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Psocoptera captured by using a suction trap in Valtellina during 1992-1993

Abstract - During 1992-1993, in the province of Sondrio (Ponte in Valtellina), by using a Taylor suction trap, 14 species of Psocoptera were collected and identified, in particular *Elipsocus hyalinus* (Stephens) and *Lachesilla greeni* Pearman were recorded for the first time in Italy. In both years the first catches occurred in May, the last ones at the beginning of November. The highest number of catches was recorded from the end of July to the end of September.

Riassunto - *Psocotteri catturati con trappola a suzione in Valtellina negli anni 1992-1993.*
Nel biennio 1992-1993 utilizzando, in provincia di Sondrio (Ponte in Valtellina), una trappola a suzione tipo Taylor, sono state raccolte e identificate 14 specie di Psocotteri, di cui *Elipsocus hyalinus* (Stephens) e *Lachesilla greeni* Pearman sono segnalate per la prima volta in Italia. In entrambe le annate le prime raccolte si sono avute a maggio, le ultime all'inizio di novembre. Il periodo in cui si è avuto un numero elevato di reperti va dalla fine di luglio a tutto settembre.

Key words: Psocoptera, new records, Italy.

INTRODUCTION

Psocoptera feed often on organic debris, even if some result to be mycetophagous and only accidentally they feed on leaves. Others colonize the bark of trees and feed on algae of the genus *Pleurococcinae* s.l. or lichens. However some species can prey on scales or eggs of other insects (Mockford, 1993).

Garcia Aldrete (1990) singled out 6 typical habitat for Psocoptera, precisely living leaves and dead leaves, ground litter, bark, rocks and houses.

Taxonomic groups result frequently related to habitats. For instance Psocidae, Elipsocidae, Myopsocidae, Philotarsidae, Pseudoceciliidae and Peripsocidae generally include bark-inhabiting species, while Caeciliidae, Stenopsocidae, Hemipsocidae, Lachesillidae and Ectopsocidae develope themselves on leaves.

In colder areas, adults of the most precocious species generally are present in mid-June, but a greater activity is recorded in July, August and September; some species can also survive till the beginning of winter.

In southern areas polivoltine species, present during all the year on evergreen trees, are frequent.

During the researches meant to investigate the entomofauna of Valtellina, also some winged Psocoptera were captured and their flight period was observed.

MATERIALS AND METHODS

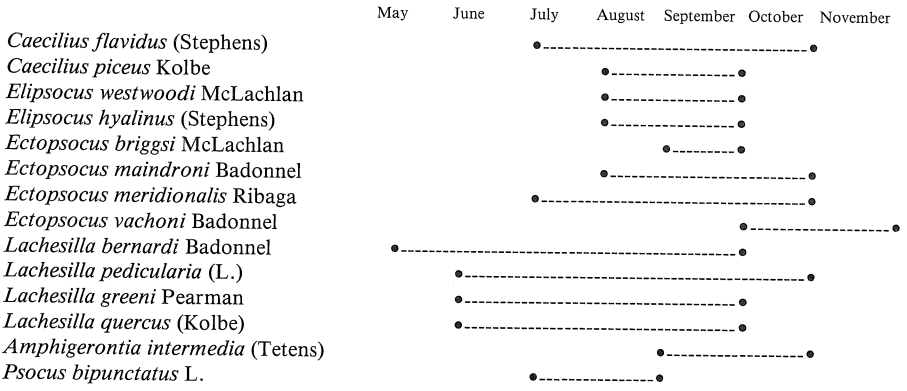
Catches were carried out during 1992-1993 in Ponte in Valtellina (Sondrio) (485 m above sea level) in an area covered with apple orchards, vineyards and woods mainly of broadleaved trees, in particular chestnut trees.

A Taylor suction trap which samples microfauna at a height of 12,2 m was used. The trap always works, except a night stop of 3 hours (from 0.00 to 3.00 a.m.) from the beginning of April to the end of November. Collected insects fall in a jar containing 70% ethyl alcohol. The material was filtered in laboratory. Psocoptera were identified according to Badonnel (1943); New (1974); von Günther (1974); Mockford (1993).

RESULTS

Individuals belonging to 14 species (table 1) were captured. *Elipsocus hyalinus* (Stephens) and *Lachesilla greeni* Pearman were recorded for the first time in Italy.

Table 1 - Species collected in Valtellina during 1992-1993 and their period of catches.



During both years the first catches occurred in May, the last ones at the beginning of November. From July to the end of September a high number of catches was recorded. The highest number of specimen refers to *Lachesilla pedicularia* (L.) and *Ectopsocus*

meridionalis Ribaga. *L. bernardi* Badonnel is already present in May, while *L. pedicularia, L. quercus* (Kolbe) and *L. greeni* Pearman are collected from June. Individuals of *Ectopsocus vachoni* Badonnel were also captured in November.

Obviously, as the catches were carried out with a suction trap, individuals were macropterous. Only macropterous specimen of *Caecilius piceus* Kolbe were captured even if females are sometimes brachypterous.

In sexual species females are much more present than males except for *L. pedicularia*, for which the percentage of males is 65%. For *L. bernardi, C. flavidus* (Stephens) and *E. meridionalis*, only females were captured confirming they are probably parthenogenetic species (Badonnel, 1943).

CONCLUSIONS

Caeciliidae *Caecilius flavidus* (Stephens) and *C. piceus* Kolbe, Lachesillidae *Lachesilla bernardi* Badonnel, *L. pedicularia* (L.), *L. quercus* (Kolbe) and *L. greeni* Pearman develop themselves on leaves of different trees, on which they generally lay eggs on the lower face. Peripsocidae *Ectopsocus briggsi* McLachlan, *E. maindroni* Badonnel, *E. meridionalis* Ribaga, *E. vachoni* Badonnel, Psocidae *Amphigerontia intermedia* (Tetens) and *Psocus bipunctatus* L. and Elipsocidae *Elipsocus westwoodi* McLachlan and *E. hyalinus* (Stephens) live on bark of trees.

For *L. bernardi, C. flavidus* and *E. meridionalis* male already results to be unknown (Badonnel, 1943). Moreover most species sexually reproduce, but thelytoky parthenogenesis can occur. Badonnel & Garcia Aldrete (1980) and Betz (1983) showed the existence of species complex including a sexual reproducing species and one or more parthenogenetic species.

The Psocoptera newly recorded in Italy are extremely widespread in Europe. *Lachesilla greeni* is the smallest European species among Lachesillidae. It was found in Great Britain (Pearman, 1933) in a wood stack, afterwards Badonnel (1943; 1951) discovered it on the trunk of an elm tree and Hartmann (1951) in dried needles of fir tree in a cellar, with *Lepinotus patruelis* Pearman. Roesler (1939) observed many individuals on wood chips from July to September.

Elipsocus hyalinus is a species living on bark, mainly present on *Quercus, Fagus* and *Abies* above 1000 m (Badonnel, 1943).

On the whole the same periods of catches for species belonging to the same family, except Psocidae, were recorded. In fact *Psocus bipunctatus* is present in July-August, confirming Enderlein's observations (1927) which report for this species only one generation a year. On the contrary *Amphigerontia intermedia*, which colonizes algae and lichens living on *Betula* e *Alnus* (von Günther, 1974), was captured from September to October.

Therefore the use of a suction trap can also be a useful instrument to point out the presence of Psocoptera in a given environment, as well as to single out their flight period.

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