

# Identification guide for selected marine non-native species

**The 21 species in this guide are non-native marine seaweeds and animals that may be found:**

- **in ports and marinas (or on nearby natural shores)**
- **on boat hulls**
- **on fishing gear or aquaculture equipment**

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The guide is aimed at marina and aquaculture operators, inshore fishers, recreational boat owners, watersports enthusiasts and those who have an interest in maintaining healthy and productive inshore waters.

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# Wireweed (*Sargassum muticum*)

## A brown alga



**Description:** A large olive-brown seaweed with fronds often over 1 m long. A main axis or stipe bears alternating secondary branches, giving characteristic 'washing line' appearance out of water. Branches with small, flattened leaflets and spherical gas bladders.

**Habitat:** Grows on hard surfaces in rock pools and in shallow water rarely deeper than 5 m.

**Distribution:** Introduced from the Pacific; occurs along the English south coast from Kent to the Isles of Scilly, north Cornwall and north Devon, locations in Wales from Port Talbot to W Anglesey, widely distributed in Ireland, and Loch Ryan and the Firth of Clyde in Scotland; recently found north to Shetland.

**Seasonal changes:** Perennial but branches die in autumn and only the small basal holdfast remains over winter.

### Key features



**Similar to** some *Cystoseira* species, although these are smaller (up to 60 cm in length), bushy and branch irregularly.

# Wakame (*Undaria pinnatifida*)

## A brown alga



**Description:** A large, golden-brown kelp 1 to 2 m in length, consisting of a divided frond with a midrib and reproductive frills just above the root-like holdfast.

**Habitat:** Grows on any natural or artificial hard surface including rocky reefs, cobble, mudstone, shells, moorings, pontoons and boat hulls, from low intertidal to subtidal down to 18 m depth.

**Distribution:** English south coast and Channel Islands in sheltered marinas, rarely but increasingly found in natural subtidal habitats.

**Seasonal changes:** Individuals are mostly annual, so young plants are found in spring and are old and covered with growths by autumn. They recruit again next spring from a microscopic phase.

### Key features



Distinct midrib  
Reproductive frills

*Saccorhiza polyschides* has knobbly, bulbous holdfast



**Similar to:** the native kelps *Saccorhiza polyschides*, *Saccharina latissima* (neither of which has a midrib) and *Alaria esculenta*; *S. polyschides* can be identified by its knobbly, bulbous holdfast, *A. esculenta* has a distinct midrib but lacks divided frond or reproductive frills above the holdfast.

# Harpoon weed (*Asparagopsis armata*)

## A red alga



**Description:** Densely tufted branches form an elongated, cone-like or feather-shaped growth up to 30 cm tall. Bears distinctive straight harpoon-like branches with barbs that help attach this seaweed to other algae and seagrasses. Rosy-pink, yellowish-pink or whitish-pink in colour. Cultivated in Ireland for use in the cosmetics industry.

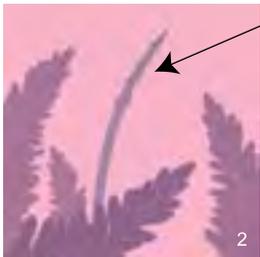
**Habitat:** The large tufted phase of this alga (as pictured and described here) is found in deep pools or shallow, sheltered coast habitats, often attached to other seaweeds by barbs.

**Distribution:** Introduced from Australasia; found in south west England, western Ireland and occasionally in Scotland.

**Seasonal changes:** Live fragments occur all year round and regeneration to the mature stage occurs between July and October. Sea temperatures in Britain and Ireland preclude significant sexual reproduction. Spread and survival is mainly by vegetative propagation.

**Similar to** *Bonnemaisonia hamifera* and *Brongniartella byssoides*. The harpoons distinguish *Asparagopsis* from other species.

### Key features



harpoon-like branches with barbs

# Devil's tongue weed (*Grateloupia turuturu*)

A red alga



**Description:** Slippery, red blades up to 1 m long, often with narrow extensions from the margins. Very small area of attachment and very short 'stem' before blade widens.

**Habitat:** Most frequently on marina pontoons, navigation buoys etc.; also on pebbles in the shallow subtidal and in lower intertidal pools at sheltered sites.

**Distribution:** Introduced from the Pacific to Europe and North America; in Britain restricted to the south and south-east coasts of England and Milford Haven, Wales.

**Seasonal changes:** Can be found throughout the year, especially on marina pontoons. Young blades are quite thin and slippery but become thicker and more rigid with age.

## Key features



Elongated blades with extensions in *G. turuturu*

Less elongate blade and kidney-shaped growths in *K. reniformis*



**Similar to** the native species *Kallymenia reniformis* which has a similar texture and colour, but *K. reniformis*: usually has kidney-shaped blade extensions not seen in *G. turuturu*; has a less elongate blade, and is unlikely on pontoons. Other large, slippery, flat, red algae are restricted to the subtidal.

# Orange-striped anemone (*Haliplanella lineata*)

## An anemone



**Description:** Small, delicate anemone, smooth column up to 20 mm in diameter and generally olive green or brown with contrasting vertical stripes (orange, less commonly yellow or white). Up to 100 slender tentacles, these and their supporting platform greyish.

**Habitat:** In sheltered settings on hard surfaces including stones, shells and artificial structures, generally intertidal. Frequently where fresh and salt water meet, but will not withstand salinities below 12 for prolonged periods. Often occurs in association with mussels or oysters.

**Distribution:** All around Britain and scattered localities in Ireland, in estuaries, ports and harbours. Origin east Asian.

**Seasonal changes:** Present year-round. Generally reproduces by dividing, with regrowth of the resulting pieces.

### Key features



Orange stripes on column (still visible when tentacles retracted)



**Distinguished by** the vertical stripes on the column. Young specimens of plumose anemone (*Metridium senile*) may be similar in general form, but are never striped.

# Darwin's barnacle (*Elminius modestus*)

## A barnacle



**Description:** A small white barnacle (to 10 mm diameter) with only four outer shell plates. Body low-conical, surmounted by large, diamond-shaped opening. Outer shell plates smooth when young but later gaining vertical ridges that produce an irregular outline.

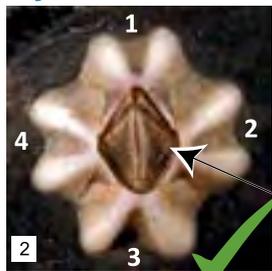
**Habitat:** Grows on hard surfaces: rocks, shells, other crustaceans and artificial structures including ships. Common intertidally on rocky shores. Tolerant of turbidity and less salty water; hence particularly common in estuaries. Also on open coasts but rarer in areas of strong wave action.

**Distribution:** All coasts of England and Wales and many locations around Scotland (including islands) and Ireland.

**Seasonal changes:** Commonly lives 3-4 years; adults thus found all year. Reproduction year-round in southern areas but concentrated in summer months and early autumn. New recruits common from June to September.

**Also known as:** *Austrominius modestus*

### Key features



*E. modestus*  
4 shell plates

*S. balanoides*  
6 shell plates

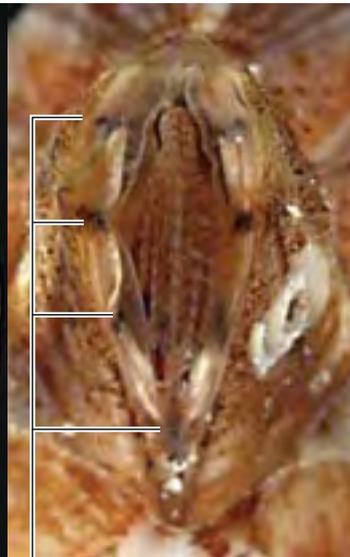
diamond-shaped opercular opening



**Similar to** *Semibalanus balanoides*, which also has diamond-shaped opening, and some shallow sublittoral species such as *Balanus crenatus*. *E. modestus* can be positively identified by only having four outer shell plates, other species having six.

# Striped barnacle (*Balanus amphitrite*)

## A barnacle



**Description:** A white or pinkish barnacle growing to 10 mm diameter or more (illustrated specimen 17mm). Body low-conical, surmounted by large diamond-shaped opening. Six outer shell plates relatively smooth, bearing groups of purple or pink stripes tapering from the base. Four dark bands cross tissue flaps bordering the opening.

**Habitat:** A warm-water species, widespread in tropics growing on diverse hard substrata on the shore and in coastal waters and estuaries, and a common fouling species.

**Distribution:** Formerly at sites on the south coast of England and in SW Wales which were artificially warmed. Recent records lacking, but occurrence confirmed in Plymouth. Likely to re-establish if general warming trend continues. Originally Indo-Pacific, probable introduction by ship fouling.

**Seasonal changes:** Present all year. In former GB sites, reproductive spring to early autumn.

**Similar to** other six-plated barnacles with roughly diamond-shaped openings, including *Semibalanus balanoides* and *Balanus crenatus*. *B. amphitrite* identified by stripes on outer shell plates and four dark bands on tissue bordering shell opening.

### Key features



stripes on outer shell plates

Four dark bands cross tissue flaps bordering the opening

# Japanese skeleton shrimp (*Caprella mutica*) An amphipod crustacean



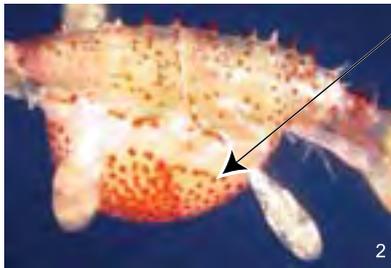
**Description:** A very slender, reddish, shrimp-like animal which moves with a looping, inchworm gait. Males up to 45 mm long, with two elongated body segments behind the head, the hindmost of which has a pair of large grasping appendages. Females smaller (to 15mm), without conspicuously elongated segments or enlarged appendages, but with pronounced red-spotted brood pouch on underside. Both sexes have spines along back.

**Habitat:** In harbours and marinas, amongst fouling growth on pontoons, yacht hulls etc.; on mooring ropes and nets in aquaculture facilities; on mussel or tube-worm reefs.

**Distribution:** Scotland, especially west coast; south coast of England; North Wales; scattered localities around Ireland. Introduced from NE Asia probably early 1990s.

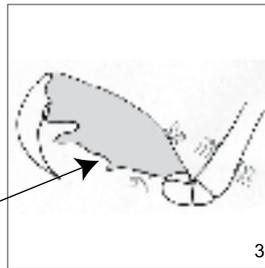
**Seasonal changes:** Abundant late spring to early autumn, rare in winter.

## Key features



Red-spotted brood chamber (♀), and spines on back

Shape of 'palm' of grasping appendage (♂)



**Similar to:** Related species share similar basic body form. Reddish colouration, spines along back and large size (especially males) suggest this species; shape of 'palm' of grasping appendage is diagnostic. This appendage and first two body segments are covered in fine hairs.

# Chinese mitten crab (*Eriocheir sinensis*)

A crab



**Description:** Grey-green to dark brown crab with long walking legs, an approximately hexagonal body up to 75 mm across, and dense brown 'fur' on the white-tipped claws. Four teeth and deep central notch between the eyes and four large teeth behind each eye.

**Habitat:** Rivers and estuaries, occurring from the shore to depths of about 10 m.

**Distribution:** Well established in Thames and its tributaries, with occurrences in Humber, Medway, Ouse and Tyne catchments and other scattered records; in Ireland since 2005. Origin in south-east Asia.

**Seasonal changes:** Late summer/autumn migration down rivers to gather in estuaries to breed; over winter, females remain in lower estuary carrying developing eggs which hatch in spring; juveniles migrate back up river.

## Key features



Dense 'fur' on claws

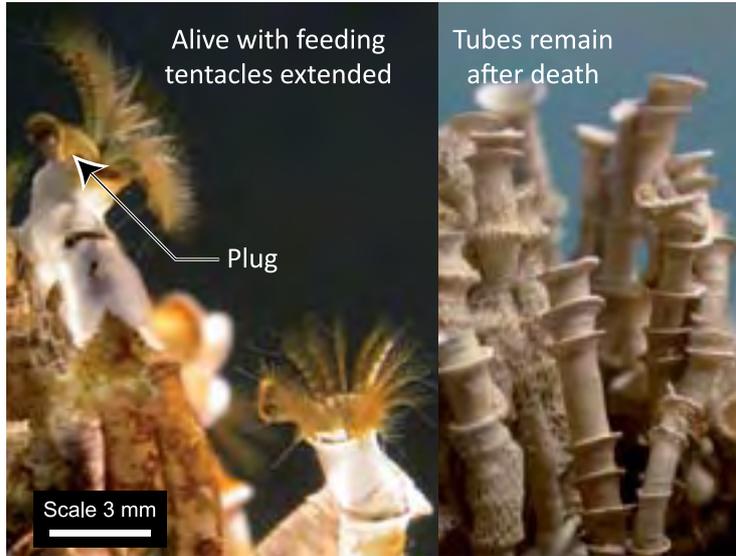
4+4+4 pattern of teeth at front of body



**Distinguished by** conspicuous 'fur' on claws; near-hexagonal body shape (thus narrowing slightly towards front); 4+4+4 pattern of teeth around front end of body.

# Trumpet tube worm (*Ficopomatus enigmaticus*)

A tubeworm



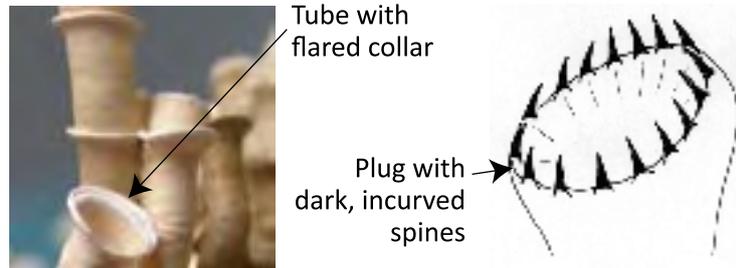
**Description:** Clumps or reefs of upright, white, intertwined chalky tubes (1-3 mm diameter) with flared collars at intervals, attached at base to solid surface. Each tube houses worm with crown of banded, feathery feeding tentacles; spiny plug (operculum) closes tube when animal withdrawn.

**Habitat:** Sheltered, shallow coastal sites with reduced or fluctuating salinity. Ports, harbours, marinas, channels, lagoons.

**Distribution:** NE, NW and SW England, SW Wales and Co. Galway, Ireland.

**Seasonal changes:** Tubes, at least, present year-round; reproduces in warmest months.

## Key features



**Similar to** other tubeworms with chalky tubes. Periodic flared collars along roughly 2mm wide, smooth, erect tube, and plug bearing numerous dark brown incurved spines, distinguish *F. enigmaticus*.

# Ruby bryozoan (*Bugula neritina*)

## A bryozoan



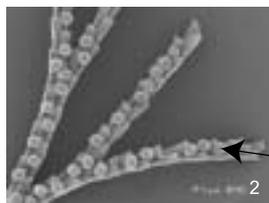
**Description:** A bushy, red-brown or golden-brown, flexible growth resembling a finely branched red seaweed, up to 8 cm long. In fact a colony of small (0.8 mm) externally simple individuals (each of which can extend a crown of tentacles) arranged in a double row along each branch.

**Habitat:** Attached to solid surfaces in shallow water, especially in harbours and marinas.

**Distribution:** From south-west Scotland around the Welsh and English coasts to Lowestoft; east coast of Ireland. Introduced around 1911, origin unknown, believed extinct in Britain 1997 but reappeared, with apparent rapid expansion since c. 2000.

**Seasonal changes:** Regresses in winter and re-appears May-June (S. England).

### Key features



Red-brown colony, branches made up of tiny individuals in two rows

Brood chambers

Scale 1 mm

**Distinguished by** presence of discrete mm-scale individual units (readily extending delicate tentacles underwater when fresh) separates from red seaweed. Relatively distinct from other species of *Bugula* in region, in having: individuals of only one type, lacking spines; minute, globular, whitish brood chambers which are offset from midline of individual bearing them.

# Red ripple bryozoan (*Watersipora subtorquata*)

A bryozoan



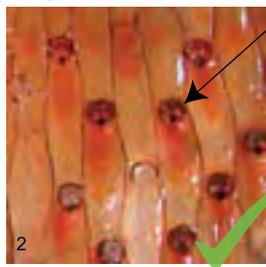
**Description:** Rigid, encrusting colonies, up to several cm across, of 1 mm individuals arranged as a sheet, often forming rounded lobes, sometimes with erect portions formed by back-to-back growth. Colonies orange-red, especially at growing edges, sometimes dark sepia, blackish or deep purple. Individuals elongate, each with rounded, darker spot (the operculum) at far end.

**Habitat:** Attached to solid surfaces in shallow water, especially in harbours and marinas.

**Distribution:** First detected in marinas in Plymouth and Poole Harbour in 2008. Known from a handful of localities on south coast of England, but likely to expand rapidly. Probably spread north from France, origin unknown.

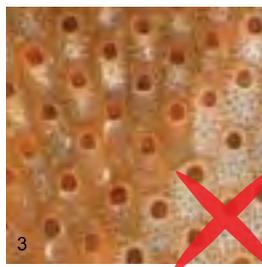
**Seasonal changes:** Present year-round.

## Key features



Elongated individuals with rounded, blackish operculum

*Cryptosula pallasiana*



**Similar to:** One of suite of very similar invasive *Watersipora* species worldwide. *W. subtorquata* is only non-native member thought to occur here. *W. complanata* (Scilly Isles only, native) has less elongate individuals, with bell-shaped operculum (straight lower margin). Other orange encrusting bryozoans (e.g. *Cryptosula pallasiana*) also have individuals less elongate, operculum not blackish.

# Pacific oyster (*Crassostrea gigas*)

## A bivalve mollusc



**Description:** Thick, rough, hinged shells up to 18 cm long with lower half often cemented to a supporting solid surface; strong raised ribs lead into markedly wavy or saw-toothed shell margin.

**Habitat:** Lower shore and coastal waters; on fixed artificial structures in harbours and marinas, and on natural shores.

**Distribution:** Widespread commercial cultivation; self-sustaining wild populations derived from commercial stocks have arisen in south-east England, with periodic natural recruitment in south-west England and Wales, and much less frequently in Scotland; populations recently established from natural spatfall in Strangford Lough, Northern Ireland.

**Seasonal changes:** Present year-round, spawning in the warmer months.

### Key features



Markedly wavy shell margin

*O. edulis* showing less wavy shell margin



**Similar to** native oyster (*Ostrea edulis*), which has more numerous but much weaker ridges and much less wavy shell margin. Shell shape of both species varies extensively to fit growing space, but *C. gigas* tends to be more elongate whereas *O. edulis* can be almost circular.

# Slipper limpet (*Crepidula fornicata*)

## A gastropod mollusc



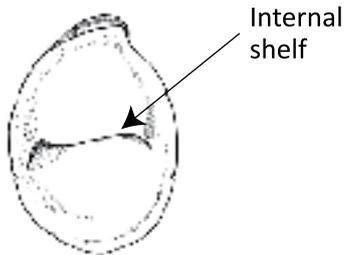
**Description:** Domed shell, oval or kidney-shaped, up to 5 cm long, with internal flat shelf. Outer surface pale, with growth lines and brown patches. Sedentary as adult, often aggregates into chains or leaning stacks of a few individuals (as shown left), larger towards base.

**Habitat:** Attached to solid surfaces, or small objects such as stones or shells on sediment, in shallow coastal waters or low intertidal.

**Distribution:** From Milford Haven along south coast of England and east coast to Humber; recently reported in Northern Ireland. Introduced to region in 19<sup>th</sup> century from eastern USA.

**Seasonal changes:** Present year-round, broods during long breeding season.

### Key features



**Similar to:** Most low-spired marine shells are symmetrical, with the apex of the shell on the midline; in *C. fornicata* the apex is to one side at the extreme end of the shell. The ormer (*Haliotis tuberculata*, currently Channel Islands only) has a somewhat similar shell shape, but with a series of holes in the upper surface (absent in *C. fornicata*), and no internal shelf.

# Veined rapa whelk (*Rapana venosa*)

# A gastropod mollusc



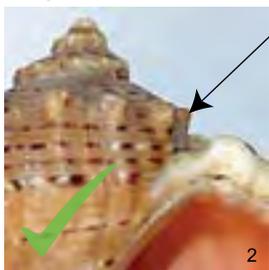
**Description:** Large, active, predatory snail up to 18 cm long. Knobbly, rounded shell with orange inside. Outside usually grey with dark veins of colour. Shell opening large and oval with small teeth on outer lip and short, open siphon canal.

**Habitat:** On and under soft sediment, sometimes hard surfaces, from 3 – 20m depth.

**Distribution:** Native to east Asia. In Europe: Black Sea, eastern Mediterranean, and the Bay of Quiberon (Brittany). Reported from the southern North Sea in 2005.

**Seasonal changes:** Congregates on hard surfaces, including rock outcrops and man-made structures to spawn and lay eggs during late spring/ summer.

## Key features



Dark-veined shell with orange interior

*Buccinum undatum* has tall spire



**Similar to:** Larger than native marine snails. The largest buccinid snails including the common whelk *Buccinum undatum* reach sizes exceeding 10 cm, but all have tall spires. Smaller individuals may be confused with the sting winkle *Ocenebra erinacea*, which has a more elongated, ridged shell (see *Urosalpinx cinerea* page).

# American oyster drill (*Urosalpinx cinerea*)

# A gastropod mollusc



**Description:** Spiral shell to 40 mm long with up to eight turns. Rounded vertical ribs (10-12 in final turn) and numerous finer spiral ridges. Shell opening oval with thickened lips in mature specimens, outer lip thinner in younger specimens; short open canal running forward from opening. Shell yellowish or grey; orange-yellow plate closes opening when snail withdraws.

**Habitat:** Low shore down to about 10 m in bays and estuaries, often associated with oysters. Feeds on oysters, mussels and barnacles.

**Distribution:** Scattered sites in south-east England; occasional reports elsewhere. Origin in eastern USA.

**Seasonal changes:** Present year-round; egg capsules produced in spring and summer. May hibernate in mud during cold winter periods.

## Key features

*O. erinacea*; shell rough with uneven sculpturing



open canal

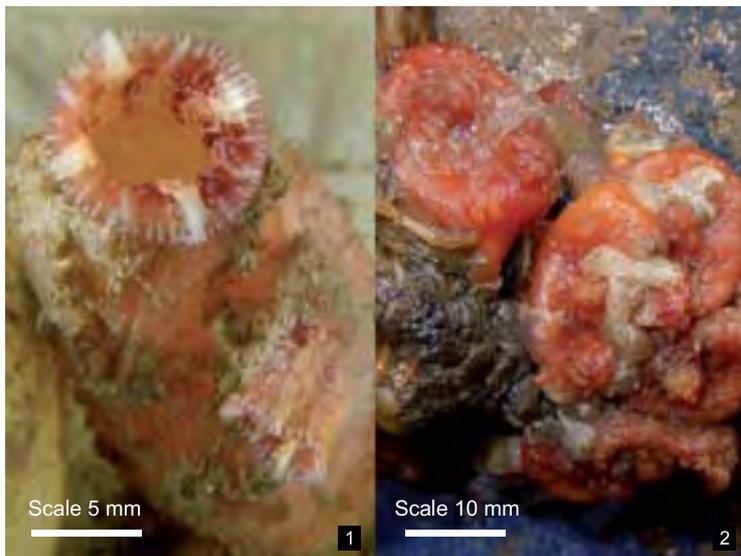
enclosed canal (in older individuals)



**Similar to** native sting wrinkle, *Ocenebra erinacea*, in which short canal running forward from shell opening is roofed over (rather than open) in older specimens and shell is rougher, with uneven sculpturing. *Urosalpinx cinerea* also has broader and fatter shell. Second non-native oyster drill, *Ocinebrellus inornatus* (Asian origin, not illustrated), present in France and the Netherlands.

# Compass sea squirt (*Asterocarpa humilis*)

## A sea squirt



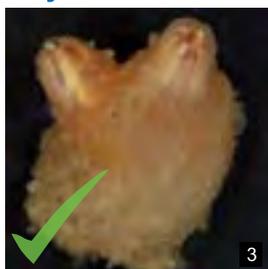
**Description:** Orange–red sea squirt up to 4 cm across, generally attached by broad base; one siphon at extreme end and second on upper surface a variable distance behind it; siphons and adjacent surface often bear numerous small warts. Siphons widely flared in undisturbed animal underwater, with cream/white markings, resembling divisions on face of a compass, on reddish background.

**Habitat:** Attached to solid surfaces in harbours and marinas, also in shellfish farms. Occurrence in natural habitats likely, but not yet reported.

**Distribution:** Recently discovered in the UK. Presently recorded patchily along south coast of England and from north Wales. Introduced from S. Hemisphere (where very widespread); first UK record, southern England 2009.

**Seasonal changes:** Present year-round; reproduction spring to autumn in New Zealand.

### Key features



Siphons striped when partly closed

Warty closed siphons



**Distinguished by:** Distinctive overall colouration and siphon stripes (still discernible as parallel markings on half-closed siphons, but not when fully closed); siphon stripes occur in some other species but differ in detail. Outer surface of siphons often warty.

# Orange-tipped sea squirt (*Corella eumyota*)

## A sea squirt



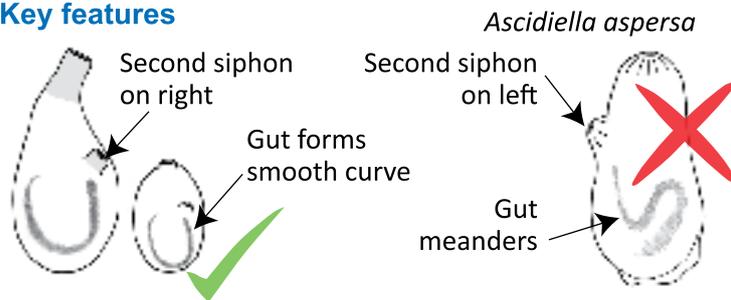
**Description:** A smooth, slightly translucent sea squirt up to 8 cm, generally laying flat; one siphon at free end and second on upper surface and slightly to right. Siphons vary from very short to longer and parallel-sided, and frequently have an orange tinge; do not close tightly. Some individuals are entirely off-white or orange. Gut forms smooth curve around hind end.

**Habitat:** Attached to solid surfaces in harbours and marinas, also on natural surfaces low on sheltered shores. (In S. hemisphere, also occurs at depth.)

**Distribution:** UK coasts from Oban to Lowestoft, plus eastern, southern and south-western Ireland. Introduced from S. hemisphere (where very widespread), first UK record southern England 2004.

**Seasonal changes:** Present year-round, reproduction peaks in summer (SW England).

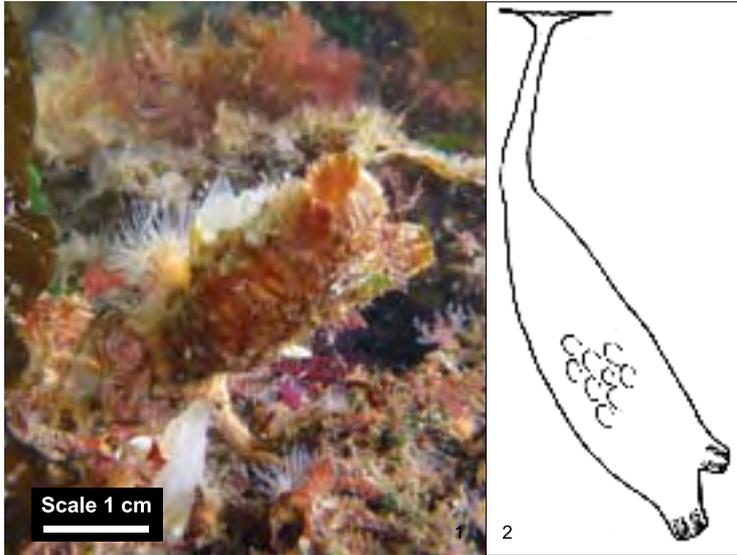
### Key features



**Similar to:** Confusion possible with *Ascidiella aspersa* (often co-occur), which is generally more upright and less smooth, with second siphon on left; siphons close tightly; gut meanders. Nearest native relative, *Corella parallelogramma*, is upright and transparent (often with internal pigment patches).

# Leathery sea squirt (*Styela clava*)

## A sea squirt



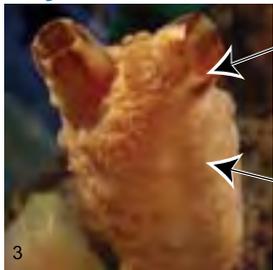
**Description:** A brown sea squirt up to 20 cm tall, attached by a narrow stalk (undeveloped when very small) and with two siphons close together at the free end. The surface is tough and leathery, with folds and swellings. The siphons have dark brown stripes on the inside.

**Habitat:** Attached to solid surfaces in shallow water, especially in harbours and marinas but also on wrecks and natural rock bottoms. Often encrusted with other organisms.

**Distribution:** English, Welsh and Scottish coasts from the Clyde to Humberside, plus scattered localities in Ireland. Introduced from NE Asia (1950s).

**Seasonal changes:** Present year-round, spawns in autumn.

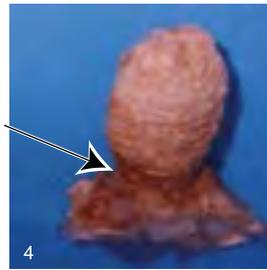
### Key features



Siphons close together, dark brown stripes on the inside

Surface with folds and swellings

Juvenile *S. clava* (specimen 8 mm tall) lacks stalk



**Similar to:** No other large sea-squirt in the region has a stalk, and the long, thin shape is distinctive.

# Orange cloak sea squirt (*Botrylloides violaceus*)

# A sea squirt



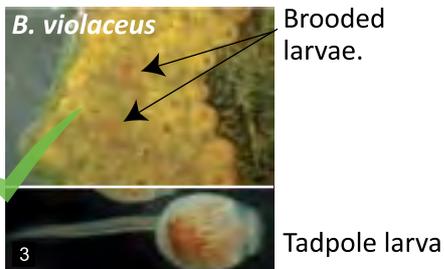
**Description** (*B. violaceus*): Colonies form firm gelatinous sheets or cushions, with individuals arranged in oval groups and short rows embedded in colony matrix. Each colony a single colour: bright orange, violet, brick red, pink or yellow (image 2 shows two colonies touching). Large, pink or purple embryos brooded sub-surface; large larva (body about 1.3 mm, plus tail) released.

**Habitat:** Shallow water in harbours and marinas; intertidal on seaweeds etc. on sheltered shores.

**Distribution:** South coast of England, plus the east coast as far north as Grimsby. Also Milford Haven and Ireland. First detected in GB 2004; NE Asian origin.

**Seasonal changes:** Dies back in winter, produces larvae in summer and autumn.

## Key features



**Similar to:** Related species (family Botryllidae) generally incorporate contrasting colours, giving marked pattern unlike *B. violaceus*. Among these, the native *Botryllus schlosseri* has flower-like radiating groups of individuals. Colour form of *Botrylloides* on cover of this guide might be second non-native species. Large pink-purple larvae of *B. violaceus* diagnostic in season.

# Carpet sea squirt (*Didemnum vexillum*)

## A sea squirt



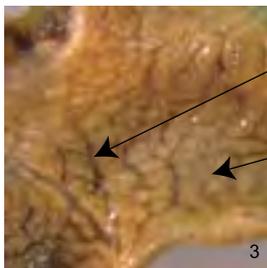
**Description:** Pale orange, cream or off-white colonies forming extensive, thin (2-5 mm) sheets; can form long, pendulous outgrowths (see image 2). Firm, leathery texture and veined or marbled appearance. Numerous small pores close when disturbed to produce tiny whitish spots; larger water exits at intervals.

**Habitat:** Shallow water in harbours and marinas; potentially natural habitats and deeper water (e.g. gravel or boulders). Intertidal in Ireland (oyster tressles), New England (rock pools). Often overgrows other attached organisms.

**Distribution:** Devon (very local) and the Solent; isolated populations in north Wales and Firth of Clyde; Ireland. First detected in Ireland 2005, GB 2008; likely NE Asian origin, but probably spread from France.

**Seasonal changes:** Dies back in harsh winters, produces larvae in summer and autumn.

### Key features



Uniform colour, channels of darker tone

Individuals marked by minute whitish spot when closed out of water

**Similar to:** Several close relatives occur in region; also resembles some sponges. Definite identification requires microscope, but note firm texture, almost uniform colour with channels of darker tone separating clusters of 10 or more tiny individuals, each marked by minute whitish spot when closed out of water.

# Creeping sea squirt (*Perophora japonica*)

## A sea squirt



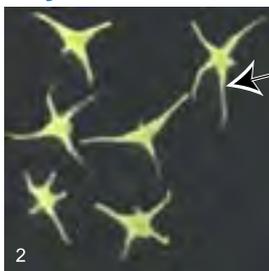
**Description:** Forms patches of small (about 4mm), semi-transparent, globular individuals linked by creeping root-like stolons. Each individual has a very short stalk connecting it to the stolon, and two minute siphons. Colony tinged greenish-yellow, especially in younger parts; in summer and autumn the stolons bear clumps of bright yellow, angular, star-shaped buds.

**Habitat:** Attached to solid surfaces in shallow water, in harbours and marinas but also potentially in natural habitats. Often grows on other attached organisms (e.g. seaweed, larger sea squirts).

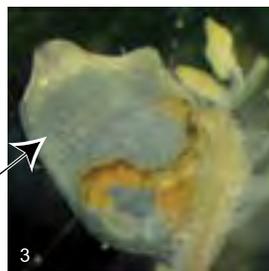
**Distribution:** Currently known only from three places on the English south coast. Arrived during 1990s; of NE Asian origin, but probably spread from France.

**Seasonal changes:** Dies back in winter, produces larvae and yellow buds in summer and autumn.

### Key features



Bright yellow, angular buds



Single zooid at high magnification

**Similar to** the native species *Perophora listeri*, which lacks the greenish-yellow tinge and has longer stalks connecting the individuals to the stolon, so they flop over out of water, whereas individuals of *P. japonica* remain upright. The bright yellow angular buds are only seen in *P. japonica*. These break off and re-attach after dispersal to form new colonies.

# Reporting sightings and further information

## Reporting sightings

Please report any sightings (location and date) of the species in the guide to: [www.marlin.ac.uk/rml](http://www.marlin.ac.uk/rml)

All sightings of marine non-native species are checked and sent to the GB Non-native Species Information Portal.

## Further information

Further information and the most current distribution maps are available at the GB Non-native Species Information Portal:

[www.nonnativespecies.org](http://www.nonnativespecies.org)

See also: [www.marlin.ac.uk/marine\\_alien](http://www.marlin.ac.uk/marine_alien)

For advice on reducing your impact on coastal and inland waters, visit:

[www.thegreenblue.org.uk](http://www.thegreenblue.org.uk)



A joint BMF and RYA initiative

The image shows a plastic settlement panel which has been immersed in a south west marina for 8 weeks in summer, and which has been colonized by native and non-native fouling organisms. Panel is 15 x 15 cm. Scientists use settlement panels to explore ways to classify and monitor ports and marinas for hull-fouling potential and for early detection of marine invasive species. For more information see:

[www.marlin.ac.uk/marine\\_alien](http://www.marlin.ac.uk/marine_alien)



Image: John Bishop

1 cm 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

# STOP THE SPREAD



Are you unknowingly spreading  
invasive species on your water  
sports equipment and clothing?

For more information go to  
[www.nonnativespecies.org/checkcleandry](http://www.nonnativespecies.org/checkcleandry)



Check your  
equipment and clothing  
for live organisms.

Clean and wash  
all equipment,  
footwear and clothing  
thoroughly.

Dry all equipment and  
clothing.

Make sure you don't  
transfer water  
elsewhere.

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