A contribution to the knowledge of Auchenorrhyncha-Dryinidae relationships in the Palaearctic Region

A. Guglielmino[1]

With 6 figures and 8 tables

Abstract

This study discusses the relationships between Auchenorrhyncha and Dryinidae known in the Palaearctic region. These relationships can be important when considering the biological control of Auchenorrhyncha populations. The Auchenorrhyncha species of economic importance known to have relationships with Dryinidae are also investigated. Particular emphasis will be given to power of Dryinidae in limiting Auchenorrhyncha populations as well as aspects of the ecology of these parasitoids.

Key words: Biological control, host feeding, parasitoids.

Introduction

Many Auchenorrhyncha are pests of cultivated plants. Although their feeding and oviposition may cause considerable damage, their greatest economic importance is as vectors of viruses, phytoplasmas, spiroplasmas, bacteria and fungi.

Many of the aspects regarding communities of insect parasitoids associated with Auchenorrhyncha are still unknown, and relatively few studies have attempted to estimate the role which parasitoids play in Auchenorrhyncha population dynamics (Waloff & Jervis 1987, Cronin & Strong 1994). Insect parasitoids of Auchenorrhyncha can be distinguished in two groups: egg parasitoids and nymph and adult parasitoids (Tab. 1).

As the other natural enemies of Auchenorrhyncha, also Dryinidae have certainly not been studied sufficiently. In the past, Dryinidae have been used in biological control programmes and at present, new initiatives are prospering in some countries like Italy and New Zealand (Olmi 1999). In Italy, *Neodryinus typhlocybae* (Ashmead) has recently been introduced from North America to control the Nearctic flatid, *Metcalfa pruinosa* (Say) (Girolami & Camporese 1994).

The aim of this study is to review the relationships between Auchenorrhyncha and Dryinidae in the Palaearctic region in order to emphasize the relative scarcity of biological and ecological data on these groups as well as the interactions between the different taxa. It also aims to encourage studies estimating the controlling power of Dryinidae.

Table 1
Insect parasitoids known to attack the Auchenorrhyncha.

Auchenorrhyncha Stage	Parasitoids Taxonomic group
Egg	Hymenoptera:
	Aphelinidae
	Encyrtidae
	Eulophidae
	Mymaridae
	Scelionidae
	Trichogrammatidae
Nymphs/Adults	Diptera
	Pipunculidae
	Hymenoptera
	Dryinidae
	Embolemidae
	Coleoptera
	Rhipiceridae
	Lepidoptera
	Epipyropidae
	Strepsiptera
	Elenchidae
	Halictophagidae

[1] Dipartimento di Protezione delle Piante, Università della Tuscia, 01100 Viterbo, Italy.
E-mail: Guglielm@unitus.it; Fax 0761/357473
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