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## Plant-galls induced by insects in the Maltese Islands

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Galls (in Latin *cecidia*) are defined as any deviation from the normal pattern of plant growth produced by a specific reaction to the presence and activity of a foreign organism. Galls often support species-rich and closed communities of inquilines and parasitic Hymenoptera. It is often possible to identify the gall inducer if the host plant is known and if adequate identification keys are used. Plant-galls are caused by different organisms such as bacteria, protozoans, fungi, nematodes, mites and insects. Insect orders, such as Thysanoptera, Hemiptera, Hymenoptera, Diptera, Coleoptera and Lepidoptera are among those known to cause galls in plants.

The most important work on plant galls occurring in the Maltese Islands is that of the Maltese naturalist Count Alfredo Caruana Gatto, who in 1925 provided a list of some 70 arthropods which induced plant galls. Of these, about 20 were eriophyoids (Acari: Eriophyoidea). Since then many papers were published where plant galls from Malta were mentioned. Within the Order Hymenoptera, plant galls are induced by, two cynipid wasps (Cynipidae), two alien invasive eulophids (Eulophidae) on *Eucalyptus*, one eurytomid wasp (Eurytomidae), one alien invasive pteromalid wasp (Pteromalidae) and four species of Agonidae which induce galls on florets of different *Ficus* spp. Within the Order Diptera, gall midges (Cecidomyiidae) represent one of the most species rich families with the largest group of gall-inducing animals in the world. In fact, 38 species are known to induce galls in herbaceous and woody plants in the Maltese archipelago. Of these, one species, *Asphondylia scopuli* represents the only endemic gall-inducer, on the endemic saltbush, *Atriplex lanfrancoi*. Another important group of gall inducing flies is represented by fruit flies of the Family Tephritidae, and of these, 3 species are known to occur in Malta. Two species of thrips (Thysanoptera) are known to cause leaf galls on *Ficus* spp. and three species of jumping plant-lice (Hemiptera: Psylloidea) are known to cause leaf galls on woody and herbaceous plants. Within the Order Hemiptera the most important group causing plant galls in the Mediterranean Region are the aphids (Aphidoidea) and more than 20 species have already been reported from Malta as inducing plant galls on herbaceous, woody shrubs and sometimes also on trees.

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