Alien insect and mite pests introduced to Italy in sixty years (1945-2004)

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INTRODUCTION

The incidental introduction of exotic phytophagous insects and mites has became quite a common event in Italy, owing to intensive commercial exchanges of plants and goods and an ever-increasing tourist traffic. Furthermore, the range of Italian climatic parameters allows the establishment of subtropical species in the southern regions and of northern species in the temperate climate of North and Central Italy. Several alien species are recorded only in greenhouses. To find out how many phytophagous exotic species of phytophagous insects and mites have been recorded as incidentally introduced to Italy, and how many of these have succeeded in acclimatizing to Italian conditions, a selected bibliography over a period of 60 years (from 1945 to 2004) has been checked (Pellizzari & Dalla Montà, 1997; Pellizzari & Vacante, 2005). This work has led to the compilation of chronological lists in which the exotic, introduced species are grouped according to their host plants.

RESULTS AND DISCUSSION

In total, from 1945 to 2004, 162 exotic pests have been introduced to Italy. Of these, about 130 are presently acclimatized and exhibit a different distributional range according to their climatic requirements and host plants. Most are pests of ornamentals (79 species), woody plants (38 species), *Citrus* (16 species), horticultural crops (15 species), fruit trees and grapevine (14 species). Most of the introduced species are Hemiptera (64%) (mainly aphids and scale insects), followed by Coleoptera (12%), Lepidoptera (7%), Diptera (6%), Thysanoptera (3%), Hymenoptera (2%); mites make up 6% of the introduced pests. The majority of these alien pests have come from the Americas (37%), Asia (29%), Africa (14%) and Australia (6%). In some cases Italy has been the first European focus of an exotic pest that has later expanded towards neighbouring countries and, in some cases, throughout Europe: e.g. the psyllid *Acizzia jamatonica*, the wax scale *Ceroplastes japonicus*, the lace bug *Corythucha ciliata*, the planthopper *Metcalfa pruinosa*, and the moths *Parectopa robiniella* and *Phyllonorycter robiniellus*. In other cases, some of the aliens have reached Italy from previously infested European countries: e.g. the moth *Cameraria ohridella* from Austria and Slovenia. Further, several alien insects that could represent a threat for other European countries have recently become established in Italy. These are: the Asian ambrosia beetle *Xylosandrus crassiusculus* (a pest of forest trees), the oriental chestnut gall wasp (*Dryocosmus kuriphilus*), the locust gall midge (*Obolodiplosis robiniae*), the mealybug *Pseudococcus comstocki* (a pest of fruit trees), the oak lace bug (*Corythucha arcuata*) (currently spreading from its first focus by about 10 km/year) and the

longhorn beetle *Anoplophora malasiaca* (a quarantine species unfortunately established in North Italy). A list of the exotic insects introduced to Italy in the last six years is provided in Table 1, together with information on their present distribution.

Table 1. Alien insects accidentally introduced to Italy (1999–2004).

Species	Order/Superfamily	Host plant	Origin	Year
Echinothrips americanus (g)	Thysanoptera	polyphagous	N. America	1999
Lopholeucaspis japonica (i)	Coccoidea	polyphagous	Far East	1999
Bradinothrips musae (g)	Thysanoptera	*Spathiphyllum*	C. America	1999
Monelliopsis pecanis (al)	Aphdoidea	*Carya*	N. America	1999
Phenacoccus solani (g)	Coccoidea	Cycadaceae	?	1999
Entaspidiotus lounsbouryi (al)	Coccoidea	*Mesembryant*	S. Africa	1999
Scyphophorus acupunctatus (g)	Coleoptera	*Beaucarnea*	C. America	2000
Ophelinus eucalypti (aw)	Hymenoptera	*Eucalyptus*	Australia	2000
Corythucha arcuata (al)	Hemiptera	*Quercus*	N. America	2000
Neotoxoptera formosana (g)	Aphidoidea	Liliaceae	Far East	2000
Platypus mutatus (al)	Coleoptera	*Populus*	S.America	2000
Leptoglossus occidentalis (al)	Hemiptera	Coniferae	N. America	2001
Ceroplastes ceriferus (al)	Coccoidea	polyphagous	Far East	2001
Anoplophora malasiaca (al)	Coleoptera	polyphagous	Far East	2001
Cerodontha unisetiorbita (aw)	Diptera	bamboos	Japan	2001
Illinoia liriodendri (aw)	Aphidoidea	*Liriodendron*	N. America	2001
Stephanitis takeyai (aw)	Hemiptera	polyphagous	Japan	2001
Acizzia jamatonica (aw)	Psylloidea	*Albizzia*	Far East	2002
Dryocosmus kuriphilus (al)	Hymenoptera	*Castanea*	China	2002
Josephiella microcarpae (al)	Hymenoptera	*Ficus*	Asia	2002
Paysandisia archon (aw)	Lepidoptera	palms	S. America	2003
Cacopsylla fulguralis (al)	Psylloidea	*Elaeagnus*	Far East	2003
Obolodiplosis robiniae (aw)	Diptera	*Robinia*	N. America	2003
Lissorhoptrus oryzophilus (al)	Coleoptera	*Oryza sativa*	N. America	2004
Acanalonia conica (al)	Hemiptera	polyphagous	N. America	2004
Xylosandrus crassiusculus (al)	Coleoptera	trees	Far East	2004
Pseudococcus comstocki (al)	Coccoidea	polyphagous	Far East	2004
Fiorinia pinicola (al)	Coccoidea	*Pittosporum*	Far East	2004

al = acclimatised, localised; aw = acclimatised, widespread;
g = greenhouse; I = interception

REFERENCES

Pellizzari G; Dalla Montà L (1997). 1945-1995: Fifty years of incidental insect pest introduction to Italy. *Acta Phytopathologica et Entomologica Hungarica* **32**,171-183.

Pellizzari G; Vacante V (2005). Insetti e acari di temuta introduzione e da quarantena. *Atti Accademia dei Georgofili, Anno 2004-Ottava Serie-*.**I**, *Firenze* (in press).