6. Widespread adventive plants in Catalonia

TERESA CASASAYAS FORNELL

Abstract

About 450 alien vegetal species exist in Catalonia, most of which grow in humanized habitats, although a few are settled in natural vegetation. This chapter includes a small selection of adventive plants in Catalonia which present a well-defined distribution and information of their history it has been available. These exotic plants are presented in different groups according to their time of arrival: early historic times to the end of the 15th century, after the 15th century, 1850 to the early 1900's, and from 1950 onwards. Finally, there are general conclusions about the alien plants in Catalonia.

Introduction

Up till now the invasion of exotic species into more or less natural vegetation has presented no specific problem in Catalonia (northeast Spain), since none of the introduced species can be considered as particularly harmful. Most alien species occupy heavily disturbed habitats; only a very small number of them settle in natural vegetation. There are, of course, a few weeds that interfere with man’s activities, and yet they are always isolated cases. Examples among these are *Galinsoga parviflora* and *Oxalis latifolia* that cause problems for farmers, and *Carpobrotus edulis*, a fleshy plant from South Africa, that possibly needs to be controlled, since it is spreading fast and displacing the natural vegetation of the rocky slopes of the northeastern Catalan coast.

The important increase of introduced species that has been observed since the beginning of the present century can be traced to the trading rise. We shall have to wait a few years before we are able to report on the behaviour of these plants and tell whether they may cause damage to the environment.

In the next pages, the status of a series of alien plants showing a high spreading ability in Catalonia are discussed. I have included only the species of very well-defined distribution and on which sufficient information is available. The earliest introduced species, up to the end of the 15th century,
(Archaeophyta) will be dealt with first. The ones whose introduction took place after the 15th century up to the first half of the 20th will be studied in the second part, the third part will contemplate the species that were introduced between the middle of the past century and the beginning of the present one. Finally, the last part will examine the newcomers introduced over the last thirty years.

It should be remarked that the information contained in this chapter is part of a comprehensive study of the Catalan exotic flora (northeast Spain) over a 40,000 km² area.

**Early introduced species**

The flora of exotic species introduced in early stages of history (Archaeophyta) has become greatly impoverished in the last few years. Evidence for this impoverishment can be found in the progressive reduction of the plants that used to occur in fields of winter cereals, particularly *Lolium temulentum* and *Agrostemma githago*. Others, however, also introduced a long time ago, such as *Centaurea cyanus* which comes up in crops as well as in more or less ruderal habitats (field borders and roadsides) are still commonly found. According to several authors (Kornas 1971, Holzner 1982, Hilbig 1982, Harlan 1982, Glauninger & Holzner 1982, Holzner & Immonen 1982, and Misiewicz 1985, among others) the retreat of these species is probably due to the continuous application of herbicides and to the fact that seed purification is becoming more and more effective. It is assumed that these segetals (plants growing on winter cereal crops) were transported as waste, 4,000 to 5,000 years ago, together with cereal grains (*Hordeum, Triticum, Avena*, etc.) from central Asia steppes and arid regions close to the Mediterranean Sea.

This group of segetals are specialists (Holzner 1982) that have grown and evolved with agricultural plants, their seeds being sown and harvested together with those of the crops. Because the recent agricultural revolution has altered environmental conditions faster than their adaptation mechanism could follow, they are dying out.

On the other hand, the distribution area of some other archaeophytes has remained unchanged. Among these are the Giant reed (*Arundo donax*) and the Walnut tree (*Juglans regia*) voluntarily introduced by man a long time ago.

*Arundo donax* is a grass from eastern Asia which has several agricultural uses: it is used as a windbreak, for settling disturbed soils and also, as stalks driven into the ground for propping field vegetables such as bean plants, tomato plants, etc. It occurs in the moist soils of field borders, roadsides and riverbanks in nearly all Catalonia excepting the Pyrenees. It forms quite a typical community described as *Arundini-Convolvuletum sepium* Association, which floristically is very poor in species. The dominant species is the Giant reed around which one or two native climbing plants, *Calystegia sepium* and *Cynanchum acutum* coil. It should be added that presently there exist introduced