Littorina littorea 正體中文

System: Marine

Kingdom	Phylum	Class	Order	Family
Animalia	Mollusca	Gastropoda	Neotaenioglossa	Littorinidae

Common name common periwinkle (English)

Synonym

Similar species

Summary Littorina littorea is a mollusc which is often distributed on rocky coasts, from the upper shore into the sub-littoral. It is also tolerant of brackish water. Littorina littorea feeds on diatoms, Enteromorpha, Ulva and Porphyra. Littorina littorea are oviparous and reproduce annually. Egg capsules are shed directly into the sea. It has been suggested that Littorina littorea can serve as a highly suitable bio-indicator species for contamination of marine environments.

view this species on IUCN Red List

Species Description
Jackson (2002) states that *Littorina littorea*, \"Is the largest British periwinkle, with the shell reaching a maximum height of 52mm. The shell is sharply conical with a pointed apex and surface sculpturing. The spiral ridges, which are marked in young animals, tend to become obscured in older individuals, giving the shell a smooth appearance. The shell colour ranges from gray-black-brown-red but is generally black or dark gray-brown, often lighter towards the apex, and is usually patterned with spiral darker lines. The columella or central axis of the shell is typically white and the animal is recognizable in its juvenile stages by the transverse black barring of the tentacles, which are rather flat and broad.\"

Notes
Dubois (2002) states that *L. littorea*, \"Plays a very important role in shoreline ecosystems. Once they have recruited (come out of the water column after spending their youth as plankton), they are significant grazers of the juvenile algae that attempts to recruit in the same area.\"

Lifecycle Stages
Jackson (2002) states that *L. littorea* , \"Sheds egg capsules directly into the sea. Egg capsules are about 1mm across and each biconvex capsule can contain up to nine eggs but normally there are only two or three eggs per capsule. Egg release is synchronized with spring tides. In estuaries the population matures earlier in the year and maximum spawning occurs in January. Larval settling time or pelagic phase can be up to six weeks.\"

Uses
Chase *et al*. (UNDATED) state that *L. littorea* \"Was introduced to Canada through ballast water or intentionally for food.\" Jackson (2002) states that *L. littorea*, \"has been suggested as a highly suitable bio-indicator species for contamination of the marine environment. This stems mainly from its ability to accumulate trace elements and compounds and consequential behavioural changes.\"

Habitat Description
Jackson (2002) states that, \"*L. littorea* is widely distributed on rocky coasts, in all except the most exposed areas, from the upper shore into the sublittoral. In sheltered conditions they can also be found in sandy or muddy habitats such as estuaries and mud-flats. The species is fairly tolerant of brackish water.\"

Reproduction
L. littorea are dioecious. They are oviparous, and reproduce annually. A female may have between 10,000 and 100,000 eggs. They mature between 2 and 3 years of age, and are expected to live between 5 and 10 years (Jackson, 2002).

Nutrition
Dubois (2002) states that. \"A fresh supply of diatoms, Enteromorpha, Ulva, and Porphyra is available in the numerous tide pools. These are the types of algae preferred by *L. littorea*.\"

General Impacts
The Coastal Studies Center (CSC) (UNDATED) report that, \"*L. littorea* is an important macro-algal grazer that competes with the other local littorines.\" Chmielewski (2002) adds that, \"*L. littorea* has drastically altered the New England intertidal community structure by allowing slow growing *Chondrus crispus* to overtake faster growing green algal species. In both open coast and estuary habitats *L. littorea* can be found often at densities of 200-500 individuals per square metre (Menger *et al*., 2001, in Chmielewski, 2002).\"

Management Info
There is not much management information available for *L. littorea* in North America where it is invasive. For a similar species, *L. saxatilis*, Graham (2003) states that, \"In general, biocides, manual removal of marine invaders, and the introduction of bio-control agents have been considered in the removal of invaders of marine systems. However, little has been done in the way of eradication and or research in this area in general. There is concern that any research to be conducted should include the study of ways to avoid reintroduction of the species."

Principal source: *Littorina littorea*: Common periwinkle (Jackson, 2002).
Marine Gastropods: *Littorina littorea* (Dubois, 2002).

Compiler: National Biological Information Infrastructure (NBII) & IUCN/SSC Invasive Species Specialist Group (ISSG)

Review: Anon

Pubblication date: 2005-03-11

ALIEN RANGE

[2] CANADA

[2] UNITED STATES

BIBLIOGRAPHY
9 references found for **Littorina littorea**

Managment information

Centre for Environment, Fisheries & Aquaculture Science (CEFAS)., 2008. Decision support tools-Identifying potentially invasive non-native marine and freshwater species: fish, invertebrates, amphibians.
Summary: The electronic tool kits made available on the Cefas page for free download are Crown Copyright (2007-2008). As such, these are freeware and may be freely distributed provided this notice is retained. No warranty, expressed or implied, is made and users should satisfy themselves as to the applicability of the results in any given circumstance. Toolkits available include 1) FISK- Freshwater Fish Invasiveness Scoring Kit (English and Spanish language version); 2) MFISK- Marine Fish Invasiveness Scoring Kit; 3) MI-ISK- Marine invertebrate Invasiveness Scoring Kit; 4) FI-ISK- Freshwater Invertebrate Invasiveness Scoring Kit and AmphISK- Amphibian Invasiveness Scoring Kit. These tool kits were developed by Cefas, with new VisualBasic and computational programming by Lorenzo Vilizzi, David Cooper, Andy South and Gordon H. Copp, based on VisualBasic code in the original Weed Risk Assessment (WRA) tool kit of P.C. Pheloung, P.A. Williams & S.R. Halloy (1999).
The decision support tools are available from:
http://cefas.defra.gov.uk/our-science/ecosystems-and-biodiversity/non-native-species/decision-support-tools.aspx [Accessed 13 October 2011]
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General information
Chase, C., C. Reilly, J. Pederson. UNDATED. Marine Bioinvasion Fact Sheet: New England Marine Bioinvaders: *Littorina littorea*. MIT Sea Grant, Center for Coastal Resources.
Summary: General information on species
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Summary: Information on habitat preferences, and general biology of species.
Available from: http://www.clarku.edu/departments/biology/biol201/2002/JDubois/Marine%20Gastropods.htm [Accessed 2 November 2004].
Graham, D. 2003. Rouge Periwinkle (*Littorina littorea*). [Online Database] Introduced Species Summary Project, Columbia University.
Summary: Information on other common names, habitat and range, and a general description of species.
Available from: http://www.columbia.edu/itc/cerc/danoff-burg/invasion_bio/inv_spp_summ/Littorina_saxatilis.html [Accessed 18 October 2003]
ITIS (Integrated Taxonomic Information System), 2005. Online Database *Littorina littorea*
Summary: An online database that provides taxonomic information, common names, synonyms and geographical jurisdiction of a species. In addition links are provided to retrieve biological records and collection information from the Global Biodiversity Information Facility (GBIF) Data Portal and bioscience articles from BioOne journals.
Available from:
http://www.cbif.gc.ca/pls/itisca/taxastep?king=every&p_action=containing&taxa=Littorina+littorea&p_format=&p_ifx=plglt&p_lang= [Accessed March 2005]
Jackson, A. 2002. *Littorina littorea*: Common periwinkle. [Online Database] Marine Life Information Network: Biology and Sensitivity Key Information Sub-programme. Available at: http://www.marlin.ac.uk/index2.htm?species/Litlit.htm [Accessed 18 October 2003]
Summary: Information on taxonomy, identification, habitat preference, distribution, reproduction, longevity, and importance of species.