



MarLIN

Marine Information Network

Information on the species and habitats around the coasts and sea of the British Isles

Lagoon sea slug (*Tenellia adspersa*)

MarLIN – Marine Life Information Network
Biology and Sensitivity Key Information Review

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2008-08-19

A report from:

The Marine Life Information Network, Marine Biological Association of the United Kingdom.

Please note. This MarESA report is a dated version of the online review. Please refer to the website for the most up-to-date version [<https://www.marlin.ac.uk/species/detail/1156>]. All terms and the MarESA methodology are outlined on the website (<https://www.marlin.ac.uk>)

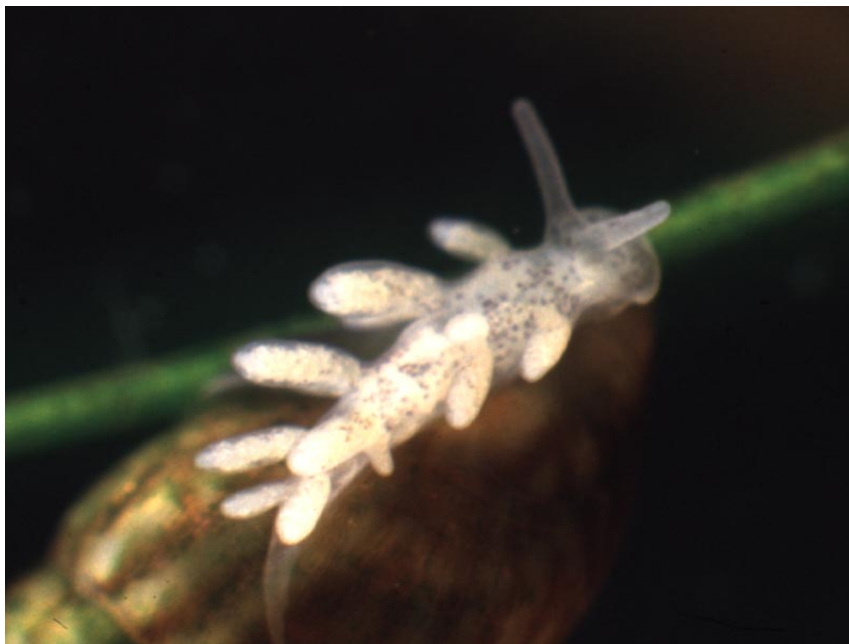
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Tenellia adspersa crawling on *Ruppia* with the mollusc *Rissoa membranacea*.

Photographer: Dennis R. Seaward

Copyright: Dennis R. Seaward

See online review for
distribution map

Distribution data supplied by the Ocean Biogeographic Information System (OBIS). To interrogate UK data visit the NBN Atlas.

| | | | |
|---------------------------|------------------|--------------------|--|
| Researched by | Nicola White | Refereed by | Dr Richard S.K. Barnes |
| Authority | (Nordmann, 1845) | | |
| Other common names | - | Synonyms | <i>Tenellia pallida</i> (Nordmann, 1845), <i>Embletonia pallida</i> (Nordmann, 1845) |

Summary

Description

A tiny nudibranch with few finger-like protrusions, arranged in groups of two or three along each side of the body. The pale brown body is marked with tiny black spots as are the protrusions. It grows up to 8 mm in length.

Recorded distribution in Britain and Ireland

The few British records are from the Firth of Forth, Scotland, near St Osyth, Essex, the Fleet, Dorset, the Bristol Channel, off Pembrokeshire and Liverpool Bay.

Global distribution

Recorded from the eastern and western North Atlantic, Baltic, Mediterranean Sea, Black Sea, Azov Sea, Caspian Sea, Japan, Pacific coast of USA, Brazil

Habitat

Found intertidally and in the shallow sublittoral. A euryhaline species often in harbours, estuaries and canals.

Depth range

Q Identifying features

- Few cerata arranged in groups of two or three along each side of the body.
- Body pale brown and marked with tiny black spots as are the cerata.
- Digestive gland is pale orange in colour.
- Oral tentacles are small and directed laterally.

🏛️ Additional information

No text entered

✓ Listed by



🔗 Further information sources

Search on:



Biology review

☰ Taxonomy

| | | |
|-----------------|--|--|
| Phylum | Mollusca | Snails, slugs, mussels, cockles, clams & squid |
| Order | Nudibranchia | Naked gilled, shell-less sea slugs |
| Family | Trinchesiidae | |
| Genus | Tenellia | |
| Authority | (Nordmann, 1845) | |
| Recent Synonyms | Tenellia pallida (Nordmann, 1845)Embletonia pallida (Nordmann, 1845) | |

🌿 Biology

| | |
|-------------------------------|--|
| Typical abundance | Moderate density |
| Male size range | Up to 8mm |
| Male size at maturity | 3.60mm |
| Female size range | 3.60mm |
| Female size at maturity | |
| Growth form | Lanceolate |
| Growth rate | Data deficient |
| Body flexibility | |
| Mobility | |
| Characteristic feeding method | No information, Predator |
| Diet/food source | No information |
| Typically feeds on | Hydroids, especially % <i>Cordylophora caspia</i> %, <i>Laomeda</i> spp. and % <i>Protohydra leuckarti</i> % |
| Sociability | |
| Environmental position | Epifaunal |
| Dependency | - |
| Supports | - |
| Is the species harmful? | Data deficient |

🏛️ Biology information

Tenellia adspersa can rapidly devour hydroid colonies, exhausting its own food supply. It has been suggested that the developmental plasticity and rapid growth of this species enables it to disperse to new locations to find new food.

🖼️ Habitat preferences

| | |
|----------------------------------|--|
| Physiographic preferences | Estuary, Isolated saline water (Lagoon), Enclosed coast / Embayment |
| Biological zone preferences | Lower eulittoral, Sublittoral fringe, Upper infralittoral |
| Substratum / habitat preferences | Macroalgae, Cobbles, Pebbles, Small boulders |
| Tidal strength preferences | Moderately Strong 1 to 3 knots (0.5-1.5 m/sec.), Strong 3 to 6 knots (1.5-3 m/sec.), Weak < 1 knot (<0.5 m/sec.) |
| Wave exposure preferences | Sheltered, Very sheltered |

| | |
|-----------------------------|-------------------------------------|
| Salinity preferences | Low (<18 psu), Variable (18-40 psu) |
| Depth range | |
| Other preferences | No text entered |
| Migration Pattern | Non-migratory / resident |

Habitat Information

Recorded at depths from 1 to 34 m. The species has been observed to survive and breed in salinities from 50 psu to 5.3 psu. The ranges and ecological features of the nudibranch are very similar to the hydroid *Cordylophora caspia* and they co-exist everywhere, which suggests some connection. The wide geographic distribution of *Tenellia adspersa* is probably due to passive transportation of adults and egg masses by *Cordylophora* colonies on ships.

Life history

Adult characteristics

| | |
|-----------------------------------|---------------------------|
| Reproductive type | Gonochoristic (dioecious) |
| Reproductive frequency | Annual protracted |
| Fecundity (number of eggs) | 11-100 |
| Generation time | <1 year |
| Age at maturity | 19 to 20 days |
| Season | Insufficient information |
| Life span | <1 year |

Larval characteristics

| | |
|------------------------------------|--------------------------|
| Larval/propagule type | - |
| Larval/juvenile development | Direct development |
| Duration of larval stage | No information |
| Larval dispersal potential | 100 -1000 m |
| Larval settlement period | Insufficient information |

Life history information

Tenellia adspersa has a subannual lifecycle with a short generation time of as little as 20 days when reared at 20 degrees C and 30 ppt on the hydroid *Cordylophora lacustris*. The animals may spawn 3 to 5 times a day with 25 to 50 eggs per spawn (Chester, 1996). The spawn consists of a short, curved, lozenge-shaped mass. The period from spawning to hatching lasts 4-5 days. The method of development varies with the environmental conditions. Metamorphosis normally takes place within the egg capsule, hatching as a juvenile. In animals that have been starved a switch to pelagic non-feeding or planktotrophic development has been observed.

Sensitivity review

This MarLIN sensitivity assessment has been superseded by the MarESA approach to sensitivity assessment. MarLIN assessments used an approach that has now been modified to reflect the most recent conservation imperatives and terminology and are due to be updated by 2016/17.

A Physical Pressures

| | Intolerance | Recoverability | Sensitivity | Confidence |
|--|-------------|-----------------|---------------|------------|
| Substratum Loss | High | Very low / none | Very High | Low |
| The species lives on hydroids attached to rocks, algae or artificial substrates. The loss of the substrate would cause removal of the species and recovery would be very low due to the limited distribution of the host species. | | | | |
| Smothering | High | Very low / none | Very High | Low |
| The hydroids on which <i>Tenellia adspersa</i> lives may be killed by smothering, so removing the species food source. Recovery would be low due to the limited distribution of the <i>Tenellia adspersa</i> . | | | | |
| Increase in suspended sediment | Low | High | Low | Low |
| The species is probably able to tolerate siltation as it occurs in estuaries and lagoons where siltation naturally occurs. Recovery from any damage could be rapid due to the fast growth and reproductive rates of the species. | | | | |
| Decrease in suspended sediment | | | | |
| Desiccation | High | Very low / none | Very High | Low |
| The low shore position and soft-bodied nature of this species suggests that it is unlikely to tolerate desiccation. Where the species is exposed to desiccation, individuals are likely to be present deeper at the site, so providing a source for recolonization. Where unaffected individuals are not present recovery would be low due to the species limited distribution. | | | | |
| Increase in emergence regime | High | | Very High | Low |
| The low shore position and soft-bodied nature of this species suggests that it is unlikely to tolerate emersion as it would suffer desiccation. Where the species is exposed to emersion, individuals are likely to be present deeper at the site, so providing a source for recolonization. Where unaffected individuals are not present recovery would be low due to the species limited distribution. | | | | |
| Decrease in emergence regime | | | | |
| Increase in water flow rate | Tolerant | Not relevant | Not sensitive | Moderate |
| The species is normally found at sites of slow water current, but it has been observed to withstand rapid water flow (0.8-2.4m/sec.) as evidenced by animals occupying the lattices of pipe lines. | | | | |
| Decrease in water flow rate | | | | |

Increase in temperature **Low** **Moderate** **Low** **Low**

Tenellia adspersa can live under a wide range of water temperatures since it occurs in lagoons which undergo great seasonal temperature variation and it occupies a wide geographic range, from the Lofoten Islands to the Mediterranean.

Decrease in temperature

Increase in turbidity **Tolerant** **Not relevant** **Not sensitive** **Low**

Neither the species or the hydroids on which it lives are dependant on light availability, so it would not be affected by a change in turbidity.

Decrease in turbidity

Increase in wave exposure **High** **Low** **High** **Very low**

The species is largely known from wave sheltered locations, which suggests an inability to tolerate exposed conditions. Recovery would be low due to the limited distribution of the species.

Decrease in wave exposure

Noise **Tolerant** **Not relevant** **Not sensitive** **Not relevant**

The species probably has very limited capacity for noise perception

Visual Presence **Tolerant** **Not relevant** **Not sensitive** **Not relevant**

The species probably has very limited capacity for visual perception.

Abrasion & physical disturbance **High** **Moderate** **Moderate** **Low**

The species occurs in the surface hydroid turf and it is soft-bodied so would be easily damaged upon impact. In addition, a passing dredge is likely to damage its substratum (see substratum loss above). Therefore, an intolerance of high has been recorded.

Displacement **Low** **High** **Low** **Moderate**

Tenellia adspersa would not be affected by displacement, indeed the species has formed colonies in distant locations by transport on ships.

Chemical Pressures

Intolerance **Recoverability** **Sensitivity** **Confidence**

Synthetic compound contamination **Not relevant** **Not relevant**

Insufficient information

Heavy metal contamination **Not relevant** **Not relevant**

Insufficient information

Hydrocarbon contamination **Not relevant** **Not relevant**

Insufficient information

Radionuclide contamination **Not relevant** **Not relevant**

Insufficient information

Changes in nutrient levels **Not relevant** **Not relevant**

Insufficient information

Increase in salinity

Low

High

Low

High

The species can tolerate a wide range of salinities and will reproduce in salinities of 3 psu to 40 psu (Roginskaya, 1970).

Decrease in salinity**Changes in oxygenation**

Not relevant

Not relevant

Insufficient information

**Biological Pressures**

Intolerance

Recoverability Sensitivity

Confidence

Introduction of microbial pathogens/parasites

Not relevant

Not relevant

Insufficient information

Introduction of non-native species

None

Not relevant

Insufficient information

Extraction of this species

Not relevant

Not relevant

Insufficient information

Extraction of other species

Not relevant

Not relevant

Insufficient information

Additional information

Importance review

Policy/legislation

| | |
|---|-------------------------------------|
| Wildlife & Countryside Act | Schedule 5, section 9 |
| UK Biodiversity Action Plan Priority | <input checked="" type="checkbox"/> |
| Species of principal importance (England) | <input checked="" type="checkbox"/> |
| Species of principal importance (Wales) | <input checked="" type="checkbox"/> |
| Features of Conservation Importance (England & Wales) | <input checked="" type="checkbox"/> |

Status

| | | | |
|--------------------------|-----------------|---------------------------------|---|
| National (GB) importance | Nationally rare | Global red list (IUCN) category | - |
|--------------------------|-----------------|---------------------------------|---|

Non-native

| | | | |
|--------|---|--------------|---|
| Native | - | Date Arrived | - |
| Origin | - | | |

Importance information

-none-

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