Corbicula fluminea

Taxon	Family / Order / Class / Phylum
Corbicula fluminea (O. F. Müller, 1774)	Corbiculidae / Eulamellibranchiata / Bivalvia / Mollusca

COMMON NAMES (English only)
Asian clam

SYNONYMS
Corbicula fluminalis (Müller, 1774)
Corbicula leana (Prime, 1864)
Corbicula manilensis (Philippi, 1884)

SHORT DESCRIPTION
Inland water filter feeding bivalve with a globular shell. Has the capability of collecting food in sediments with its extendable foot. It has tan to brown, ridged solid shells. They occur in large numbers in sediments and are usually <3cm. In Europe there are two distinct morphotypes with varied length/shell height ratios and shell colour. It is generally accepted *C. fluminalis* occurs in river mouths with small variations in salinity.

***Corbicula fluminea* from Canal du Midi, France**

Photo: Dan Minchin

BIOLOGY

Dispersal mechanisms
Pediveligers produce a byssus causing it to be dragged by water currents, juveniles and adults may produce tacky mucus strings that can also result in dispersal. May also be spread by birds and mammals. It can rapidly recolonise areas following purges.

Reproduction
A hemaphrodite (cross- and self-fertilizing) releasing a brooded non-swimming pediveliger stage at 200µm length. Reproduces at ~15 °C from about 6-10mm from three months of age with more than one brood a year with releases from late spring to autumn.

Known predators
Although it has a thick resistant shell, small individuals are consumed by fish.

Resistant stages (seeds, spores etc.)
Tolerant of aerial exposure for weeks but intolerant of low oxygen levels.

HABITAT

Native (EUNIS code)
In river and lake sediments.

Habitat occupied in invaded range (EUNIS code)
Oligotrophic to eutrophic flowing streams, rivers and lakes on oxygenated muddy to sandy sediments, but also occurring among gravel and cobbles. Also can occur in irrigation and drainage cuts.

Habitat requirements
Tolerates 2-34 °C and salinities to ~5‰ with short periods of up to 14psu. Intolerant of areas with high nutrient loads.

DISTRIBUTION

Native range
Southern and eastern Asia (eastern Russia, Thailand, Philippines, China, Taiwan, Korea, and Japan), Australia, and Africa.

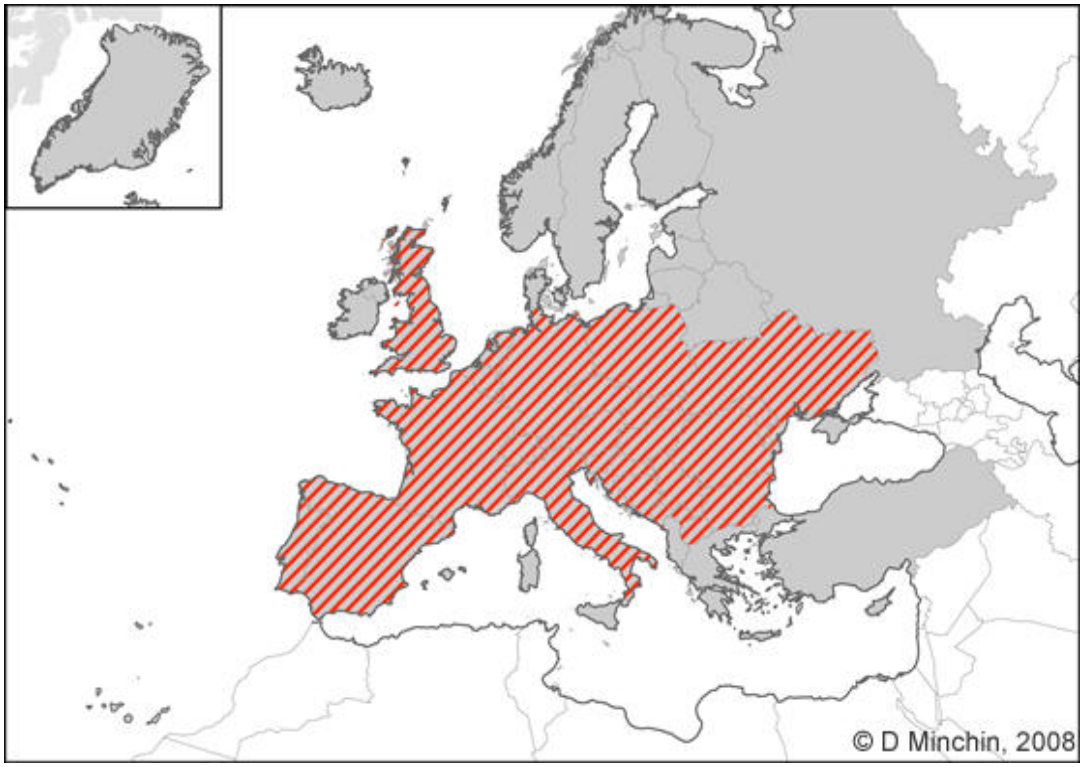
Known Introduced Range

North America, South America and Europe. Arriving in Europe in 1970s to Portugal and spread eastwards to Spain, France, The Netherlands, Switzerland. Now occurs in the broads in Britain and extends to the Danube in Romania.

Trend

Spreading.

MAP (European distribution)



Legend

	Known in country		Known in CGRS square		Known in sea

INTRODUCTION PATHWAY

Unknown. Might have been carried in ships' freshwater ballast to Portugal. It is used in ornamental ponds and aquaria and as angling bait. Could be moved entangled in macrophytes and with overland boat transmissions. Natural dispersal by birds is suspected on account of the tacky mucus threads that may adhere to wading birds or fishes. Since it is a self fertile species a single individual might be sufficient to develop a new population.

IMPACT

Ecosystem Impact

Competes with other filter feeding bivalves (unionids) and with snails feeding on organics in sediments by pedal feeding.

Health and Social Impact

None known.

Economic Impact

High density occurrences in gravels make some building materials worthless. Capable of reducing flows in drainage and abstraction pipes in low-flow areas and during periods of low peak usage. Shells can clog the narrow gauge piping of condensers and heat exchangers of power plants.

MANAGEMENT

Prevention

Natural vectors ensure it is rapidly spread. Its use as an ornamental should be discouraged and legislation and inspections are needed to prevent its arrival on islands and other geographically separated areas.

Mechanical

They may be removed from piping by passing wads under pressure. Screens and shell traps can reduce impacts.

Chemical

May be controlled by flushing oxydising molluscicides with water at ~40°C and by oxygen depletion.

Biological

Unknown.

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