

Cordylophora caspia



Taxon	Family /Order/ Class/ Phylum
<i>Cordylophora caspia</i> (Pallas, 1766)	Clavidae / Hydroida / Hydrozoa / Cnidaria

COMMON NAMES (English only)

Freshwater hydroid

SYNONYMS

Cordylophora lacustris (Allman, 1844)

SHORT DESCRIPTION

This colonial hydroid (up to 10 cm high) light brown in colour occurs in brackish waters, branching occasionally from alternate sides. Branches are ringed at the base and have terminal polyps with colourless, extensile tentacles that are 12-16 long. Feeds on small planktonic organisms.

BIOLOGY/ECOLOGY

Dispersal mechanisms

Pelagic larvae are dispersed with water currents.

Reproduction

Each upright branch may bear 1–3 gonophores with 6-10 eggs each. Fecundity is dependant on the number of branches and hence the number of gonophores. The larvae are released as planulae and no medusoid stage occurs. However, in some cases the larvae may develop directly into juvenile polyps in the gonophore before release. Hydroids may reproduce asexually by budding to form another colony. A common form of asexual reproduction in hydroids is the formation of vertical stolons, which then adhere to adjacent substratum, detach and form another colony.

Known predators/herbivores

Preyed on by chitons, gastropods (especially nudibranchs), polychaetes and pycnogonids.

Resistant stages (seeds, spores etc.)

It has the ability to produce dormant resting stages (menonts) that are far more resistant to environmental change than the colony itself.

HABITAT

Native (EUNIS code)

X1: Estuaries, X3: Brackish coastal lagoons.

Habitat occupied in invaded range (EUNIS code)

X1: Estuaries, X3: Brackish coastal lagoons. *Cordylophora caspia* has been recorded from a wide variety of hard substrata including rocks, shells and artificial substrata (pilings, harbour installations, bridge supports), floating debris and occasionally from the leaves of reeds (*Phragmites*) or stalks of water lilies.

Habitat requirements

Colonies tolerate 5 to 35°C, and reproduce between 10 to 28°C. It can also survive between 0 to 35 ppt as resistant stages, grow between 0.2 to 30 ppt, and reproduce between 0.2 to 2 ppt. In nature, well-developed colonies are usually found in water of 1-2 ppt where tidal influence is considerable, or between 2 – 6 ppt where conditions are constant. It may also occur at full salinities, and fast flowing, well oxygenated freshwater containing Ca, Mg, Na, Cl and K ions.



Dense colony of *Cordylophora caspia* in the Baltic Sea

Photo: Sergej Olenin

DISTRIBUTION

Native Range

Ponto – Caspian region.

Known Introduced Range

This hydroid was introduced into the Baltic Sea in early 1800s; it has spread rapidly to inland waters and estuaries of Europe, reaching Ireland by 1842. It reached Australia by 1885, and the Panama Canal by 1944; now this hydroid is known in temperate and tropical coastal regions of every continent (except Antarctica), and in many fresh waters.

Trend

Established.

MAP (European distribution)



Legend

	Known in country		Known in CGRS square		Known in sea
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INTRODUCTION PATHWAY

Transported as a fouling organism on ships' hulls, or as planktonic larvae in ballast water. In Lake Erie it has been introduced from aquarium releases.

IMPACT

Ecosystem Impact

Competes with native species for space and food. The large dense colonies of the hydroids essentially modify benthic habitats causing structural changes in pelagic and benthic communities.

Health and Social Impact

Unknown.

Economic Impact

It is an important fouling animal in industrial cooling water systems.

MANAGEMENT

Prevention

To get rid of planktonic larvae exchange of ballast water should take place in the mid ocean. Appropriate control of boats and pontoons, which may be contaminated with living hydroids, would minimize the risk of inoculation.

Mechanical

Physical removal from ship hulls, increased temperature, oxygen deficiency (e.g., one of parallel pipelines closed for 3-4 weeks).

Chemical

Chlorination.

Biological

Unknown.

REFERENCES

- Arndt EA (1984) The ecological niche of *Cordylophora caspia* (Pallas, 1771). *Limnologica* 15: 469-477
- Fulton C (1961) The development of *Cordylophora*. In: Lenhoff HM & Loomis WF (eds) *The biology of Hydra and some other coelenterates*. University of Miami Press, Miami Florida, pp 287-295
- Gili J-M, Hughes RG (1995) The ecology of marine benthic hydroids. *Oceanography and Marine Biology: an Annual Review* 33: 351-426

OTHER REFERENCES

- Jormalainen V, Honkanen T, Vuorisalo T, Laihonon P (1994) Growth and reproduction of an estuarine population of the colonial hydroid *Cordylophora caspia* (Pallas) in the northern Baltic Sea. *Helgoländer Meeresuntersuchungen* 48: 407-418
- National Exotic Marine and Estuarine Species Information System (2006)
<http://invasions.si.edu/nemesis/index.html>. Cited 2 Oct 2006

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