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ANNOTATED CATALOGUE OF THE ITALIAN *PSYLLOIDEA*. FIRST PART (*Insecta Homoptera*)

Abstract - Conci C., Rapisarda C. & Tamanini L. - *Annotated Catalogue of the Italian* Psylloidea. *First Part* (Insecta Homoptera).

The present Catalogue, the first published on the group in our Country, supports the volume on *Psylloidea* (in preparation by us within the series «Fauna d'Italia»), completing its topic. Here we mainly report the chorology of the species, as results from the literature and personal collecting data, giving also information on their frequency and altimetry. Chorological details are given only for rare or particularly interesting species, while the distribution of the most common ones is generically reported per Region. The Italian chorology of all species is summarized in a table and distribution maps. In case they are known, we also report ecological and ethological data, such as primary host plants, phenology of various instars, number of yearly generations, overwintering, gall-formation activity and possible economic importance. The chronology of Italian records is reported in a table. So far 193 species of Psylloidea were reported for Italy; in the present work *Chamaepsylla hartigii* is added and 6 other species are mentioned, which have been found in the territory but still are in press or under study; therefore, the Italian psyllid fauna presently comprises 199 species. This first part of the Catalogue deals with 130 species (families *Aphalaridae* and *Psyllidae*). The synonymy *Strophingia proxima* (= *S. hispanica*) is proposed. The work is supplied with 15 figures, including 8 colour photos of peculiar Italian biotopes. Historical survey, general considerations and literary references will be reported in the second part of this work, together with the remaining species.

Key words - *Psylloidea*, Italy, Catalogue.

Riassunto - Conci C., Rapisarda C. & Tamanini L. - *Catalogo commentato degli* Psylloidea *italiani. I parte* (Insecta Homoptera).

Il presente Catalogo è il primo pubblicato sul gruppo per il nostro Paese e completa il volume della «Fauna d'Italia» sugli Psilloidei, in avanzato approntamento. Viene riportata la corologia, quale risulta dalla letteratura e dal materiale esaminato, con dati su frequenza ed altimetria; per le specie comuni la distribuzione è indicata per Regioni, mentre per quelle più rare o interessanti si danno notizie particolareggiate. La geonemia italiana delle specie esaminate è riassunta in una tabella ed in cartine orientative. Sono

esposti inoltre, quando noti, i dati ecologici ed etologici essenziali, cioè piante nutrici primarie, fenologia dei vari stadi, numero di generazioni annue, modalità di svernamento, attività cecidogena ed eventuale importanza agraria. La cronologia dei rinvenienti in Italia viene sintetizzata in apposita tabella. Finora erano state citate per il nostro Paese 193 specie di Psilloidei; nel presente lavoro si aggiunge *Chamaepsylla hartigii* e si accenna ad altre 5 specie in corso di stampa o di studio; pertanto la psillidofauna italiana comprende attualmente 199 specie. Questa prima parte del Catalogo tratta 130 specie (famiglie *Aphalaridae* e *Psyllidae*). È proposta la sinonimia: *Strophingia hispanica* (= *S. proxima*). Il lavoro è corredato da 15 figure, incluse 8 foto a colori di ambienti peculiari. Cenni storici, considerazioni generali e bibliografia saranno riportate nella seconda parte del lavoro, con la trattazione delle rimanenti specie.

Parole chiave - *Psylloidea*, Italia, Catalogo.

Introduction

A complete list of the Italian Psylloidea has never been published up to now. Infact, the researches and studies on this insect group have been sporadic and desultory till 1981, yet they led to record nearly one hundred species for this Country.

Numerous papers reported scattered data on the Italian psyllid fauna; the only specialist on this group was F. B. Boselli, who yet published only few monographic works; E. Tremblay (1965) published a basic monography on *Trioza tremblayi*; L. Tamanini, while studying Hemiptera Heteroptera, collected a wide psyllid material and published six notes on these insects between 1955 and 1977.

Starting from 1981, constant and methodical field collections and taxonomic studies on this group have been carried out by C. Conci (Milano) and L. Tamanini (Rovereto); C. Rapisarda (Catania) joined to the above researches from 1983. Thus, a total of more than 500 excursions have been effected throughout Italy, during the last 12 years, with collection of tens of thousands specimens, which allowed to write more than 60 papers.

The work carried out by us and other specialists, in order to improve the knowledge on the Italian psyllids, is summarized in two short notes (Conci & Tamanini, 1983; Conci, Rapisarda & Tamanini, 1991): about 200 psyllid species have been totally found in this Country; and this is the highest number quoted in the world (after the Caucasus), for a middle wide geographic region. Therefore, the importance of divulging the present status of the Italian psyllid fauna is inspiring the publication of the present catalogue.

In general, an almost satisfactory level has been reached up to now

on both systematics and chorology of the Italian psyllids (though some Regions still need further researches); on the contrary, biological observations are still necessary to correctly define the life-cycle of a lot of species.

The present catalogue has been prepared as both introduction and completion to the volume on the «Psylloidea» within the series «Fauna d'Italia», which is presently in preparation. Infact, in order to reduce the proportion of the latter volume, we report here the greatest part of Italian chorological data and the corresponding literature. On the contrary, the taxonomic part, synonymy, ethology and data on economic importance of some species will be dealt with in the mentioned volume of the «Fauna d'Italia».

Since the systematic of the Psylloidea is presently in continuous and deep evolution, as a consequence of recent studies on the topic and different opinions expressed by various Authors, we mostly follow, in this catalogue, the psyllid classification reported in the recent work by White & Hodkinson (1985). Such a classification could be deeply changed in the next future, of course.

Due to typographic reasons, the present catalogue is published in two parts. The first one deals with the families Aphalaridae and Psyllidae, while the remaining families, historic part and literary references will be reported in the second part, hopefully published at a distance of one year.

The first Italian records of each psyllid species are reported in the following table I.

Table I - CHRONOLOGY OF THE FIRST REPORT OF THE SPECIES FOUND IN ITALY

N.	Name originally reported	Author	Year	Present name
1.	Galls on leaves of laurel	Malpighi	1679	*Lauritrioza alacris*
2.	*Trips olivinus*	Costa O. G.	1839	*Euphyllura olivina*
3.	*Homotoma ficus*	Flor	1861b	*Homotoma ficus*
4.	*Psylla lactea*	Costa A.	1863	*Livilla radiata*
5.	*Psylla Neilreichii*	Frauenfeld	1869	*Trioza centranthi*
6.	*Psylla cytisi*	Puton	1876	*Arytainilla cytisi*
7.	*Trioza tripunctata*	Löw	1877	*Phylloplecta trisignata*
8.	*Floria spectabilis*	Löw	1879	*Livilla spectabilis*
9.	Galls on *Rumex scutatus*	Strasburger	1879	*Trioza rumicis*
10.	*Livia juncorum*	Costa A.	1882	*Livia juncorum*
11.	*Psylla alpina*	Dalla Torre	1882	*Psylla alpina*
12.	*Psylla perspicillata*	Dalla Torre	1882	*Psylla fusca*
13.	*Psylla alni*	Dalla Torre	1882	*Psylla alni*
14.	*Livilla ulicis*	Löw	1882a	*Livilla ulicis*

Table I

N.	Name originally reported	Author	Year	Present name
15.	*Psylla alaterni*	Löw	1882a	*Cacopsylla alaterni*
16.	*Psylla pyrisuga*	Löw	1882a	*Cacopsylla pyrisuga*
17.	*Bactericera Perrisi*	Löw	1882	*Bactericera perrisii*
18.	*Psylla Foersteri*	Costa A.	1884	*Baeopelma försteri*
19.	*Arytaina genistae*	Costa A.	1884	*Arytaina genistae*
20.	*Aphalara tamaricis*	Costa A.	1884	*Stigmaphalara tamaricis*
21.	*Aphalara polygoni*	Costa A.	1884	*Aphal. polygoni* (possible)
22.	*Rhynocola subrubescens*	Ferrari	1885a	*Camarotosc. subrubescens*
23.	*Aphalara nervosa*	Ferrari	1885b	*Magnaphalara nervosa*
24.	*A. calthae* var. *maculipennis*	Löw	1886	*Aphalara maculipennis*
25.	*Floria vicina*	Löw	1886	*Livilla vicina*
26.	*Floria vittipennella*	Löw	1886	*Livilla vittipennella*
27.	*Euphyllura speciosa*	Ferrari	1888	*Camarotoscena speciosa*
28.	*Aphalara exilis*	Ferrari	1888	*Aphalara exilis*
29.	*Psylla simulans*	Ferrari	1888	*Cacopsylla pyricola*
30.	*Psylla Crataegi*	Ferrari	1888	*Cacopsylla crataegi*
31.	*Floria variegata*	Ferrari	1888	*Livilla variegata*
32.	*Trioza velutina*	Ferrari	1888	*Spanioza galii*
33.	*Trioza albiventris*	Ferrari	1888	*Bactericera albiventris*
34.	*Trioza Urticae*	Ferrari	1888	*Trioza urticae*
35.	*Trioza flavipennis*	Ferrari	1888	*Trioza försteri*
36.	*Rhinocola aceris*	Löw	1888	*Rhinocola aceris*
37.	*Rhinocola ericae*	Löw	1888	*Strophingia ericae*
38.	*Aphalara picta*	Löw	1888	*Magnaphalara flavipennis*
39.	*Psyllopsis fraxini*	Löw	1888	*Psyllopsis fraxini*
40.	*Psylla pyri*	Löw	1888	*Cacopsylla pyri*
41.	*Psylla albipes*	Löw	1888	*Cacopsylla albipes*
42.	*Psylla colorata*	Löw	1888	*Baeopelma colorata*
43.	*Psylla pruni*	Löw	1888	*Cacopsylla pruni*
44.	*Psylla melanoneura*	Löw	1888	*Cacopsylla melanoneura*
45.	*Psylla intermedia*	Löw	1888	*Cacopsylla intermedia*
46.	*Psylla salicicola*	Löw	1888	*Cacopsylla saliceti*
47.	*Psylla ambigua*	Löw	1888	*Cacopsylla ambigua*
48.	*Psylla pulchella*	Löw	1888	*Cacopsylla pulchella*
49.	*Trichopsylla Walkeri*	Löw	1888	*Trichochermes walkeri*
50.	*Trioza chenopodii*	Löw	1888	*Heterotrioza chenopodii*
51.	*Trioza recondita*	Löw	1888	*Bactericera modesta*
52.	*Trioza Scotti*	Löw	1888	*Trioza scottii*
53.	*Trioza rhamni*	Löw	1888	*Trioza ramni*
54.	*Trioza nigricornis*	Löw	1888	*Bactericera nigricornis*
55.	*Trioza acutipennis*	Löw	1888	*Bactericera femoralis*
56.	*Trioza striola*	Löw	1888	*Bactericera striola*
57.	*Trioza aegopodii*	Löw	1888	*Trioza flavipennis*
58.	*Trioza chrysanthemi*	Löw	1888	*Trioza chrysanthemi*
59.	*Trioza cerastii*	Löw	1888	*Trioza cerastii*
60.	*Trioza viridula*	Löw	1888	*Dyspersa apicalis*
61.	*Trioza proxima*	Löw	1888	*Trioza proxima*
62.	*Trioza Thomasii*	Löw	1888	*Trioza thomasii*
63.	*Trioza crithmi*	Löw	1888	*Bactericera crithmi*
64.	*Psylla buxi*	Massalongo	1893	*Asphagidella buxi*

Table I

N.	Name originally reported	Author	Year	Present name
65.	*Calophya rhois*	Massalongo	1896	*Calophya rhois*
66.	*Asterolecanium rhamni*	Kieffer	1898	*Trioza kiefferi*
67.	*Psylla mali*	Berlese	1900	*Cacopsylla mali*
68.	*Psylla peregrina*	Leonardi	1901	*Cacopsylla peregrina*
69.	*Psyllopsis fraxinicola*	Leonardi	1901	*Psyllopsis fraxinicola*
70.	*Psylla ilicina*	De Stefani Perez	1901	*Trioza ilicina*
71.	*Trioza dispar*	Mariani	1909	*Trioza dispar*
72.	*Floria horvathi*	Gräffe	1911	*Livilla horvathi*
73.	*Psylla parvipennis*	Gräffe	1911	*Cacopsylla parvipennis*
74.	*Psyllopsis meliphila*	Gräffe	1911	*Psyllopsis meliphila*
75.	*Aphalara menozzii*	Laing	1929	*Agonoscena cisti*
76.	*Rhinocola succincta*	Boselli	1930	*Agonoscena succinta*
77.	*Rhinocola targionii*	Boselli	1930	*Agonoscena targionii*
78.	*Trioza remota*	Mancini	1954	*Trioza remota*
79.	*Diaphorina putonii*	Boselli	1960	*Diaphorina lycii*
80.	*Trioza tremblayi*	Wagner	1961	*Bactericera tremblayi*
81.	*Euphyllura phillyreae*	Zangheri P.	1966	*Euphyllura phillyreae*
82.	*Homotoma viridis*	Tamanini	1966	*Homotoma viridis*
83.	*Psylla visci*	Bin	1970	*Cacopsylla visci*
84.	*Craspedolepta nebulosa*	Sampò	1975	*Paracrasped. nebulosa*
85.	*Colposcenia italica*	Tamanini	1977b	*Colposcenia aliena*
86.	*Psylla cordata*	Tamanini	1977d	*Psylla cordata*
87.	*Aphalara longicaudata*	Tamanini	1977d	*Aphalara longicaudata*
88.	*Amblyrhina cognata*	Tamanini	1977d	*Livilla cognata*
89.	*Psylla breviantennata*	Tamanini	1977d	*Cacopsylla breviantennata*
90.	*Psylla hippophaes*	Tamanini	1977d	*Cacopsylla hippophaes*
91.	*Psylla nigrita*	Tamanini	1977d	*Cacopsylla nigrita*
92.	*Psylla rhododendri*	Tamanini	1977d	*Cacopsylla rhododendri*
93.	*Psylla viburni*	Tamanini	1977d	*Cacopsylla viburni*
94.	*Trioza trigonica*	Hodkinson	1981b	*Bactericera trigonica*
95.	*Ctenarytaina eucalypti*	Cavalcaselle	1982	*Ctenarytaina eucalypti*
96.	*Psylla limbata*	Conci & Tamanini	1982	*Cacopsylla limbata*
97.	*Psylla uncatoides*	Arzone & Vidano	1983	*Acizzia uncatoides*
98.	*Crastina loginovae*	Conci & Tamanini	1983b	*Crastina loginovae*
99.	*Aphalara calthae*	Hodkinson	1983b	*Aphalara calthae*
100.	*Aphalara r. rumicicola*	Hodkinson	1983b	*Aphalara rumicicola*
101.	*Psylla sorbi*	Hodkinson	1983b	*Cacopsylla sorbi*
102.	*Trioza curvatinervis*	Hodkinson	1983b	*Bactericera curvatinervis*
103.	*Trioza harrisoni*	Hodkinson	1983b	*Bactericera harrisoni*
104.	*Trioza pallida*	Hodkinson	1983b	*Dyspersa pallida*
105.	*Trioza schranki*	Hodkinson	1983b	*Trioza schrankii*
106.	*Trioza tatrensis*	Hodkinson	1983b	*Trioza tatrensis*
107.	*Craspedolepta carinthica*	Conci & Tamanini	1983c	*Xanioptera carinthica*
108.	*Craspedolepta conspersa*	Conci & Tamanini	1983d	*Xanioptera conspersa*
109.	*Craspedolepta bulgarica*	Burckhardt	1983b	*Magnaphalara bulgarica*
110.	*Aphalara sauteri*	Burckhardt	1983b	*Aphalara sauteri*
111.	*Arytainilla spartiophila*	Burckhardt	1983b	*Arytainilla spartiophila*
112.	*Cacopsylla affinis*	Burckhardt	1983b	*Cacopsylla affinis*
113.	*Rhinocola fusca*	Burckhardt	1984	*Rhinocola fusca*
114.	*Floria poggii*	Conci & Tamanini	1984a	*Livilla poggii*
115.	*Trioza portulacoides*	Conci & Tamanini	1984b	*Heterotrioza portulacoides*

Table I

N.	Name originally reported	Author	Year	Present name
116.	*Rhodochlanis salicorniae*	Conci & Tamanini	1984c	*Rhodochlanis bicolor*
117.	*Rhodochlanis hodkinsoni*	Conci & Tamanini	1984c	*Rhodochlanis salsolae*
118.	*Trioza rapisardai*	Conci & Tamanini	1984d	*Trioza rapisardai*
119.	*Aphalara avicularis*	Conci & Tamanini	1984e	*Aphalara avicularis*
120.	*Aphalara borealis*	Conci & Tamanini	1984e	*Aphalara borealis*
121.	*Craspedolepta malachitica*	Conci & Tamanini	1984e	*Craspedolepta malachitica*
122.	*Craspedolepta omissa*	Conci & Tamanini	1984e	*Tetrafollicula omissa*
123.	*Craspedolepta subpunctata*	Conci & Tamanini	1984e	*Neocrasped. subpunctata*
124.	*Strophingia cinereae*	Conci & Tamanini	1984e	*Strophingia cinereae*
125.	*Diaphorina chobauti*	Conci & Tamanini	1984e	*Diaphorina chobauti*
126.	*Diaphorina putoni*	Conci & Tamanini	1984e	*Diaphorina putonii*
127.	*Psyllopsis discrepans*	Conci & Tamanini	1984e	*Psyllopsis discrepans*
128.	*Arytaina adenocarpi*	Conci & Tamanini	1984e	*Arytaina maculata*
129.	*Spanioneura fonscolombii*	Conci & Tamanini	1984e	*Spanioneura fonscolombii*
130.	*Psylla betulae*	Conci & Tamanini	1984e	*Psylla betulae*
131.	*Cacopsylla abdominalis*	Conci & Tamanini	1984e	*Cacopsylla abdominalis*
132.	*Cacopsylla brunneipennis*	Conci & Tamanini	1984e	*Cacopsylla brunneipennis*
133.	*Cacopsylla costalis*	Conci & Tamanini	1984e	*Cacopsylla costalis*
134.	*Cacopsylla elegantula*	Conci & Tamanini	1984e	*Cacopsylla elegantula*
135.	*Cacopsylla pulchra*	Conci & Tamanini	1984e	*Cacopsylla pulchra*
136.	*Cacopsylla zetterstedti*	Conci & Tamanini	1984e	*Cacopsylla zetterstedti*
137.	*Trioza abdominalis*	Conci & Tamanini	1984e	*Trioza abdominalis*
138.	*Trioza agrophila*	Conci & Tamanini	1984e	*Trioza agrophila*
139.	*Trioza marginepunctata*	Conci & Tamanini	1984e	*Trioza marginepunctata*
140.	*Trioza rotundata*	Conci & Tamanini	1984e	*Trioza rotundata*
141.	*Trioza senecionis*	Conci & Tamanini	1984e	*Trioza senecionis*
142.	*Bactericera bohemica*	Conci & Tamanini	1984e	*Bactericera bohemica*
143.	*Trioza (Hippoph.) binotata*	Conci & Tamanini	1984f	*Hippophaetrioza binotata*
144.	*Aphorma lichenoides*	Conci *et al.*	1985	*Aphorma lichenoides*
145.	*Strophingia hispanica*	Rapisarda	1985a	*Strophingia proxima*
146.	*Acizzia acaciae- baileyanae*	Rapisarda	1985a	*Acizzia acaciaebaileyanae*
147.	*Psylla vicina*	Rapisarda	1985a	*Cacopsylla notata*
148.	*Pseudaphorma astigma*	Conci & Tamanini	1985a	*Pseudaphorma astigma*
149.	*Cacopsylla propinqua*	Conci & Tamanini	1986a	*Cacopsylla propinqua*
150.	*Trioza laserpitii*	Burckhardt	1986a	*Dyspersa laserpitii*
151.	*Trioza mesembrina*	Burckhardt	1986a	*Dyspersa mesembrina*
152.	*Cacopsylla bidens*	Burckhardt & Hodk.	1986	*Cacopsylla bidens*
153.	*Bactericera calcarata*	Conci & Tamanini	1986d	*Bactericera calcarata*
154.	*Cyamophila prohaskai*	Conci & Tamanini	1986e	*Cyamophila prohaskai*
155.	*Trioza saxifragae*	Conci & Tamanini	1986f	*Trioza saxifragae*
156.	*Arytainilla spartiicola*	Conci & Tamanini	1986g	*Arytainilla spartiicola*
157.	*Rhachistoneura varicicosta*	Rapisarda	1987	*Lisronia varicicosta*
158.	*Arytainilla hakani*	Rapisarda	1987	*Arytainilla hakani*
159.	*Livilla bimaculata*	Hodkinson & Hollis	1987	*Livilla bimaculata*
160.	*Livilla magna*	Hodkinson & Hollis	1987	*Livilla magna*
161.	*Livilla siciliensis*	Hodkinson & Hollis	1987	*Livilla siciliensis*
162.	*Arytaina maculata*	Rapisarda	1988a	*Aryt. adenocarpi (partim)*
163.	*Arytaina maculata*	Rapisarda	1988a	*Aryt. africana (partim)*
164.	*Arytainilla barbagalloi*	Rapisarda	1988a	*Arytainilla barbagalloi*
165.	*Arytainilla incuba*	Rapisarda	1988a	*Arytainilla incuba*
166.	*Cacopsylla euxina*	Rapisarda	1988b	*Cacopsylla myrthi*

Table I

N.	Name originally reported	Author	Year	Present name
167.	*Heterotrioza sahlbergi*	Conci & Tamanini	1988a	*Heterotrioza sahlbergi*
168.	*Bactericera parastriola*	Conci *et al.*	1988	*Bactericera parastriola*
169.	*Bactericera bucegica*	Conci & Tamanini	1988b	*Bactericera bucegica*
170.	*Bactericera versicolor*	Conci & Tamanini	1988b	*Bactericera versicolor*
171.	*Craspedolepta santolinae*	Rapisarda	1989b	*Magnaphalara santolinae*
172.	*Arytaina torifrons*	Conci & Tamanini	1989a	*Arytaina torifrons*
173.	*Livilla pyrenaea*	Conci & Tamanini	1989a	*Livilla pyrenaea*
174.	*Livilla retamae*	Conci & Tamanini	1989a	*Livilla retamae*
175.	*Cacopsylla myrtilli*	Conci & Tamanini	1989a	*Cacopsylla myrtilli*
176.	*Cacopsylla rhamnicola*	Conci & Tamanini	1989a	*Cacopsylla rhamnicola*
177.	*Trioza megacerca*	Conci & Tamanini	1989a	*Trioza megacerca*
178.	*Trioza munda*	Conci & Tamanini	1989a	*Trioza munda*
179.	*Acizzia hollisi*	Conci & Tamanini	1989c	*Acizzia hollisi*
180.	*Heterotrioza concii*	Rapisarda	1990a	*Heterotrioza concii*
181.	*Eutrioza opima*	Burckhardt *et al.*	1990	*Eutrioza opima*
182.	*Livilla hollisi*	Rapisarda	1990b	*Livilla hollisi*
183.	*Cacopsylla iteophila*	Conci & Tamanini	1990a	*Cacopsylla iteophila*
184.	*Trioza tripteridis*	Burckhardt *et al.*	1991	*Trioza tripteridis*
185.	*Strophingia* sp.	Rapisarda	1991a	*Strophingia* sp.
186.	*Livia mediterranea*	Rapisarda	1991a	*Livia mediterranea*
187.	*Diaphorina continua*	Rapisarda	1991a	*Diaphorina continua*
188.	*Bactericera salicivora*	Rapisarda	1991a	*Bactericera salicivora*
189.	*Bactericera kratochvili*	Conci & Tamanini	1991	*Bactericera kratochvili*
190.	*Dyspersa lautereriella*	Conci & Tamanini	1991	*Dyspersa lautereriella*
191.	*Trioza cirsii*	Conci & Tamanini	1991	*Trioza cirsii*
192.	*Spanioza tamaninii*	Conci	1992	*Spanioza tamaninii*
193.	*Cacopsylla ulmi*	Lozzia & Binaghi	1992	*Cacopsylla ulmi*
194.	*Chamaepsylla hartigii*	This work	1993	*Chamaepsylla hartigii*

Appendix to table I

In addition to the 194 species reported in table I, the following 5 species have been variously found in Italy and still are in course of taxonomic definition:

195. *Trioza* sp. n. 1, Rapisarda, in press
196. *Trioza* sp. n. 2, Rapisarda, in press
197. *Bactericera* near *silvarnis*, Rapisarda, in press
198. *Xanioptera* near *alevtinae*, Conci, in elaboration
199. *Magnaphalara* near *pontica*, Conci, in elaboration

In the end, the following 4 species already recorded for Italy, are doubtful in our opinion and have been excluded from the present list:

1. *Livia crefeldensis* Mink, 1855. Recorded from Sardinia by Costa (1884: 40, sub «*Livia limbata* var. *crefeldensis*») and from Sicily by Rapi-

SARDA (1988b: 619). The erroneous Sicilian record and probably also the old Sardinian one are to be referred to *Livia mediterranea* Loginova (RAPISARDA, 1991a: 44). The taxonomically intricate genus *Livia* is presently under revision by Hodkinson.

2. *Livia limbata* (Waga, 1842). Recorded only from Monfalcone (Fr. V.G.) by Löw (1888: 11); such as the previous species, it is probably to be referred to *L. mediterranea*, too (see also RAPISARDA & CONCI, 1989: 626, 632).

3. *Bactericera acutipennis* (Zetterstedt, 1828). Reported only by GRÄFFE (1911: 294) from Trieste (Fr.V.G.), under the name of *Trioza saundersi* Meyer-Dür, 1871. This record is highly doubtful and probably erroneous (see also RAPISARDA & CONCI, 1989: 631, 633), since the primary host plant of this species (*Comarum palustre*) does not occur in the Region Friuli-Venezia Giulia.

4. *Trioza achilleae* Wagner, 1955. Recorded only from Sicily by RAPISARDA (1985a: 112, 114; 1988b: 620), on the basis of a few specimens (both males and females) collected on *Achillea ligustica* and informally determined by D. Burckhardt. Both the unusual host plant and the flabbergasting occurence in Sicily of an apparently alpine or sub-alpine species as *T. achilleae*, let us to doubt on the above determination and suggest to ascribe the Sicilian material to *Trioza abdominalis*.

EXPLANATION OF PARAGRAPHS

Synonymies. Only the names are reported, which were used in the Italian literature.

Descriptions. We report here very few and highly selected works which have been used by us for adult determination. The more useful books were those ones by DOBREANU & MANOLACHE (*Fauna Romina*, 1962), for the very good drawings, and HODKINSON & WHITE (*Handbook Ident. British Insects*, 1979). We saw the splendid book by OSSIANNILSSON (1992) only when the present work was in proof. The final instar nymph has been also taken into consideration for obtaining chorological data on a few species; morphological literature on this stage is reported in such cases.

Italian reports. All references are here reported to works containing psyllid records for the Italian territory (according to the present boundaries), with indication of the Regions (whether reported in the original text). Little important references or those ones exclusively regarding the control strategies are omitted from the huge literature on eco-

nomically important species. The pure and obvious repetitions by the catalogues (Puton, 1875, 1886, 1899; Löw, 1882a, 1882c; Oshanin, 1907, 1910, 1912; Aulmann, 1913; Klimaszewski, 1973; Gegechkori & Loginova, 1990) are not reported by us, too. On the contrary, particular care has been paied in assigning to the present Italian territory a lot of old records by Löw (for Austria) or Gräffe (for the coastal lands of Hungarian Empire - the «Küstenland») regarding localities which became Italian after the First World War and presently belong to the Regions Friuli-Venezia Giulia (Barcola, Bivio-Duino, Monfalcone, Monte Spaccato, Muggia, Nabresina = Aurisina, Noghera, Opcina = Opicina, Görz = Gorizia, Prosecco, Raibl = Predil, Triest = Trieste, Zaule) and Trentino-Alto Adige (Bad Ratzes = Bagni di Razzes, Bozen = Bolzano, Brenta and Adamellogruppe, Meran = Merano, Niederdorf = Villabassa, Ortlergruppe, Riva, Seiseralpe = Alpe di Siusi, Suldenthal = Valle di Solda, Torbole, Trafoi, Zillerthal = Valle Aurina). Most of these records have been erroneously assigned to Austria up to now by many Authors.

We report between brackets the records regarding physic but not politic Italy: pratically only the Swiss Canton Ticino (Tessin), with many records by Burckhardt (1983b); Istria, French Alpes Maritimes and Corsica are very poorly known as psyllid fauna. Very few records involve the controversial Oriental geographic (phisic) limits of Italy: among these, that one of *Cacopsylla parvipennis* is the most important.

Italian distribution. We report here an indicative frequence of the species, merely deriving from the number of collected specimens and the finding localities. The Italian chorology of each species is synthetized in the table II and graphically reported in the orientative distribution maps, at the end of this work. Complete collecting data are reported only for rare or anyhow interesting species. The altimetrical quotes normally regard findings on host- or shelter plants and the occasional findings of specimens probably carried by the wind or other causes are generally omitted.

All the recent material was collected, separately or jointly, and determined by us. Therefore we indicate only the names of the other collectors or determinators. The great prevalence of the material is now in the Authors collections.

General distribution. According to the literature.

Biology. Data from literature and from personal observations are separately reported, since they sometimes diverge. In some cases, yet in strong need of being verified, life-cycle may differ from North and Cen-

tral Europe to Southern Italy. As to the host plants, nomenclature by PIGNATTI (1982) is mostly followed here.

Observations. Normally containing notices of applied Entomology and notes on various topics, belonging to anyone of the previous paragraphs.

Note. We report here close species that could be likely found in Italy in the future.

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Abbreviations

It.	= Italy	loc.	= locality, localities
B.	= Biology, life-history	n.	= noxious, reported in the work
Des.	= Descriptions	N	= North
E	= East	*O.*	= Observations
C	= Central	S	= South
g.	= galls, reported in the work	Tic.	= Ticino
Gen. Dis.	= General Distribution	W	= West
It. Dis.	= Italian Distribution	*	= Bibliography not see
It. Rep.	= Italian Reports	[ ]	= Reports in geographical but not political Italy
leg.	= legit, collected		

Abr.	= Abruzzo	Mol.	= Molise
Bas.	= Basilicata	Piem.	= Piemonte
Cal.	= Calabria	Pu.	= Puglia
Camp.	= Campania	Sard.	= Sardegna
Em. R.	= Emilia-Romagna	Sic.	= Sicilia
Fr.V.G.	= Friuli-Venezia Giulia	Tosc.	= Toscana
Laz.	= Lazio	Tr.A.A.	= Trentino-Alto Adige
Lig.	= Liguria	Um.	= Umbria
Lomb.	= Lombardia	V.A.	= Valle d'Aosta
Mar.	= Marche	Ven.	= Veneto

Fig. 1 - Map of Italy with the abbreviations used in the text for the 20 Regions.

ANNOTATED CATALOGUE

Family APHALARIDAE Löw, 1879

Subfamily LIVIINAE Löw, 1879

Genus *Livia* Latreille, 1804

The Genus *Livia* is presently under revision by Hodkinson.

1. *Livia juncorum* (Latreille, 1798)

Des. - Dobreanu & Manolache, 1962: 64; Hodkinson & White, 1979b: 18.

It. Rep. - Most of the reports regards galls and are marked with «g».

Costa, 1882: 26 (Sard.); Costa, 1883: 71 (Sard.); Costa, 1894: 40 (Sard.); Ferrari, 1888: 74 (Lig., Piem.); Löw, 1888: 10 (Fr.V.G., Tr.A.A., g.); Bezzi, 1893: 113 (Tr.A.A., g.); Dalla Torre, 1893: 135 (Tr.A.A., g.); Massalongo C., 1893a: 6 (Ven., g.); Massalongo C., 1893b: 262-263 (Ven., Sic., g.); Massalongo O., 1896: 187 (Ven., g.); Bezzi, 1899: 19 (Tr.A.A., g.); Baldrati, 1900: 31 (Em. R., g.); Cecconi, 1901b: 138 (Sard., g.); Picco, 1908: 101 (Laz.); De Stefani, 1909: 148 (Em. R., g.); Gräffe, 1911: 293 (Fr.V.G.); Zangheri, 1934: 59 (Em. R.); Grandi, 1951: 815 (Italia); Mancini, 1954: 35 (Um.); Tamanini, 1955: 10 (Tr.A.A.); Zangheri, 1966: 798 (Em.R., g.); Minelli & Mannucci, 1979: 57 (Ven.); Rapisarda, 1988b: 619 (Sic.); Rapisarda & Conci, 1989: 626 (Fr.V.G.); Rapisarda, 1991a: 13 (Sard.).

It. Dis. - Common in the past for the great spreading of marshes; now rather scarce. Found by us and others in 14 Regions throughout Italy; two hundred specimens in 20 localities, with about 30 findings, between the sea level and 1950 m.

Gen. Dis. - Holopalaearctic.

B. - According to the literature, strictly oligophagous on *Juncus* spp. (Juncaceae), where it causes deformations and galls. Adults were collected by us in May on *Juncus* spp.; in January, March, April, August-October on conifers and in July-September also on marshy meadows. We did not find nymphs. One generation per year; overwintering as adult on conifers.

2. *Livia mediterranea* Loginova, 1974
Livia crefeldensis Auct. nec Mink

Des. - Loginova, 1974b: 863; Rapisarda, 1991a: 13-15, fig. 3.

It. Rep. - Rapisarda, 1988b: 619 (Sic., *sub L. crefeldensis*); Rapisarda, 1991a: 13-15 (Sic., Sard.).

It. Dis. - Fairly rare, except that in Sardinia. Found by us in the following 4 Regions: Tosc. (Province and Commune Pisa, loc. San Rossore; Province and Commune Grosseto, loc. Alberese, Parco Maremma, sea level); Pu. (Province Lecce, Commune Vernole, loc. Le Cesine); Sic. (Province Catania, Commune Nicolosi, Mount Etna, 1600 m; Province Palermo, Commune Polizzi Generosa, Mounts Madonie, 1100 m); Sard. (9 loc. in the Provinces Cagliari, Nuoro and Sassari). More than 200 specimens in about 16 localities, with about 15 findings, between the sea level and 1600 m.

Gen. Dis. - Caucasus, Crimea, Israel, Bulgaria, Italy, Spain, Algeria.

B. - Host plant unknown, perhaps *Carex* spp. (Cyperaceae). Adults were collected by us in May-June and August-October, on conifers. We never found nymphs. Probably one generation per year; overwintering as adult on conifers.

Note - The Italian reports of *Livia crefeldensis* and *L. limbata* by Costa, 1884: 40 (Sard.), Löw, 1888: 11 (Fr.V.G.: Monfalcone), Rapisarda & Conci, 1989: 626, 632 (Fr.V.G.) are probably to be referred to *L. mediterranea*. Therefore, both *L. crefeldensis* Mink, 1855 and *L. limbata* (Waga, 1842) are to be presently excluded from the Italian fauna, even if their occurrence in this Country may likely emerge in the future. See also Rapisarda, 1991a: 44.

Subfamily EUPHYLLURINAE Crawford, 1914

Genus *Euphyllura* Förster, 1848

3. *Euphyllura olivina* (O. G. Costa, 1839)
Trips olivinus, Thrips olivinus, Psylla olivina, Euphyllura oleae Fonscolombe, 1840

Des. - Burckhardt, 1983a: 127, 131; Lauterer *et al.*, 1987: 7.

It. Rep. - A lot of old Italian works on *E. olivina* are presently of negligible importance. Therefore, besides to papers giving chorological informations, we report only part of the agrarian works on this species. We did not see the first Italian reports of this species: * Moschet-

tini (year ?) and * Tavanti (1819, sub *Psylla*). Grimaldi, 1825: 107-108 reports a «*Psylla oleae*», not recognizable.

Costa O. G., 1839: 111-112 (S Italy, noxious); Costa O. G., 1840: 23-24, pl. I: 2 (S It., n.); Romano, 1845: 23 (Sic.); Costa A., 1857: 35-42, pl. IIb (S It., n.); Ragusa, 1875: 255 (Sic.); Costa A., 1877: 56-68, pl. IIb (S It., n.); Targioni-Tozzetti, 1879: 16 (Lig., n.); Costa A., 1883: 71 (Sard., n.); Targioni-Tozzetti, 1884: 71 (Lig., n.); * Bencini, 1886: 388 (S It., n.); Ragusa, 1887: 187 (Sic., n.); Ferrari, 1888: 75 (Lig.); Löw, 1888: 10 (Fr.V.G.); Marchese, 1888: 745 (It., n.); Targioni-Tozzetti, 1888: 405-408 (It., n.); Aducco, 1890: 48 (n.); * Cavanna, 1890 (n.); Franceschini, 1891: 128 (It., n.); Massalongo O., 1896: 187 (Ven.); [Horvath, 1897b: 57 (Croatia: Susak = Fiume)]; * Soli, 1897 (It., n.); Cavallero, 1900: 190 (It., n.); Del Guercio, 1900: 208 (Piem., n.); Soli, 1900: 126 (It., n.); Leonardi, 1901: 171-176, fig. 60 (It., n.); * Ribaga, 1901 (It., n.); Del Guercio, 1902: 442 (It., n.); Ragusa, 1907: 237 (Sic.); Gräffe, 1911: 293 (Fr.V.G.); Masi, 1911: 169-171 (Umbr., Sic.); Silvestri, 1911: 96-99, figs 88-93 (It., n.); Del Guercio, 1913: 65 (It., n.); Craveri, 1915: 239 (It., n.); Leonardi, 1922: 33 (It., n., with bibliography); Berlese, 1924: 315 (It., n.); Craveri, 1926: 242 (It., n.); Grandi, 1927: 200-201 (It., n.); Boselli, 1928: 129; Della Beffa, 1934: 734-735, fig. 791 (It., n.); Silvestri, 1934: 372-378, figs 336, 338-345 (It., n.); Paoli, 1943: 71, fig. 46 (It., n.); Grandori, 1947: 129 (It., n.); Tirelli, 1947: 118 (It., n.); Della Beffa, 1949: 127-128, fig. 111 (It., n.); Grandi, 1951: 815-816, figs 653-656 (It., n.); Servadei, 1956: 222 (It., n.); * Martelli, 1959 (It., n.); Goidanich, 1960: 103-105, 6 figs (It., n.); Martelli, 1961: 53-54, figs 51-53; Venturi & Ruffo, 1962 and 1965: 122 (It., n.); Servadei *et al.*, 1972: 344, fig. 194 (It., n.); Venturi & Ruffo, 1974: 144 (It., n.); Goidanich, 1975, figs 50, 53; Tremblay, 1981: 89 (It., n.); Fimiani, 1985: 266-269, 1 fig. (Camp.); Rapisarda, 1985a: 112 (Sic.); Rapisarda, 1988b: 619; Conci & Tamanini, 1989c: 77 (Sic.: Lampedusa); Rapisarda & Conci, 1989: 627 (Fr.V.G.); Viggiani, 1989: 23 (It., n.); Rapisarda, 1991a: 21 (Sard.).

It. Dis. - Common. Found throughout Italy (except V.A. and Em. R.): we collected more than thousand specimens from hundred localities; many findings, between the sea level and 700 m.

Gen. Dis. - CW Mediterranean: Italy, S France, Spain, N Africa, Canary Isles.

B. - Monophagous on *Olea europaea* L. var. *europaea* and var. *sylvestris* Brot. (Oleaceae). We collected adults throughout the whole year and nymphs in May-June, on its host plant. According to the literature, two (Fimiani, 1985) or 4-6 (Silvestri, 1934; Grandi, 1951; Tremblay, 1981) generations per year. Overwintering as adult on the host plant.

O. - A wide literature is available on *E. olivina*, since it has been considered in the past fairly noxious to olive-trees in Italy. At present, it is of minor economic importance.

Note - The very close species *E. straminea* Loginova, 1973 lives monophagous on *Olea europaea*, too. It occurs in E Mediterranean but could be likely found in Italy in the future.

4. *Euphyllura phillyreae* Förster, 1848
Euphyllura fasciata Horvath, 1918

Des. - Burckhardt, 1983a: 127, 131; Lauterer *et al.*, 1986: 7.

It. Rep. - [Löw, 1888: 11 (Croatia, Istria: Susak = Fiume); Horvath, 1897b: 57 (idem); Rapisarda & Conci, 1989: 629 (idem)]; Zangheri, 1966: 798 (Em. R., sub *phillyrea*); Fimiani, 1985: 266, 268 (Camp., *sub phillyreae* and *fasciata*); D'Antonio & Fimiani, 1988: 167 (Camp., idem); Rapisarda, 1988b: 619 (Sic.); Rapisarda, 1991a: 22 (Sard.).

It. Dis. - Common. Found by us in 12 Regions: Friuli Ven. Giulia (Trieste); Veneto (only one locality on Garda See, Province Verona, Commune Torri del Benaco, loc. Pai); Liguria; various Regions throughout peninsular Italy; Sicily (comprising Pantelleria and Lampedusa); Sardinia. Hundreds of specimens in more than 15 localities, with more than 25 findings, between the sea level and 600 m.

Gen. Dis. - Caucasus, Mediterranean region, Canary Isles.

B. - According to the literature, widely oligophagous on *Phillyrea angustifolia* L., *P. latifolia* L., *P. media* L., *Olea europaea* L. and also *Osmanthus* spp. (Oleaceae). Adults were collected by us from February to October on *Phillyrea angustifolia* and *P. latifolia*. Nymphs in June. One generation per year. Overwintering as adult on its host plants.

O. - The species has a highly variable forewing colouration: *E. fasciata, E. leucozona, E. stolata* and *Platystigma lemniscata* are only colour formae of *E. phillyreae*.

E. phillyreae is reported as noxious to olive-trees in Greece, S Russia and S Ukraine. We never observed its damages in Italy.

Subfamily APHALARINAE Löw, 1879

Genus *Crastina* Loginova, 1964

5. *Crastina* (*Eustigmatia*) *loginovae* Conci & Tamanini, 1983 (Fig. 2)

Des. - Conci & Tamanini, 1983b: 98-104, figs 1-25.

It. Rep. - Conci & Tamanini, 1983b: 104 (Mol.); Rapisarda, 1988b: 619 (Sic.); Burckhardt, 1989a: 391 (It.).

It. Dis. - Rare and sporadic. Found by us only in one Region of C Italy (Molise, Province Campobasso, Commune Montenero di Bisaccia, near S. Salvo, gravel-bed of torrent Trigno, 10 m, type locality) and in two Sicilian localities (Province Palermo, Commune Marineo, loc. Ponte d'Arcera, 530 m; Province Catania, Commune Bronte, loc. Gollìa, 600 m); about 150 specimens in the 3 above reported localities, with only 5 findings, between the sea level and 600 m.

Gen. Dis. - Known only from Italy and Algeria.

B. - Strictly oligophagous on *Tamarix gallica* L. and *T. africana* Poiret (Tamaricaceae). Adults were collected by us in May and June on its host plants. Nymphs unknown. Probably one generation per year and overwintering as egg or nymph.

O. - The possible synonymy of *C. loginovae* with *Craspedolepta heslop-harrisoni* Samy, 1973, from Egypt, is to be better understood.

Note - Other species of the genus *Crastina*, from *Tamarix* and *Myricaria*, could be likely found in Italy.

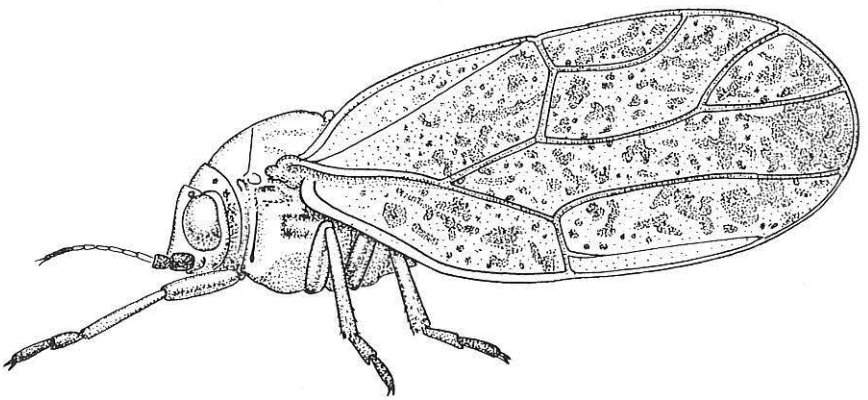


Fig. 2 - *Crastina loginovae*, male, Molise. (Drawing R. Pace).

Genus *Stigmaphalara* Enderlein, 1929

6. *Stigmaphalara tamaricis* (Puton, 1871)
Aphalara tamaricis, Colposcenia tamaricis, Colposcenia sarda Tamanini, 1977

Des. - Loginova, 1974a: 160; Loginova, 1974a bis: 113; Tamanini 1977a: 56-61, 18 figs (*sub C. sarda*).

It. Rep. - Costa A., 1884: 40 (Sard.); Tamanini, 1977a: 58 (Sard., *sub C. sarda*); Burckhardt, 1989a: 393 (Sard.); Rapisarda, 1991a: 16-17, fig. 4 (Sard.).

It. Dis. - Fairly rare. Found by us only in Sardinia; about hundred specimens in 8 localities, with 8 findings, between the sea level and 70 m.

Gen. Dis. - Sardinia, France, Spain, North Africa.

B. - Strictly oligophagous on *Tamarix* spp. (Tamaricaceae). Adults were collected by us in May, August and September, both on *Tamarix africana* Poir., and on *Tamarix gallica* L.; nymphs in May. Probably one generation per year and overwintering as egg or as first instar nymph.

Note - It is possible that other Mediterranean species of *Stigmaphalara* from *Tamarix* could be likely found in Italy.

Genus *Colposcenia* Enderlein, 1929

7. *Colposcenia aliena* (Löw, 1881)
Colposcenia italica Tamanini, 1977

Des. - Loginova, 1974a: 155; Loginova, 1974a bis: 110; Tamanini, 1977b: 219-225, 17 figs (*sub C. italica*).

It. Rep. - Tamanini, 1977b: 222 (Cal., Sic., Sard., *sub C. italica*); Rapisarda, 1988b: 619 (Sic.); Rapisarda, 1991a: 15-16 (Sard.).

It. D. - Not rare. Found by us here and there in 6 Regions throughout Italy; about two hundred specimens in 14 localities, with 25 findings, mostly at the sea level, one finding at 300 m.

Gen. Dis. - S Palaearctic. From China to Canary Isles.

B. - According to the literature, strictly oligophagous on *Tamarix* spp. (Tamaricaceae). Adults were collected by us in February, May-July and September-December on *Tamarix gallica* L., *T. africana* Poiret and *Tamarix* sp.; V instar nymphs in October and November. Probably one generation per year and overwintering as egg, but sometimes also as adult.

Note - Other species of Mediterranean *Colposcenia* could be likely found in Italy.

Genus *Aphalara* Förster, 1848

A taxonomically intricate genus, whose part of the species are practically undiscernible through morphological characters and require to know the host plants for being separated. Therefore, since all *Aphalara* overwinter as adult on conifers, most of the abundant material which has been collected on such plants has been only determined as «species group».

8. *Aphalara exilis* (Weber & Mohr, 1804)

The *Aphalara exilis* species group is in need of taxonomic revision.

Des. - Dobreanu & Manolache, 1962: 96 (partim); Burckhardt, 1983a: 89, 101.

It. Rep. - The Italian records of *Aphalara exilis* can include *A. sauteri*. Therefore the following bibliographic list has only a historical value: Costa A., 1884: 40 (Sard.: see Rapisarda, 1991a: 44); Ferrari, 1888: 75 (Piem., Lig.); Löw, 1888: 13 (Fr.V.G.: Raibl = Predil); Prohaska, 1927: 124 (id.); Vondracek, 1951: 125 (Tr.A.A.); Tamanini, 1955: 10 (Tr.A.A.); Wagner & Franz, 1961: 160 (Dolomiten); Hodkinson, 1983b: 279 (Fr.V.G.); Rapisarda & Conci, 1989: 626 (Fr.V.G.).

It. Dis. - *A. exilis* is apparently rare in Italy, but the greatest part of our material needs to be re-examined.

Gen. Dis. - It is to be better defined, in the light of the latest taxonomic arrangement.

B. - According to the literature, strictly oligophagous on *Rumex acetosa* L., *R. acetosella* L. and *R. scutatus* L. (Polygonaceae); one generation per year; overwintering as adult on conifers. Adults were collected by us on the latter plants.

9. *Aphalara sauteri* Burckhardt, 1983

Des. - Burckhardt, 1983b: 47.

It. Rep. - Burckhardt, 1983b: 50, 51 (V.A., [Tic.]); Rapisarda & Conci, 1989: 626 (Fr.V.G.); Rapisarda, 1991a: 18 (Piem., Sard.).

It. Dis. - Fairly common. Found by us in 11 Regions of N and C Italy and in Sardinia; more than hundred specimens in more than 15 localities and findings, between 300 and 1800 m. Most of our material needs to be better examined.

Gen. Dis. - Reported up to now from Bulgaria, Switzerland and Italy, but certainly more widespread.

B. - It is reported as monophagous on *Rumex scutatus* (Polygonaceae). Adults were collected by us in April, May, July and September on *Rumex scutatus* and about all the year (except July-October) on conifers; nymphs (undescribed) in September. Probably one generation per year; overwintering as adult on conifers.

10. *Aphalara maculipennis* Löw, 1886
Aphalara calthae var. *maculipennis* Löw, 1886

Des. - Hodkinson & White, 1979b: 26; Burckhardt, 1983a: 89, 103.

It. Rep. - Löw, 1886: 150 (Tr.A.A.: Levico); Löw, 1888: 13 (id.); Bezzi, 1893: 114 (id.); Dalla Torre, 1893: 111 (id., with erroneous report as gall-forming); Wagner, 1947a: 59 [id., with erroneous report from «Levico in Brenta Tal (Dolomiten)»]; Tamanini, 1977d: 105 (Ven., Tr.A.A.).

It. Dis. - Very rare. We found this orophilous species in three Regions of N and C Italy; only 5 specimens in the following 4 localities, with 4 findings, between 1250 and 2100 m: Ven., Province Vicenza, Commune Bassano, loc. Monte Grappa, 1900 m, 1 male, 19.IX.1965; Tr.A.A., Province Trento, Commune Ronzo-Chienis, loc. Bordala, 1250 m, 1 male, 24.II.1983; id., Commune Ala, loc. Monte Carega, 1900 m, 1 male, 1 female, 17.X.1976; Abr., Province L'Aquila, Commune Campotosto, loc. Col del Vento, 2100 m, 1 female, 6.IX.1971.

Gen. Dis. - From Asiatic Far East to Caucasus, Scandinavia, Great Britain, N and C Italy.

B. - According to the literature, strictly oligophagous on *Polygonum aviculare* L., *P. lapathifolium* L. and *P. amphibium* L. (Polygonaceae); one generation per year; overwintering as adult on conifers. We collected only adults (4 specimens on conifers and one, accidentally, on *Vaccinium* sp.).

11. *Aphalara longicaudata* Wagner & Franz, 1961

Des. - Burckhardt, 1983a: 89, 103.

It. Rep. - Tamanini, 1977d: 104-105, figs 14-18 (Ven., Tr.A.A.); Hodkinson, 1983b: 279 (Fr.V.G.); Rapisarda & Conci, 1989: 626 (Fr.V.G.).

It. Dis. - Locally common. This orophilous species was found by us only on Eastern Alps, in three Regions of NE Italy; hundreds of specimens in 18 localities, with about 20 findings, between 1800 and 2200 m.

Gen. Dis. - From Mongolia to France and Italy.

B. - According to Lauterer (1976: 113), *Polygonum bistorta* L. (Polygonaceae) is the main host plant in Central Europe; one generation per year; overwintering as adult on conifers. We collected only adults, from January to October (except May-July), mostly on conifers but also on marshy meadows.

12. *Aphalara borealis* Heslop-Harrison, 1949

Des. - Hodkinson & White, 1979b: 26; Ossiannilsson & Jansson, 1981: 26; Burckhardt, 1983a: 90, 105.

It. Rep. - Conci & Tamanini, 1984e: 259 (Fr.V.G., Ven., Tr.A.A.); Rapisarda & Conci, 1989: 626 (Fr.V.G.).

It. Dis. - Very rare. Found by us on Eastern Alps, in 3 Regions of NE Italy (Fr.V.G., Ven., Tr.A.A.), in August-September; only a dozen of specimens in 6 localities, with 6 findings, between 120 and 1600 m.

Gen. Dis. - From Eastern Siberia to N and C Europe; very rare in Great Britain.

B. - According to Lauterer (1979: 94), strictly oligophagous on *Polygonum amphibium* L., *P. lapathifolium* L. and *P. tomentosum* Schrank (Polygonaceae); one generation per year; overwinters as adult on conifers. We found adults in August on *Polygonum* sp. (three times) and in September-October on conifers (the other findings).

13. *Aphalara polygoni* Förster, 1848
Aphalara calthae Auct., nec L.

Des. - Hodkinson & White, 1979b: 26 (partim); Ossiannilsson & Jansson, 1981: 26; Burckhardt, 1983a: 90, 106.

It. Rep. - Before the work of Ossiannilsson, 1951, *A. polygoni* was reported as *A. calthae*; moreover, other species of the *polygoni*-group (*A. rumicicola, A. avicularis* and *A. crispicola*) have been recently described, being morphologically very similar to *A. polygoni* but living on different host plants. Therefore, the old records with no mention to the host plants are doubtful.

Costa, 1884: 40 (Sard., see Rapisarda, 1991a: 18); Zangheri, 1966: 798 (Em. R.); Tamanini, 1977d: 105-106 (Tr.A.A.); Hodkinson, 1983b: 279 (Fr.V.G.); Rapisarda & Conci, 1989: 626 (Fr.V.G.); Rapisarda, 1991a: 18 (Sard., doubtful).

It. Dis. - Common. Found by us in 11 Regions of N, C and S Italy; hundreds of specimens in more than 15 localities, with more than 20 findings, between the sea level and 1400 m.

Gen. Dis. - It needs to be better defined, according to the recent taxonomy; literary records of its holarctic distribution are doubtful, since different species occur in the Nearctic Region (HODKINSON, 1980: 136).

B. - According to the literature, strictly oligophagous on *Polygonum* spp. of the section *persicaria* (now genus *Persicaria*): *P. amphibium* L., *P. hydropiper* L., *P. lapathifolium* L., *P. persicaria* L. (Polygonaceae). We collected adults from June to August on *P. hydropiper, P. lapathifolium* and *P.* sp.; on conifers from September to April. One generation per year; overwintering as adult on conifers. Perhaps deforming the leaves.

14. *Aphalara rumicicola* Klimaszewski, 1966
Aphalara calthae Linnaeus, 1761 (partim), *Aphalara polygoni* Förster, 1848 (partim)

Des. - OSSIANNILSSON & JANSSON, 1981: 22; LAUTERER, 1982: 135; BURCKHARDT, 1983a: 91, 107.

It. Rep. - HODKINSON, 1983b: 279 (Piem.).

It. Dis. - Common. Found by us in 7 Regions of N Italy; one hundred specimens in about 20 localities, with about 30 findings, between 400 and 1800 m.

Gen. Dis. - From Eastern Asia to Europe.

B. - According to the literature, strictly oligophagous on *Rumex acetosa* L., *R. acetosella* L., *R. conglomeratus* Murray (Polygonaceae). Two yearly generations in Czechoslovakia (LAUTERER, 1982). We collected adults in August on *Rumex* sp. and presumably every month (except July) on conifers; we did not collect nymphs. Overwintering as adult on conifers.

O. - Part of our material (specimens collected on conifers) could likely belong to the close species *A. avicularis* or *A. crispicola*.

15. *Aphalara avicularis* Ossiannilsson, 1981

Des. - OSSIANNILSSON, 1981: 24, 26 (in OSSIANNILSSON & JANSSON, 1981, *sub A. rumicicola* ssp. *avicularis*); LAUTERER, 1982: 136; BURCKHARDT, 1983a: 91, 107.

It. Rep. - CONCI & TAMANINI, 1984e: 258-259 (Tr.A.A.).

It. Dis. - Not common. Found by us in the following 5 Regions of

N Italy: Tr.A.A. (Province Trento, Commune Mezzolombardo, 250 m, VII-IX.1984, VII-VIII.1985, VII.1986, V.1991, on *Polygonum aviculare* L.; Province Bolzano-Bozen, Commune Fiè allo Sciliar-Völs am Schlern, 400 m, VIII.1991, on *P. rurivagum* Jordan); Lomb. (Province Pavia, Commune Zerboló, 70 m, VII.1987, on *P. aviculare*); Piem. (Province Cuneo, Commune Racconigi, 300 m, VI.1987, on *P. aviculare*); V.A. (Province Aosta, Communes La Thuile, 1450 m, VIII.1987, and Verrayes, 1200 m, VIII.1933, on *P. rurivagum*); Em. R. (Province and Commune Ravenna, sea level, VII.1981, IV.1985, on *P. arenastrum* Boreau). On the whole, more than hundred specimens in 6 localities, with more than one dozen of findings, mostly between the sea level and 400 m, but also at 1450 m.

Gen. Dis. - Reported from Sweden, Finland, Bulgaria, Poland, Czechoslovakia, Switzerland and Italy, but certainly more widespread.

B. - According to the literature, strictly oligophagous on *Polygonum* spp. gr. *aviculare* (Polygonaceae). Adults were collected by us from May to the beginning of September; we did not collect nymphs. Probably one generation per year and overwintering as adult on conifers.

Note - The very close *Aphalara crispicola* Ossiannilsson, 1987, strictly oligophagous on *Rumex aquaticus* L., *R. crispus* L. and *R. obtusifolius* L. (Polygonaceae), could also be found in Italy.

16. *Aphalara calthae* (Linnaeus, 1761)

Des. - Ossiannilsson & Jansson, 1981: 26; Burckhardt, 1983a: 90, 104.

It. Rep. - The Italian quotations of *Aphalara calthae* preceding Ossiannilsson (1951) regard other species of *polygoni*-group and are not reported here. The only correct records are given by Hodkinson, 1983b: 279 (Fr.V.G.) and Rapisarda & Conci, 1989: 626 (Fr.V.G.).

It. Dis. - Extremely rare. The only sure finding is that one reported by Hodkinson (1983b) for N Italy: Friuli-Venezia Giulia, Province Udine, Commune Tarvisio, loc. Rutte, about 800 m, collected with yellow water trays by P. G. Coceano (date and number of specimens not precised). We personally did not find this species.

Gen. Dis. - Siberia, Caucasus, N and C Europe.

B. - According to the literature, monophagous on *Caltha palustris* L. (Ranunculaceae). One generation per year, overwintering as adult on conifers.

Note - According to Ossiannilsson (1979), the similar black *Apha-*

lara affinis (Zetterstedt, 1828) is monophagous on *Stellaria graminea* L. (Caryophyllaceae); therefore this species could be likely found on the Italian Alps.

Genus *Craspedolepta* Enderlein, 1921

17. *Craspedolepta malachitica* (Dahlbom, 1851)

Des. - Hodkinson & White, 1979b: 30; Burckhardt, 1983a: 64, 75.

It. Rep. - Tamanini, 1977d: 106 (Tr.A.A., Lomb., *sub C. latior*); Burckhardt, 1983a: 79 (N Italy); [Burckhardt, 1983b: 46 (Tic.)]; Conci & Tamanini, 1984e: 259-260 (Tr.A.A., Lomb., Piem.).

It. Dis. - Fairly common. Found by us on the Alpine arc, in 5 Regions of N Italy; hundreds of specimens in one score of localities, with about 30 findings, between 650 and 1900 m.

Gen. Dis. - From SE Siberia to Europe. Not reported from Balkan, Italian and Spanish peninsulae.

B. - Probably monophagous on *Artemisia absinthium* L. (Compositae); the record from *A. maritima* L. needs to be confirmed. We collected adults from June to August on its host plant; very few specimens on shelter plants also in May and October; nymphs were found by us only one time, in June. One generation per year; probably overwintering in a preimaginal stage on the roots of the host plant.

Note - It is possible that *C. artemisiae* (Förster, 1848), *C. campestrella* Ossiannilsson, 1987 (both monophagous on *Artemisia campestris* L.) and *C. latior* Wagner, 1944 (monophagous on *Artemisia vulgaris* L.) could be found in Italy. The report of *C. latior* by Tamanini (1977d: 106) is erroneus and regards *C. malachitica*.

Genus *Xanioptera* Enderlein, 1921

18. *Xanioptera (Xanioptera) carinthica* (Ossiannilsson, 1963)
Craspedolepta carinthica

Des. - Burckhardt, 1983a: 65, 79; Conci & Tamanini, 1983c: 67-75, figs 1-15. Conci & Tamanini, 1989b: figs 3-4.

It. Rep. - Burckhardt, 1983a: 80 (Tr.A.A.: Val Venosta-Vintschgau); Conci & Tamanini, 1983c: 73, fig. 15 (Tr.A.A.: Val Venosta); Conci & Tamanini, 1989b: 47-50 (Tr.A.A., V.A.).

It. Dis. - Locally not rare. Found by us only in two Regions of Alps, in N Italy (Tr.A.A., V.A.); hundreds of specimens in 19 localities, with about 30 findings, between 280 and 1600 m.

Gen. Dis. - Endemic of Alps. Few localities in Austria, Switzerland and Italy. Distribution map in Conci & Tamanini, 1989b: fig. 2.

B. - Monophagous on *Artemisia campestris* L. (Compositae). Adults were collected by us from June to August on its host plant; few specimens on occasional plants in May; we found only one nymph (undescribed), at beginning of June. Probably one generation per year and overwintering as nymph, but a deeper study is to be carried out on its life-cycle.

19. *Xanioptera (Loginovia) conspersa* (Löw, 1888)
Craspedolepta conspersa

Des. - Conci & Tamanini, 1983d: 77-85, 16 figs; Conci & Tamanini, 1989b: figs 5-6.

It. Rep. - Conci & Tamanini, 1983d: 84-85, fig. 16 (Ven., Tr.A.A., Em. R.); Conci & Tamanini, 1984e: 260 (Tr.A.A.); Conci & Tamanini, 1989b: 50-52 (Tr.A.A., Lomb., Piem., Em. R., Tosc., Mar.).

It. Dis. - Not rare. Found by us in 7 Regions of N and C Italy; hundreds of specimens in more than 20 localities, with more than 30 findings, between the sea level and 1000 m.

Gen. Dis. - From Asiatic Far East to E and C Europe. European distribution map in Conci & Tamanini, 1983d: fig. 16.

B. - Monophagous on *Artemisia vulgaris* L. (Compositae). Adults were collected by us from the end of May to early September on its host plant. Nymphs (undescribed) were found only two times in July. One generation per year and probably overwintering in a preimaginal stage on the roots of the host plant.

20. *Xanioptera* (*Loginovia*) near *alevtinae* (Adrianova, 1948)

A species still under examination, whose few specimens have been collected by C. Conci in Abruzzo, near L'Aquila, on *Artemisia* sp. group *campestris* L. (Compositae). It is very close to *X. alevtinae* (according to the descriptions given by Loginova, 1963a, 1963a bis, 1964a and 1967 bis), but differs from the latter species in some peculiar characters.

Genus *Magnaphalara* Ramirez Gomez, 1960

21. *Magnaphalara flavipennis* (Förster, 1848)
Aphalara picta Auct. nec Zetterstedt (partim), *Craspedolepta flavipennis* (partim)

Des. - Hodkinson & White, 1979b: 31; Burckhardt, 1983a: 67, 85.

It. Rep. - Löw, 1888: 13 (Fr.V.G.: Raibl = Predil, *sub picta*); [Gräffe, 1911: 293 (Slovenia: Tolmin)]; Prohaska, 1927: 27 (Fr.V.G.: Raibl = Predil); Castellani, 1953: 11 (Ven., Tr.A.A.); Tamanini, 1955: 10 (Tr.A.A.); Rapisarda & Conci, 1989: 627 (Fr.V.G.).

It. Dis. - Fairly common. Found by us and other collectors in 5 Regions of N Italy; more than 200 specimens in a score of localities, with about 25 findings, between 1000 and 2000 m.

Gen. Dis. - Eastern Asia, Caucasus, Turkey, great part of Europe.

B. - According to the literature, oligophagous on species of *Crepis, Chrysanthemum* (now *Leucanthemum*), *Hypochoeris* and *Leontodon* (Compositae). We and others collected adults from May to August on *Buphthalmum salicifolium* L., *Hypochoeris* sp. (Compositae) and more often on meadows; we never found nymphs. One generation per year. Probably overwintering as nymph on the roots of the host plants.

Note - The very close species *Magnaphalara sonchi* (Förster, 1848), living on *Leontodon autumnalis* L. and probably on other species of related plant genera, could likely be found in Italy; the literature reports the same host plant genera as for *M. flavipennis* and also *Hieracium, Senecio* and *Sonchus* (Compositae).

22. *Magnaphalara nervosa* (Förster, 1848)
Aphalara nervosa, Craspedolepta nervosa

Des. - Hodkinson & White, 1979b: 27; Burckhardt, 1983a: 67, 83.

It. Rep. - Ferrari, 1885b: 421 (Tr.A.A.); Löw, 1888: 12 (Tr.A.A.); Bezzi, 1893: 144 (Tr.A.A.); Dalla Torre, 1893: 103 (Tr.A.A., erroneous report of galls); Schäfer, 1849: 15 (V.A.); Burckhardt, 1983b: 46 (V.A.); Hodkinson, 1983b: 279 (Fr.V.G.); Rapisarda & Conci, 1989: 627 (Fr.V.G.). The record by Tamanini, 1977d: 106-107, regards a different species. The record by Rapisarda, 1985a: 112 (Sic.) regards *M. bulgarica* (see Rapisarda, 1988b: 618).

It. Dis. - Not rare in the N. We and D. Burckhardt found this orophilous species on the Alps, in 5 Regions of N Italy; more than 150 specimens in about 20 localities, between 950 and 2000 m.

Gen. Dis. - From SE Siberia to nearly whole Europe.

B. - According to the literature: strictly oligophagous on *Achillea* spp. (Compositae); one generation per year; overwintering as nymph on the roots of the host plants. We collected adults from May to August on *Achillea millefolium* L. and nymphs in May and June on the same plant.

23. *Magnaphalara bulgarica* (Klimaszewski, 1961)
Craspedolepta bulgarica

Des. - Burckhardt, 1983a: 67, 84.

It. Rep. - Burckhardt, 1983b: 46 (V.A.); Rapisarda, 1988b: 618 (Sic.); Rapisarda, 1991a: 18-19 (Sard.).

It. Dis. - Not rare in the S. Reported by Burckhardt for Valle d'Aosta and found by us in 4 Regions of C and S Italy, in Sicily and Sardinia; more than 150 specimens in about 20 localities, with 25 findings, between 500 and 1600 m.

Gen. Dis. - From Central Asia to Caucasus and E, C, S Europe.

B. - According to the literature, strictly oligophagous on *Achillea* spp. (Compositae). We collected adults from April to July, on *Achillea ligustica* All. and *A. millefolium* L., and nymphs (undescribed) in April on *Achillea ligustica*. One generation per year; overwintering as young nymph on the roots of the host plants.

24. *Magnaphalara santolinae* (Rapisarda, 1989) **comb. n.**
Craspedolepta santolinae

Des. - Rapisarda, 1989a: 179-184, 10 figs.

It. Rep. - Rapisarda, 1989a: 179 (Sard.); Rapisarda, 1991a: 19 (Sard.).

It. Dis. - Very localized. Found only in Sardinia, in the following two localities of the Province Nuoro: Commune Aritzo, 800 m, 24.V.1986, 1 female; Commune Lodè, loc. Monte Albo, 850 m (type locality), 22.V.1986, 39 males, 35 females.

Gen. Dis. - Endemic of Sardinia.

B. - Monophagous on *Santolina corsica* Jordan & Four. (Compositae), a Sardinian-Corsican endemism. Nymphs unknown. Life-cycle unknown, but probably similar to the close species *M. bulgarica* (one generation per year and overwintering as nymph on the roots of the host plant).

25. *Magnaphalara* near *pontica* (Dobreanu & Manolache, 1962)

We report under this name many adult specimens collected in C Italy (Marche, Abruzzo) on *Anthemis tinctoria* L. (Compositae), whose final identification is still under study.

Note - Magnaphalara innoxia (Förster, 1848) could also be found in Italy. Host plant uncertain.

Genus *Tetrafollicula* Klimaszewski, 1974

26. *Tetrafollicula omissa* (Wagner, 1944)
Craspedolepta omissa

Des. - Dobreanu & Manolache, 1962: 114; Burckhardt, 1983a: 66, 81.

It. Rep. - Conci & Tamanini, 1984e: 260 (Tr.A.A.).

It. Dis. - Sometimes locally common. Found by us only in N Italy (Tr.A.A. and Lomb.); hundreds of specimens in about 10 localities, with more than 20 findings, between 200 and 1000 m.

Gen. Dis. - From SE Siberia to C Europe.

B. - Monophagous on *Artemisia vulgaris* L. (Compositae). Adults were collected by us from June to August and nymphs (one time) in June, all on their host plant. One generation per year; according to Lauterer (1991), overwintering as fifth instar nymph on the roots of its host plant.

Genus *Neocraspedolepta* Conci & Tamanini, 1986

27. *Neocraspedolepta subpunctata* (Förster, 1848)
Craspedolepta subpunctata

Des. - Dobreanu & Manolache, 1962: 108; Hodkinson & White, 1979b: 28; Burckhardt, 1983a: 65, 80; Conci & Tamanini, 1986b: 206-214, 29 figs.

It. Rep. - Conci & Tamanini, 1984e: 260 (Tr.A.A.); Conci & Tamanini, 1986b: 212, 214 (Tr.A.A.).

It. Dis. - Fairly rare. We found this orophilous species only on the Eastern Alps, in Trentino-Alto Adige; less than 100 specimens in 5 localities (Province Trento, Commune Sarnonico; id., Commune Ruffré, loc. Mendola and Mount Penegal; id., Commune Peio, loc. Val della

Mare; Province Bolzano, Commune Senale San Felice, loc. Passo delle Palade-Gampen Pass); 11 findings between 1250 and 1700 m.

Gen. Dis. - Holarctic, though never found in S Europe and N Africa.

B. - Monophagous on *Epilobium angustifolium* L. (= *Chamaenerion angustifolium*) (Onagraceae). Adults were collected by us in July on its host plant; one generation per year. According to the very interesting and careful work by Lauterer & Baudys (1968: 243-247, 2 figs), the first instar nymphs migrate in summer to the roots of the host plant; therefore the I-IV nymphs live in very singular galls, made up by conglomerations (up to one cm large) of coiled, incrassate and multifold rootlets. The black fourth instar nymphs hibernate in the galls and migrate in spring to the stem and the leaves, completing there the cycle and producing the final instar nymphs and the adults.

Genus *Paracraspedolepta* Conci, 1993

28. *Paracraspedolepta nebulosa* (Zetterstedt, 1828)
Aphalara nebulosa, Craspedolepta nebulosa

Des. - Dobreanu & Manolache, 1962: 106; Hodkinson & White, 1979b: 27; Burckhardt, 1983a: 67, 82.

It. Rep. - Sampò, 1975: 162, 164 (V.A.); Tamanini, 1977d: 106 (Tr.A.A.); Conci, 1993: 505-508, figs 1-9 (Tr.A.A., Piem., Lig.).

It. Dis. - Locally not rare. We and A. Sampò found this orophilous species in 6 Regions of N and C Italy, on Alps and Apennines; more than 200 specimens in a dozen of localities, with about 15 findings, between 1250 and 2000 m.

Gen. Dis. - Holarctic, but not found in N Africa.

B. - Monophagous on *Epilobium angustifolium* L. (= *Chamaenerion angustifolium* (Onagraceae). Adults were collected by us from May to July and nymphs in May-June, always on the host plant. One generation per year. According to Lauterer (1976: 114), overwintering as IV instar nymph, in root galls like those of *N. subpunctata*. Since *Paracraspedolepta nebulosa* sometime also causes galls on the leaves, by enrolling their margins (Sampò, 1975, fig. 7), it is the only European Psyllid which is able to produce two kinds of galls on two different organs of the plant.

Genus *Rhodochlanis* Loginova, 1964

29. *Rhodochlanis bicolor* (Scott, 1880)
Rhodochlanis salicorniae Klimaszewski, 1961

Des. - Conci & Tamanini, 1984c: 65-73, figs 1-22 (*sub salicorniae*).
It. Rep. - Conci & Tamanini, 1984c: 72-73 (Em. R.).
It. Dis. - Rare and localized. Only found by Tamanini in Emilia-Romagna, Province Ravenna, Communes Ravenna and Cervia; about hundred specimens in 5 localities along the sea, from the marshes of Comacchio to the salt-pans of Cervia, with 10 findings, in salt marsh areas.
Gen. Dis. - From Mongolia to Caucasus and S European Russia; Bulgaria and NE Italy.
B. - According to the literature (but needing to be confirmed), widely oligophagous on *Salicornia europaea* L. (= *S. herbacea*), *Petrosimonia* sp., *Salsola* sp., *Suaeda* sp. (Chenopodiaceae). We collected adults and nymphs in July on *Suaeda maritima* (L.) Dumont. One generation per year; overwintering on the host plant, as egg or nymph.

30. *Rhodochlanis salsolae* (Lethierry, 1874)
Rhodochlanis hodkinsoni Conci & Tamanini, 1984

Des. - Conci & Tamanini, 1984c: 73-78, figs 23-37, *sub R. hodkinsoni*.
It. Rep. - Conci & Tamanini, 1984c: 77, 78 (Pu.); Rapisarda, 1988b: 619 (Sic.); Conci & Tamanini, 1989b: 52-53 (Pu., Cal., Sic.). All records *sub R. hodkinsoni*.
It. Dis. - Locally common. Found by us in two Regions of S Italy (Puglie and Calabria) and in Sicily; hundreds of specimens in 6 localities, with 8 findings, aproximately at the sea level, in salt marshes or subsalt areas.
Gen. Dis. - Marshy sea coasts of S Italy, Sicily, Algeria, Morocco and Madera.
B. - Monophagous on *Suaeda fruticosa* (L.) Forsskal (= *Suaeda vera* J. F. Gmelin) (Chenopodiaceae). We found adults in May and June and one nymph (undescribed) in May, on its host plant. One generation per year. Overwintering on the host plant, as egg or nymph.

Note - The very close *Rhodochlanis suaedae* Hodkinson & Hollis, 1981, could likely be found in Italy. This species is known only from Is. Mallorca (Spain), where it has been collected on *Suaeda fruticosa* (L.)

Forsskal (= *S. vera* J. F. Gmelin) (Chenopodiaceae), the same host plant of *R. salsolae*.

Subfamily PAUROCEPHALINAE Klimaszewski, 1964

Genus *Camarotoscena* Haupt, 1935

31. *Camarotoscena speciosa* (Flor, 1861)
Euphyllura speciosa, Rhinocola speciosa, Paurocephala (Camaratoscena) speciosa, Camaratoscena (erroneous) *speciosa*

Des. - Dobreanu & Manolache, 1962: 72; Hodkinson & White, 1979b: 22; Burckhardt, 1983a: 122.

It. Rep. - Ferrari, 1888: 75 (Piem.); Massalongo, 1899: 144-145 (Ven., galls); Gräffe, 1911: 293 (Fr.V.G.); Zangheri, 1966: 798 (Em. R., galls), Tamanini, 1977d: 104 (Tr.A.A.); Rapisarda & Conci, 1989: 627 (Fr.V.G.).

It. Dis. - Not rare. Found by us and other collectors in 6 Regions of N Italy and in Sicily; more than 100 specimens in about 20 localities, with about 30 findings, between 100 and 500 m; on conifers up to 1200 m.

Gen. Dis. - From Central Asia to Spain; the species was not found in N Africa.

B. - According to the literature, strictly oligophagous on *Populus* spp. (Salicaceae). Adults were found by us and other collectors in April, May, June, August and September on *Populus nigra* L.; in April and from August to November on conifers or occasional plants; we found eggs only one time (in May) and nymphs two times (in June and September). We lack findings in December-March and July. Probably two generations per year and overwintering as adult, but the life-cycle of this species needs deeper studies. *C. speciosa* causes shovy galls, by rolling the margin of the leaves, for protecting the nymphs. In Italy, Massalongo (1891) observed the galls in September-October, Zangheri (1966) in August-September, we in May and September; these data seem to confirm the bivoltine behaviour of this psyllid.

32. *Camarotoscena subrubescens* (Flor, 1861)
Rhinocola subrubescens

Des. - Burckhardt, 1983a: 118, 122.

It. Rep. - Ferrari, 1885a: 292 (Em. R.); Löw, 1888: 12 (Fr.V.G.); Zangheri, 1934: 59 (Em. R.); Vondracek, 1951: 124 (Fr.V.G.); Loginova,

1975a: 60 (Fr.V.G.); LOGINOVA, 1975a bis: 40 (Fr.V.G.); RAPISARDA, 1988b: 619 (Sic.); RAPISARDA & CONCI, 1989: 627 (Fr.V.G.).

It. Dis. - Almost sporadic. Found by us and other collectors in 8 Regions of N, C and S Italy, and in Sicily; about 40 specimens in 13 localities, with 13 findings, from the sea level to 550 m. Exactly: Fr.V.G., Province and Commune Gorizia (= Görz, LÖW, 1888); Fr.V.G., Commune Monfalcone, 1 specimen (VONDRACEK, 1951; LOGINOVA, 1975a, 1975a bis); Tr.A.A., Province Trento, Commune Ton, loc. La Rocchetta, 270 m, 1 male and 1 female; V.A., Province Aosta, Commune Nus, m 550, 1 female; Lig., Province La Spezia, Commune Borghetto di Vara, 100 m, 1 male; Em. R., Province and Commune Imola, leg. Cavanna (FERRARI, 1885a; ZANGHERI, 1934); Em. R., Province Modena, Commune Castelvetro, leg. Menozzi 1 specimen (collection Institute of Entomology, Bologna); Mar., Province Ascoli Piceno, Commune Pedaso, river Aso, 30 m, 1 female; Laz., Province and Commune Rieti, leg. Menozzi 3 specimens (collection Institute of Entomology, Bologna); Camp., Province Benevento, Commune Solopaca, river Calore, 110 m, 1 female; Camp., Province Avellino, Commune Pietrastornina, 550 m, 4 males, 2 females, 3 nymphs in gall; Sic., Province Catania, Commune Calatabiano, mounth of river Alcantara, sea level, 3 males and 12 females; Sic., Province Palermo, Commune Polizzi Generosa, Mounts Madonie, leg. A. Carapezza 12 specimens (RAPISARDA, 1988b).

Gen. Dis. - Turkey, Croatia, Italy, France and Spain.

B. - According to the literature, strictly oligophagous on *Populus* spp. (Salicaceae). Adults were collected by us in June and July on *Populus alba* L. and *P. nigra* L., by other collectors also in August and September. Nymphs undescribed. Life-cycle unknown. The species probably causes galls on the leaves, such as *Camarotoscena speciosa*.

Genus *Aphorma* Hodkinson, 1974

33. *Aphorma lichenoides* (Puton, 1898) (Fig. 3)
Aphorma bagnalli Laing, 1929

Des. - HODKINSON, 1974: 76 (*sub A. bagnalli*); CONCI *et al.*, 1985: 445-458, 45 figs.

It. Rep. - CONCI *et al.*, 1985: 456 (Pu., Sic., Sard.); RAPISARDA, 1988b: 619 (Sic.); RAPISARDA, 1991a: 20 (Sard.).

It. Dis. - Fairly rare. Found by us in two Regions of S Italy (Pu., Cal.), in Sicily and Sardinia; more than hundred specimens in 10 localities, with 11 findings, between the sea level and 1600 m.

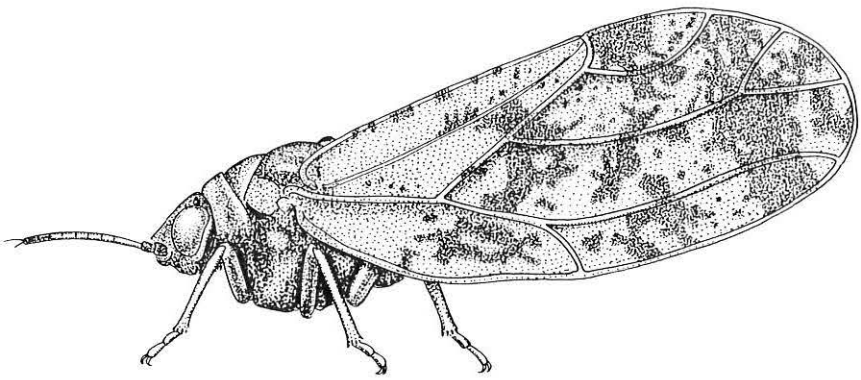


Fig. 3 - *Aphorma lichenoides*, male, Puglia. (Drawing R. Pace).

Gen. Dis. - Mediterranean Region and Southern England. Distribution map in Conci *et al.*, 1985: fig. 45.

B. - Host plant unknown. Adults were collected by us in May, June, August and September on various plants, likely all occasional or shelter. In Puglia, G. Osella repeatedly captured adults at the end of August, while sifting debris below bushes and *Artemisia* sp.: this fact let us to think to a summer pause. Other biological data unknown; probably one generation per year and overwintering as adult.

Subfamily STROPHINGIINAE White & Hodkinson, 1985

Genus *Strophingia* Enderlein, 1914

34. *Strophingia ericae* (Curtis, 1835)
Rhinocola ericae, Aphalaroidea (erroneous) *ericae*

Des. - Dobreanu & Manolache, 1962: 76; Hodkinson & White, 1979b: 24; Hodkinson, 1981a; Burckhardt, 1983a: 26.

It. Rep. - Löw, 1888: 11 (Fr.V.G.: Görz = Gorizia); Tamanini, 1977d: 103-104 (Tr.A.A., Pi.); [Burckhardt, 1983b: 45 (Tic.)]; Rapisarda & Conci, 1989: 626 (Fr.V.G.). The Sardinian record by Costa, 1884: 40, is erroneous (see Rapisarda, 1991a: 10, 44).

It. Dis. - Fairly common. Found by us and others in 7 Regions of N and C Italy; hundreds of specimens in 12 localities (with about 15 findings, between 300 and 1800 m.

Gen. Dis. - Throughout Europe.

B. - Monophagous on *Calluna vulgaris* (L.) Hull (Ericaceae). We collected adults from May to September and nymphs in June, always on its host plant. In Italy, *S. ericae* probably has one generation per year and overwinters as nymph on *Calluna*. According to HODKINSON & WHITE (1973a), the species has in N England one generation per year at lower altitude and per two years at higher altitude. We do not know whether such a cycle (unique in European Psyllids) occurs also on the Alps.

35. *Strophingia cinereae* Hodkinson, 1971

Des. - HODKINSON, 1971: 1; HODKINSON & WHITE, 1979b: 22; HODKINSON, 1981a; BURCKHARDT, 1983a: 26.

It. Rep. - CONCI & TAMANINI, 1984e: 260-261 (Lig., Tosc.); RAPISARDA, 1988b: 619 (Sic.); RAPISARDA, 1991a: 10 (Sard.).

It. Dis. - Common in the maquis. In N Italy found by us in Lombardia (Province Como, Commune Dervio, on Lake of Como) and widespread in Liguria; found also in 6 Regions of C and S Italy, in Sicily and Sardinia; hundreds of specimens in more than 20 localities, with more than 30 findings, between the sea level and 1000 m; some other findings need to be controlled.

Gen. Dis. - Greece, Italy, France, Spain, Portugal, Great Britain and Algeria.

B. - According to the literature, strictly oligophagous on *Erica arborea* L., *E. cinerea* L. and *E. lusitanca* Rudolphi (Ericaceae). We collected adults from May to November, but also one specimen in February, and nymphs in May-June, always on *Erica arborea*; the report by CONCI & TAMANINI (1984e: 261) from *E. scoparia* is erroneous and regards *S. proxima*. According to the literature, probably one generation per year and overwintering as nymph.

36. *Strophingia proxima* Hodkinson, 1981 (January)
Strophingia hispanica Hodkinson & Hollis, 1981 (March) **Syn. n.**

Des. - HODKINSON, 1981: 77-90, figs; HODKINSON & HOLLIS, 1981: 70-71, figs 31-38 (*sub S. hispanica*).

It. Rep. - RAPISARDA, 1985a: 112, 113 (Sic.); RAPISARDA, 1987: 58-61, figs 1-2; RAPISARDA, 1988b: 619 (Sic.); RAPISARDA, 1991a: 12 (Sard.) (all *sub S. hispanica*).

It. Dis. - Not common; localized. Found by us only in C Italy (Toscana, Province Firenze, Commune Barberino di Mugello, 300 m; Province and Commune Grosseto, loc. Parco della Maremma, sea level); in Sicily (Province Siracusa, Commune Noto, loc. San Corrado di Fuori, 250 m; Province Trapani, Isle Pantelleria, loc. Montagna Grande, 350 m) and in Sardinia (Province Nuoro, Commune Lanusei, loc. Lago Alto del Flumendosa, 800 m). More than hundred specimens in 5 localities, with 7 findings, between the sea level and 800 m.

Gen. Dis. - Only Italy, Spain (also Balearic Islands) and Portugal.

B. - According to the literature, strictly oligophagous on *Erica arborea* L. and *E. multiflora* L. (Ericaceae). We collected adults in May, June and October on *E. multiflora* in Sicily and Sardinia; adults and nymphs in May on *Erica scoparia* in Toscana; nymphs in June on *E. multiflora* in Sicily. Probably one generation per year and overwintering as nymph.

O. - Through the examen of a huge material, we found numerous specimens with intermediate characters between *S. proxima* and *S. hispanica* (see also Rapisarda, 1987: 58): consequently we retain the two species to be synonyms.

37. *Strophingia* sp. (sensu Rapisarda, 1991, nymph)

Des. - Rapisarda, 1991a: 12-13, fig. 2 (only V instar nymph).

It. Rep. - Rapisarda, 1991a: 12-13 (Sard.).

It. Dis. - Very rare and localized. Found only one time, in Sardinia, Province Nuoro, Commune Seui, Monte Arbo, 900 m, leg. Rapisarda, 24.V.1986, 7 nymphs, on *Erica scoparia* L.

Gen. Dis. - Unknown.

O. - The finding of this species is only based on some nymphs, differing from those ones on the three *Strophingia* species presently known in the Italian fauna (*S. cinereae, S. ericae, S. proxima*). Only a desirable adult finding of this psyllid shall clarify whether it is a new taxon or may be ascribed to one of remaining *Strophingia* species, not known in Italy up to now.

Subfamily RHINOCOLINAE Vondracek, 1957

Genus *Agonoscena* Enderlein, 1914

38. *Agonoscena targionii* Lichtenstein, 1874
Rhinocola targioni

Des. - Hodkinson & Hollis, 1981: 74; Burckhardt & Lauterer, 1989: 690.

It. Rep. - Boselli, 1930: 218, 220, fig. IV (It.); Rapisarda, 1985a: 112 (Sic.); Hodkinson & Hollis, 1981: 75 (It.); Rapisarda, 1988b: 619 (Sic.); Burckhardt & Lauterer, 1989: 691 (It., [Cors.]); Rapisarda, 1991a: 19-20 (Sard.).

It. Dis. - Very common. Found by us along the coasts of Liguria, peninsular Italy, Sicily (including Pantelleria) and Sardinia; hundreds of specimens in 11 Regions, 50 localities, with about 60 findings, between the sea level and 700 m.

Gen. Dis. - Mediterranean coasts, Canary Islands, Azores, St. Helena.

B. - According to the literature, strictly oligophagous on *Pistacia* spp. (Halperin et al., 1989) or monophagous on *Pistacia lentiscus* L. (Burckhardt & Lauterer, 1989) (Anacardiaceae). We collected adults throughout the whole year and nymphs in May on *Pistacia lentiscus*. Probably some generations per year with an almost continuous cycle.

39. *Agonoscena succincta* (Hegeer, 1856)
Rhinocola succincta

Des. - Boselli, 1930: 211-219 figs. I-III, V; Hodkinson & Hollis, 1981: 74; Burckhardt & Lauterer, 1989: 691.

It. Rep. - Boselli, 1930: 218 (Camp.); Silvestri, 1934: 379, fig. 347 (It.).

It. Dis. - Rare. Found by us and others in 3 Regions of N and S Italy: Veneto, Province Verona, Commune Brenzone, loc. Pai (our fig. 5, pag. 72, reports this biotope); Lombardia, Province and Commune Milano; Piemonte, Province Vercelli, Commune Novara, loc. Vignale. One hundred specimens in only 3 loc. and 5 findings, between the sea level and 230 m. Boselli (1930) reports this species as abundant in Campania.

Gen. Dis. - Israel, Austria, Italy and Spain; Brazil (introduced).

B. - According to the literature, strictly oligophagous on *Ruta chalepensis* L. and *R. graveolens* L. (Rutaceae). In Italy the species was found only on cultivated *Ruta graveolens*, except the finding in Veneto, on spontaneous or grown wild *R. graveolens*). We found adults in May-

September and nymphs in May-June. According to Boselli (1930), *A. succincta* performs about three yearly generations in Campania, overwintering as II and III instar nymphs.

O.- A. succincta can be noxious to the cultivated *Ruta*.

40. *Agonoscena cisti* (Puton, 1882)
Aphalara menozzii Laing, 1929: 24, fig. 1; *Rhinocola menozzii*

Des. - Hodkinson & Hollis, 1981: 74; Burckhardt & Lauterer, 1989: 697.

It. Rep. - Laing, 1929: 25 (*sub Aphalara menozzii*, Lig., San Remo, type locality); Boselli, 1930: 220-221 (Lig., Camp.); Boselli, 1961: LV-LVII, fig. 1 (Sard.); Rapisarda, 1988b: 619 (Sic.); Burckhardt & Lauterer, 1989: 698 (It., [Cors.]); Rapisarda, 1991a: 19 (Sard.).

It. Dis. - Very common. Found by us along the coasts of Liguria, peninsular Italy, Sicily (including Pantelleria) and Sardinia; hundreds of specimens in 9 Regions, 26 localities, with more than 30 findings, between the sea level and 700 m.

Gen. Dis. - Iran, Mediterranean coasts, Canary Islands, St. Helena.

B. - According to the literature, strictly oligophagous on *Pistacia lentiscus* L. and *P. palaestina* Boissier (Anacardiaceae). We collected both adults (from March to October and in December) and nymphs (in May) on *Pistacia lentiscus*. Some generations per year with an almost continuous cycle. Boselli (1961) reported an occasional and transitory massive migration of this species on *Citrus lemon* (L.) Burm. (Rutaceae). Also the name of the species derives from an accidental capture on *Cistus*.

Genus *Lisronia* Loginova, 1976

41. *Lisronia varicicosta* (Hodkinson & Hollis, 1981) (Fig. 4)
Rhachistoneura varicicosta

Des. - Hodkinson & Hollis, 1981: 66; Burckhardt & Lauterer, 1989: 703.

It. Rep. - Rapisarda, 1987: 61-65, figs 3-4 (Li., Pu., Sard.); Burckhardt & Lauterer, 1989: 704 (It.); Rapisarda, 1991a: 21 (Sard.)

It. Dis. - Not rare. Found by us in 3 Regions of N, C, S Italy (Lig., Tosc., Pu.), in Sicily and in Sardinia; less than hundred specimens in 9 localities with 10 findings, between the sea level and 800 m.

Gen. Dis. - Israel, Greece, Italy, France, Spain, Portugal, Algeria.

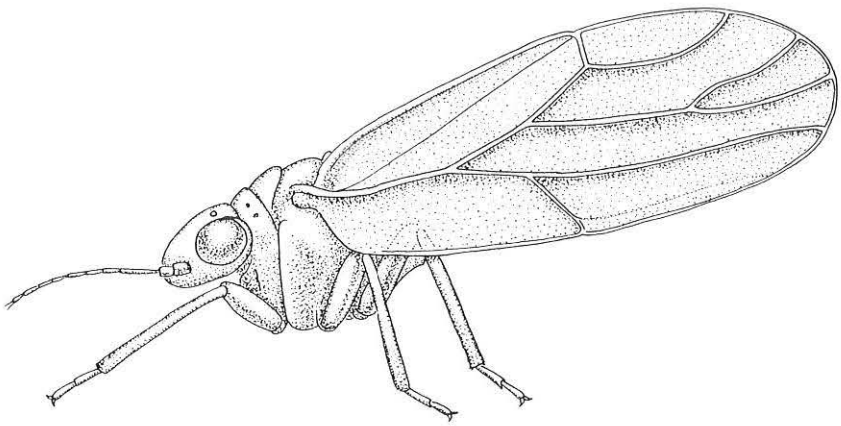


Fig. 4 - *Lisronia varicicosta*. Puglia. (Drawing R. Pace).

B. - According to the literature, strictly oligophagous on *Cistus* spp. and *Tuberaria lignosa* (Sweet) Samp. (Cistaceae). We and A. Sampò found adults and nymphs in May on *Cistus salvifolius* L., *C. incanus* L. and *Tuberaria lignosa*. Probably one generation per year and overwintering as egg or nymph.

Genus *Rhinocola* Förster, 1848

42. *Rhinocola aceris* (Linnaeus, 1758)

Des. - Dobreanu & Manolache, 1962: 80; Hodkinson & White, 1979b: 22; Burckhardt & Lauterer, 1989: 705.

It. Rep. - Löw, 1888: 11 (Fr.V.G.); Leonardi, 1901: 177 (It., noxious); Tamanini, 1955: 10 (Tr.A.A.); [Burckhardt, 1983b: 53 (Tic.)]; Hodkinson, 1983: 279 (Fr.V.G.); Rapisarda, 1988b: 619 (Sic.); Burckhardt & Lauterer, 1989: 705 (It.); Rapisarda & Conci, 1989: 627 (Fr.V.G.).

It. Dis. - Common. Found by us in 18 Regions throughout Italy, except Sardinia; hundreds of specimens in more than 40 localities, with about 60 findings, from the sea level to 1500 m.

Gen. Dis. - From Central Asia to Europe; lacks in Iberian peninsula and N Africa.

B. - According to the literature, strictly oligophagous on *Acer* spp. (Aceraceae). We collected adults from May to August on *Acer campestre* L. (one record also in September, on occasional plant) and nymphs in June-July. One generation per year. Most of the Authors consider

this species to overwinter in the first instar nymph; according to Lauterer (1991), it overwinters as egg and its adults spend summer in parapausa on the host plant.

43. *Rhinocola fusca* Burckhardt, 1984

Des. - Burckhardt, 1984: 119-120; Burckhardt & Lauterer, 1989: 305.

It. Rep. - Burckhardt, 1983a: 111 (Pu., Gargano, type locality); Burckhardt, 1984: 119 (Pu.); Burckhardt & Lauterer, 1989: 706 (Pu.); Conci & Tamanini, 1989b: 53 (Umbr., Pu.).

It. Dis. - Locally not rare. Found by us and other collectors in 4 Regions of C and S Italy (Um., Camp., Mol., Pu.); more than 250 specimens in 8 localities, with about 20 findings, between 600 and 1200 m. Our fig. 6 reports one of the collecting biotopes in Central Italy.

Gen. Dis. - Caucasus, Italy and Algeria.

B. - According to the literature, strictly oligophagous on *Acer campestre* L. and *A. obtusatum* W. & K. (Aceraceae). We collected adults in May and June (A. Carapezza also in July) and nymphs in May, on *Acer obtusatum*. One generation per year. Overwintering as egg or nymph on the host plant.

Subfamily DIAPHORININAE Vondracek, 1951

Genus *Diaphorina* Löw, 1880

44. *Diaphorina lycii* Loginova, 1978
Diaphorina putoni Auct. nec Löw

Des. - Burckhardt, 1985a: 14-16.

It. Rep. - Boselli, 1960: CXXXIX-CLVI, 8 groups of figs (Sard., *sub D. putoni*); Conci & Tamanini, 1984e: 261 (Sic., Sard.); Burckhardt, 1985b: 15-16 (Camp., uncorrect; Sic.); Rapisarda, 1988b: 619 (Sic.); Rapisarda, 1991a: 22-23 (Sard.); Conci & Tamanini, 1989c: 77-78 (Ven., Cal., Sic., Sard.).

It. Dis. - Not frequent. Found by us, F. B. Boselli, A. Carapezza, and M. Rizzotti Vlach in the following 5 Italian Regions: Ven. (one female, Province Verona, Commune Fumane), Pu. (Province Foggia, Commune Ischitella), Cal. (Province Cosenza, Commune Spezzano Albane-

Fig. 5 - Biotope of *Agonoscena succincta* in NE Italy, Veneto, Brenzone, Garda Lake, loc. Pai, 80 m. Terrace with *Olea europaea* and little dry-stone walls with *Ruta graveolens*: a vigorous plant may be seen in the center. This is the only Italian locality of this psyllid on wild or subwild *Ruta*. (Photo C. Conci, VII.1993).

Fig. 6 - Biotope in Central Italy, Molise, Sepino, near Passo S. Crocella, 800 m. Mixed wood of deciduous leaves with grassy zones. We collected *Rhinocola aceris* on *Acer campestre, R. fusca* on *A. obtusatum, Trioza* sp. n. 1 on *Quercus cerris, Livilla horvathi* on *Genista tinctoria*. (Photo C. Conci, VI.1993).

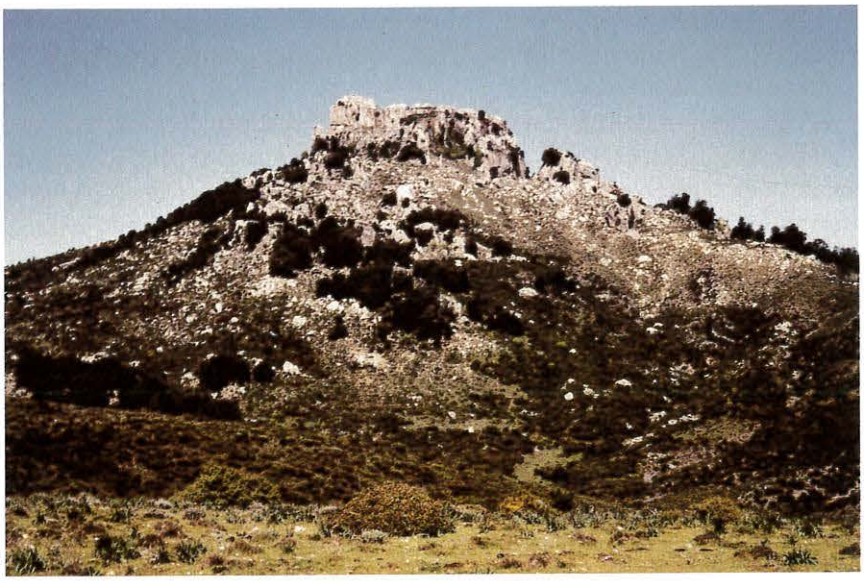


Fig. 7 - Biotope of *Diaphorina continua* in Sardinia, Nuoro, Orgosolo, Supramonte, 1300 m. *Thymelaea tartonraira*, the flowering tree in the middle, below, is the host plant of this very rare, monophagous psyllid. (Photo R. Poggi, 3.V.1983).

Fig. 8 - Biotope of *Arytainilla barbagalloi* and *Livilla magna* in Sicily, Zafferana, Mount Etna, about 800 m. The flowering *Genista aetnensis*, with arboreous aspect, is the host plant of these two endemic and monophagous psyllids. (Photo S. Barbagallo, VI.1983).

se), Sic. (including Pantelleria, Lampedusa and Linosa Isles), Sard.; more than 200 specimens in 14 localities, with about 16 findings, between the sea level and 570 m.

Gen. Dis. - From Mongolia to W Mediterranean Region.

B. - According to the literature, strictly oligophagous on *Lycium* spp. (Solanaceae). We collected adults from March to June and in September on *Lycium europaeum* L.; nymphs in March. Boselli (1960) reports this species (*sub putoni*) as performing in Sardinia at least 5 yearly generations, with an almost continuous cycle and overwintering in all stages, with a lower activity during the coldest months; its adults spend summer on the host plant.

45. *Diaphorina putonii* Löw, 1879
Diaphorina putoni (uncorrect)

Des. - Burckhardt, 1985a: 16.

It. Rep. - Conci & Tamanini, 1984e: 261 (Sic., Sard.); Burckhardt, 1985b: 17 (Sic., Sard.), [Cors.]; Rapisarda, 1988b: 619 (Sic.); Conci & Tamanini, 1989c: 78-79 (Sic., Sard.); Rapisarda, 1991a: 23 (Sard.). - The record of *D. putoni* (*sic*) by Boselli (1960) is to ascribe to *D. lycii*.

It. Dis. - Not rare. Found by us and A. Carapezza in Sicily (including the isle of Lampedusa) and Sardinia; about 150 adults in 7 localities, with 7 findings, between the sea level and 130 m, but also at higher altitude.

Gen. Dis. - Mediterranean.

B. - Monophagous on *Thymelaea hirsuta* (L.) Endl. (Thymelaeaceae). Adults were collected by us in May-June and August-September on its host plant. We never collected nymphs. Biology unknown, but probably as *D. lycii*.

46. *Diaphorina continua* Loginova, 1972

Des. - Burckhardt, 1985a: 19.

It. Rep. - Rapisarda, 1991a: 22 (Sard.).

It. Dis. - Very rare and localized. In Italy found only in Sardinia; more than hundred specimens in the following two localities, with two findings: Province Nuoro, Commune Orgosolo, Supramonte, State Forest of Montes, m 1300 (our fig. 7 reports this biotope); Province Cagliari, Commune Guspini, dunes of Rio Piscinas, sea level.

Gen. Dis. - Sardinia, Algeria, Morocco, Canary Islands.

B. - Monophagous on *Thymelaea tartonraira* (L.) All. Adults were collected by us and R. Poggi in May on the host plant. Nymphs and biology unknown.

47. *Diaphorina chobauti* Puton, 1898

Des. - Burckhardt, 1985a: 20-22.

It. Rep. - Conci & Tamanini, 1984e: 261 (Lig.); Burckhardt, 1985b: 22 (Lig.); Conci & Tamanini, 1989b: 54 (Lig.).

It. Dis. - Very rare. Found by us only in one locality in N Italy: Region Liguria, Province and Commune Genova, loc. Apparizione, Mount Fasce, 400 m, 36 adults and one nymph, in 6 findings.

Gen. Dis. - From Mongolia to Italy and Tunisia. Our Italian findings are the only European ones.

B. - According to the literature, strictly oligophagous on *Convolvulus* spp. (Convolvulaceae). Part of the adults and the V instar nymph were collected by us the 26.VI.1985 on *Convolvulus cantabrica* L.; the remaining adults were found in May, June, August and October on a grassy slope. Life-cycle unknown.

Note - Within the same genus, *Diaphorina citri* Kuwayama, 1907, is of possible and dreadful introduction in Italy. It is a serious pest of *Citrus* spp. (Rutaceae), greatly diffused in tropical and subtropical Asia, from Japan to Saudi Arabia, and introduced in other Continents; it is now approaching the Mediterranean basin. It has up to 12 generations per year and is the main vector of the Citrus Greening Disease.

Subfamily ?

Genus incertae sedis *Pseudaphorma* Conci & Tamanini, 1985

The genus *Pseudaphorma* presently has a doubtful systematic position and is here reported in appendix to the family Aphalaridae.

48. *Pseudaphorma astigma* Conci & Tamanini, 1985

Des. - Conci & Tamanini, 1985a: 350-353, figs 1-11.

It. Rep. - Conci & Tamanini, 1985a: 352 (Piem.).

It. Dis. - Extremely rare. The species is known only through one

male, found in Piemonte, Province Torino, Commune Cuorgné, locality Roncasso, 420 m, leg. P. M. Giachino VIII. 1981, with a malaise trap.

Gen. Dis. - Only the type-locality.

B. - Unknown.

Family PSYLLIDAE Latreille, 1807

Subfamily PSYLLOPSEINAE Vondracek, 1951

Genus *Psyllopsis* Löw, 1879

49. *Psyllopsis fraxinicola* (Förster, 1848)

Des. - Dobreanu & Manolache, 1962: 149; Hodkinson & White, 1979b: 33, 35; Burckhardt, 1983a: 152, 153; Conci & Tamanini, 1990b: 63-65, figs.

It. Rep. - Leonardi, 1901: 177 (It., noxious); Ragusa, 1907: 237 (Sic.); Tamanini, 1977d: 111 (Tr.A.A.); Hodkinson, 1983: 279 (Fr.V.G.); Rapisarda, 1985a: 112 (Sic.); Rapisarda, 1988b: 619 (Sic.); Rapisarda & Conci, 1989: 627 (Fr.V.G.); Conci & Tamanini, 1990b: 63-65 (Fr.V.G., Tr.A.A., Lomb., Piem., Lig., Em. R., Tosc., Pu., Bas., Cal., Sic.); Rapisarda, 1991a: 23-24 (Sard.).

It. Dis. - Very common. Found by us in 15 Regions almost throughout Italy; one thousand specimens from more than 45 localities, with more than 50 findings, between the sea level and 1400 m (sometimes also at higher altitude, up to 1700 m).

Gen. Dis. - From Kazakhstan to whole Europe; N Africa. Introduced in N America.

B. - According to the literature, strictly oligophagous on *Fraxinus* spp. (Oleaceae). We collected adults from May to September (nec November, missprint by Conci & Tamanini, 1990b: 65) and nymphs from May to July on *Fraxinus excelsior* L. and *Fraxinus angustifolia* subsp. *oxycarpa* (Willd.) Franco & Rocha Afonso. According to the literature, one or two generations per year; overwintering as egg on its host plants.

50. *Psyllopsis meliphila* Löw, 1881

Des. - Burckhardt, 1983a: 152, 160; Conci & Tamanini, 1990b: 63, 65, figs.

It. Rep. - [Horvath, 1897: 58 (Istria)]; Gräffe, 1911: 293 (Fr.V.G.); Rapisarda, 1988b: 619 (Sic.); Rapisarda & Conci, 1989: 627 (Fr.V.G.);

Conci & Tamanini, 1990b: 70 (Fr.V.G., Tr.A.A., Lomb., Lig., Umbr., Cal., Sic.).

It. Dis. - Common. Found by us and Gräffe in 10 Regions of N, C and S Italy and in Sicily; more than 200 specimens in about 25 localities, with more than 40 findings, between 100 and 950 m.

Gen. Dis. - Bulgaria, Hungary, Austria, Czechoslovakia, Italy, Morocco.

B. - Monophagous on *Fraxinus ornus* L. We collected adults from June to October and nymphs in June, July and October, always on its host plant. According to the literature, one or two generations per year; overwintering as egg.

51. *Psyllopsis discrepans* (Flor, 1861)

Des. - Dobreanu & Manolache, 1962: 161; Hodkinson & White, 1979b: 35; Burckhardt, 1983a: 152, 160; Conci & Tamanini, 1990b: 64, 74, figs.

It. Rep. - Conci & Tamanini, 1984e: 261 (Pu., Bas.); Conci & Tamanini, 1990b: 74 (Pu., Bas., Cal.).

It. Dis. - Very rare. Found in three Regions of S Italy; few specimens in the following three localities, with three findings: Puglia, Province Foggia, Commune Sant'Angelo, loc. Foresta Umbra, 700 m, leg. Istituto Entomologia Agraria, Bari 6-13.VI. 1982, 1 male, 1 female. Basilicata, Province Matera, Commune Policoro, loc. Bosco di Policoro, sea level, leg. Tamanini 24.V.1982, 1 male, 6 females. Calabria, Province Cosenza, Commune Cerchiara, 650 m, leg. C. Leonardi, 1.V.1990, some specimens.

Gen. Dis. - Caucasus and throughout Europe (except Greece, Albania and Iberian Peninsula).

B. - According to the literature, strictly oligophagous on *Fraxinus angustifolia* and *F. excelsior* L. (Oleaceae). C. Leonardi and us collected adults on *F. angustifolia* ssp. *oxycarpa* (Willd.) Franco & Rocha Afonso. One or two generations per year; overwintering as egg. The species probably produces galls.

52. *Psyllopsis fraxini* (Linnaeus, 1758)

Des. - Dobreanu & Manolache, 1962: 153; Hodkinson & White, 1979b: 35; Burckhardt, 1983a: 152, 161; Conci & Tamanini, 1990b: 64, 74, figs.

It. Rep. - Löw, 1888: 14 (Fr.V.G., Tr.A.A.); Massalongo A., 1893b: 478 (Ven., Em. R., galls); Massalongo A., 1893c: 430 (Em. R., g.); Massalongo O., 1896: 190 (Ven.); Trotter, 1898: 30-31 (Lomb., g.); Baldrati, 1900: 30-31 (Em. R., g.); Corti, 1901: 187-188 (Lomb., g.); De Stefani, 1901: 446 (Sic., g.); Leonardi, 1901: 177 (It., noxious); Cecconi, 1904: 180 (Tosc., g.); Corti, 1904: 353 (Lomb., g.); Cecconi, 1906: 42 (Tosc., g.); De Stefani-Perez, 1906: 110 (Sic., g.); Ragusa, 1907: 237 (Sic.); Mariani, 1908: 299 (V.A., g.); Cozzi, 1915: 13 (Lomb., g.); Prohaska, 1927: 124 (Fr.V.G.: Raibl = Predil); Boselli, 1928: 193 (It., noxious); Silvestri, 1934: 379, fig. 348 (It.); De Stefani, 1944: 62 (Sic., g.); [Vondracek, 1951: 128 («Italia: Flitsch» = Plezzo, now Bovec in Slovenia)]; Castellani, 1953: 11 (Laz.); Sampò, 1975: 168, fig. 11 (V.A., g.); [Burckhardt, 1983b: 53 (Tic.)]; Pellizzari Scaltriti, 1988: 58, col. phot. (It., g.); Rapisarda, 1988b: 619 (Sic.); Rapisarda & Conci, 1989: 627 (Fr.V.G.); Conci & Tamanini, 1990b: 77 (Fr.V.G., Ven., Tr.A.A., Lomb., Piem., V.A., Em. R., Tosc., Laz., Sic.).

It. Dis. - Fairly common. Found by us and other Authors in 10 Regions almost throughout Italy; not found in Sardinia; more than hundred specimens in about 50 localities, with many findings, between the sea level and 1700 m.

Gen. Dis. - Throughout Europe, except E Russia, Albania, Greece. Introduced in N America, according to Hodkinson & White (1979b).

B. - According to the literature, strictly oligophagous on *Fraxinus* spp. (Oleaceae). We collected adults from May to September, nymphs and galls in May and July, above all on *F. excelsior* L. One or two generations per year; overwintering as egg. The species causes showy galls, widely described in the literature.

Note - *Psyllopsis distinguenda* Edwards, 1913, was erroneously reported for Italy (Conci & Tamanini, 1984e: 262) on the base of an uncorrect determination. Nevertheless, it may likely occur in this Country.

Subfamily ACIZZIINAE White & Hodkinson, 1985

Genus *Acizzia* Heslop-Harrison, 1961

53. *Acizzia acaciaebaileyanae* (Froggatt, 1901)

Des. - Hodkinson & Hollis, 1987: 4-5; Rapisarda, 1990d: 132-136, figs 1-11.

It. Rep. - Rapisarda, 1985a: 112, 113 (Sic.); Rapisarda, 1985b: 45-49, figs 1-3, 5-7 (Sic., noxious), Hodkinson & Hollis, 1987: 5 (It.); Rapisarda, 1988b: 620 (Sic.); Tremblay, 1988: 116, 117, col. phot. 4 (It., n.); Rapisarda, 1990d: 136 (Sic.).

It. Dis. - Only recently introduced in Sicily. Not rare; localized. E Sicily, the Province Catania: hundreds of specimens in 4 localities, with 15 findings, between the sea level and 600 m.

Gen. Dis. - Australia. Introduced in New Zealand, South Africa, California and Italy. Our Sicilian findings are the only Palaearctic ones. Distribution map in Rapisarda, 1985b: fig. 5.

B. - According to the literature, strictly oligophagous on *Acacia* spp. (Leguminosae Mimosoideae). We collected adults and nymphs throughout the year on cultivated *Acacia decurrens* Willd. and *A. podalyriaefolia* Cunn. Some generations per year with an almost continuous development on the host plants. The species is noxious to ornamental acacia-trees.

54. *Acizzia uncatoides* (Ferris & Klyver, 1932) (Fig. 9)
Psylla uncatoides

Des. - Hodkinson & Hollis, 1987: 4-6; Rapisarda, 1990d: 136-143, figs 12-22.

It. Rep. - Arzone & Vidano, 1983: 11 (Lig.); Arzone & Vidano, 1985: 31-34, 9 col. phot. (Lig., noxious); Rapisarda, 1985a: 112, 113 (Sic., findings with sucking trap); Rapisarda, 1985b: 45, 47 (Sic., n.); Rapisarda, 1988b: 620 (Sic.); Rapisarda, 1990d: 136-143 (Lig., Sic.).

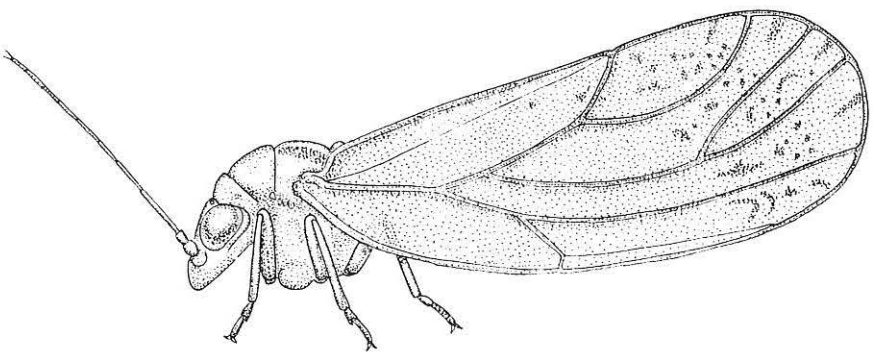


Fig. 9 - *Acizzia uncatoides*, male, Liguria. (Drawing R. Pace).

It. Dis. - Recorded in W Liguria since about year 1975 and subsequently found in E Sicily; in these zones it is presently abundant. Proff. A. Arzone and C. Vidano and us found thousands of specimens in some localities with several findings, between the sea level and 700 m; specimens carried by winds were found in Sicily, on Mount Etna, up to 1800 m. Recently we found two wandering females also in Campania (Commune Solopaca) and in Molise (Commune Capracotta).

Gen. Dis. - Native from Australia and described from New Zealand, it has been diffused around the world on cultivated *Acacia*. It is reported from Australia, New Zealand, Hawaii, California, Mexico, Chile, Mediterranean basin and Portugal.

B. - According to the literature, strictly oligophagous on *Acacia* spp. and *Albizia* spp. (Leguminosae Mimosoideae). Adults and nymphs were collected in Italy throughout the year on *Acacia dealbata* Link, *A. longifolia* (Andrews) Willd. var. *floribunda* and *A. pycnantha* Bentham; up to 6-8 generations per year, with an almost continuous development. The species is noxious to cultivated ornamental acacia-trees.

55. *Acizzia hollisi* Burckhardt, 1981

Des. - Burckhardt, 1981: 216-219; Burckhardt, 1985b: 154-155; Hodkinson & Hollis, 1987: 5, 6; Conci & Tamanini, 1989c: 75-80, figs 1-3.

It. Rep. - Conci & Tamanini, 1989c: 77 (Sic.).

It. Dis. - Found only in the following locality (the only record for Europe): Sicily, Province Agrigento, Commune Lampedusa e Linosa (Lampedusa Isle), locality Vallone Imbriacole, leg. A. Carapezza 20.V.1987, 5 males and 6 females, on a *Acacia* sp. cultivated in a garden.

Gen. Dis. - Saudi Arabia, Israel; Sicily (Pelagie Isles, introduced).

B. - According to the literature, strictly oligophagous on *Acacia* sp. (Leguminosae Mimosoideae). Biology unknown, but probably the same as the two above reported species.

Subfamily ARYTAININAE Crawford, 1914

Genus *Cyamophila* Loginova, 1976

56. *Cyamophila prohaskai* Priesner, 1927

Des. - Conci & Tamanini, 1986e: 59-68, 23 figs; Hodkinson & Hollis, 1987: 8, 9.

It. Rep. - Conci & Tamanini, 1986e: 66, 13 figs (Tr.A.A.); Hodkinson & Hollis, 1987: 8, 9 (It.); Conci & Tamanini, 1989d: 138 (Tr.A.A., Piem.).

It. Dis. - Locally common. We found this orophilous species only in two Regions of N Italy; hundreds of specimens in 9 localities, with more than 30 findings, between 1850 and 2300 m. A remarkable collecting biotope is reported by Conci & Tamanini 1989d, figs 12, 13.

Gen. Dis. - Only on the Alps (in Austria, Italy and Switzerland). Distribution map in Conci & Tamanini, 1986e, fig. 23.

B. - Monophagous on *Anthyllis vulneraria* L. subsp. *alpestris* (Kit.) Asch. & Gr. (Leguminosae). Studies on its life-cycle have been carried out in Trentino-Alto Adige, Province Trento, Commune Vigo di Fassa, locality Ciampedie (at about 2000 m). Here we observed adults on the host plant from June to the beginning of October, adults on conifers from August to April and nymphs from July to the beginning of October. Therefore, *C. prohaskai* overwinters as adult on conifers and probably has one generation per year; it is possible that sometimes the species performs two generations per year.

Genus *Arytaina* Förster, 1848

An almost intricate genus, presently in great need of further and detailed investigations. Five species are known at moment in the Italian fauna, which are mainly defined in the recent revision by Hodkinson & Hollis (1987: 10-19), completed in some parts by Burckhardt (1989: 400-402).

57. *Arytaina genistae* (Latreille, 1804)

Des. - Dobreanu & Manolache, 1962: 132-136; Hodkinson & White, 1979b: 35; Hodkinson & Hollis, 1987: 12, 14-15.

It. Rep. - Costa, 1884: 40 (Sard.); Ferrari, 1888: 75 (Piem.); Zangheri, 1934: 59 (Em. R.); Zangheri, 1966: 799-800 (Em. R.); [Burckhardt, 1983b: 56 (Tic.)]; Rapisarda, 1991a: 24 (Sard. [Cors.]). According to Rapisarda (1988a: 499-500 and 1988b: 618) the Sicilian record by Ragusa (1907: 237) is doubtful because it can regard other related species.

It. Dis. - Very common. Found by us in 14 Regions throughout continental Italy, except Veneto and Friuli Ven. Giulia; doubtful in Sicily;

for Sardinia it is only known through the old report by COSTA (1884); hundreds of specimens in tens of localities, with more than 60 findings, between 250 m and 1400 m. Its presence in some Regions needs to be verified, owing to possibile mistakes with close species.

Gen. Dis. - Throughout Europe. Introduced in North America.

B. - According to the literature, strictly oligophagous on *Cytisus* spp. and *Genista tinctoria* L. (Leguminosae Genistinae). We collected adults in all months of the year on *Cytisus scoparius* (L.) Link. Two-three (or more?) generations per year with an almost continuous development and overwintering in all stages on its host plant.

58. *Arytaina maculata* (Löw, 1886)

Des. - HODKINSON & HOLLIS, 1987: 12, 16-17 (exclusively the reference to *A. maculata*, Hungarian material).

It. Rep. - CONCI & TAMANINI, 1984e: 262 (Cal., *sub Arytaina adenocarpi*, misidentification). The Sicilian record of *Amblyrhina maculata* by RAGUSA (1907: 237) is to be referred to an undeterminable *Arytaina* species. The Sicilian records by RAPISARDA (1988a: 499 and 1988b: 620) as *Arytaina maculata*, both Spanish and Hungarian forms, are to be respectively ascribed to *Arytaina africana* Heslop-Harrison and *A. adenocarpi* Löw.

It. Dis. - Localized. Found by us only in two Regions of C and S Italy in the following localities: Abruzzo (Communes Celano and Ovindoli, loc. S. Potito, between 800 and 1000 m) and Calabria (Communes Fabrizia; S. Stefano in Aspromonte, loc. Gambarie; and Delianova), many specimens, with 7 findings, between 600 and 1200 m.

Gen. Dis. - Some Countries of S and E Europe. A surer taxonomic interpretation of this species will also clarify its geographical distribution.

B. - According to HODKINSON & HOLLIS (1987: 17), strictly oligophagous on *Chamaecytisus ratisbonensis* (Schäffer) Rothm. and *C. borysthenicus* (Gruner) A. Klaskova (Leguminosae Genistinae). We collected in Abruzzo adults in May and September and nymphs in May on *C. spinescens* (Presl) Rhotm. Life-cycle unknown.

59. *Arytaina adenocarpi* (Löw, 1880)

Des. - HODKINSON & HOLLIS, 1987: 13.

It. Rep. - RAPISARDA, 1988a: 499; 1988b: 618, 620 (Sic., *sub Arytaina*

maculata, Hungarian form, misidentification). The record by Conci & Tamanini (1984e: 262) is to be referred to *Arytaina maculata* (Löw).

It. Dis. - Rare. Found by us only in Sicily, Province Catania, Commune Sant'Alfio, Mount Etna, locality Giarrita, 1350 m, numerous adults and nymphs in several findings nearly throughout the year.

Gen. Dis. - Sicily, S France, Spain, Portugal. In strong need of being verified, in the light of a surer taxonomic arrangement.

B. - According to Hodkinson & Hollis (1987), strictly oligophagous on *Adenocarpus complicatus* (L.) Gay and *A. hispanicus* (Lam.) DC. (Leguminosae Genistinae). We found this species on *Adenocarpus complicatus*. Life-cycle under study.

60. *Arytaina africana* Heslop-Harrison, 1951

Des. - Hodkinson & Hollis, 1987: 13-14 and probably also 16-17 (exclusively the references to *A. maculata*, Spanish material); Burckhardt, 1988: 400-402.

It. Rep. - Rapisarda, 1988a: 498 (Sic., Sard., *sub Arytaina maculata*, Spanish form, misidentification); Rapisarda, 1988b: 620 (Sic., in part *sub A. maculata*, misidentification); Rapisarda, 1991a: 25 (Sic., Sard.).

It. Dis. - Locally not rare. Found by us in two Regions of S Italy (Pu., Cal.), in Sicily and Sardinia; about hundred specimens in a score of localities, with about 30 findings, between 240 and 1000 m.

Gen. Dis. - S Italy, Sicily, Sardinia, Libya, Algeria and probably Morocco.

B. - We collected adults from April to October and nymphs in April and July on *Cytisus villosus* (L.) Link (Leguminosae Genistinae). Rapisarda (1988a: 499-500, *sub A. maculata*, Spanish form) reports the species as performing in Sicily two generations per year and overwintering as egg.

61. *Arytaina torifrons* (Flor, 1861)
Amblyrhina torifrons

Des. - Hodkinson & White, 1979a: 59; Hodkinson & Hollis, 1987: 12, 18; Conci & Tamanini, 1989a: 309, figs 2-14.

It. Rep. - Conci & Tamanini, 1989a: 309, fig. 1.1 (Piem.).

It. Dis. - Extremely rare. C. Conci found only one male, in Piemonte, Province Cuneo, Commune Vinadio, loc. Pianche, 950 m, 29.VII.1987, on meadow.

Gen. Dis. - N Italy, S France, Spain.

B. - According to the literature, monophagous on *Genista hispanica* L. (Leguminosae Genistinae). This plant does not occur in Italy.

Genus *Arytainilla* Loginova, 1972

62. *Arytainilla spartiophila* (Förster, 1848)

Des. - Hodkinson & White, 1979b: 35; Conci & Tamanini, 1986g: 135, figs.

It. Rep. - Burckhardt, 1983b: 55 (Lomb., [Tic.]); Conci & Tamanini, 1986g: 124 (Piem., Lomb., Lig., Em. R., Tosc.); Rapisarda: 1987: 66; Rapisarda, 1989d: 34 (It.).

It. Dis. - Fairly common. Found by us in 6 Regions of N, C and S Italy; hundreds of specimens in a ten of localities, with about ten findings, between 300 and 1400 m.

Gen. Dis. - WC and S Europe. Introduced in U.S.A.

B. - Monophagous on *Cytisus scoparius* (L.) Link (Leguminosae Genistinae). We collected adults from May to July and nymphs in June and early July on its host plant. One generation per year; overwintering as egg.

63. *Arytainilla spartiicola* (Sulc, 1907)

Des. - Conci & Tamanini, 1986g: 125-136, figs.

It. Rep. - Conci & Tamanini, 1986g: 134 (Pu.).

It. Dis. - Very localized, but abundant in few places. Found by us only in one Region of SE Italy, in few close localities (Puglia, Province Foggia, Gargano, Commune Monte Sant'Angelo); hundreds of specimens, with 6 findings between 600 and 750 m.

Gen. Dis. - Very few findings in Germany, Switzerland, France and Italy. Distribution map in Conci & Tamanini, 1986g: fig. 40.

B. - According to the literature, living on *Cytisus scoparius* (L.) Link (Leguminosae Genistinae). We collected adults and nymphs in May on *Cytisus decumbens* (Durande) Spach. One generation per year; overwintering as egg or young nymphs.

64. *Arytainilla barbagalloi* Rapisarda, 1989

Des. - Rapisarda, 1989d: 23-39, figs 1-11.

It. Rep. - Rapisarda, 1987: 68 (It.); Rapisarda, 1988a: 500 (Sic.); Rapisarda, 1988b: 620 (Sic.); Rapisarda, 1989d: 35 (Sic.).

It. Dis. - Locally common. Found by us, D. and S. Sutton and A. Carapezza only in Sicily, Province Catania, Mount Etna; hundreds of specimens in about 12 localities, with about 30 findings, between 550 and 1800 m. Our fig. 8, at page 73, reports one of these collecting biotopes.

Gen. Dis. - Endemic to Sicily (Mount Etna).

B. - Monophagous on *Genista aetnensis* (Biv.) DC. (Leguminosae Genistinae). We collected adults from May to July and nymphs from late March to June, always on its host plant. One generation per year and overwintering as egg (Rapisarda, 1989d: 36, fig. 9).

65. *Arytainilla hakani* Loginova, 1972

Des. - Loginova, 1972a: 21-22.

It. Rep. - Rapisarda, 1987: 66-69, fig. 5 (Sard.); Rapisarda, 1989d: 34 (Sard.); Rapisarda, 1991a: 32 (Sard.).

It. Dis. - Locally not rare. Found by us only in S Italy (Calabria, Province Catanzaro, Serra S. Bruno), Sicily (Province Trapani, Isle Pantelleria, loc. Montagna Grande) and Sardinia (Province Sassari, Commune Tempio Pausania, Mount Limbara; Province Nuoro, Communes Aritzo and Lanusei; Province Oristano, Commune Seneghe, Mount Ferru); more than hundred adults and many nymphs in 6 localities, with 6 findings, between 400 and 900 m.

Gen. Dis. - S Italy, Sicily, Sardinia, Algeria and Morocco.

B. - Monophagous on *Teline monspessulana* (L.) Koch (Leguminosae Genistinae). We collected adults from May to July on its host plant; nymphs in May and July. Life-cycle unknown.

66. *Arytainilla incuba* Loginova, 1976

Des. - Loginova, 1976: 28.

It. Rep. - Rapisarda, 1988a: 501 (Sic.); Rapisarda, 1988b: 620 (Sic.).

It. Dis. - Very rare. Found only in one Sicilian locality: Province Messina, Isle Salina, Commune Malfa, 3 males and 3 females (11.V.1984),

2 females (25.VII.84), leg. V. D'Urso by generic sweeping.

Gen. Dis. - Only Sicily (Isle of Salina) and Madeira.

B. - Host plant and life-history unknown.

67. *Arytainilla cytisi* (Puton, 1876)
Psylla cytisi

Des. - RAPISARDA, 1990c: 116-130, 20 figs.

It. Rep. - PUTON, 1876: 285 (Lig., [Cors.]); FERRARI, 1888: 75 (Lig.); SULC, 1910: 6 (Lig.); RAPISARDA, 1985a: 112 (Sic.); CONCI & TAMANINI, 1986g: 124 (Lig., Pu., Sic.); RAPISARDA, 1988a: 500-501 (Sic.); RAPISARDA, 1988b: 620 (Sic.); RAPISARDA, 1990c: 125 (Sic., Sard.); RAPISARDA, 1991a: 30-32, figs 7-8 (Sard.).

It. Dis. - Common. Found by us in Liguria, in 3 Regions of S Italy, in Sicily and Sardinia; hundreds of specimens in a score of localities, with about 30 findings, between the sea level and 1000 m.

Gen. Dis. - Almost all Mediterranean coasts: Turkey, Israel, Greece, Yugoslavia, Italy, France, Spain, Algeria.

B. - Strictly oligophagous on *Calicotome spinosa* (L.) Link and *C. villosa* (Poiret) Link (Leguminosae Genistinae). We collected adults from March to July and nymphs from February (from January in warmer localities) to June, on its host plants. One generation per year and overwintering as egg (RAPISARDA, 1990c: 126-127, fig. 20).

Genus *Livilla* Curtis, 1836

68. *Livilla ulicis* Curtis, 1836

Des. - DOBREANU & MANOLACHE, 1962: 146; HODKINSON & WHITE, 1979b: 39; HODKINSON & HOLLIS, 1987: 20, 23.

It. Rep. - LÖW, 1882a: 213 (It.); LÖW, 1888: 20 (Fr.V.G.: Görz = Gorizia); FERRARI, 1888: 76 (Lig.); GRÄFFE, 1911: 293 (Fr.V.G.): ZANGHERI, 1934: 59 (Em. R.); [VONDRACEK, 1951: 128 («Italia: Flitsch» = Plezzo, now Bovec in Slovenia)]; MANCINI, 1954: 55 (Umbr.); TAMANINI, 1955: 11 (Tr.A.A.); ZANGHERI, 1966: 798 (Em. R.); RAPISARDA & CONCI, 1989: 628 (Fr.V.G.).

It. Dis. - Not common but widespread. Found by us and others in 8 Regions of N and C Italy; about fifty specimens in nearly 15 localities, with about 20 findings, between 600 and 800 m; one finding at 1600 m.

Gen. Dis. - Throughout Europe, except the Northern part.

B. - According to the literature, surely living on *Genista tinctoria* L.; doubtful records also on *Ulex europaeus* L. and *Cytisus scoparius* (L.) Link (Leguminosae Genistinae); one generation per year and perhaps overwintering as egg. We and others collected adults in Italy from late April to June, one time on *Genista germanica* L., the remaining ones on meadows. We did not find nymphs.

O. - *Livilla ulicis* looks like a beetle Chrysomelidae; therefore it is the sole psyllid found more by coleopterologists than by psyllidologists. In our Country the most part of specimens was collected in the environs of Genova by A. Baliani, G. Bartoli, M. Burlini, F. Capra, M. Franciscolo, C. Mancini, G. B. Moro, R. Poggi, F. Solari and in other localities by A. Servadei.

69. *Livilla vicina* (Löw, 1886)
Floria vicina, Arytaena montana Cerutti, 1939, *Arytaina montana*

Des. - Hodkinson & Hollis, 1987: 20, 24-25.

It. Rep. - Löw, 1886: 159-160 (Fr.V.G.: Raibl, now Predil, in Province Udine, type locality); Löw, 1888: 20 (idem); Prohaska, 1928: 5 (idem); Tamanini, 1955: 11 (Tr.A.A.); Tamanini, 1977d: 109-110, figs 11-13, 28 (Tr.A.A., Lomb.) [Burckhardt, 1983b: 55 (Tic.)]; Hodkinson & Hollis, 1987: 25 (It.); Conci & Tamanini, 1989b: 55-59 (Fr.V.G., Ven., Tr.A.A., Lomb.); Rapisarda & Conci, 1989: 627 (Fr.V.G.).

It. Dis. - Common. We found this orophilous species on Alps and Prealps, in 4 Regions; hundreds of specimens in more than 20 localities, with about 35 findings, between 850 and 1900 m, but also at 600 m. One of collecting biotopes is illustrated by Conci & Tamanini, 1989b: figs 7-8.

Gen. Dis. - Alpine and Prealpine endemism; only in Switzerland, and N Italy; records from Austria (Raibl) are to be presently ascribed to Italy. Distribution map in Conci & Tamanini, 1989b: fig. 9. The known distribution of *L. vicina* is smaller than that one of its host plant.

B. - Monophagous on *Genista radiata* (L.) Scop. (Syn. *Cytisus radiatus*) (Leguminosae Genistinae). We collected adults throughout the year (except March) almost always on the host plant, but rarely also on conifers in winter; nymphs (undescribed) were often collected with nymphs of *L. vittipennella*. One generation per year; overwintering as adult on its host plant.

70. *Livilla cognata* (Löw, 1881c)
Amblyrhina cognata, Amblyrrhyna (mis-spelling) *cognata*

Des. - Tamanini, 1977d: 107-109, figs 1-10; Hodkinson & Hollis, 1987: 20, 25-26.

It. Rep. - Tamanini, 1977d: 107, 109 (Tr.A.A.).

It. Dis. - Not common. We found this orophilous species only in one Region of N Italy (Tr.A.A., Province Trento, Communes Ruffrè, Sanzeno, Folgaria, Terragnolo and Brentonico); hundreds of specimens in 7 localities, with a score of findings, between 600 and 1400 m.

Gen. Dis. - Caucasus, Bulgaria, Austria, Czechoslovakia, N Italy.

B. - According to the literature, strictly oligophagous on *Cytisus (sensu lato)* spp. and *Genista germanica* L. (Leguminosae Genistinae). We collected adults from July to October and nymphs in June-August on *Chamaecytisus hirsutus* (L.) Link and *Lembotropis nigricans* (L.) Griseb. One generation per year; overwintering as egg (? or young nymphs).

71. *Livilla horvathi* (Scott, 1879)
Floria horvathi

Des. - Dobreanu & Manolache, 1962: 141; Hodkinson & Hollis, 1987: 21, 26-27.

It. Rep. - Gräffe, 1911: 293 (Fr.V.G.); Vondracek, 1957b: 194 (Fr.V.G.: Terstu = Trieste); Conci & Tamanini, 1989b: 54-55 (Fr.V.G., Em. R., Pu., Bas.); Rapisarda & Conci, 1989: 627 (Fr.V.G.).

It. Dis. - Fairly rare. Found by us and Gräffe in 8 Regions of N, C and S Italy; more than 200 adult specimens in 8 localities, with 9 findings, between the sea level and 1400 m. In addition to the localities reported by Conci & Tamanini (1989b), the species was found in: Tosc., Province Firenze, Commune Firenzuola, loc. Passo della Futa, 900 m; Abr., Province L'Aquila, Commune Campotosto, 1450 m; Mol., Province Campobasso, Commune Sepino, loc. Passo S. Crocella, 1000 m; Camp., Province Salerno, Commune Sanza, loc. Mount Vesolo, 1100 m. Our fig. 6, at page 72, reports one of these collecting biotopes.

Gen. Dis. - Turkey; E and S Europe.

B. - According to the literature, strictly oligophagous on *Chamaecytisus austriacus* (L.) Link and *Genista tinctoria* L. (Leguminosae Genistinae). We collected adults and nymphs in May-July on *Genista tinctoria* L. and *G. sericea* Wulfen. One generation per year; overwintering as egg or as first instar nymph.

72. *Livilla vittipennella* (Reuter, 1875)
Floria vittipennella, Floria lineata Cerutti, 1939

Des. - Hodkinson & Hollis, 1987: 21, 28.

It. Rep. - Löw, 1886: 160 (Fr.V.G.: Raibl = Predil); Löw, 1888: 20 (idem); Prohaska, 1928: 5 (idem); Tamanini, 1977d: 111, figs 19-23 (Ven., Tr.A.A., Lomb.); Hodkinson & Hollis, 1987: 28 (It.); Conci & Tamanini, 1989b: 60-61 (Fr.V.G., Ven., Tr.A.A., Lomb., Em. R.); Rapisarda & Conci, 1989: 628 (Fr.V.G.).

It. Dis. - Common. Found by us and N. Sanfilippo in 6 Regions of N Italy, on Alps and Apennines; hundreds of specimens in a score of localities, with more than 30 findings, at 150, 600 and from 850 to 1900 m. Our fig. 10, at page 92, reports a collecting biotope.

Gen. Dis. - Endemic of Alps and N Apennines: Slovenija, N Italy and Switzerland. Records from Austria (Raibl) are to be presently ascribed to Italy. Distribution map in Conci & Tamanini, 1989b: fig. 10. Such as *Livilla vicina*, *L. vittipennella* has a smaller distribution than its host plant, too.

B. - Monophagous on *Genista radiata* (L.) Scop. (Leguminosae Genistinae). We collected adults from May to September (only single specimens in November, December and January); first instar nymphs in November, December and February, and fifth instar ones in June. One generation per year; overwintering as I instar nymph on its host plant.

73. *Livilla radiata* (Förster, 1848)
Psylla lactea A. Costa, 1863; *Alloeoneura radiata*

Des. - Dobreanu & Manolache, 1962: 137-140; Hodkinson & Hollis, 1987: 20, 29.

It. Rep. - Costa A., 1863: 47-48 (Cal., sub *Psylla lactea*, type locality); Hodkinson & Hollis, 1987: 29 (It.); Conci & Tamanini, 1989b: 55 (Tr.A.A., Pu.).

It. Dis. - Not common. Found by A. Costa and us in 7 Regions of N, C and S Italy; about 200 specimens in 7 localities with 7 findings, between 700 and 1400 m. In addition to the localities reported by Conci & Tamanini (1989b), the species was found in: Tosc., Province Firenze, Commune Firenzuola, loc. Passo della Futa, 900 m; Abr., Province L'Aquila, Commune Campotosto, 1450 m; Camp., Province Salerno, Commune Sanza, loc. Mount Vesolo, 1180 m.

Gen. Dis. - E, SE and C Europe.

B. - According to the literature, strictly oligophagous on *Cytisus* (*sensu lato*) spp. and *Genista tinctoria* L. (Leguminosae Genistinae). We collected adults and nymphs from May to July on *Cytisus villosus* Pourret, *Chamaecytisus hirsutus* (L.) Link and *Lembotropis nigricans* (L.) Griseb; one generation per year; overwintering modality unknown (probably as egg or nymph).

74. *Livilla retamae* (Puton, 1878)

Des. - Hodkinson & Hollis, 1987: 21, 30.

It. Rep. - Conci & Tamanini, 1989a: 312 (Sic.); Rapisarda, 1992: 196-200, figs 1-4 (Sic.).

It. Dis. - Very rare. Found by A. Carapezza and us in one restrict zone of Sicily, Province Ragusa, Commune Vittoria, locality Scoglitti; few specimens in few findings, near the sea level.

Gen. Dis. - Widespread along the S Mediterranean coasts: Israel, Sicily, Spain, Portugal, Egypt, Algeria and Morocco.

B. - According to the literature, strictly oligophagous on *Retama* spp. (Leguminosae Genistinae). Adults and nymphs were collected by us on *Retama raetam* spp. *gussonei* (Webb) Heywood. One generation per year and overwintering in all stages on the host plant. According to Rapisarda (1992: 200), from late April to September the adults survives on the hardening spring vegetation; oviposition occurs from October to February; the slow nymphal development gradually occurs from December to May (sometimes also a little before).

75. (and 76.) *Livilla siciliensis* Hodkinson & Hollis, 1987

Des. - Hodkinson & Hollis, 1987: 22, 32.

It. Rep. - Hodkinson & Hollis, 1987: 32 (Sic.); Rapisarda, 1988a: 502 (Sic.); Rapisarda, 1988b: 620 (Sic.).

It. Dis. - Rare and localized. Up to now it has been collected only in the following Sicilian localities: Province Palermo, Commune Isnello, 750 m, type locality (reported in the original description as «Palermo, c. 750 m», but indicated in the labels of the examined type specimens as «Palermo c. 30 km S Cefalù, 8 km S Isnello, c. 750 m», 26, 28.V.1979 and 5.VI.1979, leg. D. & S. Sutton, 11 males and 18 females; same Province and Commune, 650 m, 9.VII.1992, 22 males, 26 females and 6 nymphs, leg. C. Rapisarda; Province Messina, Commune Lipari,

Isles Panarea (1 male, 26.VII.1968, leg. L. Tamanini; 1 male 20.XI.1986 leg. V. D'Urso), Salina (2 females, 23.VII.1984, leg. V. D'Urso) and Stromboli (1 male and 1 female, 19.XI.1986, leg. V. D'Urso).

Gen. Dis. - Endemic to Sicily.

B. - Probably monophagous on *Genista ephedroides* DC. (Leguminosae Genistinae), an endemic plant which is known from few Italian Regions and widely grows in Sicily in the environs of Isnello (where it nearly completely covers a big cliff west- and southside of the village). This is very likely the plant indicated as *Genista* sp. in the original description of *L. siciliensis*. We and other collected adults in May-July, on the host plant, and in November, on shelter plants; nymphs were collected by us in July. Life-cycle unknown.

O. - In the first draft of the present catalogue, the specimens collected by us and V. D'Urso were attributed to *Livilla* near *maculipennis* Hodkinson & Hollis, and reported as species number 76, since their forewing characters do not agree with those ones indicated and figured by Hodkinson & Hollis (1987) for *L. siciliensis*. Once this work was already in proof, we had the possibility to examine some type specimens of both *L. maculipennis* and *L. siciliensis* (thanks to the kindness of Mr D. Hollis, The Natural History Museum, London), stating the identity of the whole Sicilian material (which is to be exclusively named as *L. siciliensis*) and how *L. maculipennis* is presently alien to the Italian fauna. Therefore, all references to species number 76 (pages 126 and 131 of the present catalogue) have to be assigned to number 75 and all the species numbers from 77 onwards of the present catalogue must be reduced of 1 unit.

77. *Livilla hollisi* Rapisarda, 1990

Des. - Rapisarda, 1990b: 157-162, figs 1-11.

It. Rep. - Rapisarda, 1990b: 160-161 (Sard.); Rapisarda, 1991a: 27 (Sard.).

It. Dis. - Rare. Exclusively found in Sardinia; 17 adults and two V instar nymphs, in two localities, with two findings: Province Sassari, Commune Santa Teresa di Gallura, Capo Testa, 30 m (type locality); Province Cagliari, Commune Sant'Antioco, Mount Perdas de Fogu, 200 m.

Gen. Dis. - Endemic to Sardinia.

B. - Probably monophagous on *Genista ephedroides* DC (Leguminosae Genistinae). We collected adults and nymphs in mid May.

Fig. 10 - Biotope of the monophagous *Livilla vittipennella* in NW Italy, Piemonte, Alessandria, Cosola, 1200 m; the flowering *Genista radiata* is dominant in the slope, where the deciduous wood is absent. (Photo C. Conci, VI.1992).

Fig. 11 - Biotope of *Livilla pyrenaea* in NW Italy, Liguria, Triora, Colla Langan, 1130 m. The flowering *Genista cinerea*, host plant of the psyllid, is dominant in the open areas and is very common also at higher altitude. (Photo C. Conci, VI.1992).

78. *Livilla pyrenaea* (Mink, 1859)
Floria pyrenaea

Des. - Hodkinson & White, 1979a: 57-59; Hodkinson & Hollis, 1987: 22, 34.

It. Rep. - Conci & Tamanini, 1989a: 309, 312 (Lig.).

It. Dis. - Only locally common. Found by N. Sanfilippo and us only in N Italy, W Liguria, Marittime Alps, in one restrict zone in the Province Imperia, Communes Pigna and Triora, localities Colla di Langan and Colla Melosa; hundreds of specimens in some close localities, with about 12 findings, between 1150 and 1900 m. Biotopes are illustrated by Conci & Tamanini, 1989a, figs 15-16, and also in our fig. 11.

Gen. Dis. - NW Italy, S France, Spain. Distribution map in Conci & Tamanini, 1989a: fig. 17.

B. - According to the literature, strictly oligophagous on *Genista* spp.; the report of *Calicotome spinosa* is doubtful (Leguminosae Genistinae). We collected adults in May-July, September-October and December; nymphs in April, May and September, on *Genista cinerea* (Vill.) DC. One generation per year; overwintering as adult and egg on its host plant.

79. *Livilla bimaculata* Hodkinson & Hollis, 1987 (Fig. 12)

Des. - Hodkinson & Hollis, 1987: 22, 34-35.

It. Rep. - Hodkinson & Hollis, 1987: 34 (Sard.: erroneous; Lig.; [Cors.: type locality]); Rapisarda, 1991a: 9, 25-27, fig. 5 (Lig., Sard.).

It. Dis. - Locally common. Found by us in two Regions of N Italy and in Sardinia; two hundred specimens in 14 localities, with more than 20 findings, between the sea level and 1000 m.

Gen. Dis. - Endemic of E Liguria, a very close zone of W Emilia-Romagna, Corsica and Sardinia.

B. - Monophagous on *Genista salzmannii* DC. (Leguminosae Genistinae). We collected adults from April to August and in October, nymphs in April-August, always on its host plant. One generation per year and probably overwintering as egg or first instar nymph.

80. *Livilla magna* Hodkinson & Hollis, 1987

Des. - Hodkinson & Hollis, 1987: 23, 36.

It. Rep. - Hodkinson & Hollis, 1987: 36 (Sic.: Catania, Mount Etna,

type locality); RAPISARDA, 1988a: 501 (Camp., Sic., Sard.); RAPISARDA, 1988b: 620, 622 (Sic., Sard.); RAPISARDA, 1991a: 27-29, fig. 6 (Camp., Sic., Sard.).

It. Dis. - Locally common. Found by us and others in C Italy (Campania, Province Napoli, Mount Vesuvio), in Sicily (Province Catania, Mount Etna) and Sardinia (Province Sassari, Mount Limbara). Hundreds of specimens in few localities, with many findings, between 500 and 1900 m. Our fig. 8, at page 73, reports a collecting biotope.

Gen. Dis. - Endemic to Sicily and Sardinia; introduced in Campania.

B. - Monophagous on *Genista aetnensis* (Biv.) DC. (Leguminosae Genistinae). Adults were collected by us from May to November and nymphs in January, April and June-October, always on its host plant; one or two generation per year (it is to better verify); mostly overwintering as III or IV instar nymph.

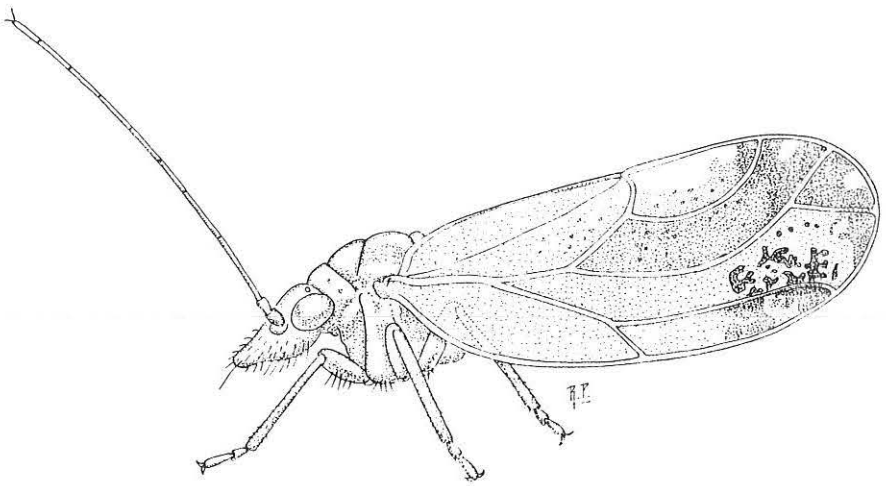


Fig. 12 - *Livilla bimaculata*, male, Liguria. (Drawing R. Pace).

81. *Livilla poggii* (Conci & Tamanini, 1984)
Floria poggii

Des. - CONCI & TAMANINI, 1984a: 43-49, 19 figs; HODKINSON & HOLLIS, 1987: 22, 36-37.

It. Rep. - CONCI & TAMANINI, 1984a: 48-49 (Sard.); HODKINSON & HOLLIS, 1987: 22, 36-37 (Sard.); RAPISARDA, 1991a: 9, 29-30 (Sard.).

It. Dis. - Locally fairly common. Found by us and R. Poggi only in three localities of Sardinia: Province Sassari, Commune Arzachena, loc. Capo d'Orso; Province Nuoro, Commune Orgosolo, Mount Novo S. Giovanni, type locality; Province Nuoro, Commune Lodè, Mount Albo. About 170 specimens with three findings, at 100, 850 and 1000 m.

Gen. Dis. - Endemic of Sardinia; probably occurring also in Corsica.

B. - Monophagous on *Genista corsica* (Loisel.) DC. (Leguminosae Genistinae), an endemic species of Sardinia and Corsica. We collected adults in May on its host plant. Nymphs and life-cycle unknown.

82. *Livilla spectabilis* (Flor, 1961)
Floria spectabilis

Des. - Hodkinson & Hollis, 1987: 21, 37.

It. Rep. - Löw, 1879: 250 (Camp.); Ferrari, 1885a: 292 (Em. R., Camp.); Ferrari, 1888: 76 (Piem., Lig.); Gräffe, 1911: 293 (Fr.V.G.); Zangheri, 1934: 59 (Em. R.); Castellani, 1951: 20 and 1953: 11 (Bas.); Vondracek, 1951: 128 (Fr.V.G.); Mancini, 1954: 35 (Um.); Zangheri, 1966: 800 (Em. R.); Hodkinson & Hollis, 1987: 37 (It.); Rapisarda, 1988a: 502 (Sic.); Rapisarda, 1988b: 620 (Sic.); Rapisarda & Conci, 1989: 627 (Fr.V.G.); Rapisarda, 1992: 200-202, figs 5-7 (Fr.V.G., Piem., Lig., Em. R., Tosc., Um., Mar., Laz., Abr., Mol., Camp., Pu., Bas., Cal., Sic.).

It. Dis. - Common and widespread. Collected by us and others in 15 Regions throughout Italy; not presently found in the greatest part of N Italy and in Sardinia; reported for Piemonte only from Stazzano, through the unconfirmed record by Ferrari (1888); hundreds of specimens in more than 50 localities, with about hundreds findings, between the sea level and 1200 m. Our fig. 14, at page 121, reports a collecting biotope of this species.

Gen. Dis. - Mediterranean.

B. - Monophagous on *Spartium junceum* L. (Leguminosae Genistinae), the more typic and widespread bush of Mediterranean maquis. We collected adults throughout the year (except February) on its host plant (very rarely on conifers during winter) and nymphs from late February to May; one generation per year. According to Rapisarda (1988a: 502 and 1992: 202), adults emerge in Sicily from late April-May and survive throughout the summer, sometimes also till winter; oviposition normally occurs from mid autumn and the species overwinters as egg; nymphs from late February to May.

83. *Livilla variegata* (Löw, 1881)
Floria variegata, Floria alpina Cerutti, 1939

Des. - Hodkinson & Hollis, 1980: 172; Hodkinson & Hollis, 1987: 23, 38.

It. Rep. - Ferrari, 1888: 76 (Lig.); Löw, 1888: 20 (Lig.); Tamanini, 1977d: 111, figs 24-27 (Lomb., *sub Floria alpina*); [Burckhardt, 1983b: 54 (Tic.)]; Hodkinson & Hollis, 1987: 38 (It.); Rapisarda & Conci, 1989: 627 (Fr.V.G.).

It. Dis. - Common. Found by us in 12 Regions of N, C and S Italy, but not in the Isles; hundreds of specimens in nearly thirty localities, with about 35 findings, between 120 and 1700 m.

Gen. Dis. - Rumania, Yugoslavia, Italy, Switzerland; imported in France, Spain and Great Britain.

B. - Strictly oligophagous on *Laburnum anagyroides* Medicus and *L. alpinum* (Miller) Berchtold et Presl. We collected adults from April to August on its host plants and nymphs in April-May. One generation per year; probably overwintering as egg or as first instar nymph.

Subfamily PSYLLINAE Latreille, 1807

Genus *Psylla* Geoffroy, 1762

84. *Psylla alni* (Linnaeus, 1758)

Des. - Dobreanu & Manolache, 1962: 173; Klimaszewski, 1963: 378; Hodkinson & White, 1979b: 48, 55 - V instar nymph: White & Hodkinson, 1982: 28.

It. Rep. - Dalla Torre, 1882: 58 (Tr.A.A.); Löw, 1888: 17 (Tr.A.A.); Bezzi, 1893: 114 (Tr.A.A.); Dalla Torre, 1893: 104 (Tr.A.A.; erroneous report of galls); Bezzi, 1899: 12 (Tr.A.A.); Leonardi, 1901: 170 (It., noxious); Leonardi, 1922: 33 (It., n.); Tamanini, 1955: 11 (Tr.A.A.); Colpi & Masutti, 1984: 202 (Tr.A.A.); Rapisarda & Conci, 1989: 628 (Fr.V.G.); Rapisarda, 1991a: 32 (Sard.).

It. Dis. - Common. Found by us in 12 Regions of N, C, S Italy and in Sardinia; more than 100 specimens in 50 localities, with about 60 findings, between 100 and 1400 m.

Gen. Dis. - Holarctic. Not found in N Africa.

B. - According to the literature, strictly oligophagous on *Alnus* spp. (Betulaceae). We collected adults from May to October on *Alnus gluti-*

nosa (L.) Gaertner and *A. incana* (L.) Moench, and nymphs in May and June. One generation per year; overwintering as egg. The nymphs are covered by abundant wax, as those ones of the close species.

O. - Records of this species as noxious (Leonardi, 1901, 1922) have not been confirmed.

85. *Psylla cordata* Tamanini, 1977 (Fig. 13)

Des. - Tamanini, 1977c: 467-474, 15 figs.

It. Rep. - Tamanini, 1977c: 467-474, 15 figs (Cal., type locality; Camp., Bas.); Ragusa di Chiara *et al.*, 1990: 25-27, figs 1-3 (Camp., Pu., Bas., Cal.).

It. Dis. - Common on its host plant. Found by us in 5 Regions of C and S Italy; hundreds of specimens in more than 20 localities, with numerous findings, between 600 and 1700 m.

Gen. Dis. - Endemic to Central and South Italy.

B. - Monophagous on *Alnus cordata* (Loisel) Desf. (Betulaceae). Adults were collected by us from May to November and nymphs (undescribed) in April-June, always only on the host plant. One generation per year; overwintering as egg. The species is sometimes very abundant, but it does not seem to be noxious.

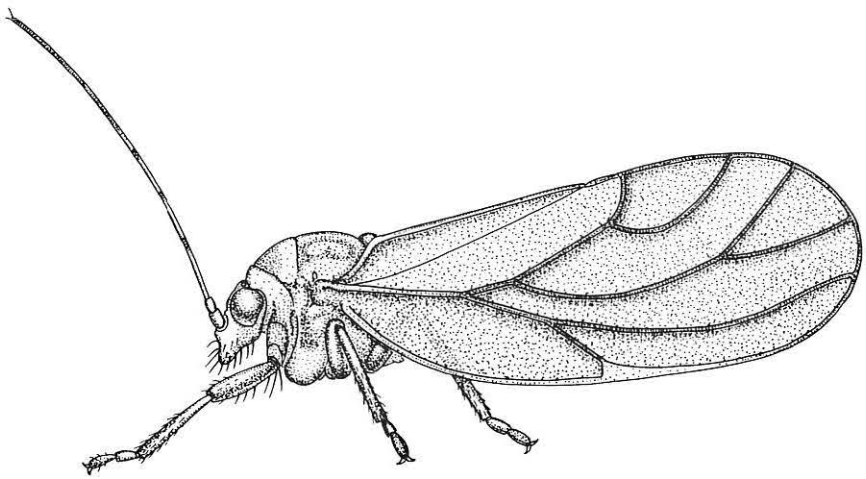


Fig. 13 - *Psylla cordata*, male, Basilicata. (Drawing R. Pace).

86. *Psylla fusca* (Zetterstedt, 1828)
Psylla perspicillata Flor, 1861

Des. - Dobreanu & Manolache, 1962: 176; Klimaszewski, 1963: 380.

It. Rep. - Dalla Torre, 1882: 58 (Tr.A.A., *sub P. perspicillata*); Löw, 1888: 17 (Tr.A.A.); Bezzi, 1893: 114 (Tr.A.A.); Dalla Torre, 1893: 104 (Tr.A.A.; erroneous report of galls); Bezzi, 1899: 12 (Tr.A.A.); Gräffe, 1911: 293 (Fr.V.G.); Minelli, 1977: 215 (Fr.V.G.); [Burckhardt, 1983b: 42 (Tic.)]; Hodkinson, 1983: 279 (Fr.V.G.); Rapisarda & Conci, 1989: 628 (Fr.V.G.).

It. Dis. - Fairly common. This orophilous species was found by us throughout nearly the whole Alpine Arc and in the Romagna Apennine, in 6 Regions; about 200 specimens in 26 localities, more than 30 findings, between 700 and 1300 m.

Gen. Dis. - Caucasian-N C European.

B. - According to the literature, strictly oligophagous on *Alnus glutinosa* (L.) Gaertner, *A. incana* (L.) Moench and *A. viridis* (Chaix) DC. (Betulaceae). In Italy we found it only on *Alnus incana*, from June to October. One generation per year; overwintering as egg.

87. *Psylla alpina* Förster, 1848

Des. - Dobreanu & Manolache, 1962: 184; Klimaszewski, 1963: 383.

It. Rep. - Dalla Torre, 1882: 58 (Tr.A.A.); Löw, 1888: 16 (Tr.A.A.); Bezzi, 1893: 114 (Tr.A.A.); Dalla Torre, 1893: 105 (Tr.A.A.; erroneous report of galls); Bezzi, 1899: 13 (Tr.A.A.); Mancini, 1955: 16 (Piem.); Tamanini, 1955: 11 (Tr.A.A.); Masutti, 1978: 83 (Fr.V.G.); Lauterer, 1979: 95 (Italian Alps); [Burckhardt, 1983b: 56 (Tic.)]; Colpi & Masutti, 1984: 200, 202 (Tr.A.A., Ven.); Rapisarda & Conci, 1989: 628 (Fr.V.G.).

It. Dis. - Common on the Alps. This orophilous species was found throughout S Alpine arc, in 6 Regions; hundreds of specimens in more than 70 findings, between 850 and 2050 m.

Gen. Dis. - Carpathian-Alpine.

B. - Monophagous on *Alnus viridis* (Chaix) DC. (Betulaceae). Adults and nymphs were collected by us on its host plant from July to September; Masutti found adults on snow in February-April. One generation per year; normally overwintering as egg.

88. *Psylla betulae* (Linnaeus, 1758)

Des. - Klimaszewski, 1963: 382; Hodkinson & White, 1979: 44, 45.

It. Rep. - Conci & Tamanini, 1984e: 263 (Tr.A.A., Piem.).

It. Dis. - Very rare; found only in the three localities already reported in 1984: Tr.A.A., Province Bolzano, Commune Eores, 1550 m, 13.IX.1975, 2 males, 4 females, on *Betula* sp.; id., Commune Lagundo, loc. Rio di Lagundo, 1400 m, 11.VIII.1982, 1 female, on *Larix decidua*; Piem., Province Vercelli, Commune Alagna Valsesia, loc. Rifuge Città di Mortara, 2100 m, 28.IX.1975, 1 male, on *Alnus viridis*.

Gen. Dis. - Holarctic, circumpolar and boreal-alpine.

B. - According to the literature, strictly oligophagous on *Betula* spp. (Betulaceae); one generation per year and overwintering as egg. We did not find nymphs.

Genus *Asphagidella*, Enderlein, 1921

89. *Asphagidella buxi* (Linnaeus, 1758)
Psylla buxi, Cacopsylla buxi

Des. - Dobreanu & Manolache, 1962: 237; Klimaszewski, 1963: 435; Hodkinson & White, 1979b: 40, 56.

It. Rep. - Massalongo A., 1893a: 5 (Ven., Em. R., g.); Massalongo A., 1893b: 261, pl. 2, figs 1-2 (Ven., Em. R., g.); Misciatelli Pallavicini, 1894: 276 (Laz., g.); Massalongo O., 1896: 189 (Ven., g.); Cecconi, 1897: 452 (Tosc., g.); Trotter, 1898: 121 (Em. R., g.); Baldrati, 1900: 30 (Lomb., g.); Leonardi, 1901: 168 (It., n.); Corti, 1904: 344-345 (Ven., Lomb., Piem., g.); Mariani, 1907a: 11 (V.A., g.); Corti, 1910: 318 (Lomb., g.); Cobau, 1912: 35 (Ven., g.); Cozzi, 1914: 519 (Lomb., g.); Leonardi, 1922: 32 (It., n.); Boselli, 1928: 192 (It.); Della Beffa, 1934: 732 (It., g., n.); Silvestri, 1934: 382 (It., g., n.); Zangheri, 1934: 59 (Em. R.); Della Beffa, 1949: 125-126, fig. 108 (Piem., g., n.); Tamanini, 1955: 11 (Tr.A.A.); Zangheri, 1966; 799 (Em. R.); Sampò, 1975: 166, fig. 10, tav. II: 5 (V.A., g.); Tremblay, 1981: 94 (It., n.); Hodkinson, 1983: 279 (Fr.V.G.); Pellizzari Scaltriti, 1988: 39, figs (It., g.); Rapisarda & Conci, 1989: 628 (Fr.V.G.).

Some other reports occur in books of applied Entomology. Most of the above records refer to findings of the characteristic galls.

It. Dis. - Common in N Italy. Found in 12 N and C Regions, but findings lack in S Italy and in the Isles. Thousands of specimens in more than 50 localities, with more than 100 findings, between 50 and 900 m.

Gen. Dis. - Caucasian-Euro-Mediterranean; introduced in N America and Hawaii.

B. - Strictly oligophagous on *Buxus* spp. (Buxaceae). Adults were collected by us from April to November on both cultivated and wild *Buxus sempervirens* L., nymphs from November to May. One generation per year. Overwintering as egg or as first instar nymph inside the egg. The species strongly deform the leaves, that are distorted in shape of bowls or spoons, with a slight aesthetic damage; the deformed leaves occur throughout the year.

Genus *Baeopelma* Enderlein, 1926

90. *Baeopelma colorata* (Löw, 1888)
Psylla colorata

Des. - Burckhardt, 1979: 111.

It. Rep. - Löw, 1888: 32 (Fr.V.G.: Görz = Gorizia, type locality); Gräffe, 1911: 293 (Fr.V.G.); Wagner & Franz, 1961: 165 (Fr.V.G., Tr.A.A.); [Burckhardt, 1979: 111 (Tic.)]; Rapisarda, 1988b: 620 (Sic.); Rapisarda & Conci, 1989: 628 (Fr.V.G.); Rapisarda, 1991a: 34 (Sard.).

It. Dis. - Enough common. Found in 16 Regions throughout Italy; hundreds of specimens in about 50 localities, more than 55 findings, between 150 and 1300 m.

Gen. Dis. - SE European, coinciding with the host plant distribution.

B. - Monophagous on *Ostrya carpinifolia* Scop. (Corylaceae). Adults were collected by us on its host plant, rarely on shelter plants, from May to September; nymphs in May-July. One generation per year; probably overwintering as egg.

91. *Baeopelma försteri* (Flor, 1861)
Psylla försteri

Des. - Dobreanu & Manolache, 1962: 180; Klimaszewski, 1963: 385; Hodkinson & White, 1979b: 44, 56.

It. Rep. - Costa A., 1884: 40 (Sard.); Ferrari, 1888: 75 (Piem., Lig.); Löw, 1888: 17 (Fr.V.G.); Castellani, 1952: 24 (Cal.); Tamanini, 1955: 11 (Tr.A.A.); Zangheri, 1966: 798 (Em. R.); Rapisarda, 1985a: 112 (Sic.); Rapisarda, 1988b: 620 (Sic.); Rapisarda & Conci, 1989: 628 (Fr.V.G.); Rapisarda, 1991a: 34 (Sard.).

It. Dis. - Common. Found by us in 14 Regions throughout Italy;

hundreds of specimens in more than 50 localities, more than 60 findings, between the sea level and 1300 m.

Gen. Dis. - Holopalaearctic, but not found in N Africa.

B. - Strictly oligophagous on *Alnus* spp. (Betulaceae). Adults were collected by us from May to September on *Alnus glutinosa* (L.) Gaertner and *A. incana* (L.) Moench; nymphs in May and June. One generation per year; overwintering as egg.

Genus *Chamaepsylla* Ossiannilsson, 1970

92. *Chamaepsylla hartigii* (Flor, 1861)
Psylla hartigi

Des. - Dobreanu & Manolache, 1962: 216; Klimaszewski, 1963: 386; Hodkinson & White, 1979b: 44, 56.

It. Rep. - Reported as new for Italy in the present work.

It. Dis. - Very rare. Found by us only in one locality (Lomb., Province Sondrio, Commune Albaredo per San Marco); few specimens in two findings, between 1300 and 1500 m.

Gen. Dis. - Holarctic, but not found in N Africa.

B. - According to the literature, the species is strictly oligophagous on *Betula* spp., performs one generation per year and overwinters as egg or perhaps as first instar nymph (Lauterer, 1976: 116). We found only adults, in July 1991 and 1992, on *Betula pendula* Roth.

Genus *Cacopsylla* Ossiannilsson, 1970

93. *Cacopsylla (Cacopsylla) mali* (Schmidberger, 1836)
Psylla mali

Des. - Dobreanu & Manolache, 1962: 199; Klimaszewski, 1963: 408; Hodkinson & White, 1979b: 54, 56.

It. Rep. - Berlese, 1900: 138 (Italy, noxious); Leonardi, 1901: 167 (It., n.); Della Beffa, 1915: 47 (Piem.); Leonardi, 1922: 32 (It., n.); Boselli, 1928: 192; Grandi, 1930: 247 (It.); Della Beffa, 1934: 732; Silvestri, 1934: 379-381, fig. 349 (It., n.); Della Beffa, 1949: 124-125, fig. 107 (It., n.); Grandi, 1951: 816-817, fig. 657 (It., n.); Mancini, 1955: 18 (Piem.); Servadei, 1956: 223-224 (It., n.); Servadei *et al.*, 1972: 346 (It., n.); Tremblay, 1978: 1017 (It., n.); Tremblay, 1981: 94 (It., n.); [Burckhardt, 1983b: 56 (Tic.)]; Hodkinson, 1983: 279 (Fr.V.G.); Rapisarda & Conci, 1989:

629 (Fr.V.G.). - Some more records occur in other books of applied Entomology.

It. Dis. - Not rare. Found in 9 Regions of N, C, S Italy (not in Basilicata, Calabria and Isles); hundreds of specimens in about 20 localities, with more than 25 findings, between 700 and 1500 m.

Gen. Dis. - Asiatic-European; introduced in N America.

B. - According to the literature, strictly oligophagous on *Malus* spp. (Rosaceae Maloideae). Adults were collected by us from May to September on *Malus domestica* Borkh. and *M. sylvestris* Mill.; few nymphs in June. One generation per year; overwintering as egg; a partial summer migration. It sometimes alterates the leaves.

O. - In the whole Italian literature on agricultural Entomology, *C. mali* is reported as noxious to apple-trees in our Country. Our field data do not allow us to confirm the harmfulness of the species. It is noxious in Central Europe.

94. *Cacopsylla (Cacopsylla) sorbi* (Linnaeus, 1761)
Psylla sorbi

Des. - Schäfer, 1949a: 20; Klimaszewski, 1963: 410; Hodkinson & White, 1979b: 54, 58 - V instar nymph: White & Hodkinson, 1982: 30.

It. Rep. - [Burckhardt, 1983b: 57 (Tic.)]; Hodkinson, 1983: 279 (Fr.V.G.); Rapisarda & Conci, 1989: 630 (Fr.V.G.).

It. Dis. - Fairly common. This orophilous species was found by us in 10 Regions of N and C Italy; several hundreds of specimens in about 30 localities, more than 40 findings, between 1100 and 1900 m.

Gen. Dis. - East Asia and Europe, not found in France and in Iberian Peninsula; introduced in Canada.

B. - Monophagous on *Sorbus aucuparia* L. (Rosaceae Maloideae). We collected adults from July to October on its host plant; nymphs in July. One generation per year; overwintering as egg.

95. *Cacopsylla (Cacopsylla) peregrina* (Förster, 1848)
Psylla peregrina

Des. - Ossiannilsson, 1948; Schäfer, 1949: 20; Dobreanu & Manolache, 1962: 203; Klimaszewski, 1963: 411; Hodkinson & White, 1979b: 53, 57 - V instar nymph: White & Hodkinson, 1982: 31.

It. Rep. - Leonardi, 1901: 169 (It., noxious); Leonardi, 1922: 32 (idem); Zangheri, 1966: 799 (Em. R.); [Burckhardt, 1983b: 57 (Tic.)]; Rapi-

sarda, 1985a: 112 (Sic.); Rapisarda, 1988b: 620 (Sic.); Rapisarda & Conci, 1989: 629 (Fr.V.G.); Rapisarda, 1991a: 37 (Sard.).

It. Dis. - Very common. Found by us in 18 Regions throughout Italy; hundreds of specimens in more than 60 localities, more than 100 findings, between 50 and 1800 m.

Gen. Dis. - Holopalaearctic.

B. - Strictly oligophagous on *Crataegus* spp. (Rosaceae Maloideae). Adults were collected by us throughout the year: from April to October on *Crataegus monogyna* Jacq., conifers, *Fagus sylvatica* L. and other occasional plants; from November to March few specimens only on shelter plants. According to the literature, one generation per year, overwintering as egg; a partial summer migration.

O. - Old records of this species as noxious cannot be confirmed, according to present data.

96. *Cacopsylla (Cacopsylla) ulmi* (Förster, 1848)
Psylla ulmi

Des. - Dobreanu & Manolache, 1962: 250; Klimaszewski, 1963: 429; Hodkinson & White, 1979b: 53, 61.

It. Rep. - Lozzia & Binaghi, 1992a: 50; 1992b: 40.

It. Dis. - Very rare. We have seen only 10 adults, collected by G. Lozzia and P. Binaghi in Lombardia, city of Milan, 130 m, in 4 findings.

Gen. Dis. - Asiatic-European.

B. - Strictly oligophagous on *Ulmus* spp. (Ulmaceae). One generation per year; overwintering as egg. In Italy collected only in June, July and September on *Ulmus laevis* Pallas.

97. *Cacopsylla (Thamnopsylla) pyrisuga* (Förster, 1848)
Psylla aurantiaca Goureau, 1862; *Psylla pirisuga* (uncorrect); *P. pyrisuga*

Des. - Dobreanu & Manolache, 1962: 195; Klimaszewski, 1963: 417; Hodkinson & White, 1979b: 53, 58; Burckhardt & Hodkinson, 1986: 121, 123. - V instar nymph: White & Hodkinson, 1982: 35.

It. Rep. - The Italian bibliography on *C. pyrisuga* is wide, but many works have now a very scarce significance. Therefore we report only a selection of the applied entomological literature regarding this species.

Löw, 1882a: 214 (It.); Ferrari, 1888: 75 (Piem.); Löw, 1888: 16 (Fr.V.G.: Görz = Gorizia); Franceschini, 1891: 128 (It., noxious); Ber-

LESE, 1900: 138 (It., n.); LEONARDI, 1901: 164-165 (It., n.); RAGUSA, 1907: 237 (Sic.); DELLA BEFFA, 1915: 47 (Piem., n.); LEONARDI, 1922: 31 (frequent in It., n.); BOSELLI, 1928: 193 (Piem., Sic., n.); SILVESTRI, 1934: 382 (It., n.); VENTURI & RUFFO, 1953: 124 (It., n.); VENTURI, 1965: 13 (It., n.); ZANGHERI, 1966: 799 (Em. R.); SERVADEI *et al.*, 1972: 345 (It., n.); TREMBLAY, 1978: 1016 (It., n.); TREMBLAY, 1981: 92 (It., n.); [BURCKHARDT, 1983b: 59 (Tic.)]; HODKINSON, 1983: 279 (Fr.V.G.); HODKINSON, 1984a (It.); RAPISARDA, 1985a: 112 (Sic.); BURCKHARDT & HODKINSON, 1986: 123 (It.); RAPISARDA, 1988b: 620 (Sic.); RAPISARDA & CONCI, 1989: 629 (Fr.V.G.); RAPISARDA & SISCARO, 1990: 33-35, fig. 1 (Sic.).

We doubtfully consider the reports by DE STEFANI (1901: 446; 1906: 137; 1919: 151) regarding galls.

It. Dis. - Common. Found by us and A. Carapezza in 16 Regions throughout Italy, but not in Sardinia; more than hundred specimens in about 30 localities, with about 45 findings, from the sea level to 1100 m (one finding at 1400 m).

Gen. Dis. - Far East Asia, Caucasus (not in remaining part of the Asiatic Continent); throughout Europe. Distribution map in HODKINSON (1984a: fig. 4).

B. - According to the literature, strictly oligophagous on *Pyrus* spp. (Rosaceae Maloideae). We collected adults from March to July on *Pyrus communis* L.; from March to May, July-September and December also on conifers and occasional plants; nymphs from April to July. One generation per year; overwintering as adult on the host plant or on conifers.

O. - Italian literary reports of *C. pyrisuga* as noxious cannot be confirmed by our recent data.

98. *Cacopsylla (Thamnopsylla) costalis* (Flor, 1861)
Psylla costalis Flor

Des. - KLIMASZEWSKI, 1963: 422.

It. Rep. - CONCI & TAMANINI, 1984e: 264 (Tr.A.A.).

It. Dis. - Extremely rare. We found only one male, in Trentino, Commune Terragnolo, locality Potrich, 1000 m, 4.II.1983, on conifer.

Gen. Dis. - Few localities in Turkey and in N, C and SE Europe.

B. - According to the literature, strictly oligophagous on *Malus domestica* Borkh., *M. sylvestris* Miller and *Prunus armeniaca* L. (Rosaceae Maloideae); one generation per year; overwintering as adult on conifers. Sometimes seems to be noxious.

99. *Cacopsylla (Thamnopsylla) affinis* (Löw, 1880)
Psylla affinis Löw; *Psylla subferruginea* Edwards, 1915

Des. - Dobreanu & Manolache, 1962: 221; Hodkinson & White, 1979b: 44, 61.

It. Rep. - Burckhardt, 1983b: 58 [Lomb., (Tic.)].

It. Dis. - Enough common. Found by us in 16 Regions of N, C, S Italy, but not in the Isles; hundreds of specimens in about 40 localities, with more than 50 findings, between 100 and 1800 m (one finding also at 2000 m).

Gen. Dis. - Caucasus and Europe, except Iberian Peninsula.

B. - According to the literature, strictly oligophagous on *Crataegus* spp. (Rosaceae Maloideae). Adults were collected by us throughout the year, especially on conifers (generally close to *Crataegus monogyna* Jacq. plants), but also on *Fagus* or other occasional plants. We never collected nymphs. Probably one generation per year; overwintering as adult on conifers. Among the four species of *Crataegus*-feeding psyllids, *C. affinis* is the less common; it seems to spend a short time on its host plant.

O. - *C. affinis* is very close to *C. pyrisuga*: the Italian material needs to be revised.

100. *Cacopsylla (Thamnopsylla) melanoneura* (Förster, 1848)
Psylla melanoneura Förster

Des. - Dobreanu & Manolache, 1962: 219; Klimaszewski, 1963: 421; Hodkinson & White, 1979b: 54, 57.

It. Rep. - Löw, 1888: 18 (Fr.V.G.: Görz = Gorizia); Gräffe, 1911: 293 (Fr.V.G.); Domenichini, 1963: 4 (Lomb.); Domenichini, 1967: 169-180, 17 figs (Lomb., noxious); [Burckhardt, 1983b: 58 (Tic.)]; Hodkinson, 1983: 279 (Fr.V.G.); Rapisarda & Conci, 1989: 629 (Fr.V.G.); Rapisarda, 1991a: 36 (Sard.).

It. Dis. - Very common in N Italy, where it is the most common psyllid, after *Trioza urticae*. Found by us in 17 Regions throughout Italy, but not in Sicily; hundreds of specimens in more than 100 localities and 150 findings, between 100 and 1900 m.

Gen. Dis. - Holopalaearctic.

B. - According to the literature, widely oligophagous on *Crataegus*, *Malus* and *Pyrus* spp. (Rosaceae Maloideae); reported also on conifers and many other shelter and occasional plants of different families. Adults

were collected by us on *Crataegus monogyna* Jacq. from April to September (except August), more frequently on conifers throughout the year; also on *Malus domestica* Borkh. and occasional plants. One generation per year; overwintering as adult on shelter plants. According to DOMENICHINI (1963, 1967) this species can be noxious to cultivated apple-trees in N Italy.

101. *Cacopsylla (Thamnopsylla) crataegi* (Schrank, 1801)
Psylla crataegi

Des. - DOBREANU & MANOLACHE, 1962: 207; KLIMASZEWSKI, 1963: 443; HODKINSON & WHITE, 1979b: 40, 56 - V instar nymph: WHITE & HODKINSON, 1982: 36.

It. Rep. - FERRARI, 1888: 75 (Piem., Lig.); LÖW, 1888 (Fr.V.G., Tr.A.A.); BEZZI, 1893: 114 (Tr.A.A.); DALLA TORRE, 1893: 117 (Tr.A.A.); BEZZI, 1899: 16 (Tr.A.A.); BERLESE, 1900: 138 (Italy, noxious); LEONARDI, 1901: 168 (It., n.); GRÄFFE, 1911: 296 (Fr.V.G.); LEONARDI, 1922: 22 (It., n.); SILVESTRI, 1934: 382 (It., n.); ZANGHERI, 1934: 59 (Em. R.); GRANDI, 1951: 820 (It.); VONDRACEK, 1953: 174 (Sic.); MANCINI, 1954: 35 (Piem., Um.); TAMANINI, 1955: 11 (Tr.A.A.); ZANGHERI, 1966: 799 (Em. R.); [BURCKHARDT, 1983b: 57 (Tic.)]; RAPISARDA, 1985: 112 (Sic.); RAPISARDA, 1988b: 620 (Sic.); RAPISARDA & CONCI, 1989: 628 (Fr.V.G.); RAPISARDA, 1991a: 36 (Sard.).

It. Dis. - Very common. Found by us in all the 20 Italian Regions; hundreds of specimens in about 120 localities, with more than 150 findings, between the sea level and 1850 m.

Gen. Dis. - Holopalaearctic.

B. - According to the literature, strictly oligophagous on *Crataegus* spp. (Rosaceae Maloideae). Adults were collected by us throughout the year; from April to August on *Crataegus monogyna* Jacq., from July to May on conifers; frequently also on *Fagus sylvatica* L. and other shelter and occasional plants. Nymphs were collected by us from May to July. One generation per year; overwintering as adult on conifers. Old records of its noxious activity on *Crataegus azarolus* L. and *Malus domestica* Borkh. cannot be validate.

102. *Cacopsylla (Thamnopsylla) albipes* (Flor, 1861)
Psylla albipes

Des. - HODKINSON & WHITE, 1979b: 40, 55.

It. Rep. - LÖW, 1888: 15 (Fr.V.G.: Raibl = Predil); PROHASKA, 1927:

125 (Fr.V.G.: Raibl); [Burckhardt, 1983b: 57 (Tic.)]; Conci & Tamanini, 1984e: 263-264 (Tr.A.A., Lomb., La., Abr.); Rapisarda & Conci, 1989: 628 (Fr.V.G.).

It. Dis. - Rare. This orophilous species was found in 8 Regions of N and C Italy; about 25 specimens in 11 localities and 15 findings, between 850 and 1800 m.

Gen. Dis. - From Caucasus to Central Europe and Great Britain.

B. - According to the literature, strictly oligophagous on *Sorbus* spp. (Rosaceae Maloideae). Adults were collected by us in May, July, August and September on *Sorbus aria* (L.) Crantz, in January and from July to September on conifers or occasional plants; nymphs were collected by us in August. One generation per year; overwintering as adult on conifers.

103. *Cacopsylla (Thamnopsylla) breviantennata* (Flor, 1861)
Psylla breviantennata

Des. - Dobreanu & Manolache, 1962: 246; Klimaszewski, 1963: 423.

It. Rep. - [Gräffe, 1911: 293 (Istria)]; Tamanini, 1977d: 113 (Ven., Tr.A.A.); [Burckhardt, 1983b: 60 (Tic.)]; Hodkinson, 1983: 279 (Fr.V.G.); Rapisarda & Conci, 1989: 628 (Fr.V.G.).

It. Dis. - Very common. Found by us in 15 Regions throughout Italy, but not in the Isles; hundreds of specimens in more than 80 localities, with more than 130 findings, between 100 and 1900 m.

Gen. Dis. - Caucasian-Mediterranean.

B. - According to the literature, strictly oligophagous on *Sorbus* spp. (Rosaceae Maloideae). Adults were collected by us in May-July and September-October on *Sorbus aria* (L.) Crantz and rarely *S. aucuparia* L.; very often on conifers throughout the year. We found few nymphs on *S. aria* in July and October. One or two generations per year, according to the literature. Overwintering as adult on conifers.

104. *Cacopsylla (Thamnopsylla) pruni* (Scopoli, 1763)
Psylla pruni

Des. - Dobreanu & Manolache, 1962: 213; Klimaszewski, 1963: 437; Hodkinson & White, 1979b: 44, 57.

It. Rep. - Löw, 1888: 18 (Fr.V.G.: Görz = Gorizia); Berlese, 1900: 138 (It. noxious); Leonardi, 1901: 167-168 (It., n.); Gräffe, 1911: 293

(Fr.V.G.); LEONARDI, 1922: 32 (It., n.); SILVESTRI, 1934: 382 (It. n.); [VONDRACEK, 1953: 175 («Italia: Flitsch» = Plezzo, now Bovec in Slovenia)]; TAMANINI, 1955: 11 (Tr.A.A.); ZANGHERI, 1966: 799 (Em. R.); RAPISARDA & CONCI, 1989: 629 (Fr.V.G.).

It. Dis. - Common. Found by us in 11 Regions of N, C and S Italy, but not in the Isles; hundreds of specimens in about 50 localities, with more than 70 findings, between 150 and 1750 m.

Gen. Dis. - Centralasiatic-European.

B. - According to the literature, strictly oligophagous on *Prunus* spp. (Rosaceae Prunoideae). Collected in Italy only on *Prunus spinosa* L. Adults were found by us throughout the year: on the host plant from April to July, more often on conifers from August to April; nymphs were collected by us in June-July. One generation per year; overwintering as adult on conifers.

C. pruni was reported by BERLESE (1900), LEONARDI (1901, 1922) and SILVESTRI (1934) as noxious in Italy, but we do not presently have data on damages or findings of this species on plum-tree (*Prunus domestica* L.) in our Country.

105. *Cacopsylla (Thamnopsylla) alaterni* (Förster, 1848)
Psylla alaterni

Des. - HODKINSON & WHITE, 1979b: 54, 55; RAPISARDA, 1989a: 22-30, figs. - V instar nymph: WHITE & HODKINSON, 1982: 36; RAPISARDA, 1989a: 26.

It. Rep. - RAPISARDA, 1985: 112 (Sic.); RAPISARDA, 1988b: 620 (Sic.); RAPISARDA, 1989a: 30 (Lig., Tosc., Mar., La., Camp., Pu., Cal., Sic., Sard.); RAPISARDA, 1991a: 34-35 (Sard.).

Some of the following Italian old reports of *C. alaterni* may regard *C. myrthi*: [LÖW, 1882a: 212 («Ital.»: probable misprint for Ireland?)]; COSTA A., 1884: 40 (Sard.); FERRARI, 1888: 75 (Piem., Lig.); ZANGHERI, 1966: 799 (Em. R.).

It. Dis. - Common in the Mediterranean maquis. Found by us in 10 Regions throughout Italy, except the North-East, Alpine Arc and Po Plain; hundreds of specimens in about 40 localities, with more than 50 findings, between the sea level and 850 m.

Gen. Dis. - Mediterranean, as far as Canary Isles.

B. - Monophagous on *Rhamnus alaternus* L. (Rhamnaceae). On this host plant, adults and nymphs were collected by us throughout nearly the whole year. Up to 4-5 generations per year, with an almost continuous development; overwintering in all stages on the host plant.

106. *Cacopsylla (Thamnopsylla) myrthi* (Puton, 1876)
Psylla myrthi, Psylla euxina Loginova, 1975

Des. - Loginova, 1975: 708 (*sub P. euxina*); Rapisarda, 1989a: 31-38, figs (*sub C. euxina*). - V instar nymph: Rapisarda, 1989a: 33-34, figs (*sub C. euxina*).

It. Rep. - Rapisarda, 1988b: 620 (Sic., *sub C. euxina*); Rapisarda, 1989a: 37-38 (Ven., Lig., Tosc., Camp., Pu., Bas., Cal., Sic.). Some of the old Italian records of *C. alaterni* may regard *C. myrthi*.

It. Dis. - Common in the Mediterranean maquis. Found by us in 9 Regions, from Liguria, throughout peninsular Italy, as far as Sicily; one collection in Veneto, near Verona. Hundreds of specimens in more than 30 localities, with more than 50 findings, between the sea level and 700 m (up to 1800 m on conifers on M. Etna, in Sicily).

Gen. Dis. - Mediterranean.

B. - According to the literature, strictly oligophagous on *Rhamnus alaternus* L. and *R. palaestina* Boissier (Rhamnaceae). Adults and nymphs were found by us on *R. alaternus*, almost all over the year; sometimes collected on conifers or on occasional plants (the name of the species derives from an accidental capture on *Myrtus communis*). Up to 4-5 generations per year, with an almost continuous development; overwintering in all stages on the host plant, but normally as adult.

107. *Cacopsylla (Thamnopsylla) rhamnicola* (Scott, 1876)
Psylla rhamnicola

Des. - Dobreanu & Manolache, 1962: 241; Klimaszewski, 1963: 433; Hodkinson & White, 1979b: 44, 58; Conci & Tamanini, 1989a: 316, figs 22-30.

It. Rep. - [Burckhardt, 1983b: 60 (Tic.)]; Conci & Tamanini, 1989a: 315-316 (Tr.A.A., Abr., Pu.).

It. Dis. - Rare, but locally abundant. Found by us in the three Regions already reported in 1989, respectively of N, C and S Italy: Tr.A.A. (Province Trento, Commune Ruffrè, loc. Mount Penegal, m 1700); Abr. (Province and Commune L'Aquila, loc. road Assergi-Passo delle Capannelle, near S. Pietro and S. Franco, 1000-1300 m; same Province and Commune, loc. Campo Imperatore, 1500 m); Pu. (Province Foggia, Commune Manfredonia, Gargano, 400-500 m). On the whole, about two hundred specimens in 4 localities, with 8 findings, between 400 and 1500 (and also at 1700) m.

Gen. Dis. - From Mongolia to Iberian Peninsula.

B. - According to the literature, strictly oligophagous on *Rhamnus* spp. (Rhamnaceae). We collected adults and nymphs in June on *R. catharticus* L. (near Assergi) and in May on *R. saxatilis* Jacq. (on Gargano); one female in June on *R. alpinus* L. (at Campo Imperatore); three adults at the end of August on *Picea abies* (M. Penegal). One generation per year; overwintering as adult on conifers.

108. *Cacopsylla (Thamnopsylla) limbata* (Meyer-Dür, 1871)
Psylla limbata

Des. - Conci & Tamanini, 1982: 483-494, figs 1-27.

It. Rep. - Conci & Tamanini, 1982: 483-494, fig. 26 (Lig., Um., Mar., Laz., Abr.); Conci & Tamanini, 1989b: 61-62 (Piem., V.A., Lig., Abr.).

It. Dis. - Fairly common. After the publication of the two mentioned notes, we found this showy orophilous species also in Lombardia (Province Pavia, Commune Margherita di Staffora, loc. Pian dell'Armà), Emilia-Romagna (Province Piacenza, Commune Zerba, loc. Capannette di Pei), Toscana (Province Pistoia, Commune Abetone, loc. Val di Luce) and Molise (Province Isernia, Commune Capracotta). On the whole, *C. limbata* was found by us in 11 Regions of N and C Italy; hundreds of specimens in about 25 localities, with more than 30 findings, between 700 and 1900 m.

Gen. Dis. - Only Switzerland, French Pyrenees, NW and C Italy.

B. - Strictly oligophagous on *Rhamnus alpinus* L. and *R. pumilus* Turra (Rhamnaceae). We collected adults from May to September on its host plants and in February, March, August, October and December on conifers; nymphs in August and September. One generation per year; overwintering as adult on conifers.

109. *Cacopsylla (Thamnopsylla) pulchella* (Löw, 1877)
Psylla pulchella

Des. - Hodkinson & White, 1979b: 40, 57. - V instar nymph: White & Hodkinson, 1982: 35.

It. Rep. - Targioni Tozzetti, 1877: 240-241 (Tosc., Firenze, as honeydew of *Typhlocyba*); Löw, 1888: 19 (Tr.A.A.); Targioni Tozzetti, 1888: 410-411 (Tosc.); Bezzi, 1893: 114 (Tr.A.A.); Dalla Torre, 1893: 147 (Tr.A.A.: erroneous report of galls on *Quercus*); Bezzi, 1899: 25 (Tr.A.A.);

Leonardi, 1922: 33 (Italy, noxious); Hodkinson, 1983: 279 (Fr.V.G.); Rapisarda, 1985a: 112-113 (Sic.); Rapisarda, 1988b: 620 (Sic.); Rapisarda & Conci, 1989: 629 (Fr.V.G.).

It. Dis. - Common. Found by us in 17 Regions throughout Italy; not found in Sardinia; hundreds of specimens in more than 65 localities, with more than 100 findings, between the sea level and 300 m on its host plant, but up to 1850 m on conifers and many occasional plants.

Gen. Dis. - Northern Mediterranean; not reported for Iberian Peninsula.

B. - Monophagous on *Cercis siliquastrum* L. (Leguminosae Cesalpinioideae). Adults were collected by us from May to July on *Cercis*, and from July to April on conifers or occasional plants; nymphs in April-June. One (?) generation per year; overwintering as adult on conifers. Relevant migrations are shown by this species, which can be found greatly far from its host plant.

O. - *C. pulchella* slightly injuries ornamental *Cercis siliquastrum* trees, which may be soiled by the abundant honey-dew produced by the psyllid, as already reported by Targioni Tozzetti (1877, 1888).

110. *Cacopsylla (Hepatopsylla) ambigua* (Förster, 1848)
Psylla ambigua

Des. - Dobreanu & Manolache, 1962: 231; Klimaszewski, 1963: 406; Loginova, 1967a: 434; Hodkinson & White, 1979b: 48, 55.

It. Rep. - Löw, 1888: 19 (Fr.V.G.); Prohaska, 1928: 4 (Fr.V.G.); [Burckhardt, 1938b: 63 (Tic.)]; Rapisarda & Conci, 1989: 628 (Fr.V.G.); Rapisarda, 1991a: 35 (Sard.).

It. Dis. - Common. Found by us in 14 Regions throughout Italy, but not in Sicily; hundreds of specimens in more than 40 localities, more than 60 findings, between the sea level and 1900 m.

Gen. Dis. - Asiatic-European.

B. - According to the literature, strictly oligophagous on *Salix* spp. (Salicaceae). We collected adults from April to October on *Salix atrocinerea* Brot., *caprea* L., *elaeagnos* Scop., *purpurea* L., and others; very rarely on conifers or shelter plants; nymphs were collected by us from April to July on *S. caprea* and *purpurea*. According to the literature, one or two generations per year; overwintering as egg, or (Lauterer, 1976) as I or II instar nymph.

111. *Cacopsylla (Hepatopsylla) abdominalis* (Meyer-Dür, 1871)
Psylla abdominalis

Des. - Dobreanu & Manolache, 1962: 234; Klimaszewski, 1963: 404.

It. Rep. - Conci & Tamanini, 1984e: 263 (Tr.A.A., Lomb., Em. R., Tosc.).

It. Dis. - Fairly common. Found by us in 9 Regions of N and C Italy; more than 150 specimens in about 25 localities, with more than 30 findings, between 150 and 2000 m.

Gen. Dis. - From Mongolia to Central Europe.

B. - According to the literature, strictly oligophagous on *Salix* spp. (Salicaceae). Adults were collected by us from June to September on *Salix caprea* L., *S. elaeagnos* Scop., *S. purpurea* L.; in June and November also on conifers; in March and April on occasional plants. We never collected nymphs. According to the literature, one or two generations per year; probably overwintering as egg.

112. *Cacopsylla (Hepatosylla) intermedia* (Löw, 1888)
Psylla intermedia

Des. - Klimaszewski, 1970: 424. The species needs to be redescribed.

It. Rep. - Löw, 1888: 33 (Fr.V.G.: Görz = Gorizia, type locality); [Gräffe, 1911: 293 (Istria: Volosca, Abbazia = Opatija, now Croatia)]; Klimaszewski, 1970: 424 (Fr.V.G.: Trieste); [Burckhardt, 1983b: 62 (Tic.: Bolle di Megadino)]; Rapisarda & Conci, 1989: 629 (Fr.V.G.).

It. Dis. - Extremely rare. Although this species (close to *C. abdominalis* and *C. ambigua*) has been originally described from Italian material, we did not find it up to now.

Gen. Dis. - From Caucaus to Central Europe (few reports).

B. - According to the literature, strictly oligophagous on *Salix* spp. (Salicaceae). Nothing more has been published on its biology.

113. *Cacopsylla (Hepatopsylla) pulchra* (Zetterstedt, 1840)
Psylla pulchra

Des. - Dobreanu & Manolache, 1962: 229; Klimaszewski, 1963: 402; Loginova, 1967a: 439; Hodkinson & White, 1979b: 48, 55, 57. - V instar nymph: White & Hodkinson, 1982: 34.

It. Rep. - Conci & Tamanini, 1984e: 265 (Tr.A.A., Piem., Lig., Em.

R., Abr., Bas., Cal.); Rapisarda, 1988b: 620 (Sic.); Rapisarda & Conci, 1989: 629 (Fr.V.G.); Rapisarda, 1991a: 37-38 (Sard.).

It. Dis. - Common. Found by us in 15 Regions throughout Italy; hundreds of specimens in about 40 localities, with more than 50 findings, between the sea level and 2000 m.

Gen. Dis. - From Japan to W Europe, except Iberian Peninsula.

B. - According to the literature, strictly oligophagous on *Salix* spp. (Salicaceae). Adults were collected by us from February to September on *Salix apennina* Skvortsov, *atrocinerea* Brot., *elaeagnos* Scop., *foetida* Schleicher, *purpurea* L., and in January-May, July-December on conifers; nymphs in May. One (or two?) generation per year; overwintering as adult on conifers.

114. *Cacopsylla (Hepatopsylla) nigrita* (Zetterstedt, 1828)
Psylla nigrita

Des. - Dobreanu & Manolache, 1962: 222; Klimaszewski, 1963: 201; Loginova, 1967a: 437.

It. Rep. - Tamanini, 1977d: 113 (Lomb.); Rapisarda & Conci, 1989: 629 (Fr.V.G.).

It. Dis. - Fairly common on the Alps. This orophilous species was found by us in all the 7 Regions of N Italy, throughout the Alpine arc; hundreds of specimens in about 30 localities, with about 40 findings, between 1000 and 2550 m, very rarely at lower altitude. Our highest findings were in Piemonte, Province Cuneo: Perrero, near Punta Cialancia, 2440 m, on *Salix helvetica* Vill., and Prali, near Punta Cialancia, 2550 m, on *Larix decidua* Miller.

Gen. Dis. - Asiatic-European, except Great Britain and Iberian Peninsula.

B. - According to the literature, strictly oligophagous on *Salix* spp. (Salicaceae); one generation per year. We collected adults from April to September on *Salix caprea* L., *S. elaeagnos* Scop., *S. foetida* Schleicher, *S. helvetica* Vill. and *S. waldsteiniana* Willd.; nymphs in July and August; adults on conifers throughout nearly the whole year, except May and June. Overwintering as adult on conifers.

115. *Cacopsylla (Hepatopsylla) brunneipennis* (Edwards, 1869)
Psylla brunneipennis, Psylla klapaleki Sulc, 1909, *Psylla brunneipennis* forma *klapaleki*

Des. - Vondracek, 1959; Dobreanu & Manolache, 1962: 248 (*sub klapaleki*); Klimaszewski, 1963: 392 (*sub klapaleki*); Loginova, 1967a: 439; Hodkinson & White, 1979b: 54, 56.

It. Rep. - [BURCKHARDT, 1983b: 63 (Tic.)]; CONCI & TAMANINI, 1984e: 264 (Fr.V.G., Ven., Tr.A.A., Lomb., Em. R., La.); RAPISARDA & CONCI, 1989: 628 (Fr.V.G.); RAPISARDA, 1991a: 35-36 (Sard.).

It. Dis. - Common in the North, rare in the South. Collected by us in 15 Regions throughout Italy, except Sicily; hundreds of specimens in more than 50 localities and nearly 100 findings, between 150 and 2000 m.

Gen. Dis. - From Kazakhstan to Europe, except Iberian Peninsula.

B. - According to the literature, strictly oligophagous on *Salix* spp. (Salicaceae). Adults were collected by us from May to August, on *Salix atrocinerea* Brot., *aurita* L., *caprea* L., *cinerea* L., *glabra* Scop., *pedicellata* Desf., but more frequently and throughout nearly the whole year, on conifers; nymphs in June and July. One (or two?) generation per year; overwintering as adult on conifers.

O. - The status of *brunneipennis-klapaleki* complex is controversial. All our findings are to be ascribed to the clear forewings form (*klapaleki*).

116. *Cacopsylla (Hepatopsylla) propinqua* (Schäfer, 1949)
Psylla propinqua

Des. - SCHÄFER, 1949a: 37; LOGINOVA, 1967a: 435, 452; CONCI & TAMANINI, 1986a: 1-8, 18 figs.

It. Rep. - CONCI & TAMANINI, 1986a: 6 (V.A.).

It. Dis. - Very much localized. This species of high mountain was found by us and by Dr R. Poggi only on W Alps, in the Region Valle d'Aosta, Commune Valtournenche, loc. Cheneil; 147 specimens from three very close localities, collected in three findings, at 2000, 2300 and 2500 m.

Gen. Dis. - It is a Boreal-Caucasian-Alpine species, found in Altai, N Russia, Caucasus, Skandinavia, Czechoslovakia (?), Switzerland and N Italy.

B. - According to the literature, strictly oligophagous on *Salix glaucosericea* Flod. (= *glauca* Auct. nec L.), *S. helvetica* Vill. (= *lapponum* var. *helvetica*) and *S. lapponum* L. (Salicaceae). In Italy, adults were collected in July only on *Salix helvetica*; we did not find nymphs. One generation per year; overwintering as adult on conifers.

Note - A similar species, *Cacopsylla (Hepatopsylla) moscovita* (Andrianova, 1948), very likely occurs in Italy, on the Alps, but it has not been found up to now. It lives on *Salix* spp. and has been recorded also from Switzerland.

117. *Cacopsylla (Hepatopsylla) parvipennis* (Löw, 1877)
Psylla parvipennis

Des. - Klimaszewski, 1963: 397; Loginova, 1967a: 433.

It. Rep. - [Gräffe, 1911: 293 (Küstenland: Tolmein); Rapisarda & Conci, 1989: 629 (Tolmino)]. Not actually found up to now in the Italian Territory, but recorded from Tolmein (= Tolmino = Tolmin), a small village lying in the Isonzo (= Soča) valley, at about 5 km eastwards from the present Italian-Slovenian frontier.

This boundary-line has an almost dynamic history, thus Tolmino was in the Küstenland of the Austro-Hungarian Empire, at the time of Gräffe; it belonged to Italy between the two world-wars; then, it was annexed to Yugoslavia and presently belongs to Slovenia.

The occurrence of *C. parvipennis* in NE Regions of Italy (Fr.V.G.) is highly probable.

Gen. Dis. - North and Central Europe.

B. - According to the literature, strictly oligophagous on *Salix repens* L. and *S. rosmarinifolia* L. (Salicaceae); two (Lauterer, 1989: 17) or one generations per year; overwintering as adult on conifers.

118. *Cacopsylla (Hepatopsylla) elegantula* (Zetterstedt, 1840)
Psylla elegantula (Zetterstedt)

Des. - Dobreanu & Manolache, 1962: 250; Klimaszewski, 1963: 394; Loginova, 1967a: 437.

It. Rep. - Conci & Tamanini, 1984e: 265 (Ven., Tr.A.A.).

It. Dis. - Fairly rare. This orophilous species was found by us only in two Regions of NE Italy; a hundred of specimens in 7 localities, with 16 findings, between 1000 and 1700 m. In addition to the data reported by Conci & Tamanini (1984e), we collected this species 9 other times, in two localities of Trentino, in the zone between Ronzone and Mount Penegal (7 times on *Picea abies* and two times on *Salix purpurea*).

Gen. Dis. - From Japan to N and C Europe; not reported from C Asia and Caucasus.

B. - According to the literature, strictly oligophagous on *Salix* spp. (Salicaceae); one generation per year. Adults were collected by us and by Prof. L. Masutti in March and May on *Salix purpurea* L. and *S. appendiculata* Vill.; in January, March-April and September on conifers; wandering in August. We did not find nymphs. Overwintering as adult on conifers.

119. *Cacopsylla (Hepatopsylla) saliceti* (Förster, 1848)
Psylla saliceti, Psylla salicicola Förster, 1848

Des. - Dobreanu & Manolache, 1962: 226; Klimaszewski, 1963: 388; Loginova, 1967a: 440; Hodkinson & White, 1979b: 55, 58.

It. Rep. - Löw, 1888: 19 (*sub salicicola*, Fr.V.G.: Görz = Gorizia); Zangheri, 1934: 59 (Em. R.); Zangheri, 1966: 799 (Em. R.); Tamanini, 1977d: 115 (Tr.A.A.); Masutti, 1978: 83 (Ven.); Rapisarda, 1985a: 112 (Sic.); Rapisarda, 1988b: 620 (Sic.); Rapisarda & Conci, 1989: 629 (Fr.V.G.).

Leonardi's (1901: 169-170 and 1922: 32-33) records of *saliceti* and *salicicola* as noxious in Italy are erroneous.

It. Dis. - Fairly common. Found by us and L. Masutti in 12 Regions throughout Italy; not found in Sardinia; more than 200 specimens in more than 65 localities, with more than 70 findings, between the sea level and 1800 m (one finding also at 2150 m).

Gen. Dis. - Asiatic Far East, Caucasus and throughout Europe, except the North.

B. - According to the literature, strictly oligophagous on *Salix* spp. (Salicaceae). Part of the adults was collected by us and Prof. Masutti in February, May-July and September on *Salix appendiculata* Vill., *S. pedicellata* Desf. and *S. retusa* L.; but the most part was found on conifers throughout the year (except May and October). We collected nymphs in May. One or two generations per year; overwintering as adult on conifers.

120. *Cacopsylla (Hepatopsylla) iteophila* (Löw, 1876)
Psylla iteophila

Des. - Conci & Tamanini, 1990a: 205-217, 18 figs.

It. Rep. - Conci & Tamanini, 1990a: 214.

It. Dis. - Sometimes locally abundant. Found by us only in Trentino-Alto Adige (NE Italy), in the Province Bolzano (Commune Montagna-Montan) and in the Province Trento (Communes Ruffrè, Ton, Mezzolombardo, Pomarolo, Villa Lagarina, Terragnolo, Nago, Riva del Garda); more than 300 specimens in 10 localities, with 16 findings, between 70 and 1000 m (one collection at 1600 m).

Gen. Dis. - Central Europe and South Yugoslavia. Distribution map in Conci & Tamanini, 1990a: fig. 18.

B. - According to the literature, strictly oligophagous on *Salix elaea-*

gnos Scop. and *S. fragilis* L. (Salicaceae). Numerous overwintered adults were collected by us in March and April on *Salix elaeagnos* and *Salix* sp.; some newly emerged adults were found at the end of May on the same plants; few adults in February, April and December on conifers. Nymphs, found in May, need to be studied. One or two generations per year; overwintering as adult on conifers.

121. *Cacopsylla (Hepatopsylla) pyricola* (Förster, 1848)
Psylla pyricola, P. piricola, P. simulans Förster, 1848

Des. - Klimaszewski, 1963: 419 (pars); Hodkinson & White, 1979: 43, 48, 58; Burckhardt & Hodkinson, 1986. - V instar nymph: White & Hodkinson, 1982: 331 (pars); Burckhardt & Hodkinson, 1986.

It. Rep. - Ferrari, 1888: 75 (*sub simulans*, Piem.); Berlese, 1900: 137-138, fig. 113 A-B (It., noxious); Leonardi, 1901; 165 (It., n.); Silvestri, 1911: 94-95, fig. 86 (It., n.); Della Beffa, 1915: 47 (Piem., n.); Leonardi, 1922: 31 (It., n.); Malenotti, 1924: 8, 29 (Tr.A.A., n.); Grandi, 1927: 200 (It., n.); Boselli, 1928: 192 (It., n.); Malenotti, 1929 (Ven., n.); Grandi, 1930: 427 (It., n.); Della Beffa, 1934: 732 (It., n.); Silvestri, 1934: 381-382, fig. 350 (It., n.); Zangheri, 1934: 53 (Em. R.); Golfari, 1937: 212 (Em. R., n.); Tirelli, 1947: 119 (It., n.); Della Beffa, 1949: 124 (It., n.); Grandi, 1951: 817-818, figs 658-659 (It., n.); Venturi & Ruffo, 1953: 153 (It., n.); Venturi & Ruffo, 1962: 122 (It., n.); Commonwealth Inst. Ent., 1963, map 156; Venturi, 1965 (It., n.); Zangheri, 1966: 799 (Em. R.); Servadei *et al.*, 1972: 345 (It., n.); Venturi, 1974: 145; Tremblay, 1978: 1016 (It., n.); Tremblay, 1981: 90-93, figs 97-99 (It., n.); [Burckhardt, 1983b: 60 (Tic.)]; Hodkinson, 1983: 279 (Fr.V.G.); Hodkinson, 1984a (It.); Burckhardt & Hodkinson, 1986: 130 (It.); Rapisarda & Conci, 1989: 629 (Fr.V.G.).

Some more records occur in the Italian literature on applied Entomology, but they are omitted here, since they only regard the damages by *C. pyricola* to cultivated pear-trees or its control, thus giving no chorological data on the psyllid (see also *C. pyri*).

Part of the Italian records of *C. pyricola* may regard other similar species (as *C. bidens, C. notata* and *C. permixta*) (Burckhardt & Hodkinson, 1986).

It. Dis. - Common. Found by us in 11 Regions of N and C Italy, but not in S Italy, Sicily and Sardinia, between the sea level and 1350 m. More collections are necessary to better define the distribution of this species.

Gen. Dis. - Before 1986, *C. pyricola* was known from Asiatic Far East, Caucasus, Europe and was reported as introduced in North America and Argentina. At present, due to a recent taxonomic arrangement of the *pyricola*-group (BURCKHARDT & HODKINSON, 1986), its occurrence is confirmed only in Europe and North America.

B. - According to the literature, strictly oligophagous on *Pyrus* spp. (Rosaceae Maloideae). Adults were collected by us from May to December on *Pyrus communis* L. Three-five generations per year; dimorphic; overwintering as adult on the host plant, in the form *simulans*.

O. - The taxonomic status of *pyricola*-group has been recently revised through redescription of some old and poorly known species and description of new taxa (BURCKHARDT & HODKINSON, 1986). Three of these species (*C. bidens, C. notata* and *C. pyricola*) occur in Italy; a fourth oriental one (*C. permixta*) may also be present.

Old Italian records of injuries by *C. pyricola* to pear-trees are not confirmed by our field observations, which show *C. pyri* as the real, primary psyllid pest in Italian pear orchards. On the contrary, *C. pyricola* is still reported as a serious pest in North America. FIELDS *et al.* (1981) report a very numerous bibliography regarding this species, over all in North America.

122. *Cacopsylla (Hepatopsylla) bidens* (Sulc, 1907)

Des. - BURCKHARDT & HODKINSON, 1986. - V instar nymph: BURCKHARDT & HODKINSON, 1986.

It. Rep. - BURCKHARDT & HODKINSON, 1986: 127 (It.).

It. Dis. - Rare. Found by us in one Region of N Italy and in Sicily; few adult specimens only in three localities (Tr.A.A., Province Trento, Commune Rovereto; Sic., Province Catania, Communes Biancavilla and Nicolosi) with few findings, from 170 to 1100 m. Certainly wider diffused, but hardly discernible from *C. pyricola*.

Gen. Dis. - Central Asia, Iran, Caucasus, Ucraina, Israel, C and S Europe as far as France.

B. - According to the literature, strictly oligophagous on *Pyrus* spp. (Rosaceae Maloideae). Adults were collected by us in January and from May to December on *Pyrus communis* L. Polyvoltine and dimorphic; overwinters as adult on its host plant.

O. - *C. bidens* is common in C Asia, where it is a pest of pear-trees (reported as *C. vasilevi*).

123. *Cacopsylla (Hepatopsylla) notata* (Flor, 1861)
Psylla vicina Sulc, 1915

Des. - Burckhardt & Hodkinson, 1986. - V instar nymph: Burckhardt & Hodkinson, 1986.

It. Rep. - Rapisarda, 1985a: 112, 113 (Sic., *sub Psylla vicina*); Burckhardt & Hodkinson, 1986: 130 (It.); Rapisarda, 1988b: 618 (Sic.); Rapisarda & Siscaro, 1990: 35-37, fig. 1 (Sic.); Rapisarda, 1991a: 36-37 (Sard.).

It. Dis. - Fairly common. Found by us in 5 Regions of C, S Italy, in Sic. and Sard.; hundreds of specimens, in about 40 localities, with more than 50 findings, between the sea level and 900 m.

Gen. Dis. - North Mediterranean.

B. - Strictly oligophagous on *Pyrus* spp. (Rosaceae Maloideae). Adults and nymphs were collected by us on *Pyrus amygdaliformis* Vill., *P. communis* L. and *P. pyraster* Burgsd. from April to December; *P. amygdaliformis* is the most common host plant. Polyvoltine; overwintering as adult on its host plant.

O. - According to our field data, *C. notata* seems not to be noxious to pear-trees in Italy.

124. *Cacopsylla (Hepatopsylla) pyri* (Linnaeus, 1758)
Psylla pyri, P. piri, Psylla rubra Fourcroy, 1785

Des. - Dobreanu & Manolache, 1962: 192; Klimaszewski, 1963: 440; Hodkinson & White, 1979b: 40, 58; Burckhardt & Hodkinson, 1986. - V instar nymph: White & Hodkinson, 1982: 33.

It. Rep. - Such as for *C. pyricola* (see), we report only part of the very wide Italian literature presently available on *C. pyri*, its damages on pear-trees and control.

Löw, 1888: 15 (Fr.V.G.: Görz = Gorizia); Franceschini, 1891: 128 (It., noxious); * Soli, 1897 (*sub rubra*, It., n.); Berlese, 1900: 138 (It., n.); Cavallero, 1900: 179 (It., n.), Soli, 1900: 140 (*sub rubra*, It., n.); Leonardi, 1901: 166-167 (It., n.); Del Guercio, 1902; 445 (It., n.); Silvestri, 1911: 95 (It., n.); Della Beffa, 1914: 87 (Piem., n.); Craveri, 1915: 338 (It., n.); Della Beffa, 1915: 47 (Piem., n.); De Stefani, 1919: 151 (Sic.); Leonardi, 1922: 32 (It., n.); Berlese, 1924: 316 (It., n.); Craveri, 1926: 240 (It., n.); Grandi, 1927: 200 (It., n.); Boselli, 1928: 192 (It., n.); Della Beffa, 1934: 731-732, fig. 789 (It., n.); Malenotti, 1938: 115 (n.); Grandori, 1947: 129 (It., n.); Della Beffa, 1949: 123-124, fig. 106 (It., n.); Venturi & Ruffo, 1953: 124; Tamanini, 1955: 10 (Tr.A.A.); San-

SOVINI & BORTOLOTTI: 60 (It., n.); CIAMPOLINI, 1962: 1106 (It., n.); OSELLA, 1962: 1 (It., n.); ZANARDI, 1962: 382 (It., n.); COMMONWEALTH INST. ENT., 1963, map 55 (It., n.); VENTURI, 1965 (It., n.); NUCIFORA, 1969: 348 (Sic., n.); SERVADEI *et al.*, 1972: 344-345, fig. 195 (It., n.); VENTURI, 1974: 145 (It., n.); DE GIOVANNI, 1977: 40-41, 6 figs (It., n.); DIOLI, 1977: fig. 3 (n.); PICCO, 1977: 27.307 (It., n.); BADIALI, 1978: 31-34, 6 figs (It., n.); BALDRATI & FRIGATO, 1978: 491 (It., n.); BRUNELLI *et al.*, 1978: 483 (It., n.); DE FANTI, 1978: 477-481 (It., n.); PICCO & PICCO, 1978: 101 (It., n.); TREMBLAY, 1978: 1016 (It., n.); VIDANO *et al.*, 1978: 65 (It., n.); ARZONE, 1979: 131 (It., n.); FERRARI, 1979: 149 (It., n.); BADIALI, 1980: 43-50, 6 figs (It., n.); BRUNELLI & MUZZIOLI, 1980: 193 (It., n.); TREMBLAY, 1981: 90-93, figs 98-99 (It., n.); CAPELLO & UGOLINI, 1982: 62-69 (It., n.); GREMO & MICHELOTTI, 1982: 91 (It., n.); PRIORE *et al.*, 1982: 77; DE GIOVANNI & PEZZI, 1983: 27-28, figs (It., n.); HODKINSON, 1983: 259 (Fr.V.G.); GIUNCHI *et al.*, 1984: 227; HODKINSON, 1984a: 32, fig. 3 (It.); MORI & SANCASSANI, 1984: 354; VILLANI *et al.*, 1984: 217 (It., n.); RAPISARDA, 1985a: 112 (Sic.); SANCASSANI, 1985: 145 (It., n.); BARBIERI *et al.*, 1986 (It., n.); BURCKHARDT & HODKINSON, 1986; PRIORE *et al.*, 1988: 77 (It., n.); RAPISARDA, 1988b: 620 (Sic.); TERNA & PAVAN, 1988 (Ven.); MARULLO & PRIORE, 1989 (Sic.); NICOLI *et al.*, 1989: 171 (Em. R.); RAPISARDA & CONCI, 1989: 629 (Fr.V.G.); CHIANELLA *et al.*, 1990: 191 (It., n.); RAPISARDA & SISCARO, 1990: 37-38, fig. 1 (Sic., n.); ROFFRENI *et al.*, 1990: 198 (It., n.); PRIORE, 1991: 57-61, 6 figs (Camp.); RAPISARDA, 1991a: 38 (Sard.); RAPISARDA & SISCARO, 1991: 417-421 (Sic.).

It. Dis. - Common and seriously injurious. Found by us in 15 Regions throughout Italy; hundreds of specimens in about 50 localities, with more than 60 findings, between 50 and 1200 m.

Gen. Dis. - Far Eastern Asia and Caucasus (not in remaining part of the Continent; throughout Europe. Distribution map in HODKINSON (1984a: fig. 3).

B. - Strictly oligophagous on *Pyrus* spp. (Rosaceae Maloideae). We collected adults throughout the year on *Pyrus communis* L.; about 3 (2-5) generations per year; overwintering as adult on its host plant.

O. - *C. pyri* is the most dangerous among the psyllids presently known in Italy.

125. *Cacopsylla (Hepatopsylla) hippophaes* (Förster, 1848)
Psylla hippophaes

Des. - KLIMASZEWSKI, 1963: 413; HODKINSON & WHITE, 1979b: 44, 54, 56, 88.

Fig. 14 - Biotope of the monophagous *Livilla spectabilis* in Central Italy, Molise, Vastogirardi, about 700 m, on *Spartium junceum*, vigorous and very widespread bush. (Photo C. Conci, VI.1993).

Fig. 15 - NW Italy, Valle d'Aosta, Verrayes, about 1300 m. Clayey and crumbling scarp with silvery bushes of *Hippophae rhamnoides*, host plant of *Cacopsylla hyppophaes* and *C. zetterstedti*. (Photo C. Conci, VII.1993).

It. Rep. - TAMANINI, 1977d: 113 (Tr.A.A.); [BURCKHARDT, 1983b: 61 (Tic.)].

It. Dis. - Not rare. Found by us in 4 Regions of N Italy; hundreds of specimens in 15 localities, with about 20 findings, between the sea level and 1450 m. Our fig. 15 reports a collecting biotope.

Gen. Dis. - From Far East Asia to W Europe.

B. - Monophagous on *Hippophae rhamnoides* L. (Elaeagnaceae). We collected adults from June to September, but also in November, on its host plant; nymphs in June and September. One (or two?) generations per year; overwintering as egg.

126. *Cacopsylla (Hepatopsylla) zetterstedti* (Thomson, 1877)
Psylla zetterstedti

Des. - KLIMASZEWSKI, 1963: 415; HODKINSON & WHITE, 1979b: 87.

It. Rep. - CONCI & TAMANINI, 1984e: 265-266 (Tr.A.A., Piem.).

It. Dis. - Not common. Found by us in 4 Regions of N and C Italy; about two hundred specimens in 12 localities, with about 20 findings, between 750 and 1900 m. Our fig. 15 reports a biotope.

Gen. Dis. - From East Asia to W Europe.

B. - Monophagous on *Hippophae rhamnoides* L. (Elaeagnaceae). We collected adults from May to October and nymphs from May to July and in October, always on the host plant. One (or two?) generation per year; overwintering as egg.

127. *Cacopsylla (Hepatopsylla) rhododendri* (Puton, 1871)
Psylla rhododendri

Des. - DOBREANU & MANOLACHE, 1962: 244; KLIMASZEWSKI, 1963: 442.

It. Rep. - TAMANINI, 1977d: 114 (Ven., Tr.A.A., Lomb., Piem.); [BURCKHARDT, 1983b: 61 (Tic.)]; CONCI & TAMANINI, 1989a: 315 (Tr.A.A.); RAPISARDA & CONCI, 1989: 629 (Fr.V.G.).

It. Dis. - Common on the Alps. This orophilous species was found by us in 5 Regions of N Italy, throughout the Alpine arc; hundreds of specimens in more than 40 localities, with more than 50 findings, between 950 and 2250 m.

Gen. Dis. - Far East Asia, East and Central Europe.

B. - According to the literature, strictly oligophagous on *Rhododendron* spp. (Ericaceae). Adults were collected by us from July to Octo-

ber on *R. ferrugineum* L. and *R. hirsutum* L., nymphs in July. One generation per year; overwintering as egg.

128. *Cacopsylla (Hepatopsylla) myrtilli* (Wagner, 1947)
Psylla myrtilli

Des. - Klimaszewski, 1963: 438.

It. Rep. - Conci & Tamanini, 1989a: 312, figs 18-19 (Tr.A.A.).

It. Dis. - Fairly rare. This orophilous species was collected by us only on the Alps of Trentino-Alto Adige (NE Italy), in the Province Bolzano (Communes Bressanone, Ultimo, Salorno, Nova Levante, Nova Ponente) and in the Province Trento (Communes Vigo di Fassa and Capriana); about 80 specimens in 8 localities, with 8 findings, between 1200 and 1950 m.

Gen. Dis. - Holarctic, circumpolar and boreal-alpine; also on Carpathians.

B. - According to the literature, strictly oligophagous on *Vaccinium myrtillus* L. and *V. uliginosum* L. (Ericaceae). We collected adult females in August ant two nymphs in July, on *V. myrtillus*. One generation per year; probably overwintering as egg. *C. myrtilli* is the only parthenogenetic psyllid in Central Europe.

129. *Cacopsylla (Hepatopsylla) viburni* (Löw, 1877)
Psylla viburni

Des. - Dobreanu & Manolache, 1962: 210; Hodkinson & White, 1979b: 53, 61.

It. Rep. - Tamanini, 1977d: 115 (Tr.A.A.).

It. Dis. - Not common. Found by us in 4 Regions of N and C Italy (Tr.A.A., Piem., Abr., Mol.); more than two hundred specimens in more than 10 localities, with about 20 findings, between 300 and 1700 m.

Gen. Dis. - Japan (needs to be confirmed), Caucasus, Central Europe, Great Britain.

B. - According to the literature, strictly oligophagous on *Viburnum* spp. (Caprifoliaceae). We collected adults on *Viburnum lantana* L. from May to September and nymphs in July. One generation per year; overwintering as egg.

130. *Cacopsylla (Hepatopsylla) visci* (Curtis, 1835)
Psylla visci

Des. - KLIMASZEWSKI, 1963: 445; HODKINSON & WHITE, 1979b: 48, 54, 61.

It. Rep. - BIN, 1970: 139 (Em. R.).

It. Dis. - Rare. Found in Italy by F. Bin and by us in three Regions of N, C and S Apennines; not many specimens, some findings in the following localities, between 430 and 950 m: Em. R., Province Piacenza, Communes Farini (400 m), Ferriere (600 m), Bettola (localities Prato Barbieri and Passo Pianezze, 950 m), Bobbio (loc. Mezzano Scotti, 250 m); Abr., Province and Commune L'Aquila (loc. Arischia, 800 m); Cal., Province Cosenza, Commune S. Fili (600 m).

Gen. Dis. - Irak, Caucasus, Europe (except N and W), Morocco.

B. - According to the literature, strictly oligophagous on *Viscum album* L. and *Loranthus europaeum* Jacq. (Loranthaceae). Adults were collected by Prof. F. Bin and by us from March to September, nymphs during the whole year, always on *Viscum album*. Two or three generations per year, according to BIN (1970). Overwintering as nymph. The species strongly deforms the leaves, which are sometimes bent as a C.

Genus *Spanioneura* Förster, 1848

131. *Spanioneura fonscolombii* Förster, 1848

Des. - HODKINSON & WHITE, 1979b: 39.

It. Rep. - CONCI & TAMANINI, 1984e: 262-263 (Tr.A.A., Piem., Lig., Tosc., Laz., Abr.).

It. Dis. - Common. Found by us in 6 Regions of N and C Italy; hundreds of specimens in more than 10 localities, with many findings, between the sea level and 900 m.

Gen. Dis. - Caucasus (Azerbaijan), Switzerland, S France, S Britain, N, C Italy, Spain. A single finding from U.S.A. (introduced).

B. - According to the literature, strictly oligophagous on *Buxus* spp. (Buxaceae). Adults were collected by us throughout the whole year, nymphs in June, on *Buxus sempervirens* L., frequently cultivated in the gardens; sometimes, in Liguria and Abruzzo, also on wild *Buxus*. One generation per year; overwintering as adult on the host plant. The species is sometimes abundant, but it does not seem to be noxious.

Table II - DISTRIBUTION OF THE SPECIES IN THE 20 ITALIAN REGIONS

! = Specimens collected or examined by us, or reliable bibliographical records
o = Only bibliographical records, without recent control.

	Friuli-Ven. G.	Veneto	Trentino-A.A.	Lombardia	Piemonte	Valle d'Aosta	Liguria	Emilia-Romagna	Toscana	Umbria	Marche	Lazio	Abruzzo	Molise	Campania	Puglia	Basilicata	Calabria	Sicilia	Sardegna
1. *Livia juncorum*	!	!	!	!	!		o	!	o	!		!					!	!	o	o
2. *L. mediterranea*									!	!						!	!	!	!	!
3. *Euphyllura olivina*	!	!	!	!	o		!		!	!	!	!	!	!	!	!	!	!	!	!
4. *E. phillyreae*	!	!					!	o		!					!	!	!	!	!	!
5. *Crastina loginovae*														!					!	
6. *Stigmaphalara tamaricis*																				!
7. *Colposcenia aliena*							!							!			!	!	!	!
8. *Aphalara exilis*			!																	
9. *A. sauteri*	!	!	!	!	!	!	!	!	!				!							!
10. *A. maculipennis*		!	!										!							
11. *A. longicaudata*	!	!	!																	
12. *A. borealis*	!	!	!																	
13. *A. polygoni*	!	!	!	!	!			!	!		!	!	!		!					
14. *A. rumicicola*	!	!	!	!	!		!	!												
15. *A. avicularis*			!	!	!	!		!												
16. *A. calthae*	!																			
17. *Craspedol. malachitica*		!	!	!	!	!														
18. *Xanioptera carinthica*			!			!														
19. *X. conspersa*		!	!	!	!			!	!		!									
20. *X.* near *alevtinae*													!							
21. *Magnaphalara flavipen.*	!	o	!	!	!															
22. *M. nervosa*	!	!	!		!	!														
23. *M. bulgarica*						!							!		!	!		!	!	!
24. *M. santolinae*																				!
25. *M.* near *pontica*											!		!							
26. *Tetrafollicula omissa*			!	!																
27. *Neocrasped. subpunctata*			!																	
28. *Paracrasped. nebulosa*			!		!	!	!						!	!						
29. *Rhodochlanis bicolor*								!												
30. *R. salsolae*																!		!	!	
31. *Camarotoscena speciosa*	!	o	!		o		o	!											!	
32. *C. subrubescens*	!		!			!	!	!			!	!			!				!	
33. *Aphorma lichenoides*																!		!	!	!
34. *Strophingia ericae*	o		!	!	!		!	!	!											
35. *S. cinereae*				!			!	!	!						!	!	!	!	!	!
36. *S. proxima*									!										!	!
37. *S.* sp.																				!
38. *Agonoscena targionii*							!		!	!	!	!			!	!	!	!	!	!
39. *A. succincta*		!		!	!										!					
40. *A. cisti*							!		!		!				!	!	!	!	!	!
41. *Lisronia varicicosta*							!		!							!			!	!

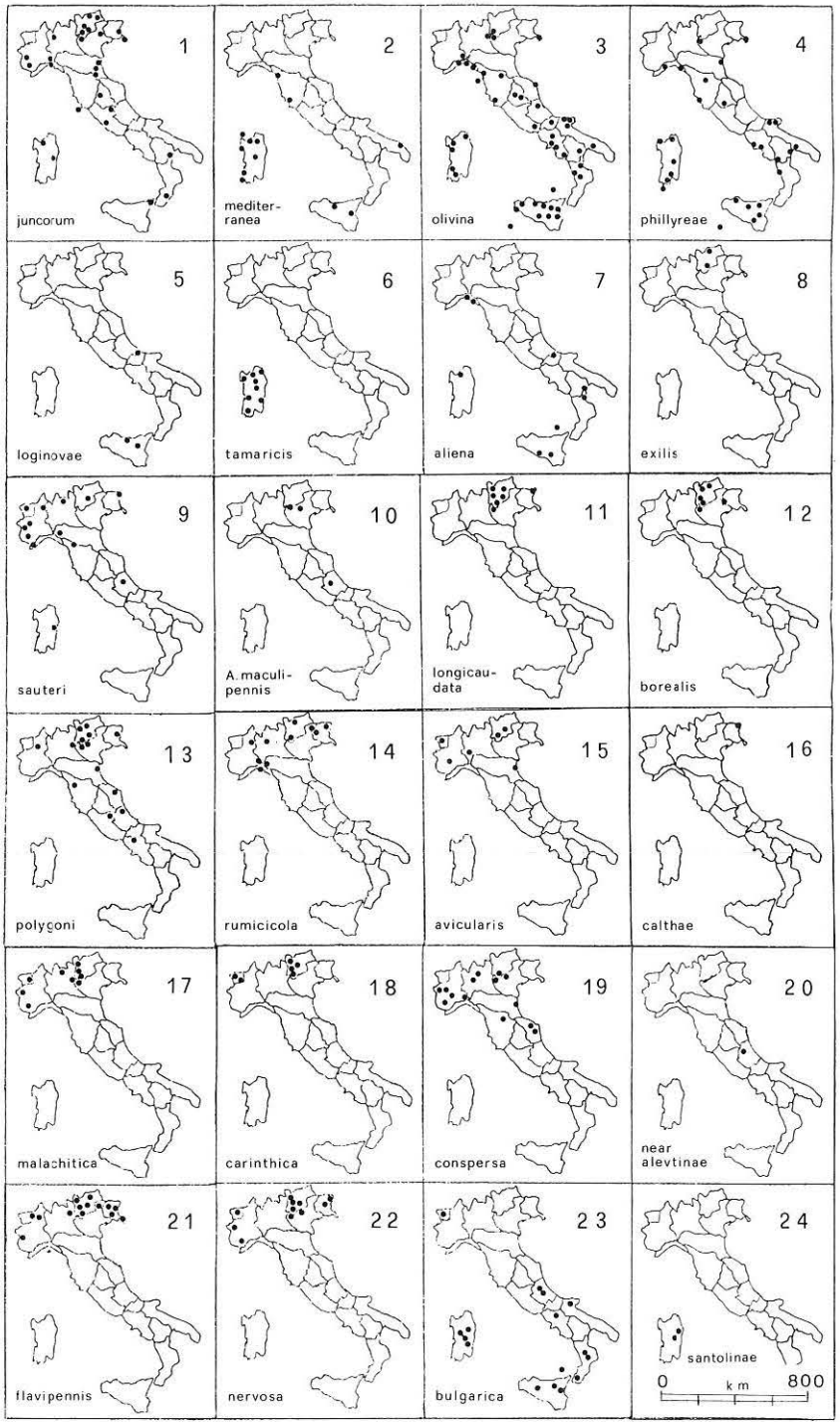
Table II

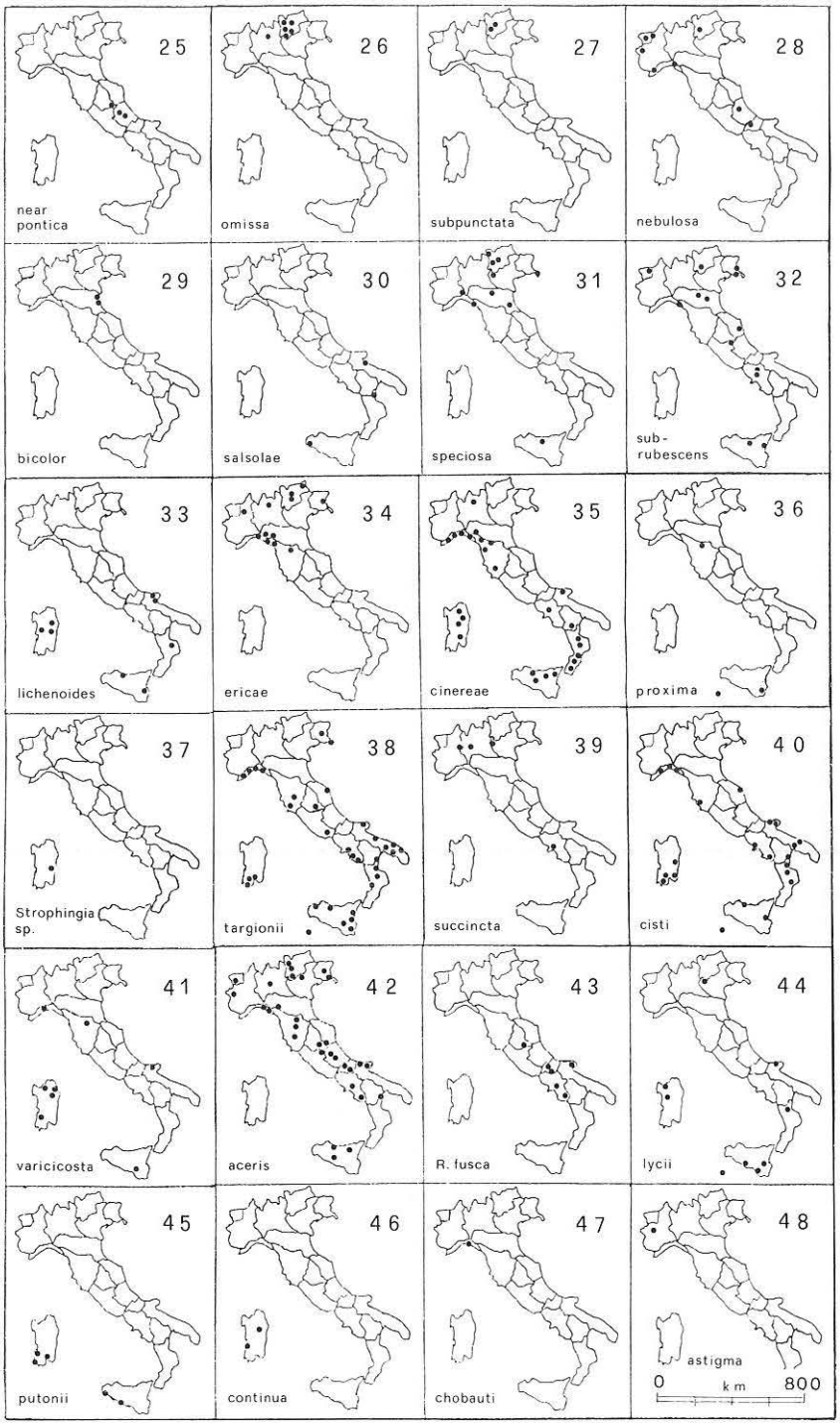
	Friuli-Ven. G.	Veneto	Trentino-A.A.	Lombardia	Piemonte	Valle d'Aosta	Liguria	Emilia-Romagna	Toscana	Umbria	Marche	Lazio	Abruzzo	Molise	Campania	Puglia	Basilicata	Calabria	Sicilia	Sardegna
42. *Rhinocola aceris*	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!		!	
43. *Rhinocola fusca*										!				!	!	!				
44. *Diaphorina lycii*		!														!		!	!	!
45. *D. putonii*																			!	!
46. *D. continua*																				!
47. *D. chobauti*							!													
48. *Pseudaphorma astigma*					!															
49. *Psyllopsis fraxinicola*	!	!	!	!	!	!	!	!	!											
50. *P. meliphila*	!	!	!	!			!			!			!			!		!	!	
51. *P. discrepans*																!	!	!		
52. *P. fraxini*	!	!	!	!	!	!		!	!			o							!	
53. *Acizzia acaciaebailey.*																			!	
54. *A. uncatoides*							!							!	!				!	
55. *A. hollisi*																			!	
56. *Cyamophila prohaskai*			!		!															
57. *Arytaina genistae*			!	!	!		!	!	!		!	!	!	!	!	!	!	!		o
58. *A. maculata*													!					!		
59. *A. adenocarpi*																			!	
60. *A. africana*																!		!	!	!
61. *A. torifrons*					!															
62. *Arytainilla spartioph.*				!	!		!	!	!						!					
63. *A. spartiicola*																!				
64. *A. barbagalloi*																			!	
65. *A. hakani*																		!	!	!
66. *A. incuba*																			!	
67. *A. cytisi*							!									!	!	!	!	!
68. *Livilla ulicis*	!	!	!				!	!		!	!		!							
69. *L. vicina*	!	!	!	!																
70. *L. cognata*			!																	
71. *L. horvathi*	o							!	!				!	!	!	!	!			
72. *L. vittipennella*	!	!	!	!	!			!												
73. *L. radiata*			!						!		!		!		!	!		!		
74. *L. retamae*																			!	
75. *L. siciliensis*																			!	
[76. *L.* near *maculipennis*]																				
77. *L. hollisi*																				!
78. *L. pyrenaea*							!													
79. *L. bimaculata*							!	!												!
80. *L. magna*															!				!	!
81. *L. poggii*																				!
82. *L. spectabilis*	!				o		!	!	!	!		!	!	!	!	!	!	!	!	
83. *L. variegata*	!	!	!	!	!		!	!	!		!		!	!						
84. *Psylla alni*	!	!	!	!	!	!	!	!	!	!							!	!		
85. *P. cordata*														!	!	!				!
86. *P. fusca*	!		!	!	!	!		!												
87. *P. alpina*	!	!	!	!	!	!														

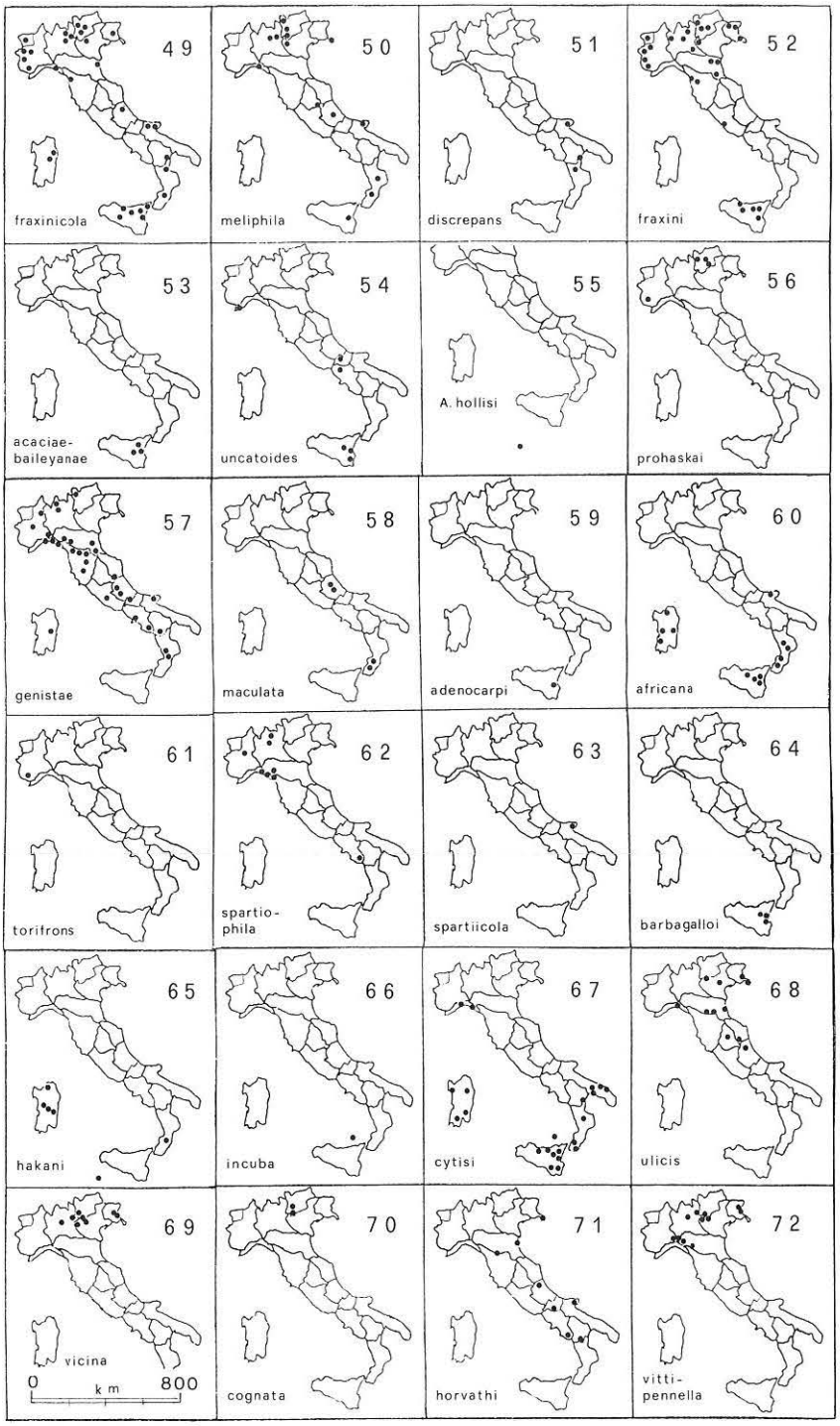
Table II

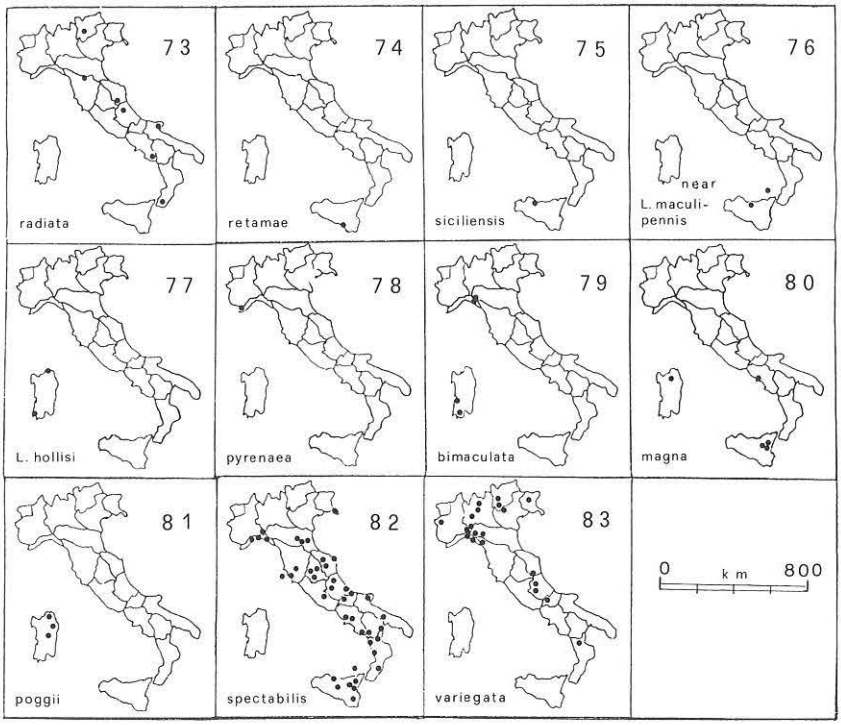
	Friuli-Ven. G.	Veneto	Trentino-A.A.	Lombardia	Piemonte	Valle d'Aosta	Liguria	Emilia-Romagna	Toscana	Umbria	Marche	Lazio	Abruzzo	Molise	Campania	Puglia	Basilicata	Calabria	Sicilia	Sardegna
88. *P. betulae*			!		!															
89. *Asphagidella buxi*	!	!	!	!	!	!	!	!	!	!		!	!							o
90. *Baeopelma colorata*	!	!	!	!	!		!	!	!			!	!	!	!	!		!	!	!
91. *Baeopelma försteri*	!		!	!	!		!	!	!				!	!	!		!	!	!	
92. *Chamaepsylla hartigii*				!																
93. *Cacopsylla mali*	!		!		!		!	!				!	!	!		!				
94. *C. sorbi*	!		!	!	!	!	!	!				!	!	!						
95. *C. peregrina*	!	!	!	!	!		!	!	!		!	!	!	!	!	!	!	!	!	!
96. *C. ulmi*				!																
97. *C. pyrisuga*	!	!	!	!	!	!	!	!	!			!		!	!	!	!	!		
98. *C. costalis*			!																	
99. *C. affinis*	!	!	!	!	!	!	!	!	!	!		!	!	!		!	!	!		
100. *C. melanoneura*	!	!	!	!	!	!	!	!	!	!			!	!			!	!		!
101. *C. crataegi*	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!
102. *C. albipes*	!	!	!	!	!	!						!	!							
103. *C. breviantennata*	!	!	!	!	!	!	!	!	!	!			!	!	!		!	!		
104. *C. pruni*	!	!	!	!	!		!	!	!				!	!				!		
105. *C. alaterni*							!		!	!	!	!			!	!		!	!	!
106. *C. myrthi*		!					!		!		!				!	!	!	!	!	
107. *C. rhamnicola*			!										!			!				
108. *C. limbata*				!	!	!	!	!	!	!	!	!	!	!						
109. *C. pulchella*	!	!	!	!	!		!	!	!	!	!	!	!	!	!	!		!	!	
110. *C. ambigua*	!	!	!	!	!		!	!	!			!	!	!			!	!	!	!
111. *C. abdominalis*		!	!	!	!		!	!	!				!	!						
112. *C. intermedia*	!																			
113. *C. pulchra*	!	!	!	!	!		!	!	!				!	!	!		!	!	!	!
114. *C. nigrita*	!	!	!	!	!	!	!													
115. *C. brunneipennis*	!	!	!	!	!	!	!	!	!			!	!	!			!	!		!
116. *C. propinqua*						!														
117. *C. parvipennis*																				
118. C. elegantula		!	!																	
119. *C. saliceti*	!	!	!	!	!	!		o		!			!	!				!	!	
120. *C. iteophila*			!																	
121. *C. pyricola*	o	o	!	!	!	!	!	!	!			!	!							
122. *C. bidens*			!																!	
123. *C. notata*													!	!	!	!		!	!	!
124. *C. pyri*	!	!	!	!	!	!		!			!		!	!	!	!		!	!	!
125. *C. hippophaes*			!		!	!		!												
126. *C. zetterstedti*			!		!	!			!											
127. *C. rhododendri*	!	!	!	!	!															
128. *C. myrtilli*			!																	
129. *C. viburni*			!		!								!	!						
130. *C. visci*								!					!					!		
131. *Spanioneura fonscol.*			!		!		!		!			!	!							
Total	50	48	70	50	57	31	51	48	44	20	21	25	43	33	32	36	27	42	48	40

ORIENTATIVE MAPS OF THE ITALIAN DISTRIBUTION OF APHALARIDAE AND PSYLLIDAE

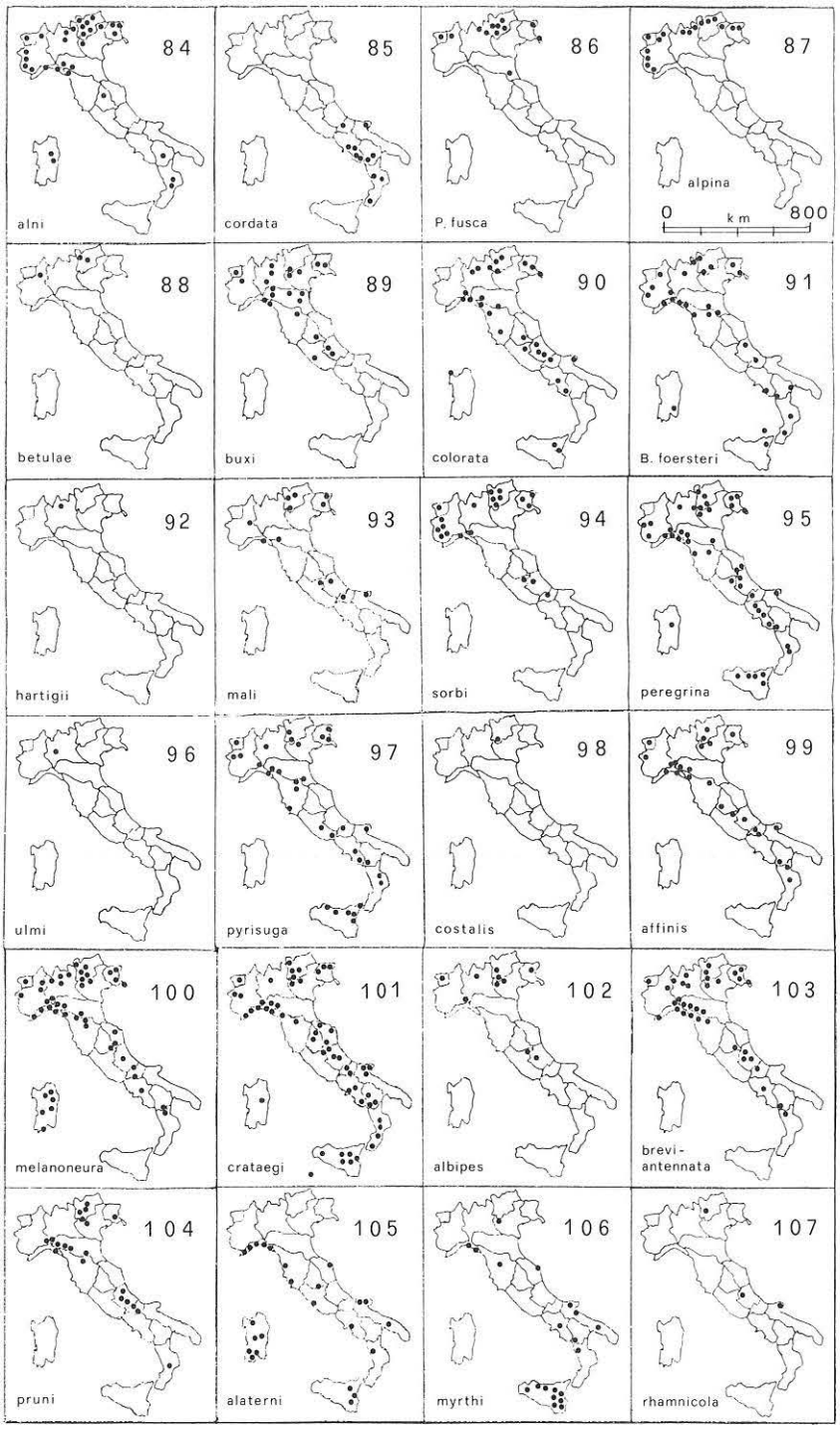


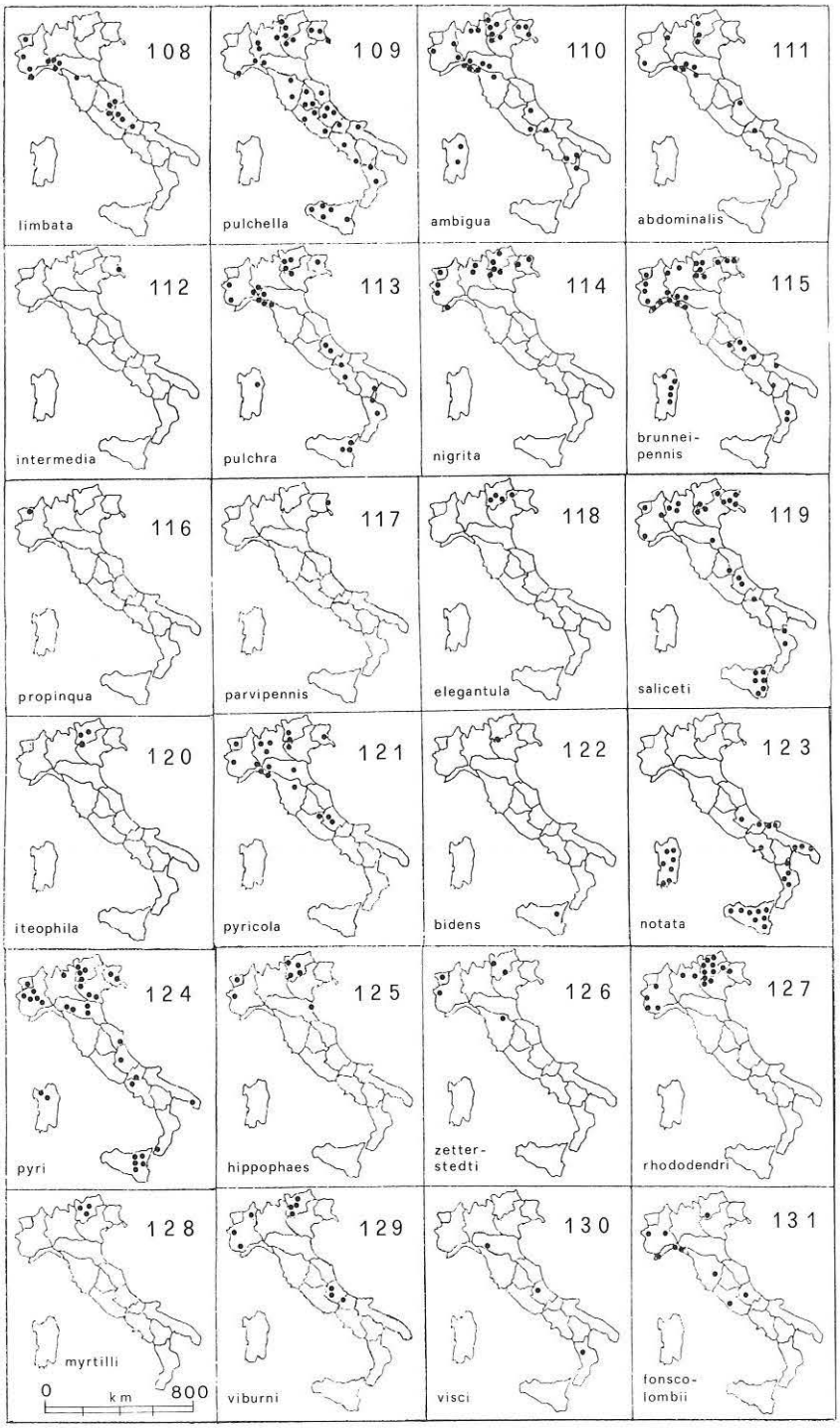

25
near pontica
26
omissa
27
subpunctata
28
nebulosa
29
bicolor
30
salsolae
31
speciosa
32
sub-rubescens
33
lichenoides
34
ericae
35
cinereae
36
proxima
37
Strophingia sp.
38
targionii
39
succincta
40
cisti
41
varicicosta
42
aceris
43
R. fusca
44
lycii
45
putonii
46
continua
47
chobauti
48
astigma
0 km 800


49
fraxinicola
50
meliphila
51
discrepans
52
fraxini
53
acaciae-
baileyanae
54
uncatoides
55
A. hollisi
56
prohaskai
57
genistae
58
maculata
59
adenocarpi
60
africana
61
torifrons
62
spartio-
phila
63
spartiicola
64
barbagalloi
65
hakani
66
incuba
67
cytisi
68
ulicis
69
vicina
0 km 800
70
cognata
71
horvathi
72
vitti-
pennella



While this work was already in proof, we noted how the specimens previously ascribed to *Livilla* near *maculipennis* (species n. 76) actually belong to *L. siciliensis* (species n. 75) (see observations at page 91). Therefore, maps with the above two numbers must be merged each other. The corrispondence between the maps and the relative species numbers in the text has not been altered for remaining species (from 77 onwards), but the real total number of psyllids reported in the present catalogue is 130, rather than 131.


84
alni
85
cordata
86
P. fusca
87
alpina
0 km 800
88
betulae
89
buxi
90
colorata
91
B. foersteri
92
hartigii
93
mali
94
sorbi
95
peregrina
96
ulmi
97
pyrisuga
98
costalis
99
affinis
100
melanoneura
101
crataegi
102
albipes
103
brevi-
antennata
104
pruni
105
alaterni
106
myrthi
107
rhamnicola


108
limbata
109
pulchella
110
ambigua
111
abdominalis
112
intermedia
113
pulchra
114
nigrita
115
brunnei-
pennis
116
propinqua
117
parvipennis
118
elegantula
119
saliceti
120
iteophila
121
pyricola
122
bidens
123
notata
124
pyri
125
hippophaes
126
zetter-
stedti
127
rhododendri
128
myrtilli
0 km 800
129
viburni
130
visci
131
fonsco-
lombii

ALPHABETIC INDEX OF GENERA, SUBGENERA, SPECIES AND FORMAE. THE WORDS IN *ITALICS* ARE SYNONYMS

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