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VALERIO MAZZONI (*)

CONTRIBUTION TO THE KNOWLEDGE OF THE AUCHENORRHYNCHA (HEMIPTERA FULGOROMORPHA AND CICADOMORPHA) OF TUSCANY (ITALY)

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Mazzoni V. - Contribution to the knowledge of the Auchenorrhyncha (Hemiptera Fulgoromorpha and Cicadomorpha) of Tuscany (Italy).

Field surveys were conducted in typical environments of west Tuscany, from 2000 to 2005. More than 40 woody plant species and several herbs and meadows in different biotopes were considered. In total, 204 Auchenorrhyncha taxa were found, including one first record from Italy (*Paralimnus zachvatkini* Emelyanov), 2 from continental Italy [*Palaeolithium distinguendum* (Kirschbaum) and *Eupteryx schuleri* Ribaut] and 4 from peninsular Italy [*Stegelytra putoni* Mulsant & Rey, *Zygina ordinaria* Ribaut, *Cicadula placida* (Horvath) and *Orientus ishidai* (Matsumura)]. Moreover, 25 taxa were first recorded from Tuscany, upgrading the total Auchenorrhyncha regional number to 323 species. Species set of host plants is furnished. The analysis of the population both from the biogeographical and ecological point of view was performed. Besides a substantial prevalence of Euro-Mediterranean – in particular of north Mediterranean – species, an important presence of both monophagous and polyphagous species was observed, especially of woody plant feeders. Seasonal and geographical variations in feeding and overwintering habits were also evidenced for several taxa, in particular for Typhlocybinae.

KEY WORDS: ecology, diet width, host plants, biogeography.

INTRODUCTION

Up to now, 890 species and 18 families of Auchenorrhyncha (Fulgoromorpha 11, Cicadomorpha 7) have been reported from Italy (GUGLIELMINO *et al.*, 2005; HOCH, 2005). Such data, constituting almost 50% of the European fauna, is susceptible to increase further considering the numerous new records in the last few years (GUGLIELMINO *et al.*, 2000; GNEZDILOV and MAZZONI, 2003a; D'URSO and ULIANA, 2004; MAZZONI and LUCCHI, 2004; GUGLIELMINO *et al.*, 2005) and new taxa descriptions (GUGLIELMINO, 2002a, 2002b; HOLZINGER, 2000; GNEZDILOV and MAZZONI, 2003b, 2003c; GNEZDILOV *et al.*, 2003; REMANE *et al.*, 2005). In particular, islands can be considered as precious endemism reserves (SERVADEI, 1969; D'URSO, 1995, 2000), even though many peninsular areas, both coastal and Appenninic, have not yet been object of accurate studies. As concerns Tuscany, the latest investigations go back to the '60s (SERVADEI, 1967, 1968), when only 231 species were catalogued. Afterwards, no other researches were carried out until the late '90s, when several studies, mostly regarding the local vineyard agroecosystem (BRACCINI and PAVAN, 2000; MAZZONI *et al.*, 2002; MAZZONI and LUCCHI, 2004) or the Tuscan archipelago fauna (MAZZONI, 2002; GNEZDILOV and MAZZONI, 2003c), updated the species number to 291.

Furthermore, despite several important investigations carried out in Italy and concerning the trophic relation insect/plant (ARZONE and VIDANO, 1987; VIDANO and ARZONE, 1981, 1987a, 1987b), those focused fundamentally on Typhlocybinae of broadleaved trees, not concerning other Auchenorrhyncha. The aim of the present work is to further improve the knowledge of Fulgoromorpha and Cicadomorpha in Tuscany through a faunistic-ecological investigation that may supply some additional information about the relation between species and the typical local environment.

MATERIAL AND METHODS

COLLECTION SITES

Field surveys were conducted from 2000 to 2005 in 19 sites of west Tuscany, in the provinces of Livorno, Lucca and Pisa (fig. 1). Seacoast and hinterland, in areas between 0-800 m a.s.l., in agricultural, suburban and wild contexts, were investigated. In particular, attention was focused on the Mediterranean macchia environment, occurring mostly along the coasts and characterized by moderately dry conditions, evergreen oaks and bushes. On the other hand, the characteristic countryside vegetation, mostly constituted by deciduous trees, shrubs, orchards and vineyards, widely occurring in the hinterland, was investigated. Moreover, surveys were performed in suburban and urban sites and, in one case, in a mountain oak-chestnut forest.

In the following list, for each monitored locality are given geographic coordinates, altitude, dates or period of sampling and main vegetation pattern. The usual sampling methods were sweep-netting and direct search on the plants (SN). Moreover, yellow sticky traps (YST; 13.3 x 20 cm, Glutor, Intrachem) were placed in some sites, in order to further enlarge the records, including additional species not directly collected. In some others – indicated with * – winter trials were conducted in order to detect hibernating eggs. For this aim, evergreen plant cuttings were kept in a controlled chamber (T = 20°C; 65±5% HR) for 20 days, in order to allow egg hatchings from leaf tissues.

1. Matraia, Castello (Lucca)* – 43°54'N, 10°34'E; ~ 150 m; 2003-04: May-October: surveys every ten days (SN and YST); November-April: monthly surveys (SN). Wine growing area with small orchards, inserted in a typical Tuscan countryside context with maples, oaks and elms.

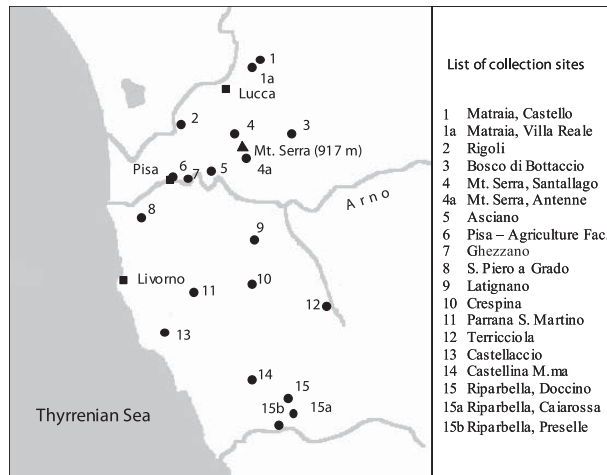


Figure I – Outline map of the investigated area in western Tuscany. ●: collection site; ■: capital of province; ▲: mountain peak.

Presence of several other ornamental plants (conifers, Mediterranean shrubs, aromatic plants) in surroundings of vineyards.

- 1a. Matraia, Villa Reale (Lucca) – 43°53'5"N, 10°33'0"E; ~ 70 m; 12.X.2005 (SN). Moist meadows with deciduous trees.
2. Rigoli (Pisa) – 43°47'N, 10°25'E; ~ 15 m; 2000: YST weekly replaced from May to October. Plum orchard.
3. Bosco di Bottaccio (Lucca) – 43°46'0"N, 10°37'5"E; ~ 10 m; 18.V.2001 (SN). Moist meadows in swampy area.
4. Mt. Serra - Santallago (Pisa) – 43°46'0"N, 10°31'3"E; ~ 720 m; 27.X.2003, 10.IX.2004, 19.IX.2005 (SN). Mountain oak-chestnut forest, characterized by shrubs, ferns and, in open spaces, mixed grass.
- 4a. Mt. Serra - Antenne (Pisa) – 43°43'3"N, 10°33'2"E; ~ 600 m; 10.IX.2004 (SN). Higher altitude limit of Mediterranean macchia environment.
5. Asciano (Pisa)* – 43°43'5"N, 10°26'1"E; sea level; 18.V.2004, 24.XI.2005 (SN). Agricultural area with poplars.
6. Pisa, Agriculture Faculty – 43°42'4"N, 10°24'4"E; sea level; 2001-2003: monthly sampling, throughout the years (SN and YST). Urban garden, with oaks and poplars. Presence also of other shrubs and trees.
7. Ghezano (Pisa) – 43°42'N, 10°26'E; sea level; 27.VI.2004, 26.VI.2005, 6.X.2005, 31.X.2005, 24.XI.2005 (SN). Abandoned fields on the Arno river banks inserted in moist environment, with poplars and elms.
8. S. Piero a Grado (Pisa) – 43°40'4"N, 10°19'5"E; sea level; 26.VII.2005 (SN). Drupaceae orchards.
9. Latignano (Pisa)* – 43°38'2"N, 10°32'3"E; sea level; 28.V.2003, 19.VI.2003, 17.IX.2003, 21.X.2003, 12.II.2004, 25.II.2004, 18.III.2004, 17.V.2004 (SN). Organic farm producing aromatic plants.
10. Crespina (Pisa) – 43°34'N, 10°32'E; ~ 50 m; 4.VIII.2000, 21.V.2001, 6.IV.2001, 2.VIII.2001, 25.X.2001, 26.VIII.2002, 8.IV.2003, 14.V.2003, 1.VII.2003 (SN). Wine growing area, surrounded by mixed hill forest, with oaks, elms and conifers.
11. Parrana S. Martino (Livorno) – 43°33'N, 10°25'E; ~ 60 m; 6.IX.2004 (SN). Mediterranean macchia in dry environment.
12. Terricciola (Pisa) – 43°32'0"N, 10°40'5"E; ~ 110 m; 8.III.2005 (SN). Wine growing area with oaks and conifers.
13. Castellaccio (Livorno) – 43°29'N, 10°22'E; ~ 270 m; 6.IX.2004 (SN). Hill Mediterranean macchia, in dry environment.

14. Castellina Marittima (Pisa) – 43°25'N, 10°32'E; ~ 180 m; 22.VI.2004 (SN). Hill Mediterranean macchia in dry environment.
15. Riparbella, Doccino (Pisa) – 43°22'2"N, 10°35'3"E; ~ 350 m; 22.VI.2004, 13.VII.2004, 23.VII.2004, 3.VIII.2004, 14.IX.2004, 21.X.2004 (SN). Hill Mediterranean macchia in dry environment.
- 15a. Riparbella, Caiarossa (Pisa)* – 43°21'4"N, 10°36'2"E; ~ 180 m; 2003-04: May-October: surveys every ten days (SN and YST); November-April: monthly surveys (SN). Wine growing area in Mediterranean forest context, dominated by evergreen oaks and typical Mediterranean bush. Presence also of maples, elms, poplars and willows.
- 15b. Riparbella, Preselle (Pisa) – 43°20'5"N, 10°35'4"E; ~ 40 m. 22.VI.2004, 23.VII.2004 (SN). Mediterranean semi-arid site, with sparse grass vegetation and willows.

ECOLOGICAL ANALYSIS

The population was separated in different ecological classes, on the basis of food plants and diet width of each species taken from literature (NICHEL and REMANE, 2002; NICHEL, 2003) and implemented with data collected during the present study.

Ecological classes based on food plants:

- H. Herbaceous plant feeders (including subshrubs).
- W. Woody plant feeders (both shrubs and trees).
- HW. Both herbaceous and woody plant feeders.

Ecological classes, based on diet width:

- M1. Monophagous 1st level species, feeding on 1 plant species.
- M2. Monophagous 2nd level species, feeding at most on 1 plant genus.
- O1. Oligophagous 1st level species, feeding at most on 1 plant family.
- O2. Oligophagous 2nd level species, feeding at most on 5 plant families.
- Pol. Polyphagous species, feeding on more than 5 plant families.

BIOGEOGRAPHICAL ANALYSIS

To supply a biogeographical analysis the collected species were assigned, on the basis of their fine distribution (NAST, 1972, 1987; D'URSO, 2000; HOCH, 2005), to different chorological categories according to LA GRECA (1964) and VIGNA TAGLIANTI *et al.* (1993). The adopted terminology is summarized – and partially modified – as follows:

- I. Wide distribution:
 - a. Cosmopolitan, Holarctic and Palearctic species.
 - b. Species occurring both in the Mediterranean and in the Afro-Tropical and/or the Oriental region.
- II. Euro-Asiatic distribution:
 - a. Species occurring throughout the western Palearctic territories, including the range between the Mediterranean basin/northern Europe and the Caspian region.
 - b. Euro-Siberian species.
 - c. Species occurring from central-southern Europe to the Turanian region.
 - d. Species occurring from the Mediterranean basin to the Turanian region.
- III. Euro-Mediterranean distribution:
 - a. Holo-European species, occurring also in the Mediterranean region, including at least northern African coasts.
 - b. Southern European-Mediterranean species, occurring throughout the Mediterranean region, whose northern range corresponds at most with Rhine and Danube

where, however, their occurrence is quite negligible and usually circumscribed to viticultural areas.

IV. European distribution:

a. Holo-European species, including the Scandinavian and the central-northern Russian territories.

b. Central-southern European species, not present in Scandinavia and central-northern Russia.

c. Southern European species, not occurring northern than Rhine and Danube, as defined in III-b.

V. Mediterranean distribution:

a. Holo-Mediterranean species, including at most the Pontic and the Atlantic regions, up to southern UK.

b. Northern Mediterranean species, occurring at most from the Iberian to the Pontic region.

c. Western Mediterranean species, whose eastern border is enlarged to include the Adriatic territories.

d. Italian endemites.

VI. Species introduced from eastern Palearctic or extra-Palearctic regions.

RESULTS

FAUNISTIC ANALYSIS

As a whole, 168 Cicadomorpha and 36 Fulgoromorpha were found, pertaining to 12 different families. Among these, Cicadellidae (158 species) represented distinctly the most spread family, followed by Delphacidae (13), Cixiidae (9), Issidae and Aphrophoridae (5), Dictyopharidae and Membracidae (3), Caliscelidae, Tettigometridae, and Cercopidae (2), Tropicuchidae and Flatidae (1). Cicadellidae were constituted by 12 subfamilies, among which of particular importance Typhlocybae (6 tribes, 69 species) and Deltocephalinae (11 tribes, 52 species). Remarkable the occurrence of Typhlocybini (35 species) and Erythroneurini (20), as Typhlocybinae tribes, and Athysanini (25), as Deltocephalinae tribe. The whole list of the collected species, with relative choro-ecological notes is reported in Table 1.

It was not possible to obtain a certain identification for several species, sometimes because of the absence of males among the collected specimens, or rather due to not yet solved taxonomic questions concerning certain groups. Among the latter, also some potential new records like *Stenocranus* gr. *major* Kirschbaum, *Kelisia* gr. *ribauti* Wagner, *Empoasca* cfr. *punjabensis* Singh-Pruthi.

In the number of the identified species, 1 constitutes a first record from Italy, 2 from continental Italy, 4 from peninsular Italy and 25 from Tuscany.

New record from Italy

Paralimnus zachvatkini Emeljanov

Material - Site 7: 6.X.2005, 3♂, 1♀; 31.X.2005, 1♀.

Notes - Species listed up to now from Greece and south Russia.

New records from continental Italy

Palaeolithium distinguendum (Kirschbaum)

Material - Site 14: 22.VI.2004, 7 nymphs; 13.VII.2004, 11♂♂, 10♀♀; 23.VII.2004, 1♀.

Notes - Species listed up to now from Sicily, Romania and the Iberian peninsula.

Eupteryx schuleri Ribaut

Material - Site 1b: 12.X.2005, 2♂♂, 1♀.

Notes - Species recorded, up to now, from southern France and Sardinia.

List of new records from peninsular Italy

Stegelytra putoni Mulsant & Rey.

Material - Site 6: 30.VI.2005, 1♂.

Notes - Species only recently recorded for the first time from Italy, in Liguria (GUGLIELMINO *et al.*, 2005). Recorded also from southern France and the Iberian peninsula.

Zygina ordinaria Ribaut

Material - Site 7: 12.X.2005, 2♂♂, 6♀♀.

Notes - Species widely distributed in the western Palearctic region, present in Europe, Kazakhstan, Altai, Transcaucasia and Mongolia. Up to now its effective presence in Italy was quite uncertain, only generically reported from northern Italy.

Cicadula placida (Horvath)

Material - Site 1: 27.VI.2004, 1♂; 31.X.2005, 7♂♂, 3♀♀.

Notes - In Italy this species is reported only from Piedmont; in Europe from France, Czech Republic, Austria, Balcanian peninsula, Hungary, Moldova and southern Russia.

Orientus ishidiae (Matsumura)

Material - Site 1: 21.VI.2004, 2 nymphs; 1.VII.2004, 10 nymphs, 1♂; 12.VII.2004, 2♂♂, 3♀♀; 22.VII.2004, 2♀♀; 2.VIII.2004, 1♀; 21.7-2.8.2004 (YST), 1♂, 1♀.

Notes - Found exclusively on a single tree of *Salix babylonica*. Even though this plant was surrounded by several other shrubs and trees, including other willows (*S. alba* and *S. viminalis*), the species was never found on those. Species only recently introduced into Europe from eastern Asia; first European record from Switzerland (GÜNTHART and MÜHLETHALER, 2002), then from Germany (NICKEL and REMANE, 2003), Slovenia (SELJAK, 2004) and Lombardia, northern Italy (GUGLIELMINO, 2005).

List of new records from Tuscany

Chloriona sicula Matsumura

Material - Site 7: 21.VI.2005, 1♂.

Chloriona unicolor (Herrich-Schaeffer)

Material - Site 14: 14.IX.2004, 6♂♂, 4♀♀.

Flastena fumipennis (Fieber)

Material - Site 1: 1-13.IX.2004 (YST), 1♂.

Ribautodelphax collinus (Boheman)

Material - Site 7: 26.VI.2005, 1♂.

Ommatidiotus dissimilis (Fallén)

Material - Site 7: 6.X.2005, 2♀♀.

Macropsis vicina Horvath

Material - Site 6: 16.V.2003, 1♂.

Acericerus ribauti Nickel & Remane

Material - Site 1: 16.I.2005, 1♂; 2.VIII.2004, 1♀; 23.VIII.2004, 1♀. Site 6: 7.X.2002, 2♂♂, 2♀♀. Site 14a: 22.VI.2004, 2♀♀; 23.VII.2004, 1♂, 1♀; 5.X.2004, 6♂♂, 4♀♀.

Idiocerus vicinus Melichar

Material - Site 1: 22.V.2003, 1♂, 1♀, 1 nymph; 22.VII.2004, 1♂. Site 7: 23.VI.2005, 1♂. Site 14b: 2.VII.2004, 1♂, 2♀♀; 3.VIII.2004, 1♂.

Populicerus albicans (Kirschbaum)

Material - Site 7: 31.X.2005, 1♀.

Stenidiocerus poecilus (Herrich-Schäffer)

Material - Site 14: 22.VI.2004, 1♀.

Tremulicerus fulgidus (Fabricius) (= *Idiocerus cupreus* Kbm.; = *I. mesopyrrhus* Kbm.; = *I. fuchsii* Kbm.)

Material - Site 14a: 23.V.2003, 1♀.

***Stegelytra erythroneura* Haupt**

Material - Site **14a**: 28.VIII.2003, 1♂.

***Kyboasca bipunctata* (Oshanin)**

Material - Site 7: 27.VI.2004, 2♂♂, 2♀♀.

***Edwardsiana prunicola* (Edwards)**

Material - Site 2: 10-20.X.2000 (YST), 1♂; 31.X-10.XI.2000 (YST), 1♂; 10-21.XI.2000 (YST), 1♂.

***Eurhadina concinna* (Germar)**

Material - Site 1: 4.X.2004, 11♀♀; 29.VIII-10.IX.2003 (YST), 1♀; 1-13.IX.2004 (YST), 1♀. Site 4: 10.IX.2004, 1♀. Site 6: 11.IX.2002, 1♀; 7.X.2002, 1♀.

***Zygina tiliae* (Fallén)**

Material - Site 1: 16.I.2003, 1♂, 2♀♀; 3.II.2003, 2♂♂; 25.II.2004, 1♀; 13.X.04, 1♂.

***Zyginidia servadeii* Vidano**

Material - Site **14**: 14.IX.2004, 3♂♂, 11♀♀; 21.X.2004, 2♂♂, 3♀♀.

***Artianus manderstjernii* (Kirschbaum)**

Material - Site **10**: 8.VII.2002, 1♂.

***Cicadula quadrimotata* (Fabricius)**

Material - Site **3**: 18.V.2001, 5♂♂, 3♀♀.

***Graphocraerus ventralis* (Fallén)**

Material - Site **15**: 22.VI.2004, 1♀.

***Mocydiopsis monticola* Remane**

Material - Site **10**: 7.VIII.2002, 2♂♂. Site **14a**: 3.VIII.2004, 2♂♂, 2♀♀.

***Platymetopius ferrarii* Haupt**

Material - Site **14**: 2.VII.2004, 1♀.

***Aconurella prolixa* (Lethierry)**

Material - Site 7: 6.X.2005, 8♂♂, 5♀♀.

***Macroteles variatus* (Fallén)**

Material - Site 1: 12.X.2005, 12♀♀.

***Psamnotettix cephalotes* (Herrich-Schäffer)**

Material - Site **14**: 22.VI.2004, 1♂, 3♀♀.

COLLECTIONS FROM TREES AND SHRUBS

The data concerning the sampled plants are reported below. The respective collection sites are given in brackets, beside the plant names. Notes and data in the text, if not differently specified, have to be referred exclusively to adults.

***Acer campestre* L. (1, 15a)**

22 species were collected from hedge maple. In summer, *Agalmatium flavescens*, *Hyalesthes scotti*, *Reptalus quinquecostatus*, *Philaenus spumarius*, *Acericerus ribauti*, *Ac. vittifrons*, *Alebra wahlbergi* and *Japananus hyalinus* were commonly sampled. *Megophthalmus scanicus* occurred quite frequently in May/June, when notable populations of *Zygina nivea* were also detected. Sampling occasionally produced: *Reptalus* gr. *panzeri*, *Issus coleoptratus*, *Aphrophora alni*, *Aphrodes bicincta*, *Viridicerus ustulatus*, *E. cfr. punjabensis*, *Zyginella pulchra*, *Ar. cfr. ribauti*, *Synopropsis lauri*, *Anoplotettix* sp. [probably *A. fuscovenosus* (Ferrari)], *Fiebertia florii* and *Selenocephalus obsoletus*.

***Acer pseudoplatanus* L. (1b, 6)**

A. wahlbergi was commonly collected from sycamore maple, throughout the summer until late autumn. Other species frequently found were *J. hyalinus*, *E. decipiens* and *Z. pulchra*. In autumn, *Zygina schneideri* and *Z. rubrovittata* were occasionally collected.

***Castanea sativa* Miller (4)**

No routine sampling was done from chestnut trees, monitored only in September. Collections produced the following species: *A. alni*, *A. wahlbergi*, *Empoasca vitis*, *E. alsiosa* Ribaut and *Arboridia spathulata*.

Conifers: *Cupressus sempervirens* L. (1, 6, 10, 12), *Thuja occidentalis* L. (1), *Cedrus deodara* G. Don (1), *Pinus pinea* L. (1, 6, 7, 10)

As a whole, 11 species were collected from conifers, from October to March. Several Typhlocybae, hibernating as adults, were the most common species on these trees: *E. vitis*, constantly found on all considered plants, most of all in proximity of wine growing areas, *Z. tiliae* on cedar, *Liguropia juniperi* on cypress, *V. ustulatus* on thuja, cypress and cedar, *Ac. ribauti* and *Ac. vittifrons* on pine. More sporadically *Edwardsiana diversa* and *Balclutha* gr. *punctata* from cypress and *E. decipiens* from pine. In summer, conifers did not prove to host any species but occasionally, like *Neophilaenus campestris*, abundantly sampled from cypress in August, when – as suggested by NICKEL (2003) – these plants could be exploited as shelter during hot days.

***Cornus sanguinea* L. (9)**

This plant was monitored only once in May, when several specimens of *E. diversa* were found.

***Crataegus* spp. (1, 6, 11, 13, 15a)**

As a whole, 15 species were collected from thorn tree. In particular, *Frutioidia bisignata* and secondly *F. sanguinea* were quite common in summer. In the same season, several species, typical Mediterranean (*Latilica maculipes*, *H. scotti*, *S. obsoletus*) and not, mostly polyphagous (*Dictyophara europaea*, *P. spumarius*, *Neoaliturus fenestratus*, *S. lauri* and *Ar. spathulata*), were collected. In autumn, this plant showed to be temporary shelter for various other species: *Müllerianella fairmari*, *Empoasca pteridis*, *E. decipiens*, *Zygina discolor* and *Zyginidia ribauti*.

Drupaceae: *Prunus armeniaca* L. (8), *P. avium* L. (1), *P. domestica* L. (1, 2, 6, 7, 8, 9), *P. spinosa* L. (13, 15a)

As a whole, 18 species were collected from these Drupaceae trees. Among these, the most frequent ones were *R. quinquecostatus* and *Z. discolor*. Other recurring species were *A. flavescens*, *P. spumarius*, *E. alsiosa*, *E. decipiens*, *E. cfr. punjabensis* and *S. lauri*. Typhlocyba *quericus* was quite common only on *P. domestica* while *Zygina flammigera* mainly on *P. armeniaca*. *Balcanocerus larvatus* was collected only from *P. spinosa*, in Mediterranean context, in June. Moreover, the following species were found occasionally: *Edwardsiana crataegi*, *E. diversa*, *Ribautiana tenerrima*, *Z. nivea* and *Z. ribauti*.

In autumn, the occurrence of *Idiocerus herrichii*, *Edwardsiana platanicola*, *Ficocyba ficaria*, *Ribautiana debilis*, *E. vitis*, *Zygina lunaris* and *F. bisignata* on these plants was quite common.

***Ficus carica* L. (6)**

A dense population of *F. ficaria* was found from May to October on fig tree. Later on, in winter, the same species shifted to near *Lonicera caprifolium* L. hedges, on which, in the following spring, it developed the first annual generation – hatchlings observed from late March/April.

Table 1 – List of the species recorded during the research. In the left column for each species are reported: collection sites (in bold), months interval of adult captures, chorological class, diet width and host plant typology. Full details of symbols and acronyms are reported in material and methods' chapter. In the right column: notes regarding host plants, biotopes and life cycle aspects. The list includes also the species captured exclusively by means of yellow sticky traps (YST).

Taxon, collection sites , months range of captures (adults), diet width and alimentary category.	Notes
FULGOROMORPHA	
CIXIIDAE	
<i>Cixius nervosus</i> (L.) 1 ; 5-10; I-a; Pol; W.	Sporadically on different deciduous trees (<i>Malus</i> , <i>Salix alba</i>).
<i>Cixius pallipes</i> Fieb. 15a ; 5; V-c; Pol?; W.	Only one male on <i>Quercus ilex</i>
<i>Tachycixius desertorum</i> (Fieb.) 15 ; 6, 10; III-a; M2; H.	Occasionally collected from Mediterranean shrubs.
<i>Reptalus cuspidatus</i> (Fieb.) 15a ; 6-7; II-c; Pol?; H.	On shrubs and herbs, in Mediterranean sites.
<i>Reptalus</i> gr. <i>panzeri</i> (P. Löw) 1, 8, 15a ; 5-9; III-a?; Pol?; W.	Mainly on <i>Prunus domestica</i> , occasionally on <i>Acer campestre</i> and <i>Vitis vinifera</i> .
<i>Reptalus quinquecostatus</i> (Duf.) 1, 6, 7, 9, 15, 15a ; 6-8; II-c; Pol; HW?	Common on <i>Prunus</i> , <i>Vitis vinifera</i> , <i>Ulmus minor</i> , <i>Salix babylonica</i> and many other shrubs and trees. Also collected from tamarisk and, especially in June, from various dicotyledon herbs (in particular from Fabaceae).
<i>Hyalesthes luteipes</i> Fieb. 1, 9, 11, 15 ; 7-9; V-a; Pol; W.	Mainly on <i>Ulmus minor</i> ; found also on <i>Salix babylonica</i> and <i>Ostrya carpinifolia</i> .
<i>Hyalesthes obsoletus</i> Sign. 1, 8, 15a ; 6-8; II-d; Pol; H.	Very common on <i>Urtica</i> ; collected also from various dicotyledon herbs; only rarely from <i>Vitis vinifera</i> .
<i>Hyalesthes scotti</i> Ferr. 1, 15 ; 6-8; V-c; Pol; W.	Mainly on <i>Ulmus minor</i> , often in mixed populations with <i>H. luteipes</i> . Collected also from <i>Salix</i> , <i>Acer campestre</i> and occasionally from <i>Crataegus</i> and various Mediterranean shrubs.
DELPHACIDAE	
<i>Asiraca clavicornis</i> (F.) 1, 8, 10, 12 ; 6-3; III-a; Pol; HW?	In summer, occasionally found on <i>Prunus domestica</i> and <i>Salix babylonica</i> . From October to spring quite common on <i>Rubus</i> gr. <i>fruticosus</i> .
<i>Kelisia</i> gr. <i>ribauti</i> W.Wg. 1b, 7 ; 10; I-a?; M2?; H.	All specimens collected from <i>Carex</i> in moist meadows.
<i>Stenocranus</i> gr. <i>major</i> (Kbm.) 9 ; 6, 9; IV-a?; M1?; H.	Few females collected from <i>Salvia officinalis</i> and <i>Rosmarinus officinalis</i> .
<i>Chloriona sicula</i> Mats. 7 ; 6; II-c; M1; H.	On <i>Phragmites australis</i> , along ditches in a moist area.
<i>Chloriona unicolor</i> (H.-S.) 15 ; 9; II-d; M1; H.	On <i>Phragmites australis</i> , along waysides in a moderately dry site.
<i>Ditropis pteridis</i> (Spin.) 4 ; 7-9; IV-a; M1; H.	On ferns (<i>Pteridium aquilinum</i>).
<i>Flastena fumipennis</i> (Fieb.) 1 ; 9; V-a; Pol; H.	Only one male caught by YST.
<i>Javesella dubia</i> (Kbm.) 7 ; 4; I-a; O1?; H.	On Poaceae in a moist site, along a ditch.
<i>Laodelphax striatellus</i> (Fall.) All ; 1-12; I-b; Pol; H.	Very common and widespread on Poaceae and generally in every meadow or herb, in particular in moderately dry sites. Diffused also in disturbed areas.
<i>Muirodelphax aubei</i> (Perr.) 7 ; 3; II-a; M1?; H.	Found only once, on Poaceae in a moist environment on the river Arno bank.
<i>Müllerianella fairmarei</i> (Perr.) 1 ; 10; II-a?; M2; H.	Only 2 specimens found: 1 male on <i>Crataegus</i> sp. and 1 female on Poaceae, in a moist meadow.
<i>Ribautodelphax collinus</i> (Boh.) 7 ; 6; IV-a; M1; H.	Only one male, collected from a mixed moist meadow.
<i>Toya propinqua</i> (Fieb.) All ; 4-11; I-b; O1; H.	Very common and widespread on Poaceae, in moderately dry to moist meadows, often together with <i>L. striatellus</i> .

(continued)

Continued Table 1.

Taxon, collection sites, months range of captures (adults), diet width and alimentary category.	Notes
DICTYOPHARIDAE	
<i>Bursinia genei</i> (Duf.) 13, 15b ; 7-9; V-b; ?; H.	In dry Mediterranean sites, mainly on sparse mixed grass.
<i>Dictyophara europaea</i> (L.) 1, 10, 11, 13, 15a ; 7-10; II-c; Pol; HW.	Common on dicotyledon herbs in sunny, moderately dry environments, also in disturbed sites; occasionally on shrubs and trees (<i>Salix</i> , <i>Ulmus</i> , <i>Crataegus</i>).
<i>Dictyophara multireticulata</i> M.& R. 1, 15a ; 7-8; IV-c; Pol?; HW.	Less common than <i>D. europaea</i> . In low vegetation of Mediterranean macchia both as nymph and adult; not rarely found as adult on different trees (<i>Malus</i> , <i>Salix</i>).
ISSIDAE	
<i>Agalmatium</i> gr. <i>flavescens</i> (Ol.) 1, 2, 5, 8, 9, 10, 11, 13, 14, 15, 15a, 15b ; 6-10; III-b?; Pol; HW	Very common on dicotyledon herbs, shrubs and trees, especially in moderately dry biotopes. Egg-cases found on different tree barks (<i>Prunus</i> , <i>Malus</i> , <i>Vitis vinifera</i> , <i>Olea europaea</i>) from late summer to spring.
<i>Palaeolithium distinguendum</i> (Kbm.) 15 ; 7; V-c; ?; H?	A dense population found on grass vegetation, in Mediterranean habitat.
<i>Latilica maculipes</i> (Mel.) 1, 4b, 13, 15, 15a ; 8-10; V-b; Pol; W.	Very common on Mediterranean vegetation (<i>Quercus ilex</i> , <i>Q. suber</i> , <i>Pistacia lentiscus</i> , <i>Myrtus communis</i> etc.); collected also from <i>Olea europea</i> . Nymphs from July.
<i>Issus coleoptratus</i> (F.) 1, 6, 8, 9, 11, 12, 15a ; 4-11; III-a; Pol; W.	Common on many shrubs and trees (in winter, as nymphs), in different biotopes, including urban sites. Adults from late April onward, to late autumn.
<i>Latissus dilatatus</i> (Four.) 14, 15a ; 6-9; V-b; M2; W.	On deciduous oaks, in Mediterranean habitat.
CALISCELIDAE	
<i>Caliscelis bonellii</i> (Latr.) 1, 10, 13, 15a ; 6-10; V-b; Pol; HW?	In moderately dry meadows, also in disturbed sites.
<i>Ommatidiotus dissimilis</i> (Fall.) 7 ; 10; II-b; M1; H.	On Poaceae in moist meadows.
FLATIDAE	
<i>Metcalfa pruinoso</i> (Say) 1, 2, 5, 6, 7, 8, 9, 10, 11, 15a ; 5-10; VI; Pol; W.	Common on many shrubs and trees, in many different biotopes, principally in cool shady sites (in particular, dense populations found on <i>Ulmus minor</i> , also in urban environment). Nymphs from April.
TETTIGOMETRIDAE	
<i>Tettigometra</i> gr. <i>impressopunctata</i> Duf. 4a ; 9; III-a?; Pol?; W?	One single specimen on the low vegetation near the limit of the Mediterranean macchia at 720 m a.s.l.
<i>Tettigometra leucophaea</i> (Preysl.) 15 ; 8; I-a; Pol?; HW?	One specimen on <i>Quercus petraea</i> .
TROPIDUCHIDAE	
<i>Trypetimorpha occidentalis</i> Huang & Bourg. – 1, 11, 13 ; 8-9; V-b; ?; H.	In moderately to very dry sites, on grass in Mediterranean macchia context.
CICADOMORPHA	
MEMBRACIDAE	
<i>Centrotus cornutus</i> (L.) 8 ; 7; II-b; Pol; HW.	One specimen caught by YST.
<i>Gargara genistae</i> (F.) 1 ; 7; I-b; O1; H?	One specimen on <i>Ulmus minor</i>
<i>Stictocephala bisonia</i> Kopp & Yonke 1, 7 ; 7-10; VI; Pol; HW.	In mixed moist meadows and on willows (<i>Salix babylonica</i> , <i>S. fragilis</i>), also as nymphs (July-August).

(continued)

Continued Table 1.

Taxon, collection sites, months range of captures (adults), diet width and alimentary category.	Notes
APHROPHORIDAE	
<i>Aphrophora alni</i> (Fall.) 4, 15, 15a; 5-11; I-a; Pol; W.	Common on different shrubs and trees. In autumn, frequent on <i>Castanea sativa</i> .
<i>Lepyronia coleoprata</i> (L.) 1, 7, 10, 13, 15, 15a; 5-10; I-a; Pol; HW.	Common in moderately dry to moist meadows; often found also on Mediterranean shrubs.
<i>Neophilaenus campestris</i> (Fall.) 1, 4b, 6, 7, 8, 9, 15a; 4-11; III-a; O1; H.	Common on Poaceae in different biotopes; many specimens found on cypress in August, when these plants could be exploited as shelter during particularly hot days.
<i>Neophilaenus lineatus</i> (L.) 7; 10; I-a; Pol; H.	On Poaceae, especially in moist meadows. Less common than <i>N. campestris</i> .
<i>Philaenus spumarius</i> (L.) 1, 2, 4, 4a, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 15a, 15b; 5-11; I-a; Pol; HW.	One of the most common and widespread species, present in many different biotopes, on various dicotyledon herbs (sometimes also on Poaceae), shrubs and trees. Nymphs from April.
CERCOPIDAE	
<i>Cercopis sanguinolenta</i> (Scop.) 1, 6, 15a; 4-6; IV-c; Pol; HW.	Common in moderately dry to wet sites, especially on tall herbs. Not rarely collected from woody plants (<i>Malus</i> , <i>Populus nigra</i> , <i>Vitis vinifera</i>).
<i>Cercopis vulnerata</i> Rossi 15a; 4-6; IV-a; Pol; HW.	In moderately dry to wet sites but less commonly than <i>C. sanguinolenta</i> .
CICADELLIDAE	
Megophthalminae	
<i>Megophthalmus scanicus</i> (Fall.) 1, 2, 8, 15a; 5-6; III-a, Pol; W?.	Collected from <i>Acer campestre</i> and deciduous oaks. Occasionally also from <i>Prunus avium</i> , <i>Malus</i> , <i>Ostrya carpinifolia</i> and <i>Vitis vinifera</i> . On the contrary, never swept from grass hosts.
Ledrinae	
<i>Ledra aurita</i> (L.) 6; 8; IV-a; Pol; W.	Collected one specimen from <i>Quercus robur</i> .
Macropsinae	
<i>Hepbathus nanus</i> (H.-S.) 1; 6-10; IV-b?; M1?; H.	Caught only by YST.
<i>Macropsis fuscata</i> (Zett.) 15a; 5-11; I-a?; M2; W.	Collected from <i>Rubus</i> gr. <i>fruticosus</i> in autumn and spring. Overwintering as eggs on the same shrub and hatchings from April.
<i>Macropsis glandacea</i> (Fieb.) 1, 7; 6-8; IV-a?; M1; W.	Common on <i>Ulmus minor</i> .
<i>Macropsis graminea</i> (F.) 15a; 5-6; II-a?; M1; W.	Locally in dense populations on <i>Populus nigra</i> .
<i>Macropsis marginata</i> (H.-S.) 1; 5-7; IV-a?; M1; W.	Locally in dense populations on <i>Salix alba</i> .
<i>Macropsis</i> cfr. <i>prasina</i> (Boh.) 7; 6; I-a?; M2?; W.	One single female on <i>Salix fragilis</i> .
<i>Macropsis vicina</i> (Horv.) 6; 5; II-a?; M1; W.	One single male on <i>Populus alba</i> .
Agallinae	
<i>Anaceratagallia laevis</i> (Rib.) 1, 2, 6, 7, 10, 11, 15a; 1-12; II-d; O2; H.	Common and widespread in meadows in different biotopes, also in disturbed sites.
<i>Anaceratagallia ribauti</i> (Oss.) 1, 2, 6, 10; 1-12; II-a; O2; H.	Common and widespread in meadows, often in mixed populations with <i>A. laevis</i> .
<i>Anaceratagallia venosa</i> (Four.) 4; 9-10; II-b; O2; H.	Collected only at 720 m a.s.l., from mixed meadows.
<i>Austroagallia sinuata</i> (M. & R.) 1, 10, 15, 15a; 7-11; II-d; O2?; H.	Common in mixed and alfa alfa meadows, more often in moderately dry sites.
<i>Dryodurgades similis</i> W.Wg. 12; 3; V-d; M1; H.	Found on <i>Cupressus sempervirens</i> in March.

(continued)

Continued Table 1.

Taxon, collection sites, months range of captures (adults), diet width and alimentary category.	Notes
Idiocerinae	
<i>Acericerus ribauti</i> Nickel & Rem. 1, 6, 12, 15a; 1-12; IV-b; M2; W.	Common on <i>Acer campestre</i> . In winter collected from <i>Pinus pinea</i> and, more occasionally, from <i>Cupressus sempervirens</i> .
<i>Acericerus vittifrons</i> (Kbm.) 1, 15a; 1-12; II-c; M2; W.	On <i>Acer campestre</i> but less commonly than <i>A. ribauti</i> . In winter found on <i>Pinus pinea</i> . Often in mixed populations with <i>A. ribauti</i> .
<i>Balcanocerus larvatus</i> (H.-S.) 14, 15a; 6-7; IV-b; M1?; W.	On <i>Prunus spinosa</i> and, occasionally, on <i>Salix fragilis</i> in Mediterranean habitat.
<i>Bugraia ocularis</i> (M. & R.) 13, 15, 15a; 3-11; V-a; O2?; W.	Common on Mediterranean shrubs, in particular on <i>Pistacia lentiscus</i> .
<i>Idiocerus berrichii</i> (Kbm.) 1, 7; 7-11; II-a; M2; W.	On <i>Salix babylonica</i> . In autumn, found also on <i>Ulmus minor</i> and on <i>Prunus avium</i> .
<i>Idiocerus vicinus</i> Mel. 1, 7, 15b; 5-8; IV-c; M1; W.	On willows (<i>Salix alba</i> , <i>S. fragilis</i> and <i>S. babylonica</i>).
<i>Populicerus albicans</i> (Kbm.) 7; 10; I-a; M1; W.	Collected only one female from <i>Populus alba</i> , in October.
<i>Rhytidodus decimusquartus</i> (Schrk.) 5, 7, 15a; 5-11; I-a; M1; W.	Common on <i>Populus nigra</i> .
<i>Stenidiocerus poecilus</i> (H.-S.) 15; 6; II-a; M1; W.	One male found on <i>Juniperus communis</i> in Mediterranean environment in June.
<i>Tremulicerus dimidiatus</i> (Rib.) 1; 12; V-c; M1?; W.	One single female on <i>Cupressus sempervirens</i> in December.
<i>Tremulicerus distinguendus</i> (Kbm.) 6, 7; 8-11; IV-b; M1; W.	Quite common on <i>Populus alba</i> .
<i>Tremulicerus fulgidus</i> (F.) 15a; 5; III-a; M1; W.	One male found on <i>Populus nigra</i> , in May.
<i>Viridicerus ustulatus</i> (M. & R.) 1, 2, 5, 6, 8, 10, 12; 1-12; II-a; M2; W.	On poplars (<i>Populus alba</i> , <i>P. canescens</i> and <i>P. tremula</i>) and occasionally on <i>Acer campestre</i> . From autumn to spring on conifers.
Penthimiinae	
<i>Penthimia nigra</i> (Goeze) 15a; 6; IV-c; Pol; W.	One specimen caught by YST.
Iassinae	
<i>Iassus lanio</i> (L.) 10, 15; 6-8; II-a; M2; W.	On deciduous <i>Quercus</i> .
<i>Iassus scutellaris</i> (Fieb.) 7, 9; 6; IV-b; M1?; W.	On <i>Ulmus minor</i> .
Dorycephalinae	
<i>Eupelix cuspidata</i> (F.) 2, 7, 14; 5-11; I-a; M2?; H.	On Poaceae, in semi-arid to moist habitats.
Aphrodinae	
<i>Anoscopus limicola</i> (Edw.) 6, 7, 10; 5-6; IV-a, O1?; H.	In mixed meadows in moderately moist sites.
<i>Aphrodes bicincta</i> (Schrk.) 15a; 6-8; II-b?; Pol?; HW?.	In mixed meadows, occasionally found also on <i>Quercus petraea</i> and <i>Acer campestre</i> .
<i>Aphrodes makarovi</i> Zachv. 1, 10, 15, 15a; 5-10; IV-a?; Pol; HW?	In mixed meadows and on <i>Medicago sativa</i> . In May-June common on <i>Quercus petraea</i> and <i>Q. ilex</i> , also together with <i>A. bicincta</i> .
Cicadellinae	
<i>Cicadella viridis</i> (L.) 1, 3, 6, 7, 10; 4-12; I-a; Pol; H.	Common in moist to wet meadows (mostly on Poaceae) although sometimes even found in moderately dry sites. Dense populations detected on <i>Epilobium birsutum</i> , in autumn. As adult until early December, it overwinters as egg; hatchings from late March.
Stegelytrinae	
<i>Stegelytra erythroneura</i> Hpt. 15a; 8-9; V-d; M2; W.	On <i>Quercus ilex</i> and <i>Q. suber</i> , in Mediterranean environment.
<i>Stegelytra putoni</i> M. & R. 6; 6; V-b; M2; W.	One single male collected from <i>Quercus ilex</i> in urban environment.

(continued)

Continued Table 1.

Taxon, collection sites, months range of captures (adults), diet width and alimentary category.	Notes
Typhlocybinae	
<i>Alebra albostriella</i> (Fall.) 4b; 6; 10; 7-10; III-a?; M1?; W.	On deciduous <i>Quercus</i> .
<i>Alebra wahlbergi</i> (Boh.) 4, 6, 7, 15a; 6-9; III-a; Pol; W.	Common on different trees: <i>Ulmus minor</i> , <i>Castanea sativa</i> , <i>Acer</i> , <i>Prunus</i> . Occasionally found also on Mediterranean shrubs.
<i>Kyboasca bipunctata</i> (Osh.) 7; 6; I-a?; M2?; W.	On <i>Ulmus minor</i> .
<i>Kybos</i> sp. 1; 5, 10; ?; M2?; W.	Only a pair of females collected, one from <i>Salix babylonica</i> the other from <i>S. alba</i> .
<i>Asymmetrasca decedens</i> (Paoli) 1, 2, 5, 6, 9, 15a; 1-12; V-b; O2d; W.	In spring on elms, in summer on willows. In autumn on different other deciduous trees. In winter collected from various evergreen plants (<i>Arbutus unedo</i> , <i>Salvia officinalis</i> , <i>Rosmarinus officinalis</i> , <i>Rubus</i> gr. <i>fruticosus</i> etc.).
<i>Empoasca alsiosa</i> Rib.. 1, 2, 3, 5, 6, 7, 9, 15a; 1-12; V-b; Pol; HW	On many dicotyledon herbs, shrubs and trees, mainly in moist, fresh habitats, but also in other biotopes. In winter found on <i>Arum</i> .
<i>Empoasca decipiens</i> Paoli All; 1-12; I-b?; Pol; HW.	Common on ferns, dicotyledon herbs (in particular, Fabaceae and Solanaceae), shrubs and trees in many different biotopes.
<i>Empoasca</i> cfr. <i>punjabensis</i> Singh-Pruthi 1, 1b, 6, 7, 9; 1-12; I-b?; Pol; HW.	On dicotyledon herbs, shrubs and trees (in particular on <i>Sambucus nigra</i>). In winter common on <i>Arum</i> , as adult and egg; hatchings from early March.
<i>Empoasca pteridis</i> (Dhlab.) All; 1-12; II-a; Pol; HW?.	Common on dicotyledon herbs, on ferns, shrubs and trees (in particular on elms) in different biotopes.
<i>Empoasca vitis</i> (Göthe) 1, 2, 5, 6, 7, 9, 10, 12, 15a; 1-12; I-a; Pol; W.	In summer collected exclusively from <i>Vitis vinifera</i> ; in autumn found on other deciduous trees (<i>Quercus</i> , <i>Prunus</i> etc.). From winter to spring on conifers, Lamiaceae and Rosaceae (in March-April quite common on bramble) and Mediterranean bush.
<i>Emelyanoviana mollicula</i> (Boh.) 1, 2, 7, 9, 15a; 4-11; II-a; Pol; H.	Mainly on spontaneous Lamiaceae, but also on several cultivated species (<i>Salvia</i> , <i>Hyssopus</i> , <i>Calamintha</i>).
<i>Liguropia juniperi</i> (Leth.) 1, 6, 8; 1-12; V-b; M1?; W.	On <i>Cupressus sempervirens</i> from autumn to spring. For the rest of the year captured only by YST.
<i>Micantulina stigmatipennis</i> (M.&R.) 15a; 5-6; II-c; M1?; H.	Few specimens captured by YST.
<i>Edwardsiana avellanae</i> (Edw.) 2; 7; IV-a; M1; W.	Only two males caught by YST.
<i>Edwardsiana crataegi</i> (Dgl.) 1; 7-10; I-a?; O1; W.	On <i>Malus</i> and <i>Prunus domestica</i> .
<i>Edwardsiana diversa</i> (Edw.) 1, 2, 6, 9; 1-12; II-c; O2; W.	Found on <i>Cornus sanguinea</i> , more occasionally on <i>Prunus</i> . In autumn on different shrubs and trees. In winter on <i>Rubus</i> gr. <i>fruticosus</i> , as adult and egg; hatchings from late March-April.
<i>Edwardsiana flavescens</i> (F.) 2; 10; IV-a; O2; W.	Only one male caught by YST.
<i>Edwardsiana frustrator</i> (Edw.) 2; 11; I-a?; Pol; W.	Only one male caught by YST.
<i>Edwardsiana platanicola</i> (Vid.) 2, 6, 7; 10-4; V-b; Pol; W.	In autumn on <i>Juglans regia</i> and <i>Prunus domestica</i> . In winter found as adult and egg on <i>Rubus</i> gr. <i>fruticosus</i> ; first hatchings from late March/early April. Never found during the rest of the year.
<i>Edwardsiana prunicola</i> (Edw.) 2; 10-11; I-a?; O2; W.	Only few specimens caught by YST.
<i>Edwardsiana rosae</i> (L.) 1, 2, 5, 10; 1-12; I-a; O1; W.	On Rosaceae throughout the year. In winter as adult and egg on <i>Rosa</i> and <i>Rubus</i> ; hatchings from late March/early April.
<i>Edwardsiana ulmiphagus</i> Wls. & Cldg. 1, 2, 4, 7; 5-11; I-a?; M2; W.	Common on elms. In spring found on <i>Pyrus communis</i> ; in autumn also on bramble and oaks.
<i>Fagocyba douglasi</i> (Edw.) 1, 2, 4; 10-2; IV-a; Pol; W.	In autumn collected from <i>Rubus idaeus</i> (at 750 m a.s.l.) and <i>Ostrya carpinifolia</i> . In winter captured only by YST. Never found in summer.
<i>Ficocyba ficaria</i> (Horv.) 1, 2, 5, 6, 7, 15a; 1-12; V-b; O2; W.	Common on <i>Ficus carica</i> . In autumn on many different shrubs and trees (<i>Crataegus</i> , <i>Quercus</i> , <i>Populus</i> etc.). From winter to spring abundant on <i>Lonicera caprifolium</i> both as adult and egg.

(continued)

Continued Table 1.

Taxon, collection sites, months range of captures (adults), diet width and alimentary category.	Notes
<i>Lindbergina aurovittata</i> (Dgl.) 1, 2, 6, 10, 15, 15a; 1-12; V-b; Pol; W.	Mainly on oaks. In winter found both as adult and egg on <i>Quercus ilex</i> and <i>Myrtus communis</i> . Adults were occasionally collected also from Rosaceae shrubs.
<i>Lindbergina chobauti</i> Rib. 6; 1-12; V-b; M2?; W.	On <i>Quercus ilex</i> in urban environment.
<i>Lindbergina spoliata</i> (Horv.) 15; 10; V-b; M2?; W.	Collected only twice, from <i>Quercus ilex</i> and <i>Q. suber</i> .
<i>Ribautiana cruciata</i> (Rib.) 1, 2, 5, 6, 7, 9, 15a; 1-12; I-a; O2; W.	Common on <i>Ulmus minor</i> . In spring also on <i>U. pumila</i> . In winter on bramble, as adult and egg; hatchings from early spring.
<i>Ribautiana debilis</i> (Dgl.) 1, 2, 5, 6, 7, 15a; 1-12; IV-b; O2; W.	Common on Pomaceae. In spring and autumn also on other deciduous trees. Overwintering as adult and egg on <i>Rubus</i> gr. <i>fruticosus</i> ; hatchings from early spring.
<i>Ribautiana scalaris</i> (Rib.) 15a; 10; IV-a; M2; W.	Only one male caught by YST.
<i>Ribautiana tenerrima</i> (H.-S.) 1, 2, 4, 4a, 5, 6, 7, 8, 9, 10, 12, 15, 15a, 15b; 1-12; I-a?; O2?; W.	Occasionally found on <i>Ulmus minor</i> and other shrubs and trees. Overwintering mainly as adult and egg on <i>Rubus</i> gr. <i>fruticosus</i> . Bramble is considered as the main host plant for this leafhopper (NICHEL, 2003), but the shrub was not sampled in summer.
<i>Ribautiana ulmi</i> (L.) 1; 5; I-a?; M2; W.	Only one male caught by YST.
<i>Typhlocyba quercus</i> (F.) 1, 2, 6; 5-7; I-a?; O2?; W.	Quite common on <i>Prunus domestica</i> and <i>P. avium</i> . Occasionally on <i>Populus tremula</i> . Found on oaks in autumn.
<i>Eurbadina concinna</i> (Germ.) 1, 4, 6; 9-10; III-a; O2?; W.	Only females collected from deciduous oaks, between September and October.
<i>Eupteryx andalusica</i> Ferr. 1, 5, 8, 15, 15a; 4-9; V-a; M1; H.	On <i>Inula</i> (= <i>Dittrichia</i>) <i>viscosa</i> , also in disturbed sites.
<i>Eupteryx aurata</i> (L.) 6; 7; IV-a; Pol; H.	One single female found on spontaneous Lamiaceae.
<i>Eupteryx curtisii</i> (Flor.) 1, 4, 5, 6, 7, 8, 9; 1-12; IV-b; O1; H.	Common on spontaneous Lamiaceae, in different biotopes, mostly in moist sites. In winter, found on <i>Salvia officinalis</i> both as adult and egg.
<i>Eupteryx decemnotata</i> R. 1, 6, 9; 1-12; V-b; O1; H.	Common on cultivated and spontaneous Lamiaceae, often associated with severe depigmentation and branch dryings of <i>Salvia officinalis</i> and <i>Rosmarinus officinalis</i> . In winter found on sage in every stage, mainly as egg and adult.
<i>Eupteryx filicum</i> (Newm.) 1a, 4, 5; 1-12; IV-b; O1; H.	On ferns (<i>Polypodium</i> sp. and <i>Pteridium aquilinum</i>).
<i>Eupteryx melissae</i> Curt. 9; 1-12; III-b; O2; H.	Common both on cultivated and spontaneous Lamiaceae. In winter on sage in all developmental stages, mainly as adult and egg.
<i>Eupteryx notata</i> Curt. 1; 6, 10; II-b?; O2; H.	Only 2 specimens caught by YST.
<i>Eupteryx rostrata</i> Rib. 1, 5, 9; 1-12; V-c; O1; H.	Common on cultivated and spontaneous Lamiaceae. In winter found on <i>Salvia officinalis</i> as adult and egg.
<i>Eupteryx schuleri</i> Rib. 1b; 10; V-b; O1; H.	Collected only once, from spontaneous Lamiaceae in a moist meadow.
<i>Eupteryx stachydearum</i> (Hardy) 15a; 9-10; IV-a?; O1; H.	On spontaneous Lamiaceae, in a moist shady meadow. Much less common than <i>E. curtisii</i> .
<i>Eupteryx thoulessi</i> Edw. 1, 5, 9; 1-12; IV-a; O1; H.	Mostly on spontaneous Lamiaceae. In winter occasionally on <i>Salvia officinalis</i> .
<i>Eupteryx urticae</i> (F.) 1, 2, 3, 6, 7; 1-12; II-a; M1?; H.	On <i>Urtica dioica</i> in moist to wet sites, preferentially in shady places.
<i>Eupteryx zelleri</i> (Kbm.) 1, 4, 9, 15a; 1-12; V-b; O1; H.	Collected from various Lamiaceae, mainly from <i>Calamintha nepeta</i> . Overwintering in all developmental stages, especially as adult and egg.
<i>Zyginella pulchra</i> P. Löw 1, 1b, 2, 6, 8, 10, 15a; 1-12; IV-b; M2?; W.	In March-April common on Rosaceae (<i>Crataegus</i> , <i>Rosa</i> etc.), then in summer collected from <i>Acer pseudoplatanus</i> and, more occasionally, from <i>A. campestre</i> .
<i>Arboridia parvula</i> (Boh.) 1, 2, 5, 10, 12, 15a; 1-12; II-a?; O2; W.	In summer occasionally on Mediterranean vegetation. In winter on <i>Rubus</i> gr. <i>fruticosus</i> .

(continued)

Continued Table 1.

Taxon, collection sites, months range of captures (adults), diet width and alimentary category.	Notes
<i>Arboridia</i> cfr. <i>ribauti</i> (Oss.) 1; 1; 8-4; ?; O2?; W.	Collected only females. On Rosaceae from autumn to spring; one specimen on <i>Acer campestre</i> in August.
<i>Arboridia spatulata</i> (Rib.) 1, 4, 5, 14a; 5-12; V-b; Pol?; W.	In summer collected from <i>Populus tremula</i> and deciduous oaks; in September common on <i>Castanea sativa</i> . In autumn and spring often found on other trees (<i>Salix</i> , <i>Ulmus</i>) and shrubs (<i>Rubus</i> gr. <i>fruticosus</i>).
<i>Frutioidea bisignata</i> (M.& R.) 1, 2, 6, 9, 10, 11, 14a; 1-12; V-b; O1; W.	On different Rosaceae: in summer-autumn on <i>Malus</i> , <i>Prunus</i> , <i>Crataegus</i> , <i>Rosa</i> ; in winter on Rosaceae shrubs. In autumn occasionally collected also from willows and elms. In March common on <i>Rosmarinus officinalis</i> .
<i>Frutioidea sanguinosa</i> (Rey) 1; 8-12; V-a; O1; W.	On <i>Crataegus</i> , in mixed population with <i>F. bisignata</i> , although much less frequent. In winter on bramble.
<i>Hauptidia provincialis</i> (Rib.) 1, 2, 5, 6, 9, 14a; 1-12; V-b; Pol; HW?	Common on dycotiledon ruderal herbs (mostly on Urticaceae), occasionally on shrubs and trees, also in disturbed sites and urban environment. Few nymphs were collected also from sage.
<i>Zygina discolor</i> Horv. 1, 5, 6, 7, 8, 9, 10, 12; 1-12; II-d?; O1; W.	Common on <i>Prunus</i> (in particular <i>P. domestica</i> and <i>P. avium</i>) and other Rosaceae. In autumn-winter on different other shrubs and trees (<i>Quercus</i> , <i>Rubus</i> , <i>Myrtus communis</i> etc.). In winter found as adult and egg on <i>Rosa</i> ; hatchings from early spring.
<i>Zygina flammigera</i> (Geoffroy) 1, 2, 5, 6, 7, 8, 12; 1-12; I-a?; O1?; W.	On <i>Prunus</i> (mostly <i>P. armeniaca</i>) and other Rosaceae, although seldom in mixed populations with <i>Z. discolor</i> . In autumn collected also from <i>Juglans regia</i> . In winter/early spring collected from bramble and <i>Mespilus germanica</i> .
<i>Zygina hyperici</i> (H.-S.) 1, 5; 4, 7; II-a?; M1?; H.	On dycotiledons herbs, in moist sites.
<i>Zygina lunaris</i> (M.& R.) 1, 6, 7; 1-12; V-b; M2?; W.	On <i>Salix fragilis</i> and <i>S. alba</i> . In Autumn collected also from <i>Ulmus minor</i> , <i>Populus</i> , <i>Quercus</i> and other trees. In Winter found on <i>Quercus ilex</i> and different Rosaceae (mostly on <i>Rubus</i> gr. <i>fruticosus</i>).
<i>Zygina nivea</i> (M.& R.) 1, 2, 5, 6, 7; 1-12; III-b; M2?; W.	Dense populations found in summer on <i>Populus alba</i> , <i>P. canescens</i> , <i>P. tremula</i> and <i>Acer campestre</i> ; from October to spring common on <i>Quercus ilex</i> and occasional on other shrubs and trees.
<i>Zygina ordinaria</i> (Rib.) 1; 10; II-a; M2; W.	Collected only in October on <i>Salix babylonica</i> and sporadically on deciduous oaks.
<i>Zygina rhamnii</i> Ferr. 1, 2, 5, 6, 7, 10, 12, 14a; 1-12; V-b; O2; W.	In summer on <i>Vitis vinifera</i> , in particular in August-September. In autumn on bramble, oaks and other shrubs and trees, mostly in the surrounding of vineyards. In winter, found as adult and egg on rose and bramble shrubs; hatchings from late March-April.
<i>Zygina rorida</i> (M.& R.) 1, 6, 7, 10, 12, 14a; 1-12; V-b; M2; W.	On oaks. In Winter on evergreen oaks and various Rosaceae (<i>Rubus</i> , <i>Rosa</i> , <i>Mespilus</i> etc.).
<i>Zygina rubrovittata</i> (Lethierry) 1, 1b, 14; 1-12; IV-a; M1?; W.	Only sporadic collections: in autumn on deciduous trees (<i>Quercus</i> , <i>Acer pseudoplatanus</i>) and in winter on <i>Salvia officinalis</i> . For the rest of the year caught only by YST.
<i>Zygina schneideri</i> (Günthart) 1, 1b, 5, 7, 10, 12; 10-5; IV-a; O1?; W.	From autumn to spring on <i>Rosa</i> and <i>Rubus</i> gr. <i>fruticosus</i> (on rose only as adult, on bramble both as egg and adult). Occasionally found on other trees.
<i>Zygina tiliae</i> (Fall.) 1; 10-2; IV-a?; O2?; W.	Sampled only in autumn (on <i>Ulmus minor</i>) and winter (mainly from conifers, in particular from <i>Cedrus deodara</i>).
<i>Zygina tithidae</i> Ferr. 1, 12; 12-4; IV-b?; M1; W.	Sampled only in winter, from Rosaceae shrubs and myrtle.
<i>Zyginidia ribauti</i> Dworakowska All; 1-12; V-b; O1; H.	Very common on Poaceae (not rarely collected from shrubs and trees, as well), also in disturbed sites. Particularly abundant in June-July.
<i>Zyginidia servadeii</i> Vidano 14; 9-10; V-b; M1; H.	On <i>Phragmites australis</i> .
Deltocephalinae	
<i>Allygidius abbreviatus</i> Rib. 7; 6; III-a; Pol?; HW.	Collected only one male, from <i>Vitis vinifera</i> .
<i>Allygidius atomarius</i> (F.) 1, 9, 10, 15a; 5-8; IV-b; Pol?; HW.	On different woody plants (<i>Quercus ilex</i> , <i>Ostrya carpinifolia</i> , <i>Vitis vinifera</i> etc.).
<i>Allygidius furcatus</i> (Ferr.) 1, 7; 6, 10; IV-c; Pol?; HW.	Few specimens on <i>Ulmus minor</i> and <i>Vitis vinifera</i> .
<i>Allygus mixtus</i> (F.) 1; 10; I-a; Pol; HW?	One specimen on <i>Quercus pubescens</i> .

(continued)

Continued Table 1.

Taxon, collection sites, months range of captures (adults), diet width and alimentary category.	Notes
<i>Allygus modestus</i> Scott 1, 6, 15a; 5-9; IV-b; Pol; HW.	On willows and deciduous oaks.
<i>Anoplotettix</i> sp. 1; 6-9; III-b?; Pol; HW.	Collected only few females [probably of <i>A. fuscovenosus</i> (Ferr.)] from <i>Vitis vinifera</i> and <i>Acer campestre</i> .
<i>Artianus manderstjernii</i> (Kbm.) 10; 7; IV-c; O1?; H.	Found only one male, in a moderately dry meadow.
<i>Cicadula placida</i> (Horv.) 7; 6, 10-11; IV-c; ?; H.	On Poaceae in moist meadows. Particularly abundant in October.
<i>Cicadula quadrinotata</i> (F.) 3; 5; II-b; M2; H.	A dense population found in a wet meadow.
<i>Conosanus obsoletus</i> (Kbm.) 15; 6; I-a; O2; H.	Only 2 males, collected from Mediterranean shrubs.
<i>Euscelidius variegatus</i> (Kbm.) 7; 10; II-c; Pol; H.	One male, in a moist mixed meadow on the Arno river bank.
<i>Euscelis incisus</i> (Kbm.) 1, 7, 9, 10, 12, 13; 1-12; I-a; O2; H.	Common in mixed meadows and on Poaceae, in different biotopes. In winter occasionally found also on Rosaceae shrubs.
<i>Euscelis lineolatus</i> Br. All; 1-12; IV-c; O2?; H.	Extremely common and widespread in meadows, in many different biotopes, including disturbed sites. Not rarely on woody plants.
<i>Graphocraerus ventralis</i> (Fall.) 15a; 6; II-b; O1; H.	Collected only one female, from <i>Pistacia lentiscus</i> .
<i>Mocydia crocea</i> (H.-S.) 7, 15a; 1-12; III-a; O1; H.	On Poaceae, in dry to moist meadows.
<i>Mocydiopsis monticola</i> Rem. 10, 11, 15a; 1-12; IV-b?; M1; H.	On Poaceae, in Mediterranean environments, both in shady macchia ground cover and in moderately dry meadows.
<i>Orientus ishidae</i> (Mats.) 1; 6-8; VI; Pol; W.	A dense population found on a single plant of <i>Salix babylonica</i> . On the contrary, never found on neighbouring plants, included <i>Salix alba</i> and <i>S. viminalis</i> .
<i>Phlepsius spinolosus</i> W.Wg. 10; 8-9; V-c; Pol; H?.	Collected only once, from moderately dry meadows.
<i>Platymetopius ferrari</i> Hpt. 15; 7; V-b; Pol; HW.	One single female found in a moderately dry mixed meadow.
<i>Platymetopius rostratus</i> (H.-S.) 15a; 6-10; II-c; Pol?; HW?.	3 specimens caught by YST.
<i>Scaphoideus titanus</i> Ball 1; 7-10; VI; M2; W.	On <i>Vitis vinifera</i> . Often observed also on spontaneous vines.
<i>Selenocephalus obsoletus</i> (Germ.) 1, 11, 13, 15; 6-9; III-b; Pol; W.	Common on Mediterranean vegetation (in particular on <i>Myrtus communis</i>); occasionally also on <i>Acer campestre</i> .
<i>Selenocephalus stenopterus</i> Sign. 4a, 13, 15; 7-10; V-b; Pol; W.	Common on Mediterranean vegetation (mainly on <i>Myrtus communis</i>), occasionally also on other trees. Often together with <i>S. obsoletus</i> .
<i>Thamnotettix dilutior</i> (Kbm.) 1, 4b, 12, 13, 15a; 4-10; II-a; O1?; W.	Common on oaks and Poaceae in open deciduous forests, even in different biotopes. In winter on Poaceae as nymph.
<i>Thamnotettix zelleri</i> (Kbm.) 1, 5, 10, 15a; 4-6; V-a; Pol?; H.	Very common in meadows in late spring, also in agricultural sites. Seldom collected from shrubs. Overwintering on Poaceae as nymph.
<i>Deltocephalus pulicharis</i> (Fall.) 1; 6; I-a; O1; H.	Only one male, caught by means of YST.
<i>Recilia schmidtgeni</i> (W. Wg.) 1, 6, 7, 10, 15; 5-10; II-c; M1; H.	Common on Poaceae, in different biotopes.
<i>Aconurella prolixa</i> (Leth.) 7; 10; I-b; ?; H.	A dense population detected on Poaceae, in a moist lawn-like meadow, on the bank of the Arno river.
<i>Doratula veneta</i> Dlab. 1, 12, 15, 15a; 5-10; V-d; M1?; HW?	Common in mixed meadows, in dry – moderately dry biotopes. Occasionally found also on Mediterranean shrubs (<i>Pistacia lentiscus</i> , <i>Phyllirea</i>) and trees (<i>Ostrya carpinifolia</i>).

(continued)

Continued Table 1.

Taxon, collection sites, months range of captures (adults), diet width and alimentary category.	Notes
<i>Fieberiella florii</i> (Stål) 1, 7, 10, 11, 12, 15, 15a; 5-10; I-a; Pol; W.	Common on different shrubs and trees (in particular Rosaceae). In winter found on various Rosaceae and <i>Cytisus</i> as nymph.
<i>Pblogotettix cyclops</i> (M.& R.) 1, 8, 15; 8-9; I-a; ?; HW.	Occasionally found in mixed moderately dry meadows.
<i>Placotettix taeniatifrons</i> (Kbm.) 1, 2, 4, 4a, 5, 6, 7, 9, 10, 11, 13, 14, 15, 15a, 15b; 2-10; V-a; Pol; W.	Very common and widespread on Mediterranean shrubs and oaks. Although one single male was found in February on bramble, the species overwinters almost exclusively as egg.
<i>Synopropsis lauri</i> (Horv.) All ; 5-10; III-b; Pol; W.	Very common and widespread on many shrubs and trees in different biotopes, especially in Mediterranean sites. Dense populations were found also in urban environment. From winter to spring as nymph on different plants (<i>Myrtus communis</i> , <i>Laurus nobilis</i> , <i>Quercus ilex</i> etc.).
<i>Goniagnathus brevis</i> (H.-S.) 4a, 15a; 7-9; II-c; M2; H.	On grass vegetation of moderately dry Mediterranean macchia.
<i>Grypotes staurus</i> Iv. 2, 6, 15a; 5-11; V-a; M2; W.	Caught only by means of YST.
<i>Balclutha frontalis</i> (Ferr.) = <i>B. rosea</i> (Scott). 1, 9, 15b; 6-10; I-b; O1?; H.	On Poaceae, in moderately moist to dry meadows.
<i>Balclutha</i> gr. <i>punctata</i> (F.) 6, 15a; 1-12; I-b?; O1?; H.	On Poaceae, in shady Mediterranean macchia ground cover and in moist meadows. In winter found also on <i>Cupressus sempervirens</i> .
<i>Balclutha saltuella</i> (Kbm.) 15a; 7-10; I-b?; O1; H.	Caught only by means of YST.
<i>Macrosteles laevis</i> (Rib.) 1, 2, 3, 6, 15a; 5-8; I-a; Pol; H.	In mixed meadows, in moderately dry to wet habitats.
<i>Macrosteles quadripunctulatus</i> (Kbm.) 1, 6, 7, 9; 6-10; II-a?; Pol; H.	In mixed meadows, in moderately dry to wet habitats.
<i>Macrosteles sexnotatus</i> (Fall.) 2; 5-8; I-a; Pol; H.	Caught only by YST.
<i>Macrosteles variatus</i> (Fall.) 1; 10; I-a; M2?; H.	A dense population found on <i>Epilobium birsutum</i> along a ditch.
<i>Nealiturus fenestratus</i> (H.-S.) 1, 7, 9, 10, 15, 15a; 4-11; I-a; M2?; H.	Very common on dycotiledon herbs (occasionally also on shrubs and trees) in various biotopes, including disturbed sites.
<i>Opsius lethierryi</i> W.Wg. 13; 7-8; V-a; O1; W.	On <i>Tamarix gallica</i> .
<i>Opsius stactogalus</i> Fieb. 1; 6-9; I-a; O1; W.	On <i>Tamarix gallica</i> . Not found in mixed population with <i>O. lethierryi</i> .
<i>Adarrus exornatus</i> Rib. 4b, 13, 14, 15; 6-9; V-b; ?; H.	In mixed moderately dry meadows, in Mediterranean habitat.
<i>Arthaldeus striifrons</i> (Kbm.) 1, 6, 7, 15b; 5-10; II-a?; M2; H.	Common on Poaceae, both in dry and in moist habitats.
<i>Paralimnus zachvatkini</i> Em. 7; 8-10; V-b?; M1; H.	On <i>Phragmites australis</i> along water streams.
<i>Psammotettix</i> gr. <i>alienus</i> (Dhlb.) 1, 7, 9, 10, 15a; 5-11; I-a?; O1; H.	Common and widespread, in dry to moderately moist habitat, in natural and disturbed sites. More often on Poaceae, but also collected from <i>Medicago sativa</i> .
<i>Psammotettix cephalotes</i> (H.-S.) 15; 6-9; IV-a; M1; H.	On Poaceae in moderately dry Mediterranean habitat.
<i>Psammotettix confinis</i> (Dhlb.) 1, 2, 7, 8, 15, 15a; 5-11; I-a; O1; H.	Common and widespread in particular in moist to wet habitats; often together with <i>P. alienus</i> .
<i>Japananus hyalinus</i> (Osb.) 1, 1b, 2, 6, 15a; 6-10; VI; M2; W.	Common on maples in different biotopes.
<i>Exitianus capicola</i> (Stål) 1, 1b, 7, 10, 15, 15a; 1-12; I-b; O1?; H.	In moderately dry to moist meadows. Occasionally on shrubs and trees. Abundant in September-October.

Juglans regia L. (7)

Several specimens of *Z. flammigera* and *E. platanicola* were collected from walnut tree only in autumn.

Laurus nobilis L. (1, 6)

S. lauri and *I. coleopratus* were common on bay tree throughout the year: from autumn to April as nymphs and for the rest of the year principally as adults.

Mediterranean bush: *Arbutus unedo* L., *Myrtus communis* L., *Phyllirea* spp., *Pistacia lentiscus* L. (1, 4b, 11, 13, 14, 15, 15a, 15b)

As a whole, 30 species were detected on typical Mediterranean bushes. In summer, the most recurring species were *L. maculipes*, *Bugraia ocularis*, *S. obsoletus* and *S. stenopterus*. Many other species were occasionally found on this vegetation, pertaining to Cixiidae (*Tachycixius desertorum*, *Reptalus cuspidatus* and *H. scotti*), Aphrophoridae (*A. alni*, *Lepyronia coleoprata* and *P. spumarius*), Cicadellidae Typhlocybinae (*A. wahlbergi* and *Arboridia parvula*) and Deltocephalinae (*Placotettix taeniatifrons*, *S. lauri*, *Conosanus obsoletus*, *G. ventralis* and *Doratura veneta*). 13 species were collected exclusively from autumn to early spring. Among these, 11 Typhlocybinae: *Asymmetrasca decedens*, *E. alsiosa*, *E. vitis* and *Hauptidia provincialis*, principally on strawberry tree, *E. decipiens*, on phyllirea, *Z. discolor*, *Lindbergina aurovittata*, *Zygina tithidae* *Z. nivea*, *Z. schneideri* and *F. bisignata* on myrtle. Contemporary, eggs (from January) and nymphs (from April) of *L. aurovittata* were detected on myrtle. Moreover, *Synophrosis lauri* and *I. coleopratus* were collected as nymphs throughout the winter, the former from strawberry tree and myrtle, the latter common and widespread in all considered plants. The emergence of the respective adults has been observed from late April/early May.

Olea europaea L. (1, 6)

Only two species, *L. maculipes* and *S. lauri*, were collected from olive tree, also as nymphs. More occasional the presence of *E. decipiens*' adults.

Ostrya carpinifolia Scopoli (1)

In total, 9 species were collected from *O. carpinifolia*. In summer two cixiids, *Hyalesthes luteipes* and *R. quinquecostatus*, turned out to be the most recurring species. Collections produced also: *M. scanicus* and *Z. schneideri*, in spring, *P. spumarius*, *Allygidius atomarius*, *D. veneta* and *F. florii* in summer-autumn. Dense populations of *Fagocyba douglasi* were detected on this plant only in autumn.

Pomaceae: *Mespilus germanica* L. (1, 6), *Malus* spp. (1) and *Pyrus communis* L. (1)

As a whole, 17 species were collected from these Pomaceae, being *R. debilis* dominant throughout the summer. Other recurring taxa were: *E. crataegi*, *E. alsiosa*, *E. decipiens*, *E. cfr. punjabensis*, *F. bisignata* and *Z. discolor*. As for medlar tree, captures regarded only two species, *Zygina rorida* and *Z. flammigera*, collected only from winter to early spring. Other species were found just sporadically: *Cixius nervosus*, *A. flavescens*, *Dictyophara multireticulata*, *Cercopis sanguinolenta*, *P. spumarius*, *Edwardsiana ulmiphagus*, *A. decedens*, *H. provincialis*, *Anoplotettix* sp., *Euscelis lineolatus*.

Populus alba L. (5, 6), *P. canescens* (Aiton) Smith (6, 7) and *P. tremula* L. (1)

Z. nivea was the most recurring species on these poplars, its presence remarkable from late summer to leaf fall. *V. ustulatus* and *Tremulicerus distinguendus* were also frequently captured. Moreover, *Ar. spatulata* and more occasionally *T. quercus* were collected in summer on *P. tremula*. One male of *Macropsis vicina* was collected in May from *P. alba* and one female of *Populicerus albicans* from *P. canescens* in October. In autumn, poplars showed to be important intermediate host for *F. ficaria* and *Z. lunaris*.

Populus nigra L. (5, 7, 15a)

Rhytidodus decimusquartus was collected from *P. nigra* from May to leaf fall, in November. *Macropsis graminea* occurred in dense populations in May/June, though only at site 15a. *C. sanguinolenta* and *Tremulicerus fulgidus* were occasionally collected.

Quercus ilex L. (4b, 6, 11, 12, 13, 14, 15, 15a, 15b) and *Q. suber* L. (11, 13, 14, 15, 15a, 15b)

In summer, the only monophagous oak-feeders found were *Stegelytra erythroneura*, *S. putoni* and *Lindbergina chobauti* - the latter only in urban environment, at site 6 - whereas few other polyphages were captured: *Cixius pallipes*, *L. maculipes*, *P. spumarius* and *A. atomarius*. The common presence of *Aphrodes makarovi* in May-June, on plants at the margin of mixed meadows (site 15a), was also remarkable. Later on, these plants act like temporary hosts of *Zygina rhamni* - in particular if close to vineyards - before its passage to final winter hosts. In autumn, specimens of *E. vitis* and *E. decipiens* were also occasionally collected. From late October to May, *L. aurovittata* and secondly *L. spoliata* occurred in most of the investigated localities, in winter both as eggs and adults. In the same period, the presence of nymphs of *I. coleopratus* and *S. lauri*, and of adults of several other Typhlocybinae (*Z. lunaris*, *Z. rorida* and *Z. nivea*, the latter mainly in autumn) was quite common.

Quercus petraea (Mattu.) Lieblein (6), *Q. pubescens* Willd. (1, 6, 10, 14, 15a) and *Q. robur* L. (4)

Deciduous oaks showed to host a high diversity of Auchenorrhyncha. As a whole, 34 species, mostly Typhlocybinae, were collected from these trees. The most common species turned out to be *Eurhadina concinna*, *Ar. spatulata* and *Z. rorida*, especially in late summer/early autumn. Other recurring species were *I. coleopratus*, *P. spumarius*, *Iassus lanio*, *L. aurovittata*, *Thamnotettix dilutior* and *P. taeniatifrons*, quite constantly collected throughout the summer in different biotopes. *Latissus dilatatus* was found only in Mediterranean environments (sites 14, 15a). Other sporadic captures included *Tettigometra leucophaea*, *Ledra aurita*, *Alebra albostriella* and *Allygus modestus*. *M. scanicus* was quite common in May/June, as well as *A. bicincta* and *A. makarovi*. The occurrence of these *Aphrodes* both on deciduous and evergreen oaks seems to indicate an effective trophic association between these leafhoppers - as adults - and oaks. In autumn, within November, oaks can act like temporary hosts for many Typhlocybinae hibernating as adults and/or eggs. In particular, *Z. rhamni* richly populated deciduous oaks, especially in surroundings of vineyards. Similarly *Z. discolor* in case of proximity to Rosaceae orchards or hedges. In the same season, many other Cicadellidae were occasionally collected: *E. alsiosa*, *E. decipiens*, *E. vitis*, *E. diversa*, *E. ulmiphagus*, *F. ficaria*, *R. debilis*, *T. quercus*, *Z. lunaris*, *Z. ordinaria*, *Z. rubrovittata*, *Z. schneideri*, *S. stenopterus* and *Allygus mixtus*.

Rosa spp. (1, 12)

Rose hedges were monitored only from December to May. *Edwardsiana rosae*, *Z. discolor* and *Z. rhamni* were commonly found both as eggs and adults, with hatchlings observed from late March/early April. Nymphs of *I. coleopratus* and *F. florii*, and adults of several Typhlocybinae (*Z. schneideri*, *F. bisignata*, *E. vitis* and *E. decipiens*), were frequently collected until May. Other species were occasionally found only as adults: *E. lineolatus*, *L. aurovittata*, *F. sanguinosa*, *Z. nivea*, *Z. tithide* Ferrari, *Z. rorida*, *Z. lunaris*, and *Z. pulchra*.

Rubus gr. *fruticosus* L. (1, 1b, 4b, 5, 6, 7, 10, 11, 12, 13, 14, 15, 15a, 15b)

Bramble was sampled from October to April. In total, 24 species were found, mostly Typhlocybinae. In particular, *Ribautiana cruciata*, *R. tenerrima*, *R. debilis*, *Z. rhamni* and

Z. schneideri were extremely common and widespread. Moreover, several Erythroneurini (*Z. discolor*, *Z. flammigera*, *Z. tiliae*, *Z. titbide*, *Ar. parvula* and *Ar. spatulata*), Typhlocybini (*E. platanicola*, *E. rosae* and *E. diversa*) and Empoascini (*A. decedens*, *E. decipiens* and *E. vitis*) were also captured. Nymphs of *I. coleopratus* and *F. florii* and adults of *Asiraca clavicornis* were found throughout the monitoring period. 4 species were collected only in autumn: *Ar. cfr. ribauti*, *F. ficaria*, *E. ulmiphagus* and *Macropsis fuscua*. From December to March eggs of *Z. rhamni*, *R. tenerrima*, *R. debilis*, *R. cruciata*, *E. platanicola*, *E. rosae*, *E. diversa* and *M. fuscua* were detected, laid inside leaflet tissues. Hatchlings were collected in field from late March/early April; seldom nymphs of *R. tenerrima* – 3rd, 5th instars – were found in January.

Rubus idaeus L. (4)

Sampling in October at 720 m a.s.l. produced the following Typhlocybinae: *E. decipiens*, *F. douglasi*, *L. aurovittata* and *R. tenerrima*.

Salix alba L. (1, 7), *S. fragilis* L. (7, 15b) and *S. viminalis* L. (1, 7, 15a)

As a whole, 22 species were collected from spontaneous willows. *A. decedens*' nymphs and adults were commonly found throughout the summer. In summer, other recurring species were *Stictocephala bisonia*, *Idiocerus vicinus* and *Z. lunaris*, while rich populations – though only at site 1 – of *Macropsis marginata* – both nymphs and adults – were found only from May to early July. Sampling also produced: *H. scotti*, *A. flavescens*, *Metcalfa pruinosa* and *P. spumarius*. Moreover, the following species were occasionally found: *C. nervosus*, *D. europaea*, *D. multireticulata*, *Macropsis* cfr. *prasina*, *B. larvatus*, *E. alsiosa*, *F. florii*, *S. lauri*, *A. modestus* and *E. lineolatus*. Few *Kybos* sp. females were also collected. In autumn, before leaf fall, some other Typhlocybinae were sampled: *R. tenerrima*, *Ar. spatulata* and *F. bisignata*.

Salix babylonica L. (1)

23 species were collected from the unique weeping willow tree monitored. As concerns Fulgoromorpha, *H. scotti* and *R. quinquecostatus* were the most recurring species, while *H. luteipes* was found only occasionally. As for Cicadomorpha, nymphs and adults of *S. bisonia*, *A. decedens* and *Orientalis isbidae* were detected. Other species commonly collected were: *A. flavescens*, *D. multireticulata*, *P. spumarius*, *I. vicinus*, *I. herrichii*, *S. lauri*. Occasional captures: *A. clavicornis*, *E. alsiosa* (especially in spring), *E. decipiens*, *A. modestus* and *E. lineolatus*. In autumn: *Ar. spatulata*, *F. bisignata*, *Z. discolor*, *Z. nivea*, *Z. ordinaria* and *Exitianus capicola*.

Sambucus nigra L. (6, 15, 15a)

E. decipiens and *E. cfr. punjabensis* – both as nymphs and adults – were commonly collected from elder trees throughout the summer, until late autumn, although never found in mixed populations.

Tamarix gallica L. (1, 13)

Opsiis stactogalus and *O. lethierryi* were common on tamarisk in summer, even though not found in mixed populations. Other species occasionally caught on this plant were the broad polyphagous *R. quinquecostatus* and *A. flavescens*.

Ulmus minor Miller (1, 7, 9, 10, 11, 15)

32 species were found on English elm. In particular, 5 species constituted dense populations: *A. decedens* in spring within early June, *H. luteipes* and *H. scotti* in summer, *R. cruciata* and *E. ulmiphagus* throughout the elm vegetative phase, their nymphs occurring until leaf fall, in late November. Moreover, the occurrence of *R. quinquecostatus*, *A. flavescens*, *M. pruinosa*, *Iassus scutellaris*, *A. wahlbergi*, *E.*

decipiens, *E. pteridis* and *S. lauri* was often remarkable. Important at local level the presence of *Macropsis glandacea* (site 1) and *Kyboasca bipunctata* (site 7). Occasional captures: *I. coleopratus* (also as nymph in autumn), *D. europaea*, *Gargara genistae*, *A. alni*, *E. alsiosa*, *H. provincialis*, *R. tenerrima*, *Allygidius furcatus*, *E. lineolatus*. In autumn, elms proved to be important intermediate hosts – possibly as much as oaks – for Erythroneurini: *Ar. spatulata*, *F. bisignata*, *Z. lunaris*, *Z. discolor*, *Z. nivea*, *Z. rhamni* and *Z. tiliae*. In the same season, *F. ficaria* and *I. herrichii* were often collected.

Ulmus pumila L. (1)

As a whole, 16 species were collected from Siberian elm. *H. luteipes*, *M. pruinosa*, *E. pteridis* and *E. ulmiphagus* were the most recurring species, while *A. decedens* and *R. cruciata* were commonly captured only in spring, until late May. Just occasional the occurrence on this plant of *D. europaea*, *E. lineolatus*, *R. debilis*, *Ar. spatulata* and *Z. discolor*. Several Typhlocybinae were collected in autumn: *E. alsiosa*, *E. decipiens*, *E. vitis*, *F. ficaria* and *Z. rhamni*.

Vitis vinifera L. (1, 10, 15a)

Z. rhamni and *E. vitis* were both extremely common on vine. The former in particular from mid August to leaf fall whereas, the latter usually reached its peak of presence in July/early August, then quite abruptly abandoned vineyards towards other hosts. Its migration time is probably related to the seasonal weather, in particular to temperature and relative humidity. In case of a warm-dry summer, vineyards were quite completely left within mid August; in a cool summer, on the other hand, the species remained common on vines, though at lower density than *Z. rhamni*, until late September. *Scaphoideus titanus* was collected only at site 1. Moreover, a complex of species was detected on vine shoots, especially in vineyards with grass covered soil: *R. quinquecostatus*, *M. pruinosa*, *P. spumarius*, *E. alsiosa*, *E. pteridis* (both Empoascini mostly in May/June), *Z. ribauti* (mostly in July), *E. lineolatus* and *N. fenestratus* (both mostly in September). The following species were occasionally collected: *R. gr. panzeri*, *Hyalesthes obsoletus*, *Laodelphax striatellus*, *Toya propinqua*, *A. flavescens*, *D. europaea*, *Caliscelis bonellii*, *A. alni*, *N. campestris*, *C. sanguinolenta*, *I. lanio*, *M. scanicus*, *E. decipiens*, *Allygidius abbreviatus*, *A. atomarius*, *A. furcatus*, *A. modestus*, *Anoplotettix* sp., *Euscelis incisus*, *Psammotettix alienus*, *F. florii* and *S. lauri*.

COLLECTIONS FROM MEADOWS, HERBS AND SUBSHRUBS

Fabaceae: *Medicago sativa* L. and *Vicia faba* L. (1, 9, 15)

Samples from Fabaceae produced 9 species. The most recurring species were: *E. decipiens* – in particular on *V. faba* –, *E. lineolatus*, *P. alienus*, *A. makarovi*, *Austroagallia sinuata*, *E. alsiosa*, and *T. dilutior*. *A. flavescens* nymphs were collected from May; emergence of first adults early in June. In summer, *R. quinquecostatus* was often collected from *M. sativa*. An association between some Fabaceae and the immature stages of the Cixiidae could be supposed. In fact, one female reared in laboratory (25°C, 65±5% HR) on *V. faba*, layed eggs – wrapped in waxy filaments – at the basis of the stalk; then hatchlings were observed from about ten days after oviposition, feeding and moving on roots.

Ferns: *Polypodium* sp. (1a, 4, 5) and *Pteridium aquilinum* (L.) (4)

The only species commonly found on ferns throughout the summer were the leafhopper *Eupteryx filicum* and the planthopper *Ditropis pteridis* – though the latter exclusively on *P. aquilinum*. Autumnal samples produced also numerous specimens of *E. alsiosa*, *E. decipiens*, *E. pteridis* and *B. gr. punctata*.

Lamiaceae (cultivated): *Salvia officinalis* L., *Rosmarinus officinalis* L. and *Calamintha nepeta* (L.) Savi (1, 9)

Lamiaceae turned out to be important hibernating hosts for several species. From October to May, as a whole 13 species were found, 6 of them pertaining to the genus *Eupteryx*. In particular, *E. decemnotata* and *E. melissae* were very common on sage, mainly as eggs secondly as adults and, in sun exposed places, as nymphs. *E. decipiens* was also recurrently caught from sage. Occasionally were also captured the following species: *F. bisignata* from rosemary, *E. vitis*, *A. decedens* and *Z. rubrovittata* both from sage and rosemary, *Emelyanoviana mollicula* from sage and calamint. *Eupteryx zelleri* was the most recurring species on calamint, in every developmental stage also in winter. From May onward, the presence of nymphs and adults of *A. flavescens* was also observed on sage and secondly on rosemary, while the *Eupteryx* population considerably increased, including also *E. curtisii*, *E. thoullessi* and *E. rostrata*. Few specimens of *Stenocranus gr. major* were also collected in summer.

Lamiaceae (spontaneous): *Lamium* sp., *Mentha* sp., *Prunella* sp. and *Stachys* sp. (1, 1a, 4, 5, 6, 7, 8, 14a)

E. curtisii was usually dominant on spontaneous Lamiaceae, as much in moderately dry as in moist biotopes. Other recurring species: *E. decemnotata* – though with populations sensibly lower than on cultivated Lamiaceae – *E. melissae*, *E. rostrata*, *E. thoullessi*, *E. zelleri* and *E. mollicula*. Only in moist-wet sites populations of *Eupteryx stachydearum* and *E. schuleri* were detected.

Mixed meadows and herbs in Mediterranean habitat (4b, 11, 13, 14, 15, 15a, 15b)

As for Fulgoromorpha, the most common species collected from Mediterranean grass in summer were: *D. europaea*, *Bursinia genei*, *A. flavescens*, *C. bonellii* and *Trypetomorpha occidentalis*. Only at site 11 a remarkable population of *Palaeolithium distinguendum* was found. Furthermore, the following species were occasionally collected: *R. cuspidatus*, *H. obsoletus*, *D. multireticulata*, *Tettigometra* gr. *impressopunctata* and *T. propinqua*. As for Cicadomorpha, the most common species were: *P. spumarius*, *Anaceratagallia laevis*, *E. decipiens*, *Adarrus exornatus*, *E. lineolatus*, *D. veneta*, *Mocydiopsis monticola*, *T. dilutior* and *Phlogotettix cyclops*. In May/June the occurrence of *A. bicincta* and *A. makarovi* was noteworthy, even in mixed populations. Other species normally spread on this vegetation were: *Eupelix cuspidata*, *Z. ribauti*, *Arthaldeus striifrons*, *Balclutha frontalis*, *E. incisus*, *Mocydia crocea*, *N. fenestratus*, and *Recilia schmidgeni*. *Psammotettix cephalotes* was found only at site 11, in July. As for *Phlepsius spinolosus* and *Platymetopius ferrarii*, only one single record of each species was done.

Mixed meadows and herbs in fresh-moist environments (1b, 3, 7)

The most recurring species in fresh-moist herbs were: *L. striatellus*, *T. propinqua*, *E. incisus*, *E. lineolatus*, *Psammotettix confinis*, *P. alienus*, *N. fenestratus* and *Z. ribauti*. Other frequent captures: *R. quinquecostatus* (in June/July), *S. bisonia* (from August), *L. coleoptrata*, *Anoscopus limicola* (in June), *E. cuspidata*, *Anaceratagallia ribauti*, *An. laevis*, *Macrosteles laevis*, *M. quadripunctulatus*, *M. crocea*, *E. decipiens* and *E. pteridis*. More occasional the presence of *M. fairmarei*, *Ribautodelphax collinus* and *Euscelidius variegatus*. A population of *Anaceratagallia venosa* was detected on herbs growing at site 4 (720 m a.s.l.); the species was never collected at lower altitude, where, on the contrary, dominate *An. laevis* and *An. ribauti*.

Moreover, in wet sites – river banks, ditches etc. – *Cicadella viridis* was distinctly the most spread species, in particular in September/October. In the same environment, rich populations of *Kelisia* gr. *ribauti* and *Aconurella prolixa* commonly occurred. Only at site 3 – a swampy area – a population of *Cicadula quadrimotata* was detected.

Phragmites australis (Cav.) Trin. ex Steud. (7, 15)

The common reed was surveyed only from September to October. As a whole, 4 species were sampled, all of them monophages on this plant: *Cbloriona sicula*, *C. unicolor*, *Z. servadeii* and *Paralimnus zachvatkini*.

Poaceae herbs (1, 1b, 4, 6, 7, 12, 15a)

As a whole 25 species were collected from Poaceae meadows. The most common Fulgoromorpha were two delphacids, *T. propinqua* and *L. striatellus*, both occurring in various biotopes, although the latter with a certain preference for moderately dry habitat. 4 species were found only in moist sites: *K. gr. ribauti*, *Ommatidiotus dissimilis*, *Muirodelphax aubei* and *Javesella dubia*. As for Cicadomorpha, *N. campestris*, *Z. ribauti*, *P. alienus* and *P. confinis* were the dominant species. In particular, *Z. ribauti* reached its highest population level in July, while the others usually in August/September. Furthermore, from late April to June, *Thamnotettix zelleri* was abundantly collected in many different biotopes. Other recurring species on Poaceae were: *An. ribauti*, *An. laevis*, *E. lineolatus*, *E. capicola*, *M. crocea* and *R. schmidgeni*. The presence of the following species was also quite common: *C. bonellii*, *L. coleoptrata*, *P. spumarius*, *Neophilaenus lineatus*, *E. cuspidata* and *Goniagnathus brevis*. Moreover, 2 species, *M. monticola* and *B. gr. punctata*, were sampled from scattered Poaceae in the shady cover ground of Mediterranean forest. Finally, *A. striifrons* and *Cicadula placida* were common in a moist habitat at site 7.

Soil coverage in orchards (1, 5)

The most recurrent species caught from mixed cover grass were *P. alienus*, *E. lineolatus*, *N. fenestratus* and *Z. ribauti*. Other species present in such sites were the Fulgoromorpha *R. quinquecostatus*, *L. striatellus*, *T. propinqua*, *C. bonellii* and *D. europaea* and the Cicadomorpha *P. spumarius*, *E. pteridis*, *E. zelleri*, *E. incisus*, *P. confinis*, *D. veneta*, and *E. capicola*. More sporadically were also collected: *H. obsoletus*, *A. flavescens*, *T. occidentalis*, *L. coleoptrata*, *N. campestris*, *E. cuspidata*, *E. mollicula*, *E. alsiosa*, *E. decipiens*, *E. vitis*, *An. laevis*, *An. ribauti*, *Eupteryx andalusiaca*, *E. decemnotata*, *Macrosteles laevis*, *M. quadripunctulatus* and *R. schmidgeni*.

Other dicotyledons

H. obsoletus and *Eupteryx urticae* were extremely common on *Urtica dioica* L., the leafhopper being present throughout the year, especially in moist-shady sites (7), the former only in summer, also in sunny sites (1, 8, 14a). *H. provincialis* was the most common species on nettle and other ruderal plants, like *Parietaria* spp. On *Epilobium hirsutum* L. (1), dense populations of *C. viridis* and *Macrosteles variatus* were found in wet sites, in October. *E. andalusiaca* was collected from *Inula* (= *Dittrichia*) *viscosa* both in Mediterranean (14, 14a) and disturbed sites (1, 5, 8) throughout the summer. *E. alsiosa*, *E. decipiens* and *E. cfr. punjabensis* were common on *Arum* spp. (5, 6, 9) throughout the winter. In particular, their nymphs were found from late February/early March onward.

ECOLOGICAL ANALYSIS

The analysis of the alimentary categories, both on the basis of food plant typology and diet width degree showed a prevalence of woody plant feeders (**W** = 93, 45.6%), followed by herbs feeders (**H** = 80, 39.3%) and herbs-woody plant feeders (**HW** = 31, 15.2%). Actually, for 58 (28.4%) species the knowledge of the diet width degree and for 15 (7.4%) of the food plant typology is still not well defined, while for 7 (3.4%) the diet width degree is completely ignored. At any rate, it is remarkable the high occurrence of polyphagous species (**Pol** = 68; 33.6%), mainly **W** (26) and **HW** (28), and of monophagous species (**M** = 70, 34.7%), mostly **W** (43),

including many Macropsinae, Idiocerinae and Typhlocybiinae (Erythroneurini and *partim* Typhlocybini). It is also noteworthy that **M1** and **M2** classes resulted in a quite similar number (respectively 37 and 34). On the contrary, the oligophages were distinctly lower (**O** = 57; 28.2%), mostly constituted by **O1** species (33; **O2** = 24), especially those related to the herbaceous vegetation (**H** = 23), like Agallinae, Typhlocybiinae (in particular *Eupteryx* spp.) and Deltocephalinae.

BIOGEOGRAPHICAL ANALYSIS

The faunistic composition shows a substantial prevalence of Euro-Mediterranean *s.l.* taxa (**III** + **IV** + **V** = 107 species; 52.7%), neatly higher both than Euro-Asiatic (**II** = 40; 19.7%) and widely distributed (**I** = 48; 23.6%) taxa. Actually, Mediterranean (**V** = 47; 23.2%) and European taxa (**IV** = 41; 20.2%) constitute the most of the detected population, distinctly higher than Euro-Mediterranean *s.s.* species (**III** = 19; 9.4%). In particular, as concerns **V**, northern Mediterranean (**V-b** = 29; 14.3%) are the most recurring taxa in the monitored area, formed principally by Typhlocybiinae (19); on the contrary holo-Mediterranean (**V-a** = 9; 4.4%) and western-Mediterranean (**V-c** = 6; 3.0%) represent just a smaller and heterogeneous portion. 3 species (*Dryodurgades similis*, *Stegelytra erythroneura* and *Doratura veneta*) are known as Italian endemites (**V-d** = 1.5%). Actually, during a field excursion in southern Corse on the 6 September 2005, I collected two specimens (1 male and 1 female) of *S. erythroneura* from *Q. suber*, in proximity of S. Lucia di Portovecchio. That is the first record from French territory and outside Italian political borders for this species.

As concerns **IV**, this category is mainly constituted by holo-European (**IV-a** = 20; 9.9%) species, again mostly represented by Typhlocybiinae (10), while much fewer are central-southern (**IV-b** = 13; 6.4%) and southern (**IV-c** = 8; 3.9%) taxa.

As for **III**, 13 species pertain to the holo-Euro-Mediterranean (**III-a** = 6.4%) and only 6 to the southern Euro-Mediterranean (**III-b** = 3.0%) subgroups.

Euro-Asiatic taxa principally belong to the western Palearctic (**II-a** = 17; 8.4%) and to the Euro-Turanian (**II-c** = 11; 5.4%) subgroups; on the contrary, fewer species are referred to the Siberian (**II-b** = 7; 3.4%) and to the Mediterranean-Turanian (**II-d** = 5; 2.5%) categories.

As for the wide distribution, an important fraction of the entire population (38 species; 18.7%) pertain to the **I-a** subgroup, while only 10 (4.9%) to the **I-b**.

Finally, 5 species were introduced to Italy: 3 from the Nearctic (*Metcalfa pruinosa*, *Stictocephala bisonia* and *Scaphoideus titanus*) and 2 from the eastern Palearctic region (*Orientus ishidae* and *J. byalinus*).

CONCLUSIONS

The present research lead to the identification of 204 species, including one first record from Italy (*Paralimnus zachvatkini*), 2 from continental Italy (*Palaeolithium distinguendum* and *Eupteryx schuleri*) and 4 from peninsular Italy (*Stegelytra putoni*, *Zygina ordinaria*, *Cicadula placida* and *Orientus ishidae*). Moreover, 25 other taxa were recorded for the first time from Tuscany, increasing the total number of Auchenorrhyncha from this region to 323.

As for the population here detected, it is constituted mainly by Euro-Mediterranean species, even though the presence of widely distributed and Euro-Asiatic species is noteworthy. A quite well balanced compound of taxa with heterogeneous chorological characteristics was found, though the north Mediterranean one is to be considered as the main typology.

From the alimentary point of view, a high occurrence of both

monophagous and polyphagous species was observed. Actually, host plants and/or diet width of many species are still not well known. Species ecology depends on various factors like developmental stage, climate, season and host plant availability. Geographic allotrophic behaviour and inconstance of host specificity, as already shown by VIDANO and ARZONE (1987a), can lead to significant difference between Mediterranean regions and middle Europe (including north Italy), attesting the high adaptability of many species, in particular of leafhoppers. In this way, their habits cannot be generalized at all, but rather should always be referred to specific contexts.

For instance, *Zygina rhamni*, grape leafhopper generally known to overwinter as adult, from January can lay eggs inside *Rosa* and *Rubus* leaf tissues, that hatch in spring. Consequently, the species' dioecy is proved for the studied environment. On the other hand, *Empoasca vitis*, usually considered as a wide polyphagous species, turned out to be quite strictly ampelophagous in summer, showing, in contrast, a wide range of host plants from late August onward. Similarly, *Aymmetrasca decedens*, another polyphagous species, in spring was collected almost exclusively from elms, on which it develops the first annual generation, and then only from willows throughout the summer, going through at least two further generations. Again, from autumn to March it was collected from many different shrubs and trees. Another example, *Orientus ishidae*, leafhopper recently introduced to Europe from the eastern Palearctic region; it was found only on a single ornamental *Salix babylonica* tree, but not on surrounding plants (including other different willows), although the species is regarded as polyphagous on various woody plants.

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RIASSUNTO

CONTRIBUTO ALLA CONOSCENZA DEGLI AUCHENORRINCHI (HEMIPTERA FULGOROMORPHA E CICADOMORPHA) DELLA TOSCANA (ITALIA)

Nel quinquennio 2000-2005 è stata condotta un'indagine, volta all'individuazione di Auchenorrhynchi in diversi ambienti caratteristici della Toscana occidentale, che ha riguardato più di 40 diverse specie di alberi e arbusti, oltre che svariate piante erbacee e differenti tipologie di prato. Nel complesso delle 204 specie identificate viene annoverata una prima segnalazione per l'Italia (*Paralimnus zachvatkini* Emeljanov), due per l'Italia continentale [*Palaeolithium distinguendum* (Kirschbaum) e *Eupteryx schuleri* Ribaut] e quattro per l'Italia peninsulare [*Stegelytra putoni* Mulsant & Rey, *Zygina ordinaria* Ribaut, *Cicadula placida* (Horvath) e *Orientus ishidae* (Matsumura)]. Inoltre, 25 specie vengono segnalate per la prima volta nel territorio toscano, portando a 323 il numero totale di specie di Auchenorrhynchi note per la

regione. L'analisi corologica evidenzia una sostanziale prevalenza di elementi nord mediterranei, mentre dall'analisi ecologica si rileva una forte presenza di specie monofaghe e polifaghe, soprattutto infeudate ad alberi ed arbusti. Vengono riportate in dettaglio le relazioni insetto/pianta ospite, mettendo in evidenza delle peculiarità geografiche e stagionali relative alla dieta e allo svernamento di talune specie, tra cui in primo luogo alcune Typhlocybinae.

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