Asiatic Clam, *Corbicula fluminea*

**Overview**

**Short description of *Corbicula fluminea*, Asiatic Clam**
The Asiatic clam is a bivalve with a yellow-brown, globular shell of rounded to triangular outline and usually <30 mm (max. 45 mm) length. The shells are sculptured with prominent, raised, regular concentric ribs.

**Description of *Corbicula fluminea*, Asiatic Clam status in GB**
The Asiatic clam is established and spreading across Southeast England.

**Habitat summary: *Corbicula fluminea*, Asiatic Clam**
In the sediments of oligotrophic to eutrophic streams, rivers, lakes, and irrigation and drainage cuts. It is common on oxygenated muddy to sandy sediments, but also occurring among gravel and cobbles.

**Overview table**

<table>
<thead>
<tr>
<th>Environment:</th>
<th>Freshwater</th>
</tr>
</thead>
<tbody>
<tr>
<td>Species status:</td>
<td>Non-Native</td>
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<tr>
<td>Native range:</td>
<td>Africa, Russian Far East, China, Australia, North Korea, Russia Central, Russia East, Russia North, Russia Northwest, Russia South</td>
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<td>Functional type:</td>
<td>Filter-feeder</td>
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<td>Status in England:</td>
<td>Non-Native</td>
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<td>Status in Wales:</td>
<td>Non-Native</td>
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<tr>
<td>Location of first record:</td>
<td>River Chet (Norfolk Broads)</td>
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<td>Date of first record:</td>
<td>1998</td>
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**Invasion history: *Corbicula fluminea*, Asiatic Clam**

**Origin**
Native to Southern and Eastern Asia (eastern Russia, Thailand, Philippines, China, Taiwan, Korea, and Japan), Australia, and Africa.

**First Record**
1998 in the River Chet on the Norfolk Broads; probably arrived in Norfolk in 1997

**Pathway and Method**
Introduction pathway into GB unknown, but introduction from USA into Europe via ballast water

**Species Status**
First recorded in North America in 1924, it was introduced into South America and southwest Europe in the 1970s/early 1980s. After its arrival in Portugal, it spread eastwards and is now widespread across Europe. After introduction to Britain in the late 1990s to the Norfolk Broads, by 2002, it had already colonised all of the major rivers of The Broads drainage system, and in places densities of over 2500 individuals m⁻² were recorded. Now it can be found in many rivers in this area, as well
as in the Thames and the Great Ouse system, and is continuing its spread.

**Ecology & Habitat: *Corbicula fluminea*, Asiatic Clam**

**Dispersal Mechanisms**
Asian clam larvae (pediveligers) produce a byssus causing it to be dragged by water currents, and juveniles and adults may produce tacky mucus strings that can also result in dispersal. It may also be spread by birds and mammals, but humans are the main actors in this clam’s spread. Thus, it can be moved entangled in macrophytes and with overland boat transmissions, and is used in ornamental ponds, aquaria and as angling bait. The species can rapidly recolonise areas following purges.

**Reproduction**
It is a self-fertile species and thus, a single individual can be sufficient to develop a new population. It reproduces at ~15 °C from about 6-10 mm and three months of age with more than one brood a year. Brooded, non-swimming pediveliger larvae are released from late spring to autumn.

**Known Predators/Herbivores**
Small individuals are consumed by fish.

**Resistant Stages**
Tolerant of aerial exposure for weeks.

**Habitat Occupied in GB**
Habitats range from shallow, essentially lentic environments to relatively wide, deep, flowing rivers and associated channels. The species occupies a range of substrates, preferring sand and gravel to mud. In the River Chet, highest densities are found within the central channels, which is the converse of native mussel distributions at the sites. It tolerates 2-34°C and can survive several weeks in water of 0°C, and can also live in salinities to ~5‰ with short periods of up to 14psu. It is intolerant of areas with high nutrient loads and/or low oxygen levels.

**Distribution: *Corbicula fluminea*, Asiatic Clam**
Present on almost all continents and invasive in North America, South America and Europe. Widespread and common across almost all Europe. In GB, recorded from Southeast England, and in particular the Norfolk Broads drainage system, the River Thames and the Great Ouse system.

**Impacts: *Corbicula fluminea*, Asiatic Clam**

**Environmental Impact**
The combination of this species’ high filtration rates, ability to produce large quantities of pseudofaeces and attain enormous population densities (> 2500 individuals m⁻²) can alter ecosystem dynamics. For example, production of pseudofaeces increases sedimentation and changes substrate composition. It can sequester an enormous portion of the carbon available for benthic production, thereby altering ecosystem functioning. It also competes with native filter feeding bivalves and snails feeding on organics in sediments. Accumulations of shells can block water intakes and irrigation channels.

**Health and Social Impact**
None known.

**Economic Impact**
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. High density occurrences in gravels make some building materials worthless.

**References & Links: *Corbicula fluminea*, Asiatic Clam**

**Identification**

**Biology, ecology, spread, vectors**


**Management and impact**


**General**