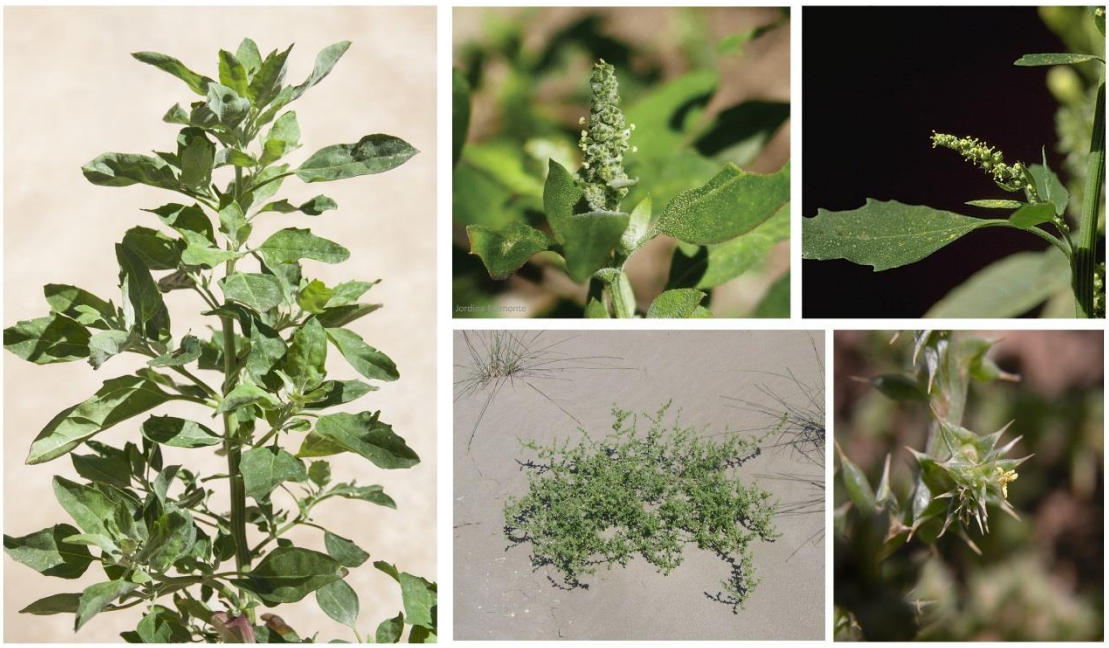
Goosefoots - Chenopodium and Salsola

Botanical information:

Family: CHENOPODIACEAE-AMARANTHACEAE. These are two botanical families (which current systematics tends to unite in one, the AMARANTHACEAE) that present identical pollen, which is why they are presented here together even though the most recognized plants with allergenic pollen belong to the first one.

Most of the plants included in these families are herbs, but there are also some bushes and shrubs - plants of variable height, from a few centimeters to two meters. The plant is all green, with species of an intense green and other bluish-green or whitish by the presence of hairs and even with violet tones. The leaves present a multitude of forms, including fleshy and reduced leaves. The flowers are small and not very showy, grouped in abundant glomerulus at the end of the branches.

Most of the species are found on the margins of cultivated fields, in abandoned lands, and on the sidewalks of roads. There are plants (including those belonging to the genus *Salsola*) that live in very poor soils, even saline and sandy. Some species (especially amaranthaceae) grow along riverbanks.



General view of a *Chenopodium* plant (left) and *Salsola* (bottom, center) and detailed view of some flowers in which the stamens (where pollen is produced) can be seen exposed on the outside.

Scientific names of representative genera*: Chenopodium*, *Amaranthus*, *Atriplex*, *Beta*, *Salicornia*, *Salsola*

Common names:
English: goosefoots, chenopodium, amaranth
Català: blet, quenopodi, moll, amarant, salat, sosa, bleda, cirialera, barrella, siscall
Castellano: céñigo, chenopodio, cenizo, amaranto, sosa, acelga, salicòrnia, barrilla, soda
Euskera: ero bedarra, sasi

Galego: fariñentos, farnentos, bredo

Aerobiological information:

Hedgehog pollen (chenopodiacias-amarantacias) is present in the air almost all year round, although for many months it is found in very low concentrations. From May to September there are the highest levels, with variations depending on the geographical area. Central Catalonia, especially in the west (Lleida), followed by Manresa and Girona, is the area most exposed to this type of pollen.

The pollen calendar is shown below, with information on the distribution of this type of pollen throughout the year at each of the stations of the Aerobiological Network of Catalonia (Xarxa Aerobiològica de Catalunya, XAC). For more information consult: https://aerobiologia.cat.

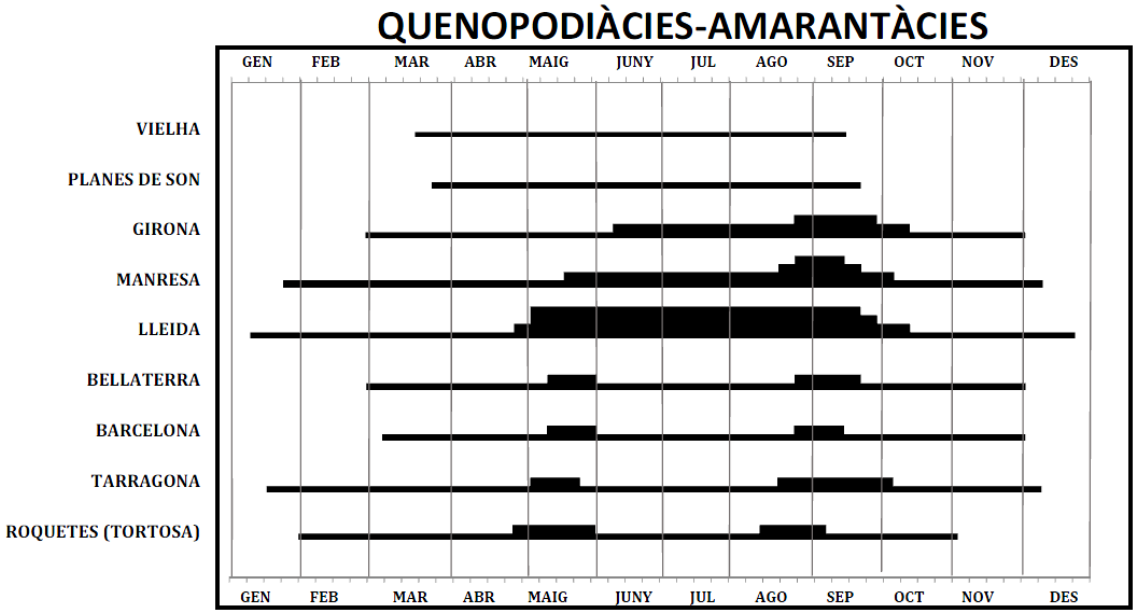
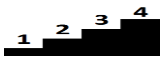


Fig. 2. Comparative dynamics of the levels of goosefoot and *Salsola* pollen in Catalonia and of the risks of allergy.



Levels	Concentrations	Allergies
1. Low	Little important	Rare
2. Medium	Medium	Possible risk
3. High	Very high	Important risk
4. Very high	Maximal	Maximal risks

Remark: Near flowering plants the levels may be higher than indicated.

The pollen of plants of the *Chenopodium* and *Salsola* genera is recognized as an allergen, but not that of many other genera, especially those of the Amaranthaceae family. To simplify the name of this very varied group of species, one of the most common names has been chosen, which in English is “goosefoot” (in Spanish is "céñigos" and in Catalan is "blets").

The plants of these families have a common antigen that frequently causes people to be affected by cross-reactivity.

In Catalonia, it is one of the most important types in the western lands, due to the abundance of saline soils and areas with crops in the environment.

Tips for people with allergy to goosefoot pollen

- Be aware of (with a medical diagnosis) which pollen is causing the allergy.
- Keep yourself informed of the levels of allergenic pollen in your usual area and inform yourself of the levels in the areas where you plan to go. It is advisable to adapt voluntary trips (weekends, vacations...) to areas where the allergen that affects us is not present. The website https://aerobiologia.cat shows updated information on pollen levels in Catalonia and explains how to access information from other geographical areas. You can sign up (and unsubscribe) to receive the weekly newsletter at: https://aerobiologia.cat/pia/en/subscribe#newsletter
- If you notice "problems" outside the usual season, consult your allergist to see if sensitization to other allergens has occurred.
- Learn to recognize the pollen-producing plant that causes allergy and, above all, what its flower looks like, from the moment it begins to form and while it is releasing pollen.
- Have the plant that causes allergy located in the usual environment (home, school, work...) and avoid approaching it as much as possible when we see it starts to have open flowers and until the end of flowering.
- During the pollination season,
    - if you are outdoors, protect your eyes with dark circles and your nose and mouth with a handkerchief or a mask to help filter the air.
    - if you go by car, travel with the windows closed and with an anti-pollen filter; if you go by motorcycle or bicycle, follow the previous advice.
    - change your clothes when you get home and wash them before using them again.
    - dry your clothes indoors to avoid retaining the allergen that affects you.
    - wash your hair or avoid contact with the pillow when you go to sleep, as it will retain the particles that were in the air.
    - ventilate the rooms for 5-10 minutes, if possible before it gets light or early in the morning, because normally in this time slot there will be little pollen in the air.
    - wash fresh vegetables before eating them, as they may carry pollen grains.
    - be very careful on windy, dry and sunny days, as they tend to have higher pollen concentrations.
    - the central hours of the day are usually those with the highest pollen concentrations.
    - having a cold, environmental pollution, physical efforts, the presence of perfumes, tobacco, insecticides, lacquers... can aggravate the symptoms.