* from above; (3) paratype ♂, 10th August 1982, Ramosch-Chants GR: *Aedeagus* in postero-ventral aspect, genital *stylus* from above. 4. *Adarrus exornatus* Rib., ♂, 9th May 1979, Magadino TI: *Aedeagus* in postero-ventral aspect, genital *stylus* from above.

Adarrus which was found together with the holotype ♂ was the unique *Adarrus* specimen of that biotope and can provisionally be assigned to the new species as allotype ♀; it cannot be unequivocally differentiated from *A. exornatus* female.

Type materiel: The types are at present in my collection and will later be deposited in an official Swiss entomological museum.

Ecology of Adarrus ernesti n.sp.:

The holotype ♂ was collected on 23rd August 1977 with a small suction collector in dry, sunny, non-fertilized grassland, intensively grazed by red deer and sheep, in Ramosch-Resgia GR, situated at 1100 m above sea level. The specimen was collected in a plant association which CAMPBELL (1979) and TREPP (1979) named *Astrogalo-Brometum agrostietosum albae* (= Fioringras-reiche Esparsetten-Tragant-Respen-Gesellschaft). The allotype ♀ was caught with a net in the same biotope on the same date; there were no other *Adarrus* specimens in this biotope and location on three other collection dates (June, July, October), although a total of 11 other species of leaf and planthoppers were collected (GUENTHART, 1985). One paratype ♂ was collected on 10th August 1982 on a dry grassland slope in Ramosch-Chants (situated in the direction of Alp Discholas) at 1390 m. The other paratype ♂ was found in Tarasp-Sgne at 1400 m on 28th August 1979, the site again being a very dry and xerothermal grassland slope with a southern exposure.

At the three mentioned locations and biotopes, no other *Adarrus* species was found, but in the Lower Engadine in other biotopes, 133 ♂ + 131 ♀ specimens of *Adarrus exornatus* were collected on 18 occasions, especially in Barber traps from dry grassland in Ramosch and also at other places. *A. exornatus* is new for Switzerland. On 10 occasions, 10 ♂ + 7 ♀ specimens of *A. multinotatus* were found not only in the same dry grassland as *A. exornatus*, but also on the lower vegetation of sunny forests. Both species were caught in June–July and later in August–September–October.

It is remarkable that (although many other species of leaf and planthoppers were collected) no *exornatus* nor *multinotatus* were found at the three biotopes of *A. ernesti*. However, in the case of *exornatus* the possibility may exist. On the other hand, no *A. ernesti* were caught at those biotopes where *exornatus* and/or *multinotatus* were found. In the lecture at the 5th Auchenorrhyncha Meeting in Davos, the new species had not yet been fully distinguished from *A. exornatus*: the two specimens under *A. exornatus* in the grassland biotope S₇ (= *Astrogalo-Brometum agrostietosum albae*) in GUENTHART (1984) are the holotype and allotype of *A. ernesti*.

No specific hostplant (or hostplants) has yet been identified for *A. ernesti*, but presumably it would be another species of gramineae as for *A. multinotatus*.

ACKNOWLEDGEMENTS

I sent drawings of the genitals of the new species and of *A. exornatus* to Dr. J. DLABOLA, Prague, for comparison to species in his extensive collection and would like to thank him for his kind efforts on my behalf. I selected the name for the new species in gratitude for the great interest and support of my husband, Dr. Ernest Guenthart.

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(received July 12, 1985)