

MARINE INVASIVE NON-NATIVE SPECIES

IN NORTHERN IRELAND



CEDAR
CENTRE FOR ENVIRONMENTAL
DATA & RECORDING

NI
**NATIONAL
MUSEUMS NI**

REPORTING

*Please report all observations of
Invasive Non-Native Species as follows:*

Submit your record with an accompanying photograph, date and location to **CEDaR Online Recording**:
www2.habitas.org.uk/records/ISI

For invasive species recorded in an imported aquaculture consignment you must report it immediately to **DAERA** by calling **028 9056 9558** who will provide advice.

Email: invasivespecies@daera-ni.gov.uk

An assigned verifier will review your record on submission. All confirmed records will be collated on **CEDaR's database** and will appear on the **NBN Atlas Northern Ireland**: northernireland.nbnatlas.org.

To learn more about Invasive Non-Native Species in Northern Ireland, visit: **Invasive Species Northern Ireland** invasivespeciesni.co.uk



HELP **STOP** THE SPREAD

Please follow the steps below to help stop the spread of invasive species.

When it comes to invasive species, **prevention is better than cure**. Diving gear, boats and trailers can all carry invasive species from one dive site to the next. To prevent the introduction of harmful invasive species and to protect the native biodiversity at our dive sites, follow the **Check Clean Dry Protocol** after each dive.



CHECK

Check all water-exposed equipment for plant or animal matter and dispose of this in a bin on land.

Check BCD and drysuit pockets, along with propellers and trailers.

Drain BCD bladders and all water from the boat and the outboard engine at the site.



CLEAN

As is common practice after a dive, clean all dive gear down with freshwater.

If possible, use the hottest water from the hot water tap.

Pay particular attention to the BCD bladder, the boat, anchor chains, ropes and hard to reach areas on the trailer.



DRY

Dry equipment for at least 48 hours before moving to another waterbody.

Drying can help kill microscopic life stages and invasive species that are not visible to the naked eye.

1

ASIATIC CLAM

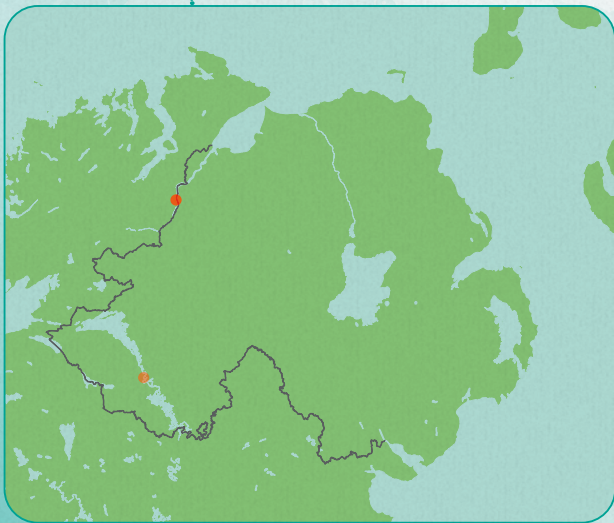
(*Corbicula fluminea*)

HABITAT

Clean mud, clay, sand and gravel substrate in lakes, rivers and streams. Can also survive in the upper regions of estuaries where salinity levels are low.

ESTABLISHMENT

Recorded in the River Foyle and a number of rivers in the Republic of Ireland



FEATURES

A small clam with an inflated shell which is slightly round to triangular in shape.

Shell length usually <25mm but can grow up to 50-65mm.

The shell is thick with prominent and evenly spaced concentric ridges.

Outer shell is yellow-green to brown, which can flake off to leave white patches; inner shell is glossy light purple.

Can occur in very high densities where established.



2

PACIFIC OYSTER

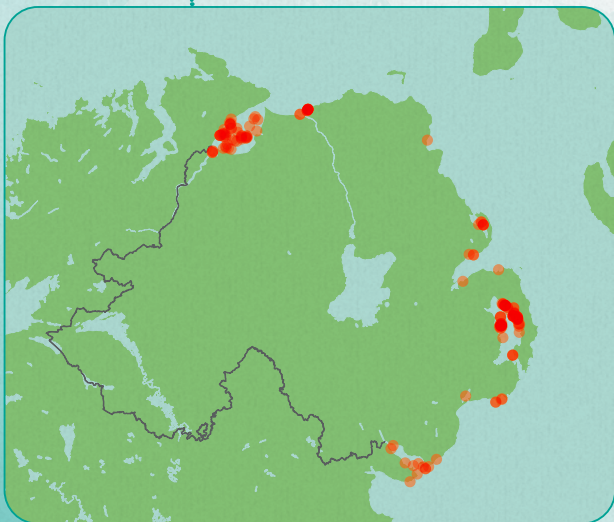
(*Magallana gigas*)

HABITAT

Found on the lower shore and shallow sublittoral to a maximum depth of 80m.

ESTABLISHMENT

Now established in the wild from stocks cultivated in Strangford Lough, Carlingford Lough and Lough Foyle.



FEATURES

The Pacific oyster (right) can grow to 18 cm in length.

The Pacific oyster can be distinguished from the native oyster (below) by the shape of the shell. The native oyster has a roundish outline whilst the Pacific oyster is elongate and oval.

There are 6 to 7 distinct ribs on the lower shell and ridges on top shell match those of bottom shell.

Shell is off-white to brownish, sometimes with purplish streaks.

Previously called *Crassostrea Gigas*.

PACIFIC OYSTER



NATIVE OYSTER (*Ostrea Edulis*)



3

JAPANESE CARPET SHELL

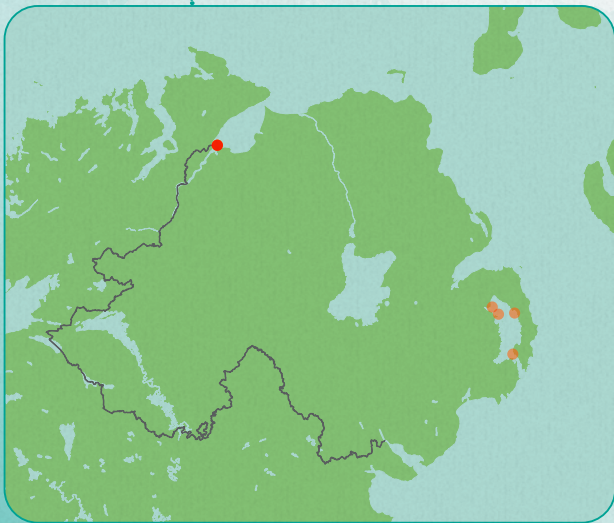
(*Ruditapes philippinarum*)

HABITAT

Found in the Intertidal zone, brackish waters, estuaries and zostera beds, buried up to 10cm in substrate.

ESTABLISHMENT

Introduced across the UK. First reported from NI in 2020 from Strangford Lough.



FEATURES

Roughly oval-shaped clam, can grow up to 6cm in length.

Tip of the siphon is split with body tissues of live individuals, orange in colour.

Can tolerate temperatures ranging from 0-23°C and low salinity environments.

Shell exterior is netted with variable zig-zags or blotches of brown patterns. The interior of the shell is smooth with a deep purple band and black pallial sinus scar.



4

AMERICAN JACK-KNIFE CLAM

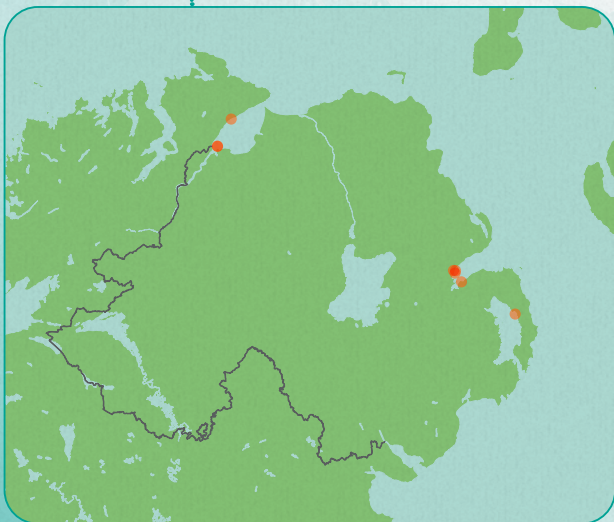
(*Ensis leei*)

HABITAT

Can tolerate brackish waters within estuaries and lagoons within muddy, sandy sediment in the low intertidal and shallow subtidal zones.

ESTABLISHMENT

Occurs throughout the UK in muddy estuaries and shallow coastal areas. First reported from NI in 2016, Foyle Estuary.



FEATURES

Thin elongated yellow to red-brown razor shell, up to 20cm long, curved with many pink to purple-brown growth bands.

Distinctive W-shaped pallial sinus scar inside of dead shells, opposite the hinge.

Buried clams can be located by the presence of a keyhole-shaped opening in the sediment. If disturbed, they can eject a small jet of water as the clam rapidly digs deeper.



5

SLIPPER LIMPET

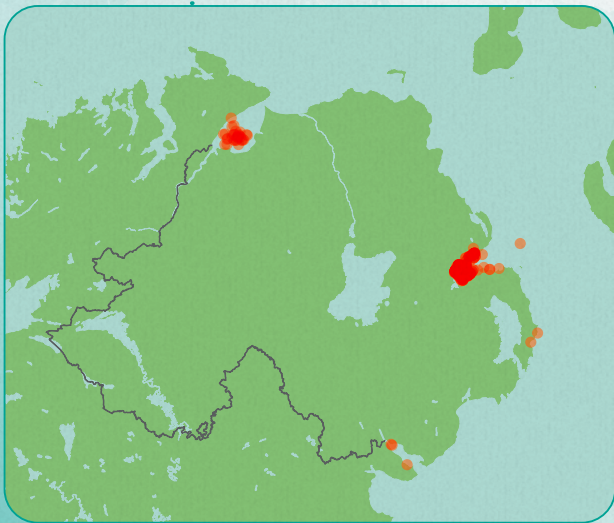
(*Crepidula fornicata*)

HABITAT

It lives on shells and stones in the shallow subtidal, often associated with mussel and oyster beds.

ESTABLISHMENT

First reported in NI in 2009 from Belfast Lough, the first record from Lough Foyle was in 2018.



FEATURES

The slipper limpet can grow to 5cm in length.

The shell is oval in shape with a small spire towards the back.

The outside of the shell is smooth with pinkish red streaks.

The underside of the shell is creamish-white with a characteristic 'shelf' (below).

Individuals are commonly found stacked on top of each other.

Records should state whether it is just the shell or if it is alive and the animal is still inside.



6

ORANGE-STRIPED ANEMONE

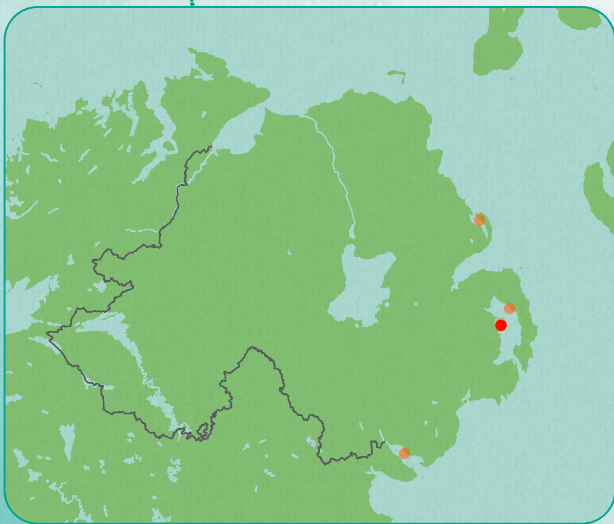
(*Diadumene lineata*)

HABITAT

Found on shallow subtidal mixed sediment with shell and beneath boulders on the low shore. Elsewhere in the UK it has been found in sheltered bays and harbours and also in brackish waters.

ESTABLISHMENT

First reported in NI in 2010 from Strangford Lough.



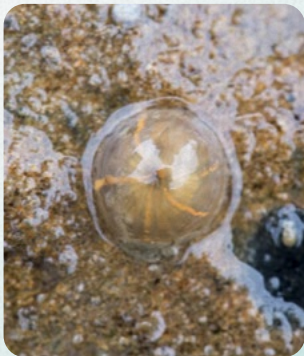
FEATURES

This is a tiny sea anemone, up to 1 to 2cm in diameter.

The column (base) is olive green with diagnostic orange vertical stripes.

The photo below shows the tentacles extended. They are usually translucent white or greyish and contrast with the green column.

Previously called *Haliplanella Lineata*.



7

TRUMPET TUBE-WORM

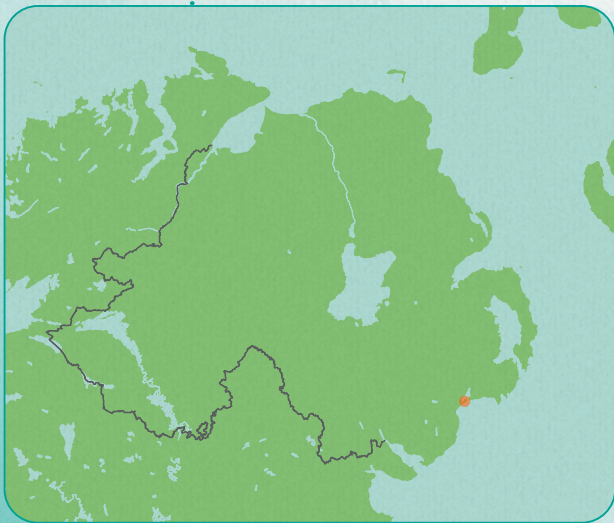
(*Ficopomatus enigmaticus*)

HABITAT

Grows on boats, buoys, and pontoons in shallow coastal areas with low or fluctuating salinity.

ESTABLISHMENT

Recorded in England, Wales and the Republic of Ireland.



FEATURES

Creates white brittle calcareous tubes, 2mm in diameter and up to 10cm long, marked by rings that flare out.

Forms dense reef-like aggregations up to 4m across and 50cm tall.

Crown consisting of 12-20 grey, green or brown branching gill plumes often protrudes from the flared opening to feed.

Spiny operculum closes the tube when the animal is withdrawn.

The worm's abdomen within the tube consists of 50-120 segments, the first third has bundles of 2-5 chaetae in two rows.



8

PURPLE FAN-WORM

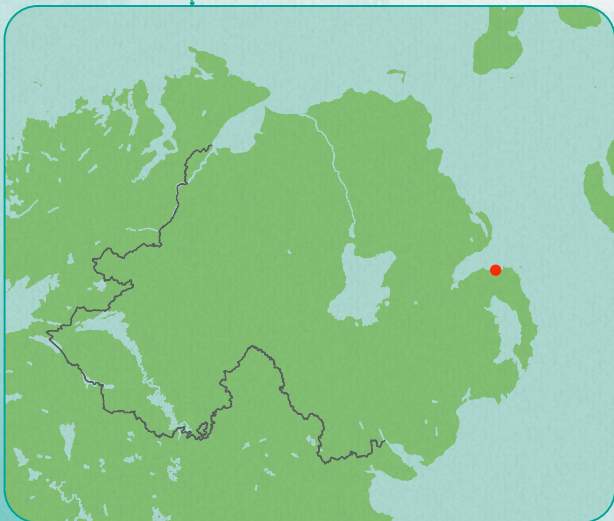
(*Bispira polyomma*)

HABITAT

Grows on hard substrata like harbour walls, pontoons, and bivalve shells. Prefers warmer waters within harbours, marinas and outflows from power stations.

ESTABLISHMENT

First observed in the UK in Plymouth 2021.
Has since been recorded in NI, Bangor Marina 2024.



FEATURES

Forms smooth, flexible, muddy tubes 3mm in diameter and up to 6cm long.

Vibrant bluish-purple radial crown with 4-9 dark bands, between 7-16mm long, protrudes from the tube opening. Dark compound eyes are situated within the dark bands.

Worms completely retract when out of water, causing empty sections of tubes to flatten and collapse.

Many-segmented body is a pale yellow, speckled black along the thorax.



9

CARPET SEA SQUIRT

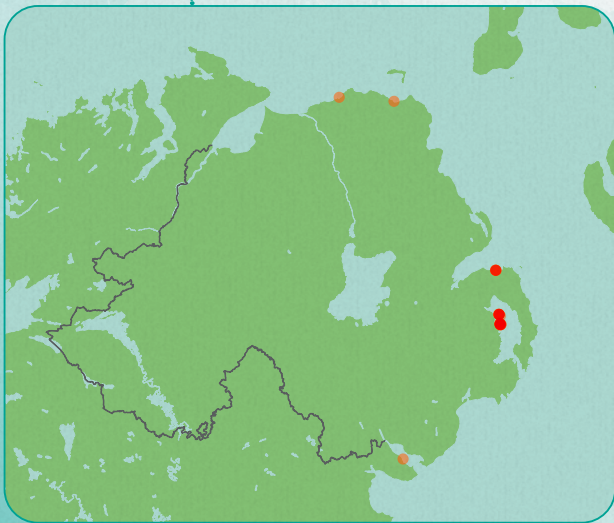
(*Didemnum vexillum*)

HABITAT

Grows on artificial substrata e.g. boats, buoys, pontoons and also seaweeds, rocks and boulders. Usually found in sheltered areas from the low shore to 65m.

ESTABLISHMENT

First reported from NI in 2015 from Strangford Lough.



FEATURES

A colonial sea squirt.

Forms thin peelable sheets 2 to 5mm thick.

The colour is uniform cream to dull orange.

The internal water channels appear as dark veins.

A white patch surrounds the inhalant openings.

Forms large, leathery patches.

On overhanging substrata e.g. boats and buoys, it can form long, hanging formations up to 1m in length. These can break away and attach elsewhere.



10

ORANGE CLOAK SEA SQUIRT

(*Botrylloides violaceus*)

HABITAT

Grows on artificial substrata e.g. boats, buoys, pontoons and also seaweeds, mussels and other sea squirts. Usually found in sheltered areas from the low shore to 10m.

ESTABLISHMENT

First reported from NI in 2011 from Bangor Marina.



FEATURES

A colonial sea squirt.

Forms flat sheets up to 3mm thick.

The colony has an irregular outline.

Uniform colour which can be orange, yellow, red, brown or purple.

The colony consists of small individuals (zooids) arranged in twisting double rows (below).

Large orange-red larvae are sometimes visible in the jelly-like matrix.



11

SAN DIEGO SEA SQUIRT

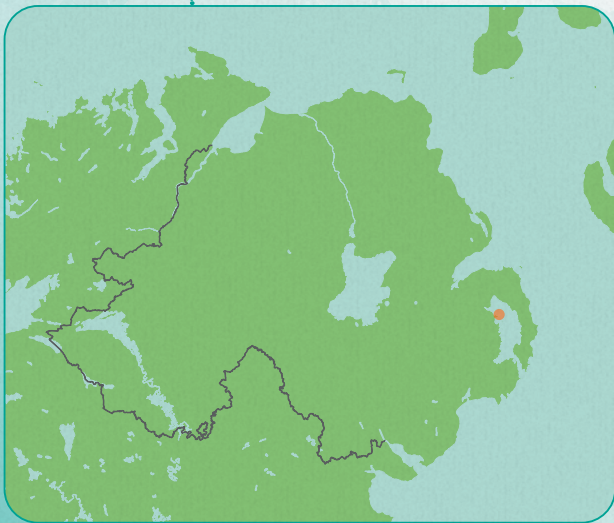
(*Botrylloides diegensis*)

HABITAT

Grows on artificial substrata e.g. boats, buoys, oyster trestles and on seaweeds, mussels and sessile animals. Dies back in Winter

ESTABLISHMENT

First reported from NI in 2024 from Strangford Lough on oyster trestles.



FEATURES

A colonial sea squirt.

Forms firm gelatinous sheets up to 5mm thick.

Colonies can be uniform but often two-toned, consisting of bright rings of orange, white, yellow or green against a darker background.

Zooids arranged in double rows with 10-15 zooids per chain.

Small inconspicuous larva (0.5mm) sometimes visible within colonies.



12

LEATHERY SEA SQUIRT

(*Styela clava*)

HABITAT

Found in the shallow subtidal down to 25m. Most records are from marinas and harbours but also occurs in sheltered bays.

ESTABLISHMENT

First reported from NI in 2009 from Larne Lough.



FEATURES

A solitary sea squirt.

Grows to 12cm in length.

Leathery, warty body with a tough slender stalk (right).

Two, close together siphons on top of body.

Siphons have conspicuous cream and purplish stripes on inside.

The long, slender stalk is diagnostic, not likely to be confused with any other species.



13

COMPASS SEA SQUIRT

(*Asterocarpa humilis*)

HABITAT

Usually found in harbours and marinas where it fouls ships' hulls, pontoons and buoys.

ESTABLISHMENT

First reported from NI in 2018 from Strangford Lough.



FEATURES

A clump forming solitary sea squirt.

Can grow to 3cm in length.

Orange-red colour.

Bulbous shape to body.

2 fluted siphons.

Conspicuous white markings on inside of siphons resemble the points of a compass. These compass-like markings are diagnostic.



14

GLASSY SEA SQUIRT

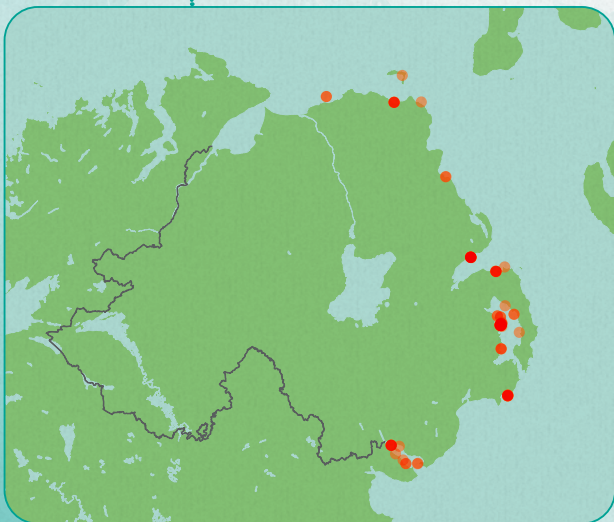
(*Aplidium cf. glabrum*)

HABITAT

Often on artificial substrata in marinas and harbours but also beneath boulders on the low shore in sheltered, silty areas.

ESTABLISHMENT

First found in the Netherlands in 1977, first reported from NI in 2015.



FEATURES

This invasive colonial sea squirt is not the same as *Aplidium glabrum*, hence the use of cf. (= similar to).

Should be recorded as *Aplidium* cf. *glabrum*.

The glassy appearance is diagnostic.

Forms thick cushions approximately 1cm thick.

Variable in size but patches are typically 4 to 8cm across.

Shiny grey colour.

Individual zooids are visible as white spots through a semi-transparent matrix.



15

ORANGE-TIPPED SEA SQUIRT

(*Corella eumyota*)

HABITAT

Often on artificial substrata in marinas and harbours but also beneath boulders and stones on the low shore in sheltered areas.

ESTABLISHMENT

First reported from NI in 2006 from Carrickfergus Marina.



FEATURES

Solitary sea squirt.

Usually 2 to 4cm in length.

Smooth, semi-transparent body, off-white to pale orange in colour.

2 short siphons, one on the top of the body and one on the side.

Conspicuous and diagnostic orange pigment around siphons (right).

C-shaped gut running along edge of body is visible.



CREEPING SEA SQUIRT

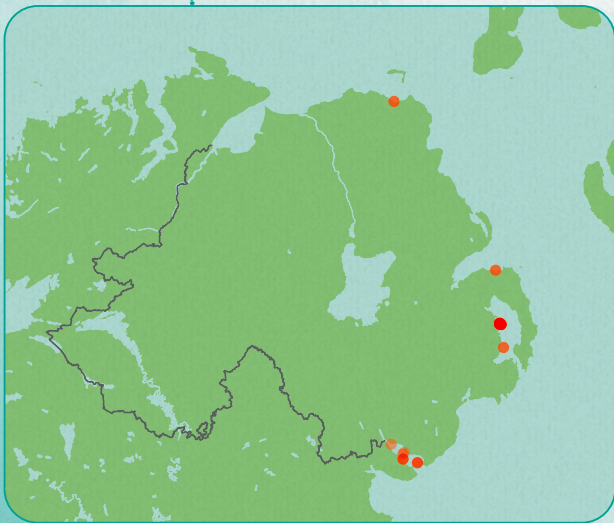
(*Perophora japonica*)

HABITAT

Found on artificial substrata in marinas and harbours but also beneath boulders and stones on the low shore in sheltered, silty areas.

ESTABLISHMENT

First reported from NI in 2015 from Strangford Lough and Carlingford Marina.



FEATURES

Individual zooids are connected by a creeping, bright yellow stolon.

Forms tight clusters of tiny, translucent yellow zooids.

Each zooid is approximately 4mm in length.

Yellow star-shaped buds on the stolon are characteristic (right).



17

RED RIPPLE BRYOZOAN

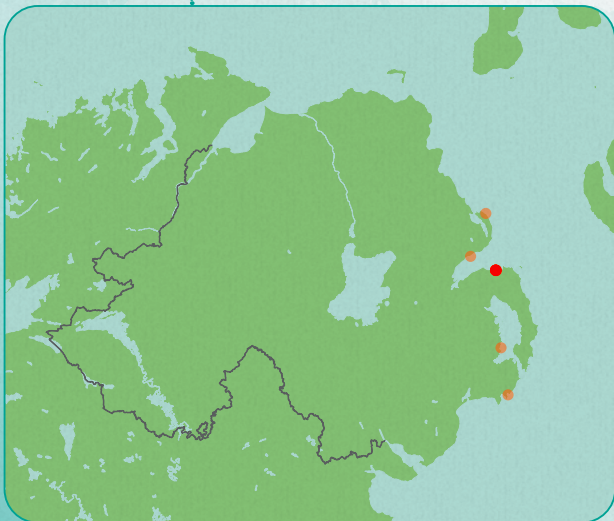
(*Watersipora subatra*)

HABITAT

Found on artificial substrata in marinas and harbours but is also known to occur on rocks and shells in shallow water.

ESTABLISHMENT

First reported from NI in 2015 from Ardglass Marina.



FEATURES

This is a bryozoan (also known as sea mats), a colonial animal, made up of many individuals called zooids.

Grows as a crustose colony on hard substrata.

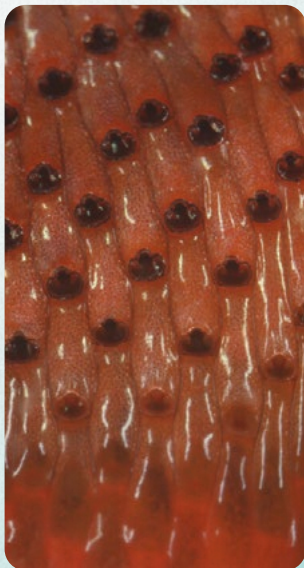
The shape of the colony varies with age and shelter.

Young colonies form flat, roundish patches several centimetres across.

As the colony grows the outer margins become curled or rippled.

Older colonies can grow into rose-shaped formations.

Usually bright orange-red in colour, sometimes the central part of the colony (the older part) is black.



18

ORANGE RIPPLE BRYOZOAN

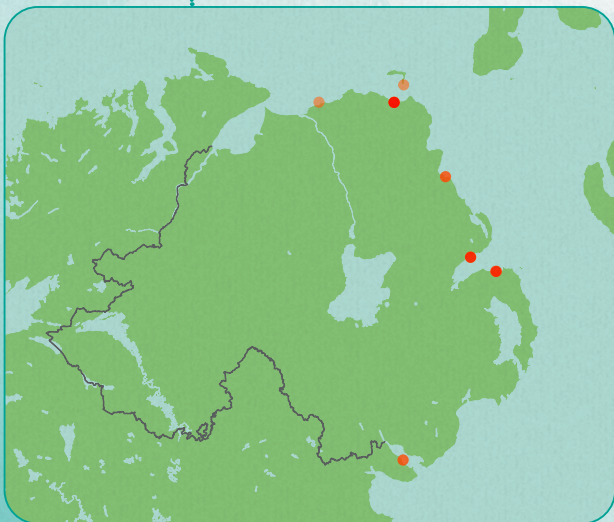
(*Schizoporella japonica*)

HABITAT

Found on artificial substrata in marinas and harbours, but also found on rocks and shells in shallow water.

ESTABLISHMENT

First reported from NI in 2021 from Ballycastle harbour.



FEATURES

Similar to *W. subatra*, this calcified encrusting bryozoan forms ridged, brittle colonies.

Colonies are often bright orange but can range from whitish pink to deep red.

Porous ovicell present near zooid orifice, unlike some other orange bryozoan.

Young colonies form flat, roundish patches several centimetres across.

May require expert identification to separate from similar species.



19

BROWN BRYOZOAN

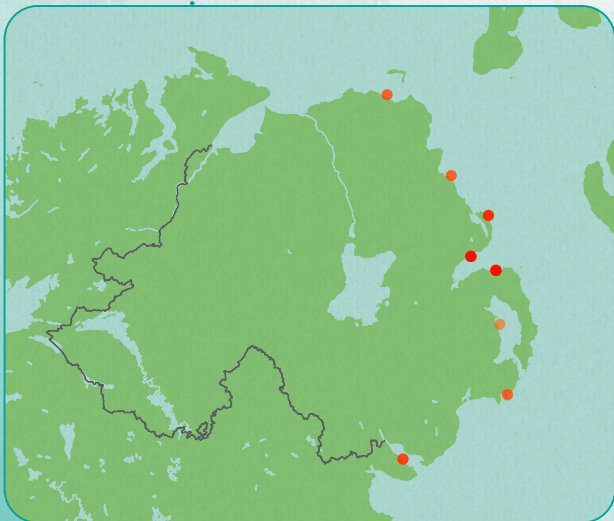
(*Bugula neritina*)

HABITAT

Found on kelp and artificial substrata in marinas and harbours.

ESTABLISHMENT

First reported from NI in 2013 from Carrickfergus Marina.



FEATURES

This is a bryozoan (also known as sea mats), a colonial animal, made up of many individuals called zooids.

Grows as an erect, dichotomously branching colony.

Grows to approximately 8cm in length.

Distinctive purplish-brown colour.

The branches have zooids arranged in double rows with zooids alternating side to side.

The embryos when present are paler brown.

Attaches to substratum by a holdfast.



20

BRYOZOAN

(*Bugulina fulva*)

HABITAT

On artificial substrata in harbours and marinas.

ESTABLISHMENT

First reported from NI in 2012 from Strangford Lough.



FEATURES

This is a bryozoan (also known as sea mats), a colonial animal, made up of many individuals called zooids.

An erect bryozoan which forms dense, tufted colonies.

Colonies are up to 3cm tall.

Pale yellowish-brown in colour.

Difficult to separate from *Bugulina simplex* without a microscope, if in doubt specimens can be recorded as *Bugulina fulva/simplex*.

The branches have zooids arranged in rows of 2 zooids wide increasing to 4 just below each branching point, whereas *Bugulina simplex* has 5–6 zooids below each branching point.



21

BRYOZOAN

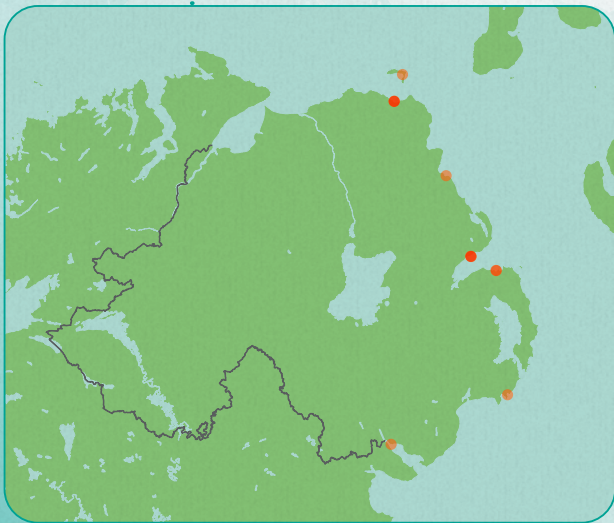
(Bugulina simplex)

HABITAT

First reported in 2011 from Bangor Marina.

ESTABLISHMENT

Found on artificial substrata in marinas and harbours.



FEATURES

This is a bryozoan (also known as sea mats), a colonial animal, made up of many individuals called zooids.

This is an erect bryozoan which forms thick tufts.

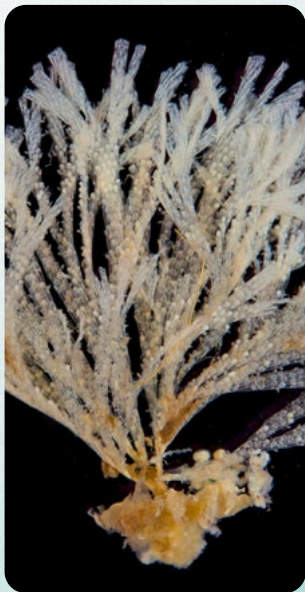
Colonies are up to 3cm tall.

Branches dichotomously.

Branch segments are narrow at the base, becoming broader at the top.

Difficult to separate from *Bugulina fulva* without a microscope, if in doubt specimens can be recorded as *Bugulina fulva*/simplex.

The branches have zooids arranged in multiple rows with 5 or 6 across just below each branching point, *Bugulina fulva* has 2-4.



22

BRYOZOAN

(*Tricellaria inopinata*)

HABITAT

Found on artificial substrata in marinas and harbours.

ESTABLISHMENT

First reported in 2011 from Bangor Marina and Portrush Harbour.



FEATURES

This is a bryozoan (also known as sea mats), a colonial animal, made up of many individuals called zooids.

An erect bryozoan.

Forms bushy irregular tufts.

Cream to buff in colour.

Branches thin, composed of alternating zooids and branching alternately.



CHINESE MITTEN CRAB

(Eriocheir sinensis)

HABITAT

Juveniles start life in the marine environment and estuaries then move upstream into brackish and freshwater habitats where they burrow into muddy riverbanks. There is a risk of damage to riverbanks associated with burrowing activity.

ESTABLISHMENT

Occurs in many sites across England, Wales and Scotland. As yet there are no records from Northern Ireland, but has been reported in Waterford, Ireland, in 2020, with a berried female being observed in 2021.

No records for Northern Ireland



FEATURES

A large crab, the shell is typically 8cm across.

The most characteristic feature are the hairy claws, hence the name 'mitten crab'.

Variable in colour from greenish brown to orange-brown.

When extended the legs are twice the length of the body.



ASIAN SHORE CRAB

(*Hemigrapsus sanguineus*)

HABITAT

Juveniles start life in the marine environment and estuaries then move upstream into brackish and freshwater habitats where they burrow into muddy riverbanks. There is a risk of damage to riverbanks associated with burrowing activity.

ESTABLISHMENT

As yet there are no records from Northern Ireland, but occurs in many sites across England, Wales and now, Scotland.

No records for Northern Ireland



FEATURES

The shell can be up to 4.2cm across.

The edge of the shell between the eyes is smooth in contrast to our native shore crab (*Carcinus maenas*), which has 3 rounded lobes between the eyes.

The legs are striped.

The front claws have reddish spots on the upper surface.

There are 3 serrated teeth either side of the eyes (below), whereas in our native shore crab there are 5.

The body is mottled greenish-brown.



25

BRUSH-CLAWED SHORE CRAB

(*Hemigrapsus takanoi*)

HABITAT

Found on the low shore and shallow subtidal on natural and artificial substrata in sheltered areas.

ESTABLISHMENT

First reported from the south east coast of England in 2015.

No records for Northern Ireland



FEATURES

The shell can be up to 2.5cm across.

The edge of the shell between the eyes is smooth in contrast to our native shore crab (*Carcinus maenas*), which has 3 rounded lobes between the eyes.

The body is mottled brown.

Males have a diagnostic patch of brown bristles on their claws.

There are 3 serrated teeth either side of the eyes, whereas in our native shore crab there are 5.

The legs have small dark spots.



26

JAPANESE SKELETON SHRIMP

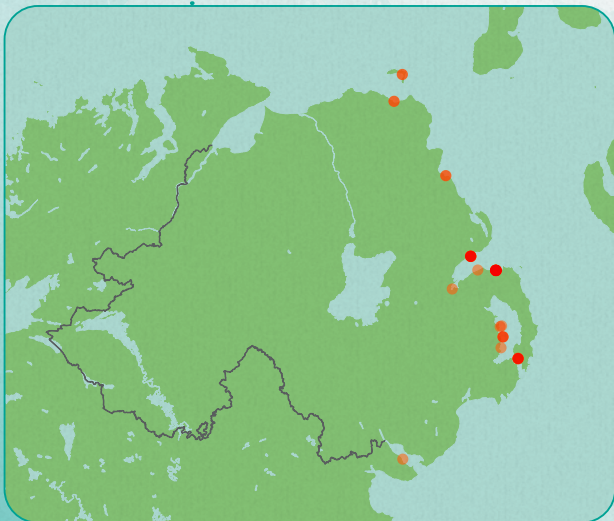
(*Caprella mutica*)

HABITAT

Attached to seaweeds and sessile animals, especially in marinas and harbours.

ESTABLISHMENT

First record from NI was in 2006 from Bangor Marina.



FEATURES

Skeleton shrimps (*caprellids*) all have slender, thread-like bodies and 2 pairs of antennae on the head.

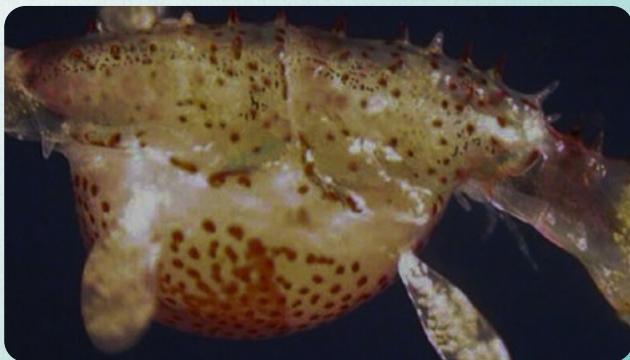
This is a relatively large species, males are up to 3.5cm long whilst females only grow to 1.5cm.

Distinctive bright orange-red colour.

In males the first two body segments are hairy and the first pair of antennae are more than half the body length.

The antennae have distinctive yellow and red bands.

A red-spotted brood pouch on the belly of females is diagnostic (below).



27

BEAKED BARNACLE

(*Austrominius modestus*)

HABITAT

Occurs in a wide range of intertidal habitats on rocks and shells and fouling other organisms. Top right photo shows it fouling mussels.

ESTABLISHMENT

First reported in Britain in 1946.



FEATURES

Formerly known as *Elminius modestus*.

Barnacles are crustaceans; although they live attached to rocks they are relatives of crabs and lobsters.

This is a small barnacle 5 to 10mm across.

The 4 shell plates are diagnostic for this species (our native barnacles all have 6 plates).

It has a diamond-shaped aperture.

This species is fast growing and can tolerate a range of salinities and temperatures.

Competes with our native acorn barnacle (*Semibalanus balanoides*).



28

JAPANESE WIREWEED

(*Sargassum muticum*)

HABITAT

Intertidal rock pools and on rock in the shallow subtidal. Occurs in estuarine conditions as well as on the open coast.

ESTABLISHMENT

First reported in NI in 1995 from Strangford Lough. It is now widespread on all coasts.



FEATURES

Large brown seaweed, grows to over 2m in length.

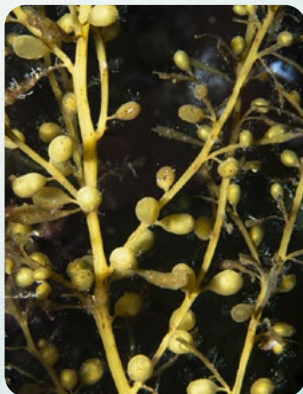
Yellowish-brown to dark brown in colour.

Small spherical air bladders on stalks and flattened oval blades are diagnostic (right).

Regular, alternate branching.

Tough and cartilaginous.

Very fast growing, can out compete native seaweeds.



29

OYSTER THIEF

(*Colpomenia peregrina*)

HABITAT

Usually grows on other seaweeds as well as shells. Found in intertidal rock pools and the shallow subtidal.

ESTABLISHMENT

First introduced to Europe in 1906.



FEATURES

A brown seaweed, usually 3 to 7 cm across.

Olive-brown in colour.

Thin-walled hollow sphere (below), older specimens become furrowed (right).

Tears easily.

Dry, papery texture.

Named the Oyster thief as specimens attached to oyster shells can float away with the oyster attached.

Could be confused with the Punctured ball weed (*Leathesia difformis*) however this species is a gelatinous ball, not thin walled and papery.



30

WAKAME

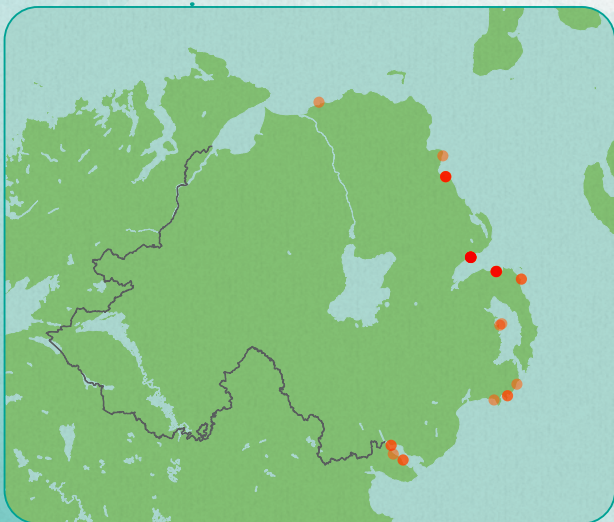
(*Undaria pinnatifida*)

HABITAT

On artificial substrata in marinas and harbours.

ESTABLISHMENT

First reported in NI in 2015 from Carrickfergus Marina.



FEATURES

A large, dark brown seaweed, 1 to 3m in length.

Broad, flat frond, divided into finger-like projections.

Flat, broad midrib is diagnostic.

In older plants the flattened stipe has a wavy-curved margin similar to the native Furbellows (*Saccorhiza Polyschides*).

Flattened stipe with corrugated edge is also diagnostic.

Claw-like holdfast.



31

DEVIL'S TONGUE WEED

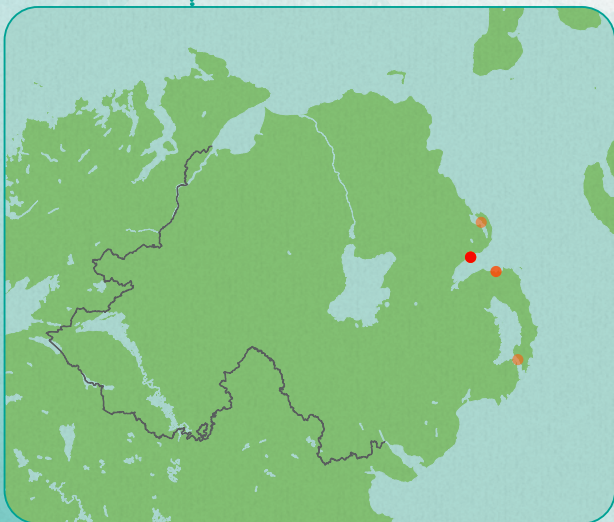
(*Grateloupia turuturu*)

HABITAT

Lives on shells and stones in the shallow subtidal but is occasionally found on the low shore rock pools and on artificial substrata in marinas and harbours. Can tolerate low salinity.

ESTABLISHMENT

First reported in NI in 2017 from Carrickfergus Marina.



FEATURES

A dark red seaweed, can grow to 1m in length.

Lance shaped blade with wavy margin up to 20cm across.

Smaller, blades can proliferate from main blade.

Short stipe.

Small, disc-like holdfast is diagnostic.

Smooth, slippery texture.



32

HARPOON WEED

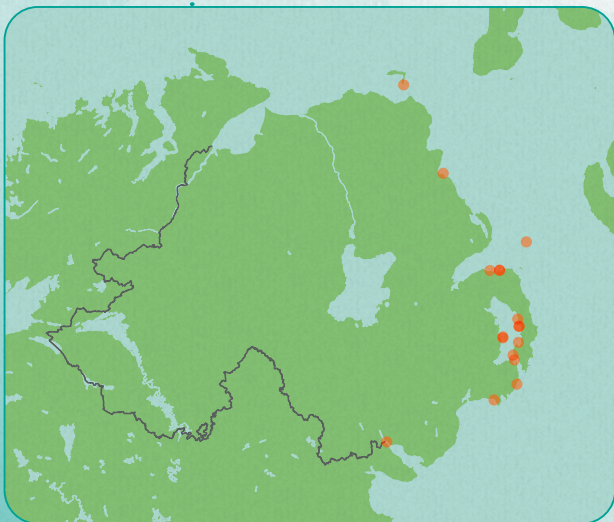
(*Asparagopsis armata*)

HABITAT

Found on low shore and shallow subtidal, in sheltered or moderately exposed areas.

ESTABLISHMENT

First reported from NI in 2012 from Rathlin Island as drift.



FEATURES

Pinkish-red seaweed up to 30cm long.

Erect, fluffy branches.

Branches alternate and spiralled.

Soft texture.

Some branches with conspicuous barbed harpoon-like structures (below), these are diagnostic..



33

SIPHONED JAPANESE WEED

(*Dasysiphonia japonica*)

HABITAT

Found on sand covered rock on the low shore.

ESTABLISHMENT

First reported in NI in 2011 from Strangford Lough.



FEATURES

Dark red seaweed up to 60cm long.

Untidy, bushy appearance (below).

Disc-like holdfast.

One or more main stems, each stem divides irregularly.

Could be confused with other finely branched red seaweeds. Specimens should be spread out against a white background and photographed for identification to be confirmed.



BONNEMAISON'S HOOK WEED

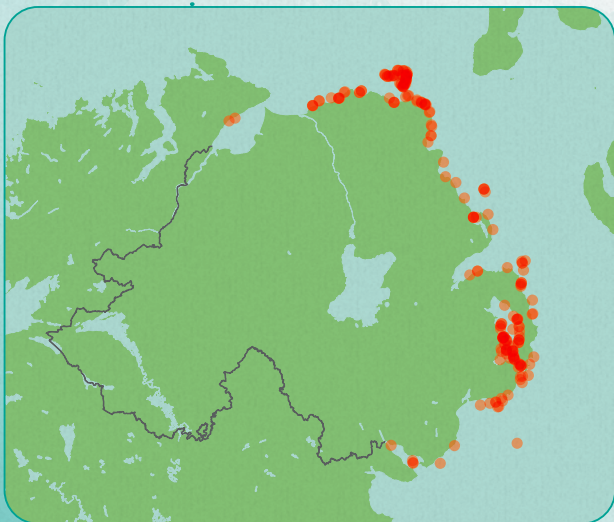
(*Bonnemaisonia hamifera*)

HABITAT

Found in low shore rock pools and the shallow subtidal attached to other seaweeds.

ESTABLISHMENT

First reported from the south coast of Britain in 1893.



FEATURES

Bright to dark red seaweed up to 20cm long.

Red feathery, densely branched fronds.

Soft delicate texture.

Hook-like branches (top right) are diagnostic.

Uses 'hooks' to attach to other seaweeds.



First Published:

2020, Department of Agriculture, Environment and Rural Affairs.

Second Published: 2026, National Museums NI.

Funding:

Department of Agriculture, Environment and Rural Affairs (DAERA).

Author:

Christine Morrow (First Edition).

With additional species pages (3, 4, 7, 8, 11 & 18)
by Rory Wilson (Second Edition).

Photography:

Where no credit is given, photos are from the first edition by Bernard Picton and Christine Morrow. Additional photographs are by David Fenwick, Dawn Diamond, John Bishop (Marine Biological Association), Libby Keatley, Mick Otten, Rory Wilson and Roy Anderson.

Data:

Centre for Environmental Data and Recording (CEDaR).

Contributors:

CEDaR, DAERA Marine and Fisheries Division, Christine Maggs (Joint Nature Conservancy Council) and John Bishop (Marine Biological Association).

Contracting Officer 2020:

Sally Chamberlain (CEDaR).

Citation:

Morrow, C.C. (2020). Marine Invasive Non-Native Species in Northern Ireland. National Museums NI.

[illegible]

Funded via the Carrier Bag Levy by:



Department of
Agriculture, Environment
and Rural Affairs
www.dera-ni.gov.uk

An Roinn

Talmhaíochta, Comhshaoil
agus Gnóthaí Tuaithe

Department of

Fairmin, Environment
an' Kintra Matthers