Looping snail (*Truncatella subcylindrica*)

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

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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/1206]. All terms and the MarESA methodology are outlined on the website (https://www.marlin.ac.uk)

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One juvenile crawling shell and 5 adults of *Truncatella subcylindrica*. Also one shell of *Paludinella litorina*.
Photographer: Dennis R. Seaward
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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**	Dennis R. Seaward
Authority	(Linnaeus, 1767)		
Other common names	-	**Synonyms**	-

Summary

Description

A buff-coloured snail that grows up to 5 mm high. The animal has a cylindrical snout ending in a rounded mouth disc. It has a peculiar looping gait.

Recorded distribution in Britain and Ireland

Recorded from Pagham Harbour, West Sussex; The Solent, Isle of Wight, The Fleet, Dorset and St Mawes Bay, Cornwall.

Global distribution

From the Channel coasts of France and Britain to the Mediterranean, the Black Sea, and on the Canaries, Madeira and Azores.

Habitat

Found in shingle amongst rotting vegetation and fine sediment at a depth of 15 cm, at high water mark and more rarely in muddy habitats under stones at the high water mark. It is often associated with the plants *Suaeda maritima*, *Suaeda vera* and *Atriplex (Halimione) portulacoides*.

Depth range

-

Identifying features

- The juvenile has a typical spire-shaped shell; later whorls are parallel-sided until maturity when the tapered part is broken off, leaving a suture line. The adult shell is thus truncated and more or less cylindrical.
- Buff-coloured, 5 mm high.
- Animal with cylindrical snout ending in a rounded mouth disc.

Additional information

Abscission of the earlier part of the shell is presumably an adaptation to an interstial habitat. The taxonomy of the Gastropoda has been recently revised (see Ponder & Lindberg 1997, and Taylor 1996). Ponder & Lindberg (1997) suggest that Mesogastropoda should be included in a monophyletic clade, the Caenogastropoda.

Listed by

Further information sources

Search on:

NBN WoRMS

Biology review

Taxonomy

Phylum	Mollusca	Snails, slugs, mussels, cockles, clams & squid
Class	Gastropoda	Snails, slugs & sea butterflies
Order	Littorinimorpha	
Family	Truncatellidae	
Genus	Truncatella	
Authority	(Linnaeus, 1767)	
Recent Synonyms	-	

Biology

Typical abundance	Moderate density
Male size range	up to 5mm
Male size at maturity	
Female size range	Very small(< 1cm)
Female size at maturity	
Growth form	Cylindrical
Growth rate	Data deficient
Body flexibility	
Mobility	
Characteristic feeding method	Sub-surface deposit feeder, Surface deposit feeder
Diet/food source	
Typically feeds on	Vegetable detritus and small algae
Sociability	
Environmental position	Epifaunal
Dependency	Independent.
Supports	Not relevant
Is the species harmful?	Data deficient

Biology information

It has a peculiar looping gait and moves along by alternately attaching the foot and snout to the substratum (Seaward, 1988). The species is found at moderate densities in narrow, linear habitats.

Habitat preferences

Physiographic preferences	Estuary, Isolated saline water (Lagoon)
Biological zone preferences	Lower littoral fringe, Upper littoral fringe
Substratum / habitat preferences	Gravel / shingle, Mud
Tidal strength preferences	Very Weak (negligible)
Wave exposure preferences	Sheltered

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

Habitat Information

Formerly known from 12 sites in Britain, from Porthcurno along the south coast to the rivers Orwell and Deben, Suffolk. Presently known to be living in only five locations. It is a southern species which reaches its most northerly distribution in Britain. *Paludinella globularis* (as *littorina*), *Ovatella myosotis* and *Leucophytia bidentata* are associates.

Life history

Adult characteristics

Reproductive type	Gonochoristic (dioecious)
Reproductive frequency	No information
Fecundity (number of eggs)	No information
Generation time	Insufficient information
Age at maturity	Insufficient information
Season	Insufficient information
Life span	Insufficient information

Larval characteristics

Larval/propagule type	-
Larval/juvenile development	Oviparous
Duration of larval stage	Not relevant
Larval dispersal potential	<10 m
Larval settlement period	Insufficient information

Life history information

Egg capsules are laid of 0.75-0.80mm diameter, which are spherical and surrounded by a thick wall. Each capsule contains one egg and they are attached singly to pieces of detritus in the habitat in which the adults live. Small snails are hatched with a shell of 0.65mm (Fretter & Graham, 1978)

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.

Physical Pressures

	Intolerance	Recoverability	Sensitivity	Confidence
Substratum Loss	High	Low	High	Very low

The species would be removed with substratum loss and may be damaged during the process. It has low recoverability as it lacks an aquatic dispersal phase and living populations are only known from three locations in the UK.

Smothering	High	Low	High	Very low

Smothering could block shingle interstices and prevent movement of the snail and reduce the level of oxygenation. Recovery would be low because it lacks an aquatic dispersal phase and living populations are only known from five locations in the UK.

Increase in suspended sediment	Tolerant*	Not relevant	Not sensitive*	Very low

Truncatella subcylindrica lives in estuaries and lagoons amongst fine muddy sediment so would be able to tolerate increased siltation. Indeed, some increased siltation may be beneficial to feeding as it is a deposit feeder, so long as interstices remain clear.

Decrease in suspended sediment

Dessication	Low	Moderate	Low	Very low

The mollusc is adapted to avoid desiccation by having a hard shell and operculum. Where it is interstitial, the species would also be protected from desiccation by the depth of sediment above it and where the species is epifaunal would avoid desiccation by hiding in crevices or under stones.

Increase in emergence regime	Low	Moderate	Low	Very low

Increased or decreased emergence is likely to occur on a relatively long time scale, during which the habitat and animals will probably be able to re-adjust.

Decrease in emergence regime

Increase in water flow rate	Low	Moderate	Low	Very low

Living at high water mark, the species is inundated for only short periods, so that increased water flow is unlikely to have a significant effect unless it is so great as to erode materials and animals.

Decrease in water flow rate

Increase in temperature	Intermediate	Moderate	Moderate	Very low

The degree of temperature tolerance of *Truncatella subcylindrica* is not known. The species will be sheltered from temperature extremes to some extent by its hard shell and by its interstitial habitat. However, the species may be intolerant of decreases in temperature as it is at the northern limit of its distribution.

Decrease in temperature

Increase in turbidity	Tolerant	Not relevant	Not sensitive	Very low

The species is unlikely to be affected by a change in turbidity as it does not depend on light availability for feeding and some populations are found interstitially where light cannot penetrate.

Decrease in turbidity

Increase in wave exposure	Intermediate	Low	High	Very low

The high water mark habitat means that the species is only subject to wave action for short periods. However, increased wave action may damage or wash it away, or move shingle damaging the animal by abrasion.

Decrease in wave exposure

Noise		Not relevant		Not relevant

Insufficient information

Visual Presence		Not relevant		Not relevant

Insufficient information

Abrasion & physical disturbance	High		Very High	Very low

Any factor causing movement of shingle where the animal lives, by natural (e.g. wave action) or human (e.g. trampling) means would be likely to damage infauna by abrasion and crushing.

Displacement	High	Low	High	Very low

Habitat displacement would cause damage to animals.

Chemical Pressures

	Intolerance	Recoverability	Sensitivity	Confidence
Synthetic compound contamination	High	Low	High	Moderate

Exposure of spermatocytes of the species to dibutyltin(IV) and tributyltin(IV) caused structural damage in the chromosomes in 24 hours at 0.0001 moles per litre (Vitturi *et al.*, 1992).

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	Low	Moderate	Very low

The species occurs in lagoons and estuaries so is tolerant of reduced and fully saline conditions. However, the species may not be tolerant of low salinities for long periods of time.

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		Not relevant		Not relevant
Insufficient information				
Extraction of this species	Not relevant	Not relevant	Not relevant	Not relevant
NR				
Extraction of other species	High	Low	High	Very low
Would cause huge disturbance and damage but is unlikely.				

Additional information

Importance review

Policy/legislation

Status

National (GB) importance	Not rare/scarce	**Global red list (IUCN) category**	-

Non-native

Native	-		
Origin	-	**Date Arrived**	-

Importance information

The assemblage is of low diversity and biomass occupying only a small proportion of the space available. It is unlikely to provide a unique food source, although a nemertean predator *Prosorhochmus claparedii* is recorded from the same niche at the Fleet (R.S.K. Barnes, per. comm.)

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