

Applied Forest Entomology

Brief description of the course

The first part is addressed to improve the knowledge of useful arthropods (pollinators; predators and parasitoids of phytophagous species in the forest).

The second part is dedicated to the methods of arthropods management: functional biodiversity, control methods, thresholds, monitoring, indexes of faunistic values, protection of endemisms.

The third part is addressed to the integrated pest management of phytophagous insects of oaks, conifers and chestnut. During the course laboratory exercises on arthropod identification and field monitoring on forest arthropods are arranged.

Exams

Two intermediate exams and a final oral one are scheduled.

The first intermediate exam is a test with multiple choice and open answers (2 credits); in the second intermediate exam students have to prepare a bibliographic report on an assigned forest entomologic topic, preparing few slides for presenting it in 15 minutes (2 credits). The remaining part of the program (2 credits) is presented at a final oral exam.

Program of the course

Hours	Lessons and intermediate exams
1	Useful arthropods: pollinators and their main groups.
1	Useful arthropods: generalities on predators and parasitoids
2	Predator Coleoptera: identification and biology of Coccinellidae and Carabidae
2	Predator Neuroptera, Diptera and Hymenoptera: identification and biology of Chrysopidae, Syrphidae and Formicoidea
2	Mites predators of mites: identification and biology of Phytoseiidae
4	Parasitoid Hymenoptera: identification and biology of Ichneumonoidea, Chalcidoidea and Platygastroidea
1	Parasitoid Diptera: identification and biology of Tachinidae
4	Functional biodiversity: spontaneous vegetation providing shelter and food to useful arthropods
	<u>First intermediate exam</u> (test with multiple choice and open answers) on above mentioned arguments (2 credits)
6	Biological, cultural, physical, chemical tools and methods to manage phytophagous forest arthropods
4	Monitoring of phytophagous forest arthropods; thresholds and integrated pest management in a forest environment
2	Methods and indexes of faunistic evaluation in freshwater and soil
2	Protection of entomological endemisms
5	Phytophagous insects of oaks: <i>Tortrix viridana</i> (Lepidoptera Tortricidae), <i>Thaumetopoea processionea</i> (Lep. Thaumetopoeidae), <i>Lymantria dispar</i> and <i>Euproctis chryorrhoea</i> (Lep. Lymantriidae), <i>Altica quercetorum</i> (Coleoptera Chrysomelidae)
	<u>Second intermediate exam.</u> Students have to prepare a written bibliographic report on an assigned forest entomologic topic, preparing few slides for presenting it in 15 minutes (2 credits)
7	Phytophagous insects of conifers. <i>Matsucoccus feytaudi</i> (Rhyncota

	Margarodidae), <i>Leptoglossus occidentalis</i> (Rhyn. Coreidae), <i>Traumatocampa pityocampa</i> (Lep. Thaumetopoeidae), Coleoptera Scolitidae
3	Chestnut phytophagous insects. <i>Dryocosmus kuriphilus</i> (Hym. Cynipidae)
	Laboratory exercise
6	Preparation and identification of main forest arthropods
	Field exercise
8	Monitoring of phytophagous forest insects