

Atriplex around the Irish Coast

By Paul Green





- In Ireland we had *Atriplex* workshops led by me in 2017 and 2018.
- The aim was to teach BSBI members how to identify all *Atriplex* (including hybrids) found on the coast.
- I became the BSBI referee for *Atriplex* and *Salicornia* for Ireland.
- I had box loads of fresh specimens sent me. Often 100 plus plants in each parcel I received.
- It could take a whole day or more just to name all I received in one delivery.

Key to Irish *Atriplex* and their hybrids

This is a working key in progress. Use in conjunction with notes below.

Any corrections or amendment please send to paul.green@bsbi.org

1. Shrub (woody stems).....*A. portulacoides*
Annual (pulls up easily).....2
 2. Bracteoles hardened in basal part at fruit. Leaves whitish-silver.....*A. laciniata*
Bracteoles not hardened at fruiting. Leaves various shades of green, purple, red or a mix of
at least two colours.....3
 3. Leaves linear to linear-lanceolate, much longer than wide, with or without teeth/lobes.....4
Leaves triangular or trullate (trowel-shape) in shape, usually with basal lobes.....8
 4. At least some bracteoles with a stalk 1 mm (look carefully) or longer.....5
- All bracteoles stalkless.....

When I mention to botanist that I love looking at coastal *Atriplex*, I normally get:

They are boring

They are ugly

They don't have flowers

They are hard to identify



It is true *Atriplex* are not the most attractive plants!

They do have flowers, just that there are no colourful petals, just green tepals.



There are 8 native species of *Atriplex* (Orache) in Ireland.

All can be found on the coast.

Atriplex glabriuscula (Babington's Orache)

Atriplex laciniata (Frosted Orache)

Atriplex littoralis (Grass-leaved Orache)

Atriplex longipes (Long-stalked Orache) – very rare

Atriplex patula (Common Orache)

Atriplex portulacoides (Sea-purslane)

Atriplex praecox (Early Orache) – very rare

Atriplex prostrata (Spear-leaved Orache)



The problem with identifying *Atriplex* is that reference books and keys always refer to the shape of the lower leaves. The difficulty being, is that these have often fallen before the plant can be identified.

Hastate leaves

**Spearhead-shaped
with basal lobes
directed outwards**



**Trullate leaves and
forward curving
basal lobes**



Bracteoles are one of the most important parts of the plant, when it comes to identifying *Atriplex*.

Often need to know:

Are they mealy

Are they stalked

Are they foliaceous

Are they spongy

Is the bracteole margin united only at base, or united to as far as the middle.

Bracteoles – these contain the seeds

Left: bracteole.



Right: cross section showing seed.



Photos by Ivor Rees

Mealy bracteoles look as though they have had icing sugar sprinkled on them, or they have a crystal glaze look.



Bracteole with stalk clearly showing.



Photo by Ivor Rees

The stalk of the bracteole can vary from 0.5 mm to over 30 mm long



You need to look very carefully to spot the very short bracteole stalks

Stalked bracteoles are always united at base only.

Foliaceous (leaf-like; leafy) bracteoles.



A few leaves at end of a stalk with a cluster of bracteoles

**Foliaceous bracteole
with a mix of leaves
and bracteoles.**

**Foliaceous bracteoles
are most often found
on plants that are
almost entirely
green.**



Spongy bracteoles.

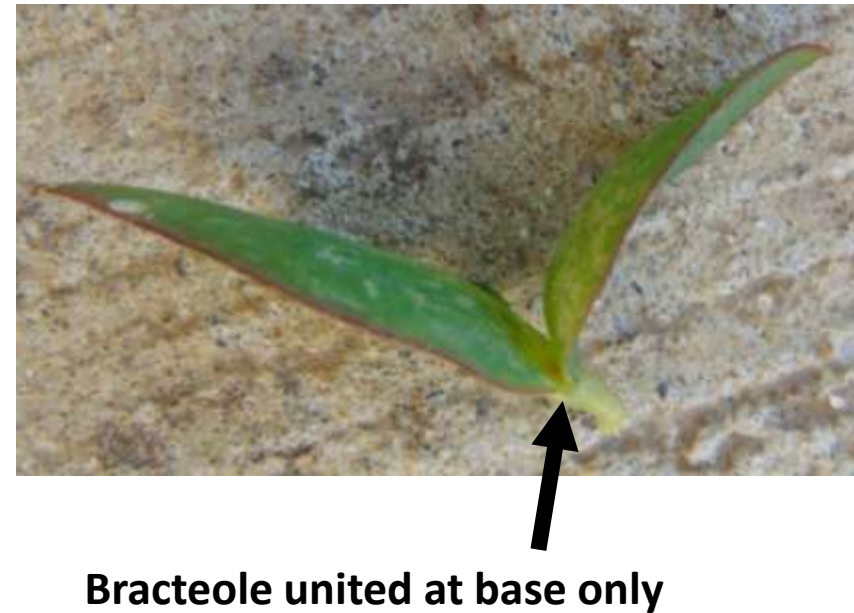
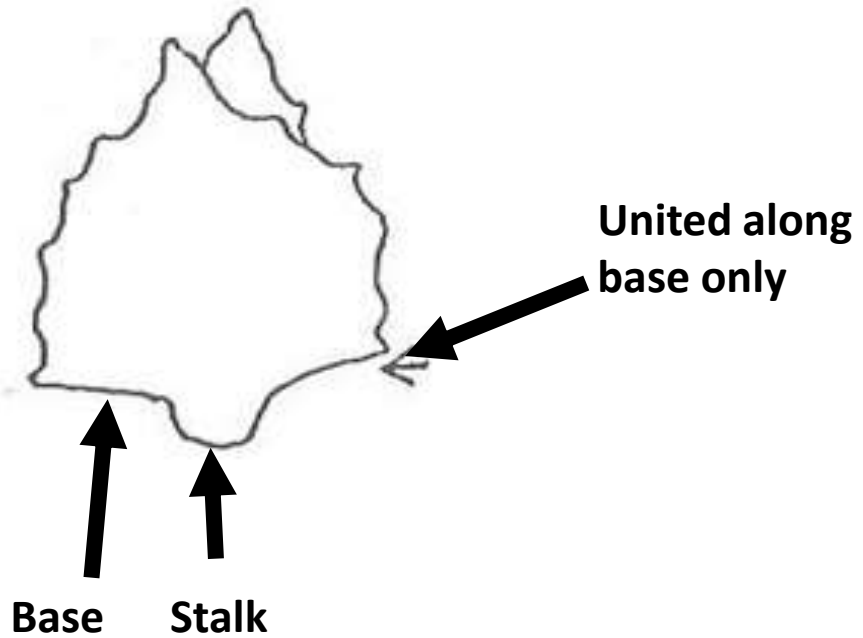
Each half of the bracteole is thick. When squeezed together with your fingers, on release the sides expand back out, like a sponge would do.

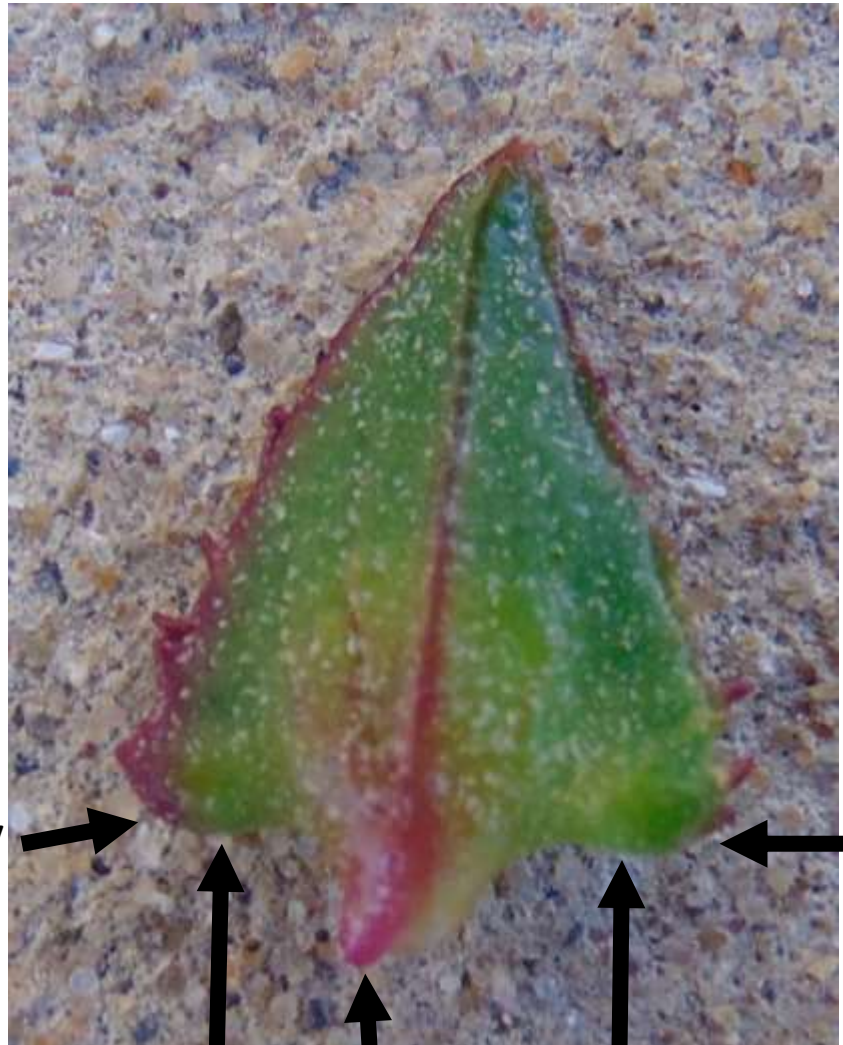
Spongy bracteoles are rarely more than 8 x 8 mm. Usually mealy.



Is the bracteole margin united only at base, or united as far as the middle?

Working out where the bracteoles are united is not easy, especially on the small bracteoles.





United along base only



United along base only

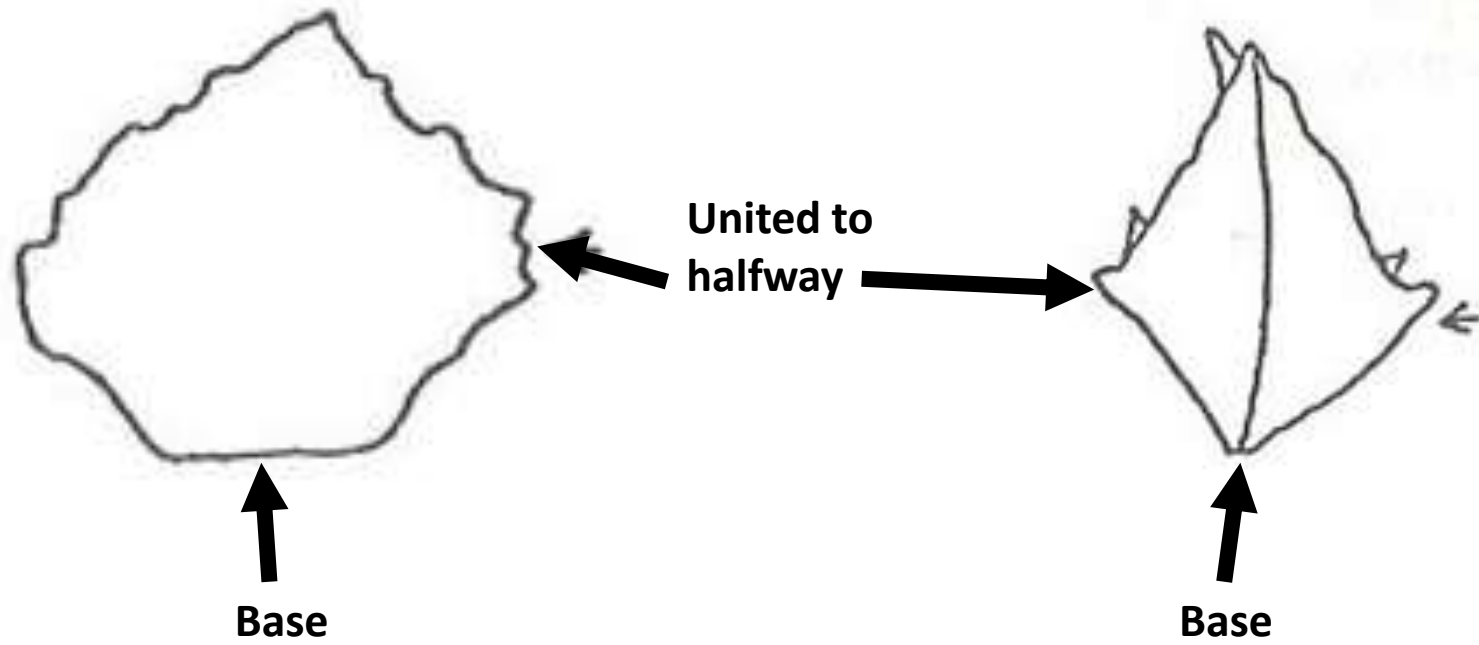


Base

Stalk

Base





More often the bracteoles are only united to about $\frac{1}{4}$ or $\frac{1}{3}$ of the way



United towards the middle

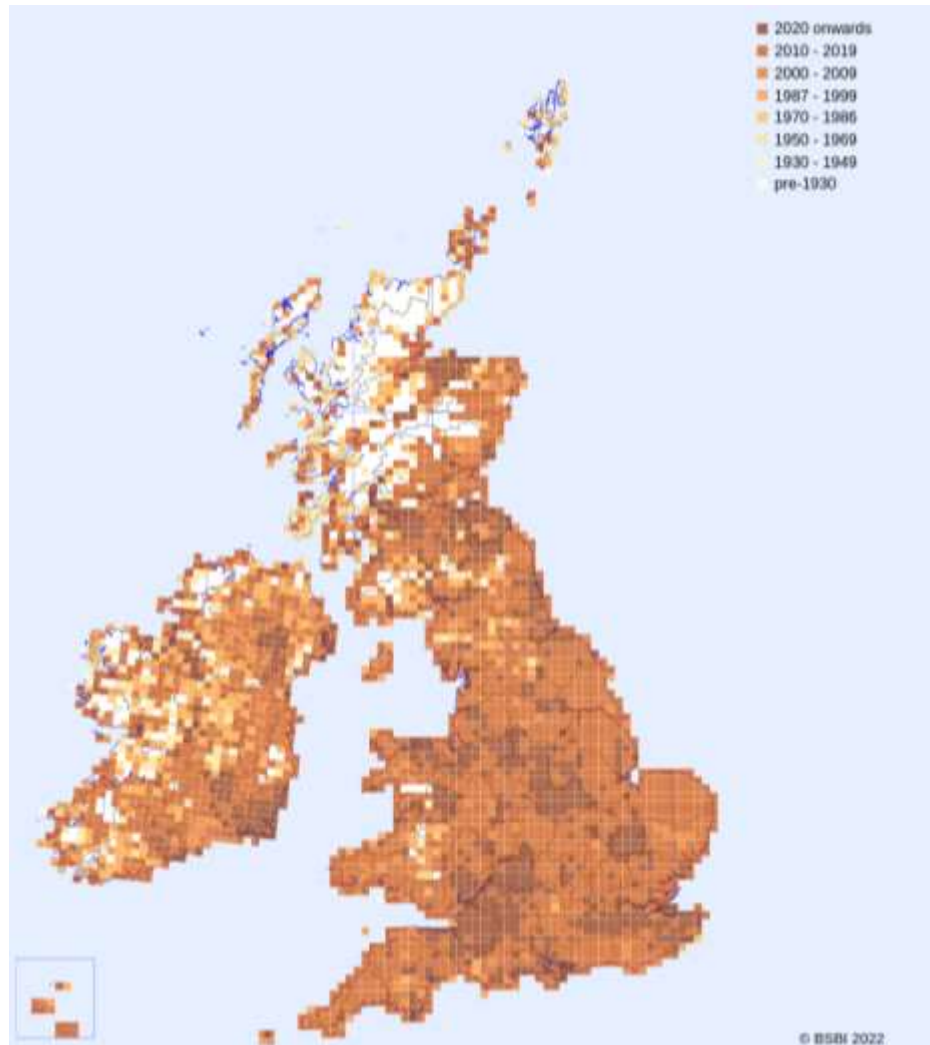
United towards the middle

Base

Atriplex patula (Common Orache)

Whole plant normally green. Trullate leaves; bracteoles united up to the middle. Usually an upright plant.

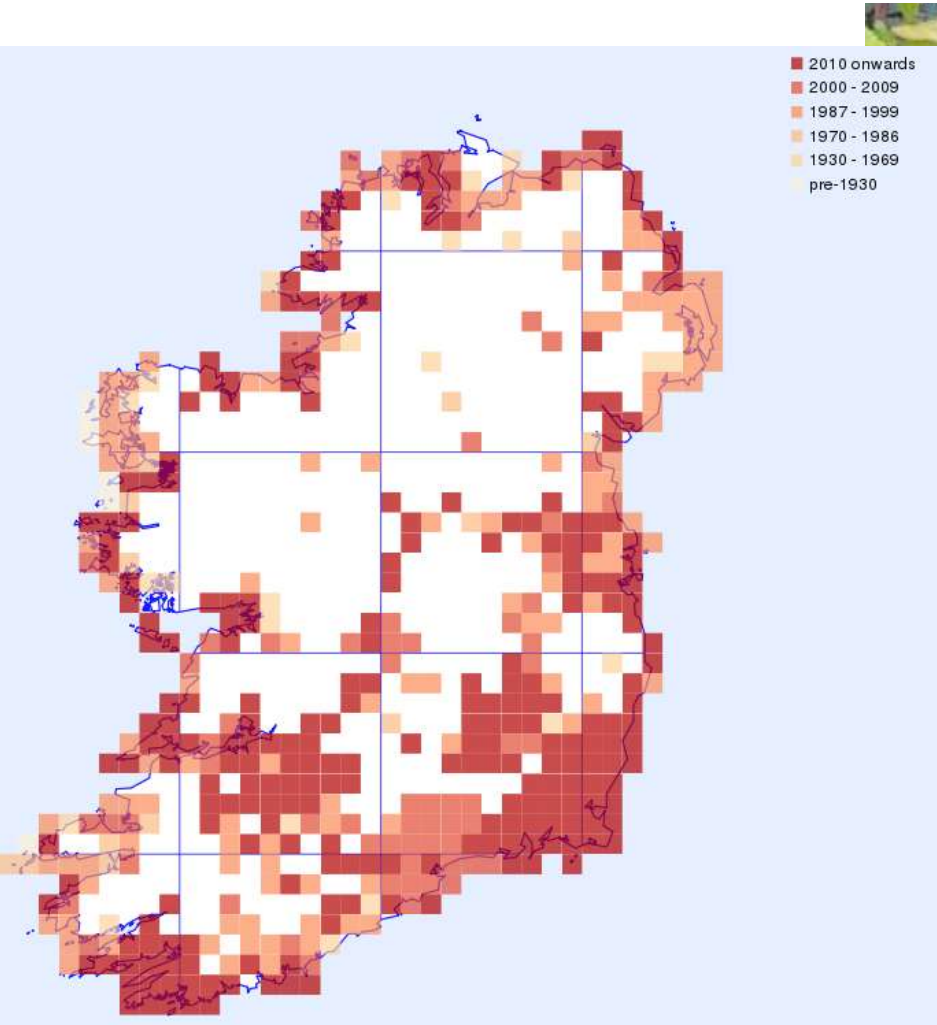
Very rare on the Irish coast. The commonest *Atriplex* inland



***Atriplex prostrata* (Spear-leaved Orache)**

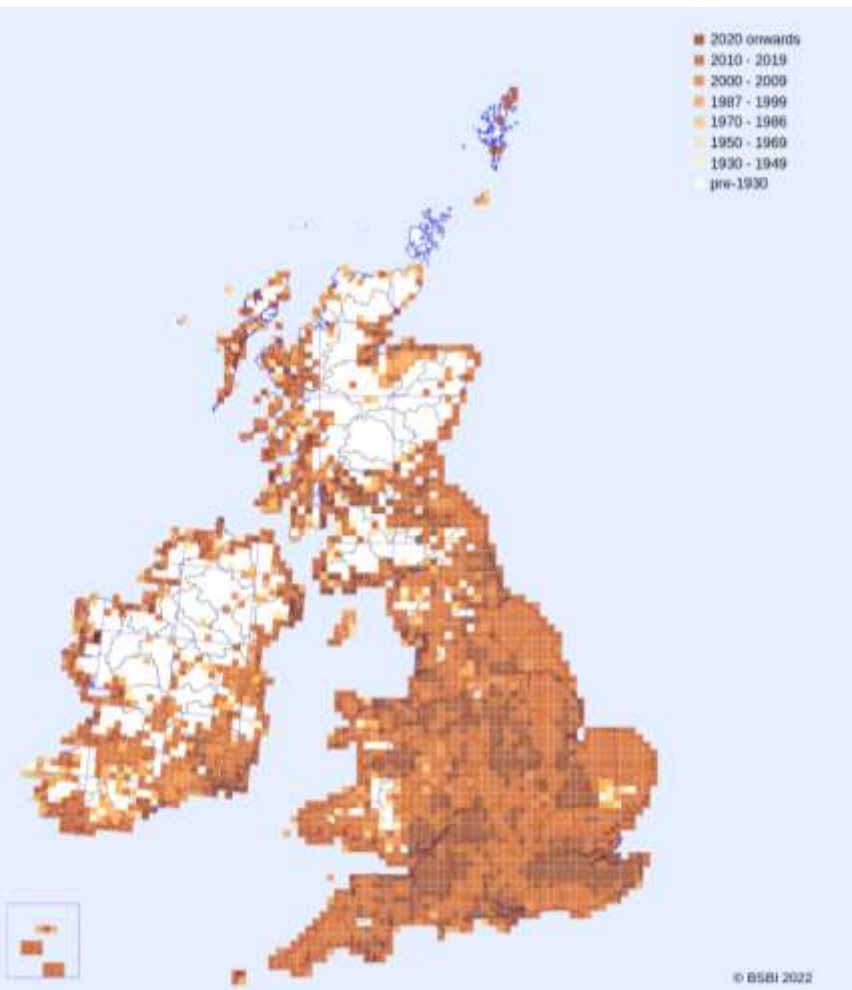
Plant can be green, brown or brownish-purple. Hastate leaves. Bracteoles united at base only. Often spongy, but not always.

Common around the Irish coast, rare inland.



***Atriplex prostrata* (Spear-leaved Orache) likes to grow at the top of beaches open to the ocean. Most common on sandy beaches.**

Much less common on sheltered beaches and stony beaches.



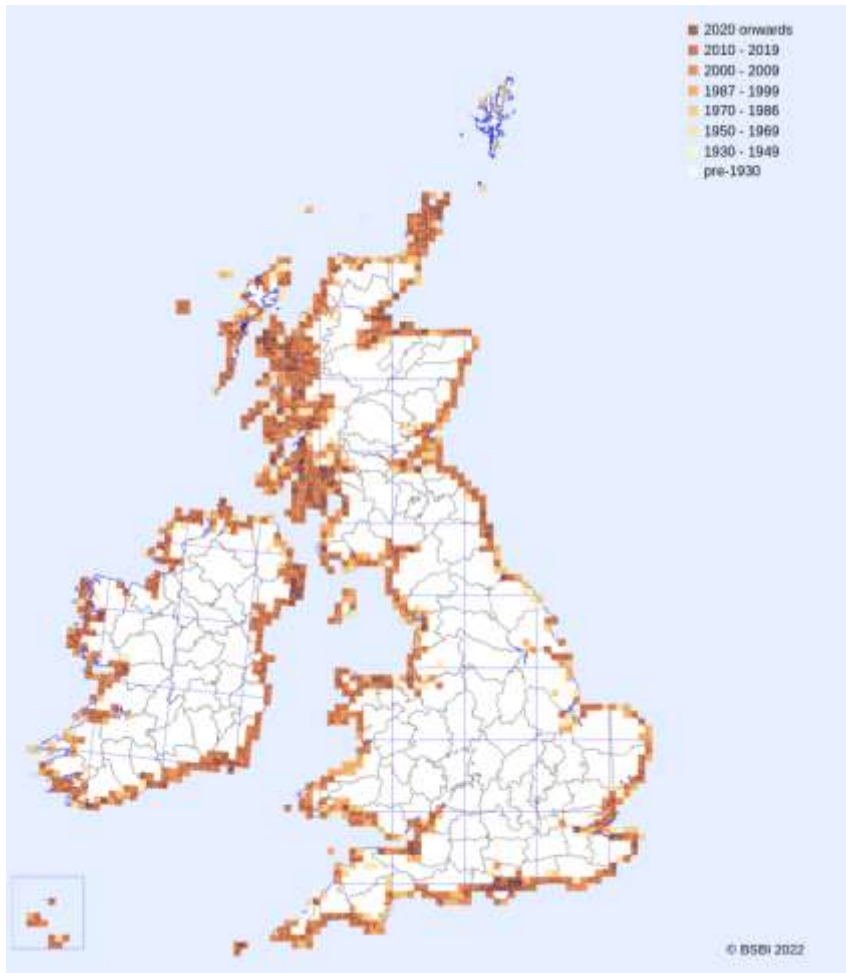
Keeragh Island, Co. Wexford smothered in *Atriplex prostrata*



Atriplex glabriuscula (Babington's Orache)

Plant often purple in colour. Whole plant usually mealy.
Bracteoles united up to the middle; thickened and spongy at the base.
Leaves usually fleshy; easily broken across when bent.

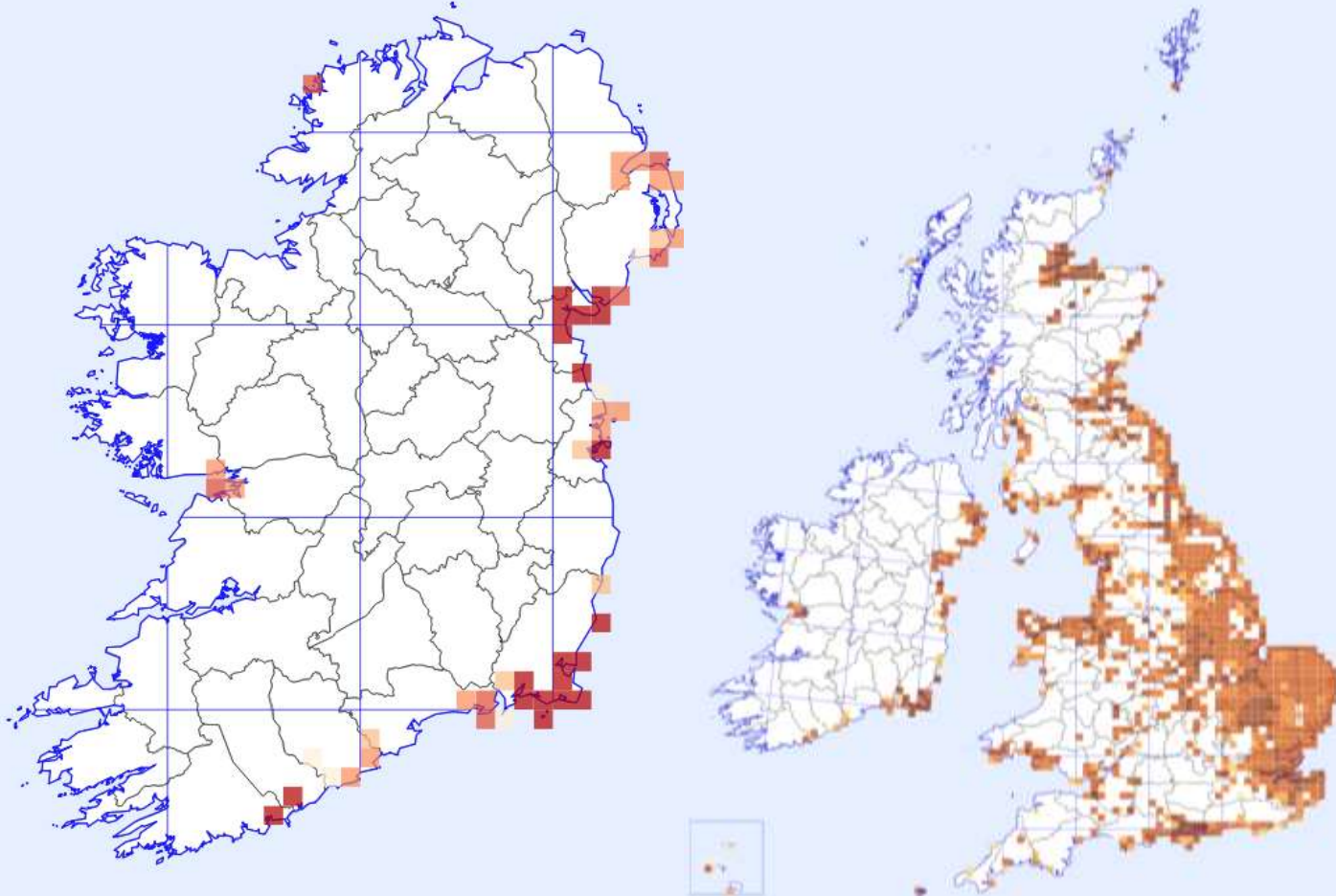
Confined to the coast in Ireland



***Atriplex littoralis* (Grass-leaved Orache)**

Whole plant green or purple. Leaves narrow and more or less parallel sided. Bracteoles spongy and normally mealy; united only at base.

Locally common on the coast in Ireland.



***Atriplex littoralis* (Grass-leaved Orache)**



Bracteoles always very compacted and dense

Usually an erect plant



Atriplex longipes (Long-stalked Orache)

The first positive ID for Ireland was from a brackish pool on Little Island, Co. Waterford in 2001.

Atriplex longipes wasn't found in any more sites until 2014, when searches were made in Co. Wexford.

In 2017 two sites were found in Co. Mayo.

Atriplex longipes is often found as a single individual at the very top of saltmarshes, at the top of strands or amongst tall reeds.

At the top of saltmarshes and strands normally found under over hanging Hawthorn or Blackthorn bushes.

Seems to like sheltered inlets.

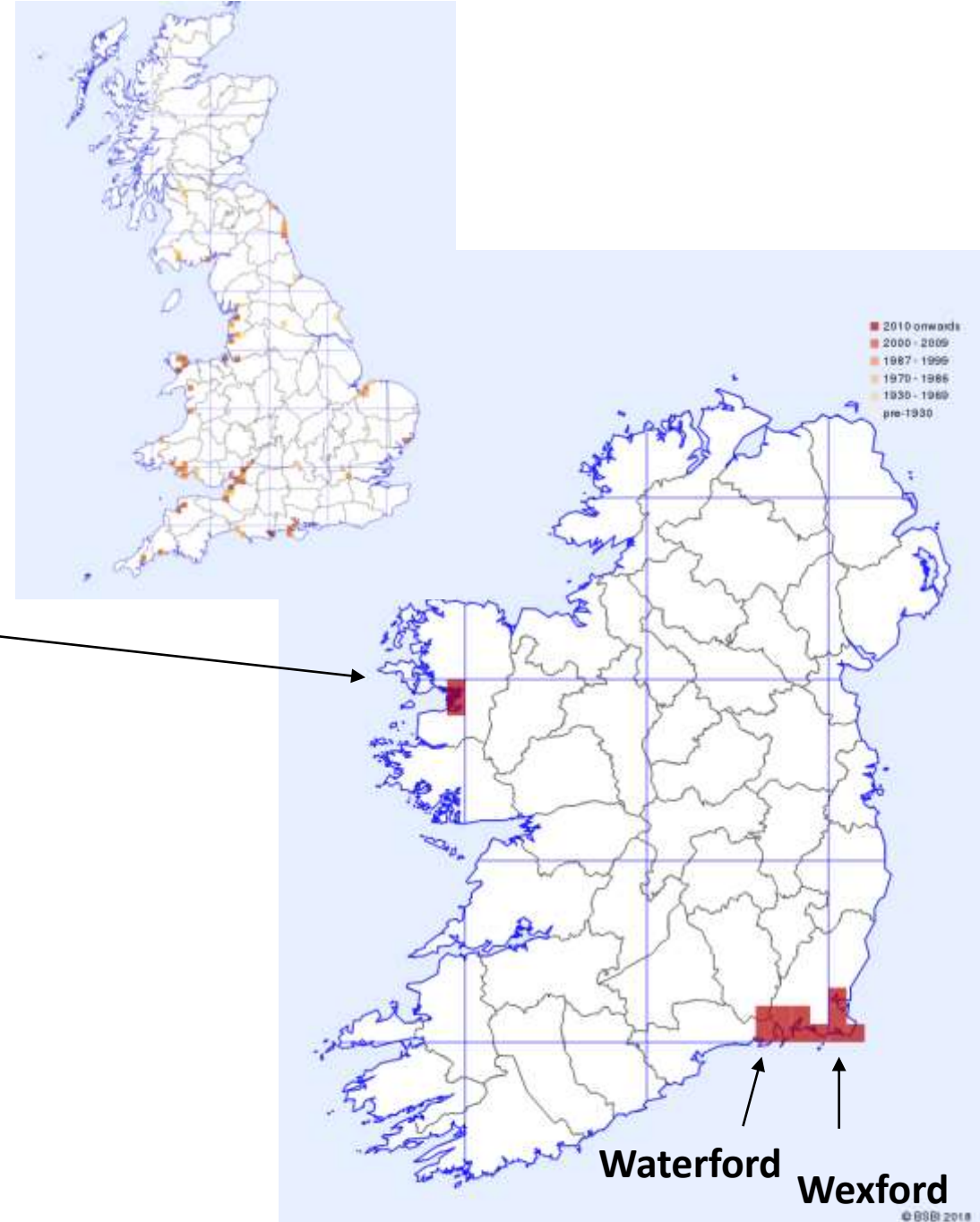


Photo by Ivor Rees

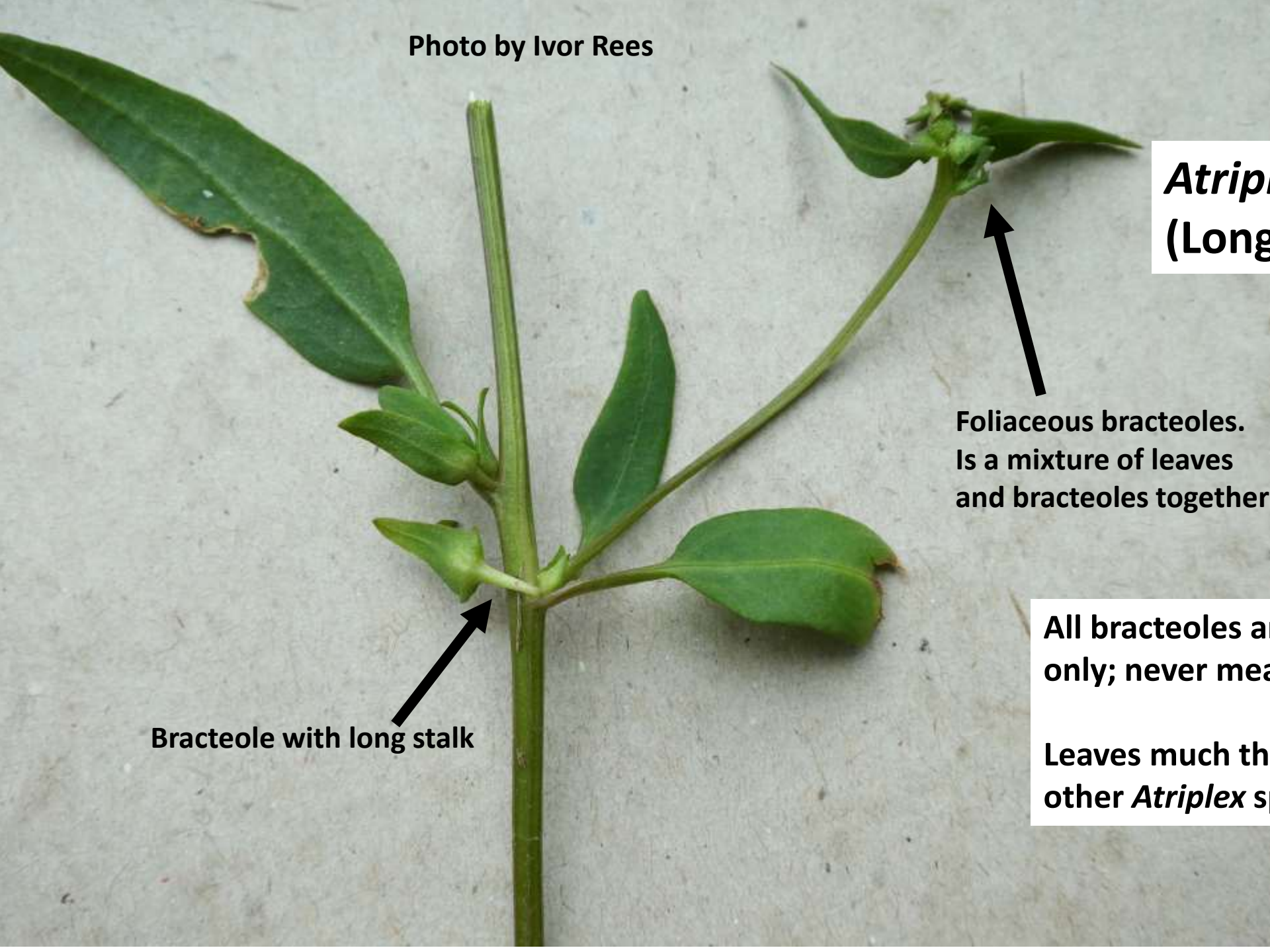
Atriplex longipes
(Long-stalked Orache)

Foliaceous bracteoles.
Is a mixture of leaves
and bracteoles together

Bracteole with long stalk

All bracteoles are united at base
only; never mealy.

Leaves much thinner in texture than
other *Atriplex* species.



***Atriplex longipes* (Long-stalked Orache) is normally a tall straggly plant as you can see in this picture**



***Atriplex longipes* (Long-stalked Orache)**
was found here in Co. Mayo under the
over hanging hawthorn bushes.



Tidal stretch of the River Barrow

Atriplex longipes



Atriplex praecox (Early Orache)

Found new for Ireland in 2017 on Valentia Island, Co. Kerry.

As the name implies *Atriplex praecox* comes into flower and fruit often a month before any other species of *Atriplex*.

Usually grows low down on the beach.

Whole plant is small and prostrate and usually red.
Or a mixture of red and green.

Lower leaves are trullate; much thicker and fleshier in texture than any other species of *Atriplex*.

Bracteole united only at base. Much easier to open than any other *Atriplex* species.

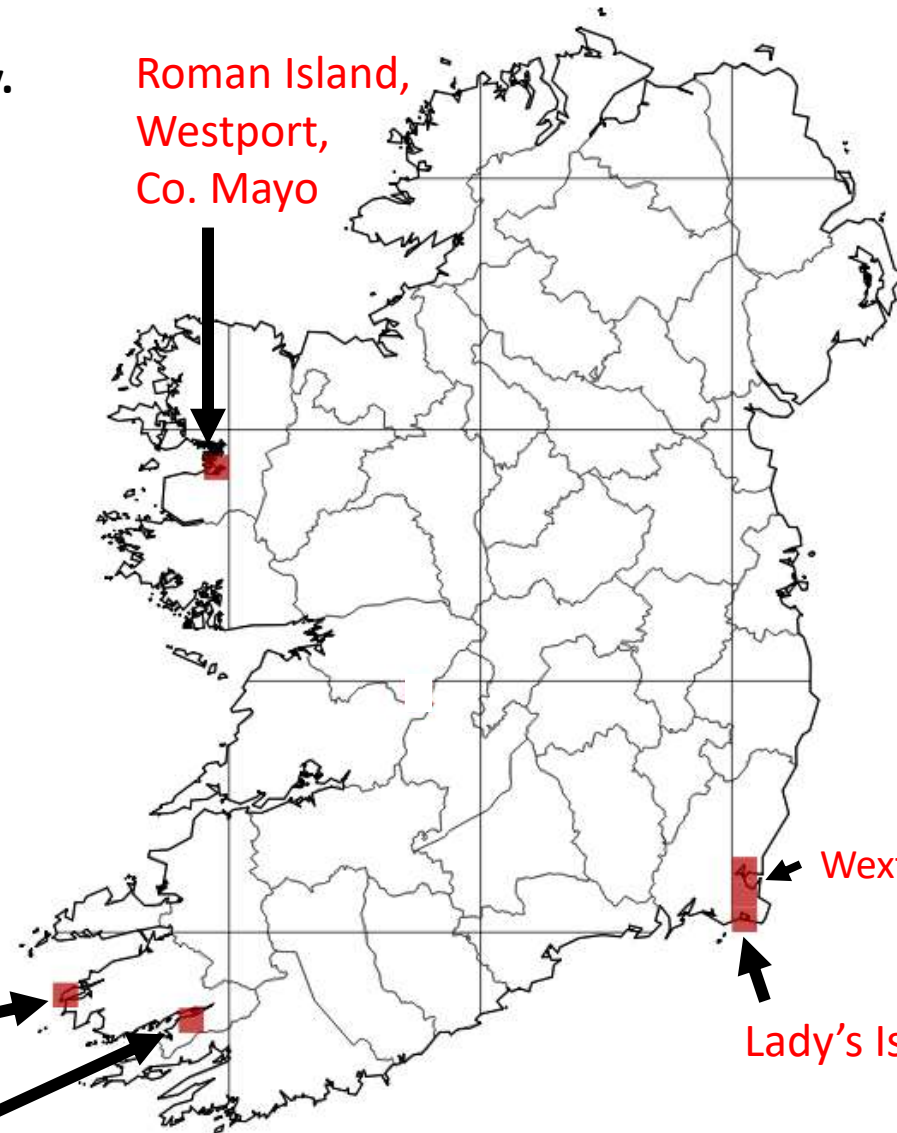
Valentia Island

Assore

Roman Island,
Westport,
Co. Mayo

Wexford Harbour

Lady's Island Lake



Bracteoles never mealy.

On a sunny day if bracteoles held up to the light they are transparent, like looking through red-stained glass.

Atriplex praecox (Early Orache)



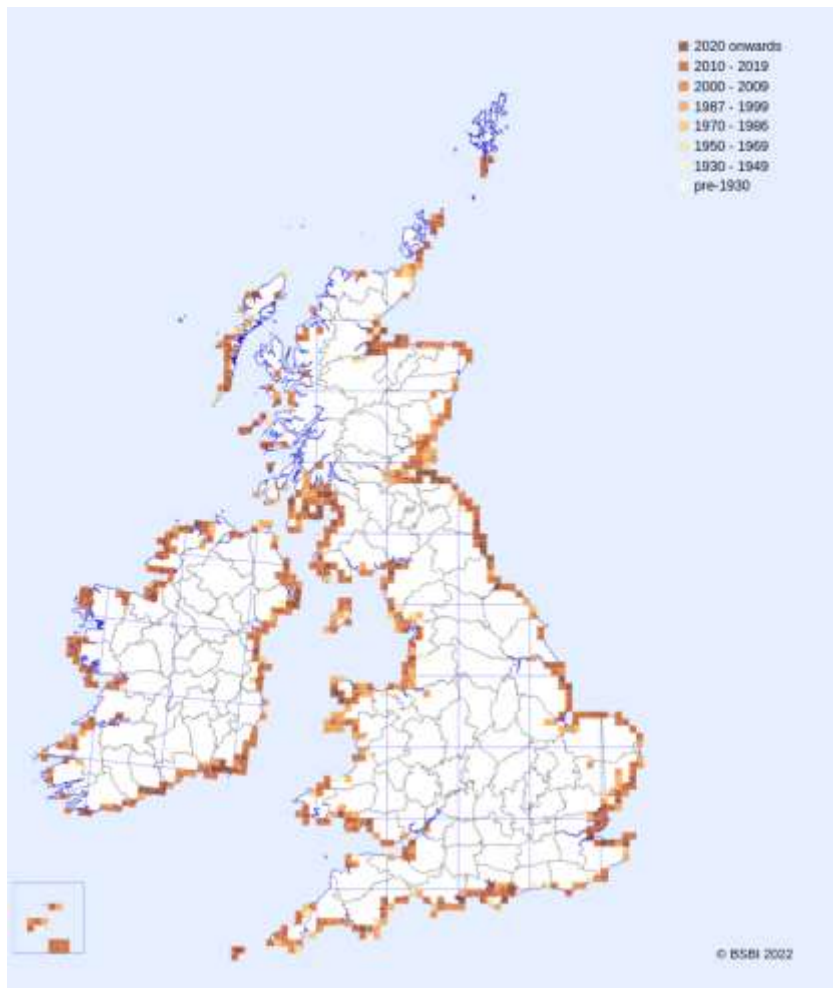
Valentia Island

Atriplex praecox
(Early Orache) are
the small red plants
on the stony shore



Atriplex laciniata (Frosted Orache)

The easiest annual *Atriplex* to identify. Leaves look as though they have a white crystal glaze. Stems are often pink or red.



***Atriplex laciniata* (Frosted Orache) likes to grow on sand.**

The bracteoles are very hard compared with those of any other species of *Atriplex*.





Atriplex portulacoides (Sea-purslane)

The only woody perennial species in Ireland.
Grows as a low shrub. Bracteoles mealy.



***Atriplex portulacoides* (Sea-purslane) is most often seen covering saltmarshes.**

Also found on rocky sea-cliffs and on walls by the coast.





Hybrid *Atriplex* – here is where the fun starts!

Atriplex glabriuscula* x *A. prostrata

Hybrids are very common amongst coastal *Atriplex*.

Atriplex glabriuscula* x *A. praecox

Atriplex glabriuscula* x *A. prostrata

***Atriplex* x *gustafssoniana* (*A. longipes* x *A. prostrata*)**

***Atriplex* x *hulmeana* (*A. littoralis* x *A. prostrata*)**

Atriplex littoralis* x *A. longipes

***Atriplex* x *taschereaui* (*A. glabriuscula* x *A. longipes*)**

All these are found in Ireland

What makes it difficult when trying to identify *Atriplex* is that the hybrids are more common in places than their parents. Often growing in the absent of one or both parents.

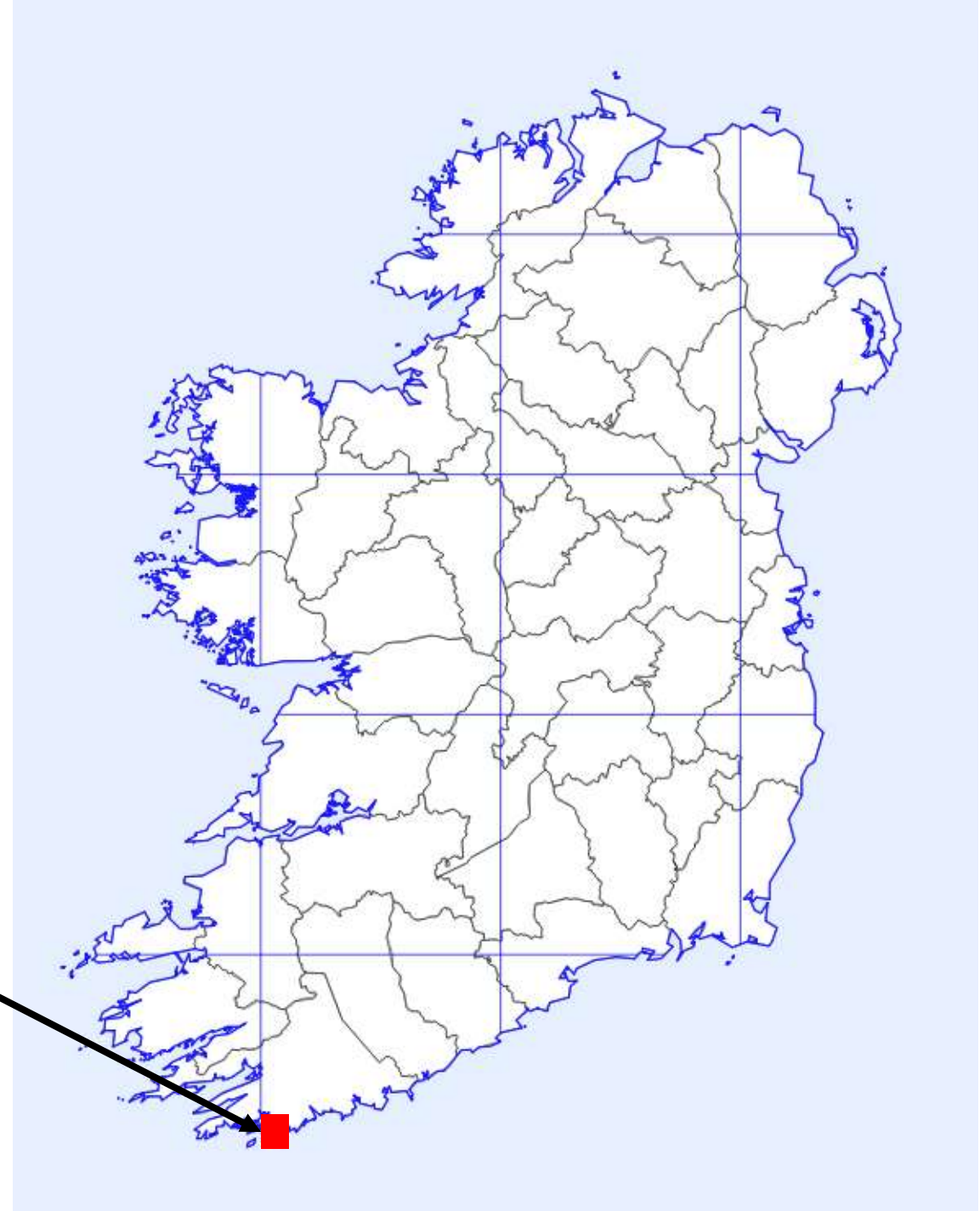
All the mass of *Atriplex* at the top of this beach in Limerick are hybrids.

Atriplex x gustafssoniana



Hybrid *Atriplex* are not well recorded in Ireland, seeing they are more common around the coast than all their parents.

The first hybrid *Atriplex* (*Atriplex glabriuscula* x *A. prostrata*) in Ireland was recorded from Sherkin Island, Co. Cork in 1947.





No more confirmed hybrid records
until 2002, this time
Atriplex x taschereaui
(*A. glabriuscula* x *A. longipes*)
from Co. Waterford

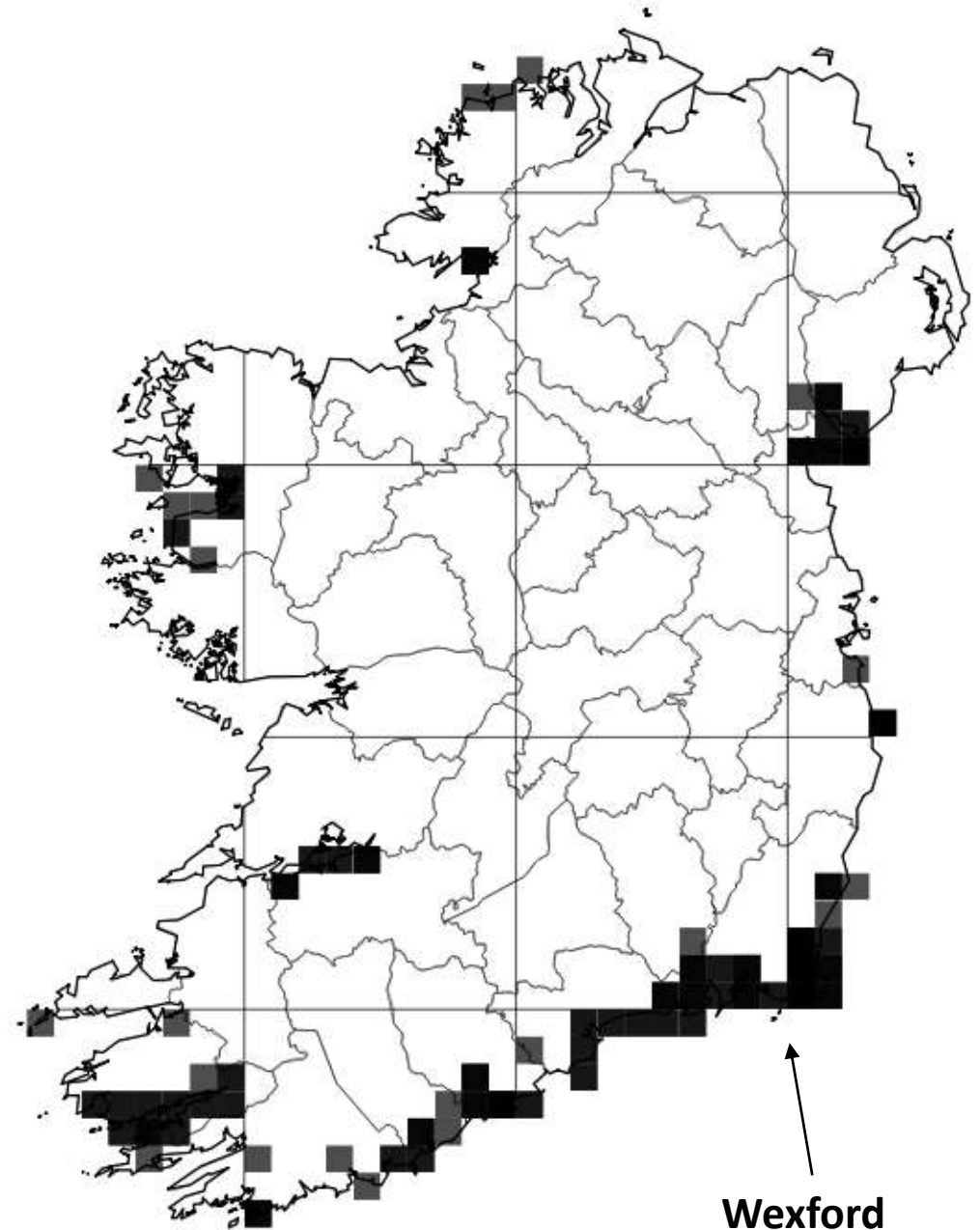
There were no more confirmed hybrid records until 2007, this time from Co. Wexford.

In 2015 hybrid records were made again from Sherkin Island.

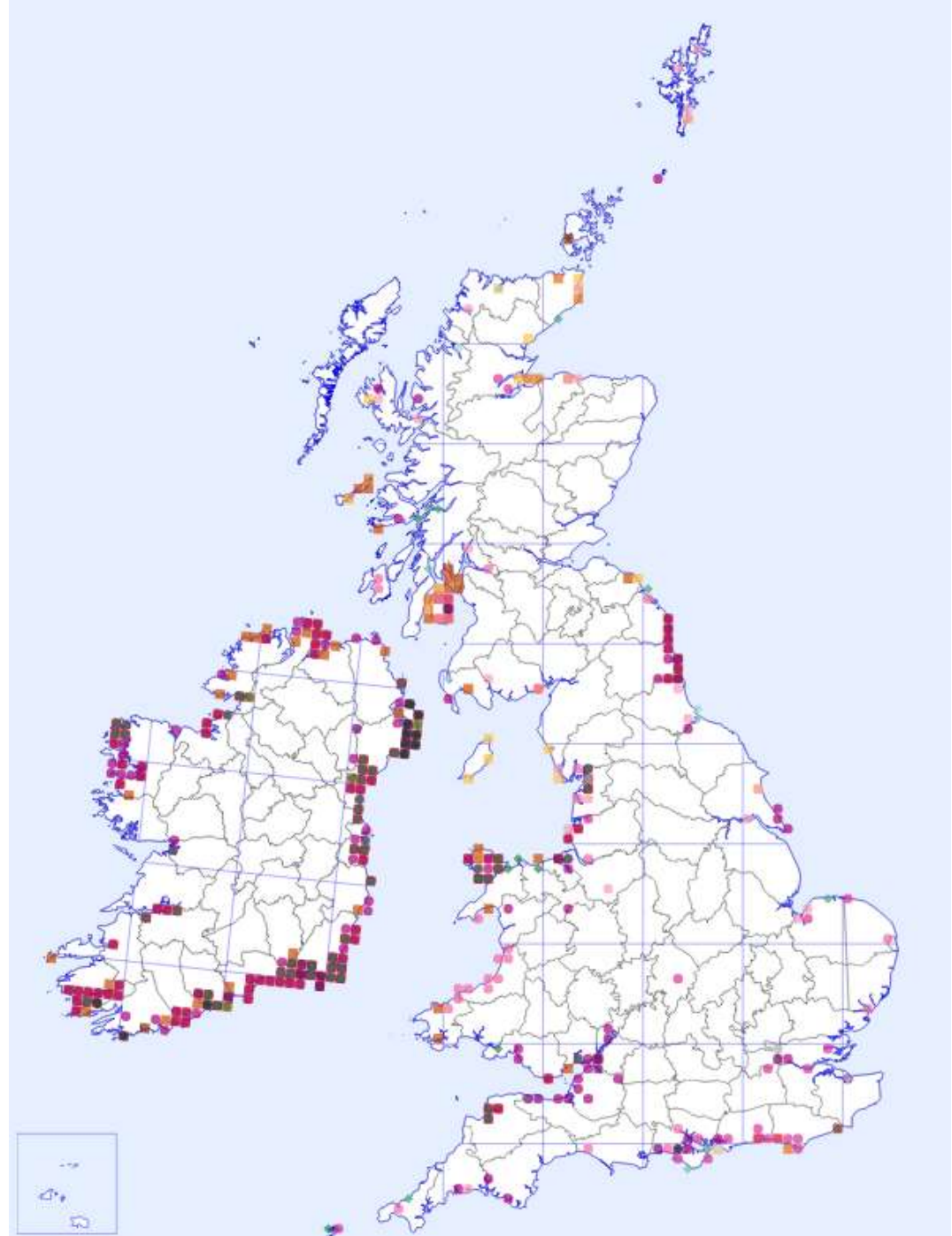
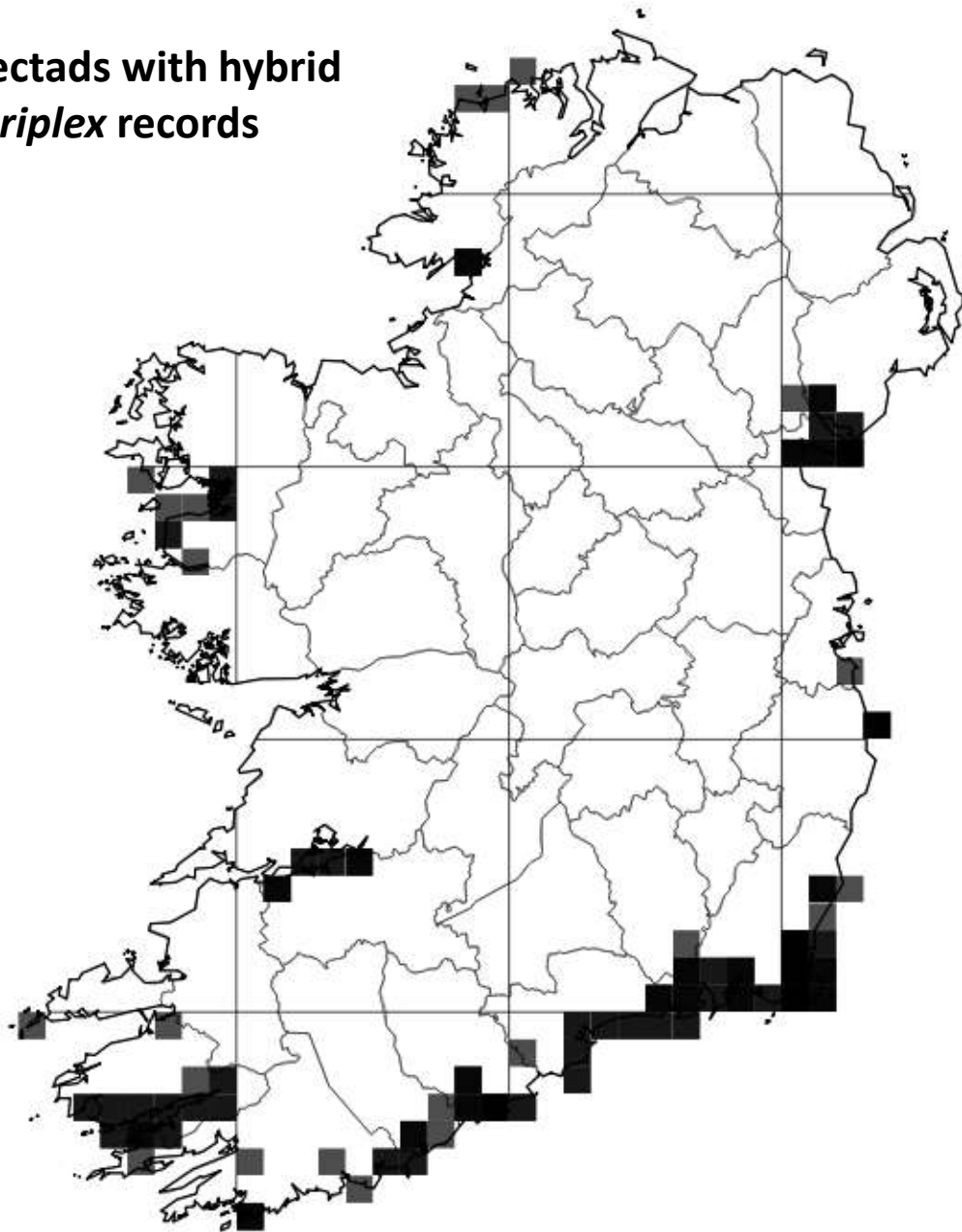
2016 there were a few hybrid records from Cos Cork, Waterford and Wexford.

The following year records for hybrids started to appear around the coast of Ireland.

This map from the DDb was produced on 17th September 2018.



**Hectads with hybrid
Atriplex records**



There are only two hybrids that are really common on the Irish coast. Both of these, ***Atriplex x gustafssoniana*** (*A. longipes* x *A. prostrata*) and ***Atriplex x taschereaui*** (*A. glabriuscula* x *A. longipes*) are far more common than their parents. From my experience it would seem that two of the parents *Atriplex glabriuscula* (Babington's Orache) and *Atriplex prostrata* (Spear-leaved Orache) are over-recorded, and much rarer than is expected by recorders on the coast.

On rocky coasts, stony, pebble or shingle beaches you generally only have the above two hybrids.

Both *Atriplex glabriuscula* (Babington's Orache) and *Atriplex prostrata* (Spear-leaved Orache) seem much more common along sandy shores.

All the green at the top of this beach is hybrid *Atriplex*.

Atriplex x gustafssoniana



***Atriplex x taschereaui* (*A. glabriuscula* x *A. longipes*)**

Don't be put off from recording *Atriplex* on the coast. This hybrid is one of the easiest *Atriplex* to identify in the field.

Bracteoles:

The larger ones are united only at the base; not mealy.

The smaller bracteoles are united to the middle and often mealy and spongy.

Some of the larger bracteoles will have stalks 20mm or longer; and there will always be some foliaceous bracteoles; these can often be large and very leafy.

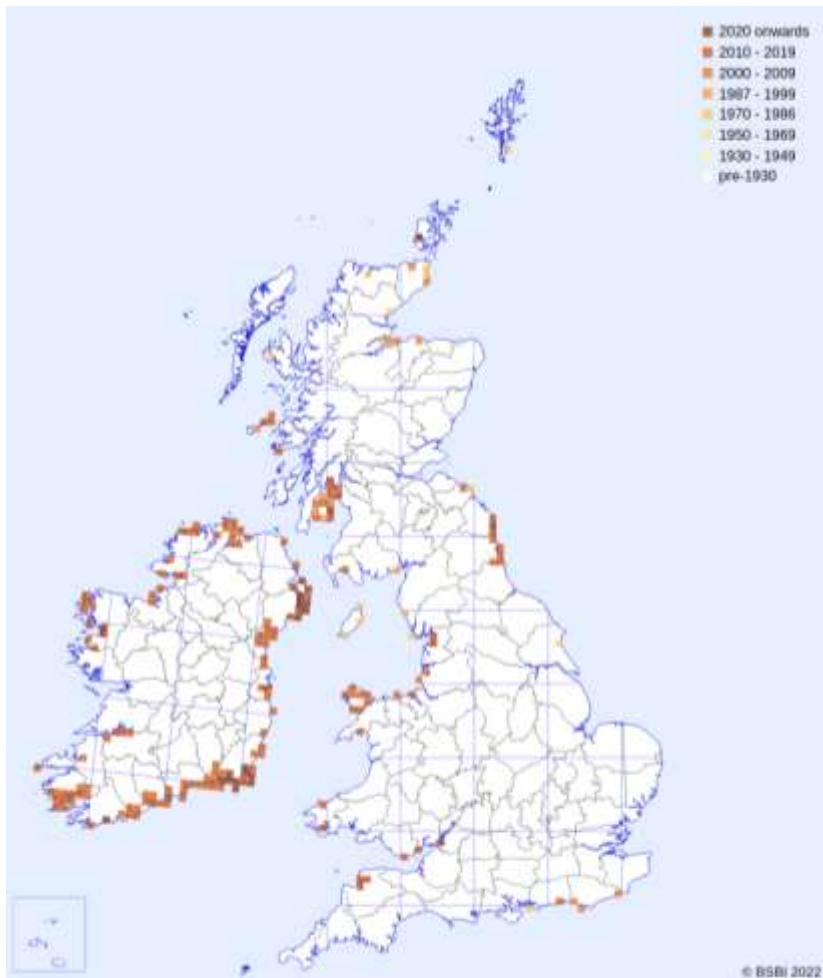
I tend to look over the whole plant when seeing what kind of bracteoles it has.

More often than not the plant is dark green.



Atriplex x taschereaui
(*A. glabriuscula* x *A. longipes*)

Bracteoles with long stalks



Leaf

Bracteole

Bracteole

Bracteole stalks

Atriplex x taschereaui
(*A. glabriuscula* x *A. longipes*)



Leaves
of
foliaceous
bracteole

Foliaceous bracteole

Stalk

Bracteoles

***Atriplex x gustafssoniana* (*A. longipes* x *A. prostrata*)**

Bracteoles:

All united only at the base.

The smaller bracteoles are often mealy and spongy.

Some of the larger bracteoles will have stalks 0.5mm to 1mm long; this is where you need a vivid imagination at what is a stalk! There might be the odd bracteole with a stalk up to 5mm long. There might also be foliaceous bracteoles, but these aren't very common in this hybrid.

It is likely to be the most common *Atriplex* on the Irish coast.





Stalk



Stalk



Stalk

Stalked bracteoles of
Atriplex x gustafssoniana
(*A. longipes* x *A. prostrata*)



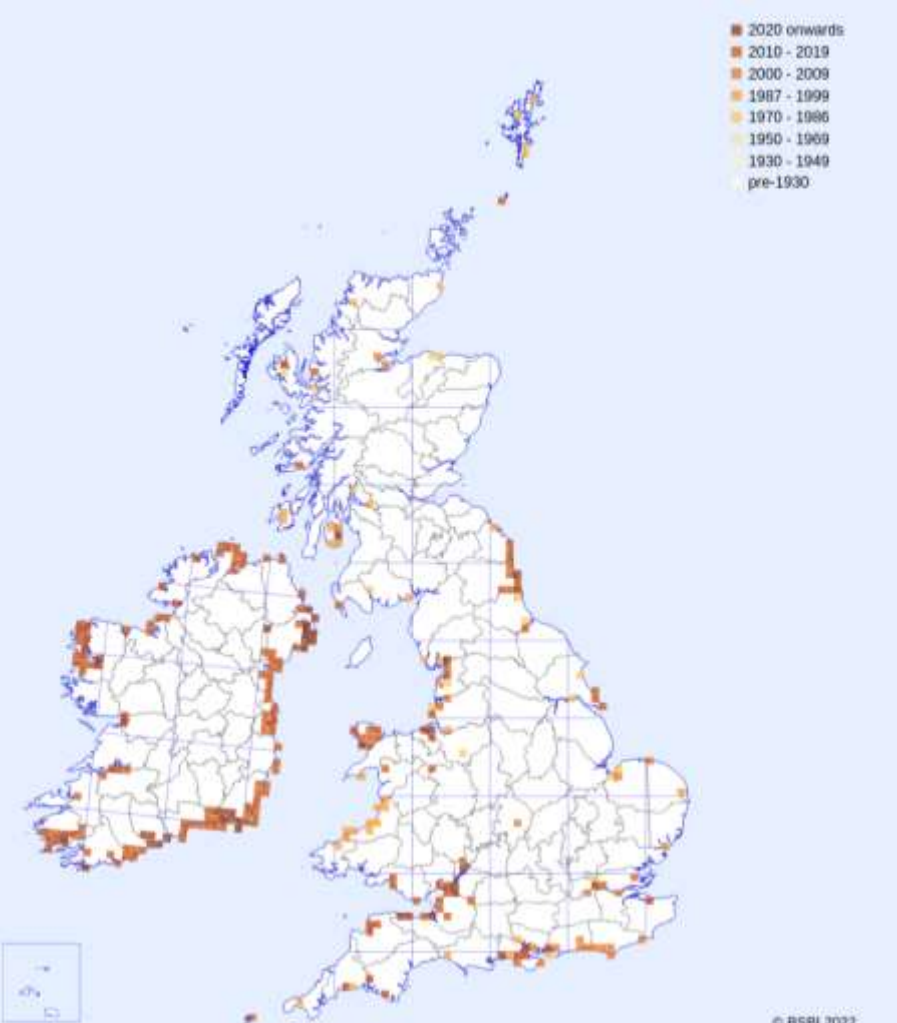
Stalk



Stalk



Stalked bracteoles of *Atriplex x gustafssoniana* (*A. longipes* x *A. prostrata*), these are the bracteoles shown in the previous slide.



***Atriplex x gustafssoniana* (*A. longipes* x *A. prostrata*)**

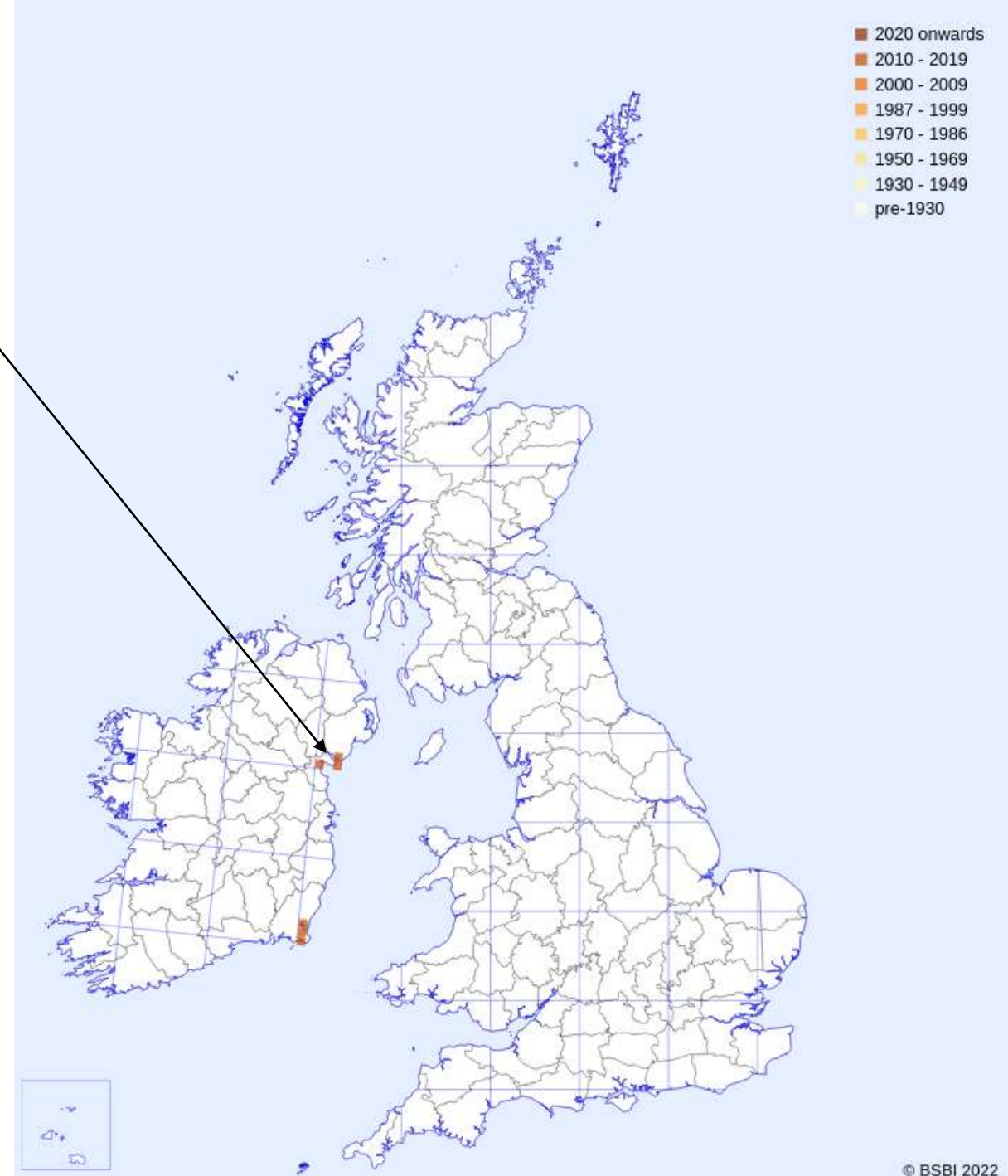


Atriplex littoralis* x *A. longipes

New to Ireland in 2016, Co. Wexford & Co. Louth 2017.

Has narrow leaves like *A. littoralis*.

Many bracteoles have stalks.



Which are the most common *Atriplex* around the Irish coast?

***Atriplex x gustafssoniana* (*A. longipes* x *A. prostrata*)**

***Atriplex x taschereaui* (*A. glabriuscula* x *A. longipes*)**

***Atriplex prostrata* (Spear-leaved Orache)**

***Atriplex glabriuscula* (Babington's Orache)**

The above is the order in which I would say how common they are.

Thankyou for listening

Atriplex

