

**Auchenorrhyncha of pasturelands of the subalpine belt
of the Forest of Tarvisio (northeastern Italy). Final results**

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Auchenorrhyncha were collected by sweepnet in pasturelands of the subalpine belt of the Forest of Tarvisio in June, July, and August 2001.

The sites in Valloni di Rio Bianco and Malborghetto (Acumizza, Carnaio, Sella Clinach, Sella Collarice, Val Rauna, Mt. Stabet, Gacceman, Malborghetto, Calisca, Passo Pramollo, Malga Cavalli), Jof di Montasio and Jof Fuart (Pian delle Rondini, Saisera, Castein, Montasio), and Conca di Fusine (upper lake, lower lake, Prato Oman, Prati Aclete) were at elevations between 900 and 1,700 m a.s.l. These are all sites designated as zones of special protection according to the EU Directive 79/409/EEC and proposed as sites of Community importance according to the EU Habitats Directive 92/43/EEC. The first area is a national natural reserve, the second and third areas are regional natural parks; they are all part of the net of natural habitat types proposed for the projects Bioitaly – Nature 2000.

The habitats were almost all dominated by *Festuca* gr. *ovina* with *Nardus stricta*. Originally, these habitats were pastures or prairie-pastures and presently they have a prevailing irrational pastoral use. Some exceptions were pastures dominated by *Brachypodium sylvaticum* and *B. caespitosum* in impoverished soils, and by *Arrhenatherium elatius*, *Molinia coerulea*, and *Carex ferruginea* in richer soils and progressively more humid conditions.

A total of about 46 Auchenorrhyncha species was found:

Cercopidae – *Aphrophora alni*, *Neophilaenus exclamationis*, *N. lineatus*, *Philaenus signatus*, and *Ph. spumarius*;

Delphacidae – *Acantodelphax* sp., *Anakelisia perspicillata*, *Dicranotropis hamata*, *Kelisia ribauti*, *K. sima*, *K. vittipennis*, *Javesella discolor*, *J. dubia*, *Muellerianella brevipennis*, and *Stiroma bicarinata*;

Cicadellidae – *Adarrus exornatus*, *Allygus mixtus*, *Anoscopus flavostriatus*, *Aphrodes makarovi*, *Balclutha frontalis*, *B. punctata*, *Balclutha* sp., *Cicadella viridis*, *Cicadula* sp., *Deltocephalus pulicaris*, *Diplocolenus abdominalis*, *D. bohemani*, *Doratura stylata*, *Emelyanoviana mollicula*, *Erythria aureola*, *Errastunus ocellaris*, *Eupteryx heydenii*, *E. notata*,

Evacanthus interruptus, *Forcipata citrinella*, *Graphocraerus ventralis*, *Jassargus alpinus alpinus*, *J. flori*, *J. obtusivalvis*, *Macrosteles cristatus*, *M. sexnotatus*, *Planaphrodes nigrita*, *Psammotettix cephalotes*, *Sorhoanus assimilis*, *Psudotettix subfuscus*, and *Thamnotettix confinis*.

Three Auchenorrhyncha taxa remained undetermined because only females were collected: the delphacid *Acantodelphax* sp., and two cicadellids, *Balclutha* sp. and *Cicadula* sp.

A biogeographical analysis was performed on the 43 determined species.

Most of the species (27, i.e. 62.8%) are widespread (Holarctic, Palearctic, and with an Asian gravitation centre) and among these the most abundant are the Holarctic (12) and Palearctic (12) ones. Really for their great diffusion these species are poorly significant from the biogeographical viewpoint even if many of them are linked to the cooler habitats of their distribution area; in fact, in Italy they can be found only in the northern regions (*Stiroma bicarinata*, *Forcipata citrinella*, *Sorhoanus assimilis*, *Macrosteles cristatus*) and do not spread down to the more southern regions of the Italian peninsula and to the islands.

Typical elements of a cold climate are the two species (4.7%) with a Siberian gravitation centre (missing in central and Turanic Asia), in Italy one is present only in the North (*Kelisia vittipennis*) and one in the North and in the Centre (*Jassargus obtusivalvis*).

The species with a Central or Turanic Asian gravitation centre are 7.0%. They are elements of a probable steppe origin that arrived in Europe and in the Mediterranean Basin along with the steppe vegetation during the interglacial epochs of the Quaternary.

The European species (7) are the second group as per number of species after those of wide distribution, in fact they represent 16.3% of the total and are those that characterize the Auchenorrhyncha populations of the examined habitats; many of them are limited to the regions of North Italy and are linked to environments with a cool climate.

Finally, it is worthwhile to underline the presence of two species (4.7%) having a typical Mediterranean distribution; one of them, *Adarrus exornatus*, is present in the regions north of the Mediterranean basin and, in Italy, in the whole peninsula and in Sicily; the other one, *Philaenus signatus*, is present in the Balkan peninsula, in the north-east of the Mediterranean basin and in Anatolia.

As a whole, the Auchenorrhyncha collected are characterized by the presence of elements of a cold climate, having a wide distribution (62.8%) and a typically European distribution (16.3%). However, the presence of more

thermophilous elements is significant, such as *Adarrus exornatus* and *Philaenus signatus*.

Most of the censused species (30, i.e. 69.8%) dwell on Poaceae and/or Cyperaceae and/or Juncaceae; among them 22 live exclusively or mostly on Poaceae. The remaining species are associated with Compositae, Urticaceae, aromatic plants, otherwise they are broadly polyphagous.

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ABSTRACTS



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ABSTRACTS



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