



# UK Biodiversity Action Plan Priority Habitat Descriptions

## File Shell Beds

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# File Shell Beds

## Correspondence with existing habitats

Not covered by either OSPAR or Habitats Directive Annex I

### Definition

*Limaria hians*, commonly known as the 'gaping file shell', has been described as the most beautiful British bivalve (Yonge and Thompson, 1976). Individuals have a solid, but thin and delicately ribbed, shell, up to 4cm in length, with a prominent gape running along the dorsal side. Even when the valves are closed, long vibrant orange tentacles (fringing the red mantle tissue) protrude (hence 'gaping'). The *Limaria* form characteristic woven 'nests' or galleries constructed from byssal threads and the animals themselves are rarely seen above the seabed (Hall-Spencer and Moore, 2000).

*Limaria hians* beds in tide-swept sublittoral muddy mixed sediment (SS.SMX.IMX.Lim) have been recorded from 4–98m on mixed muddy [gravel](#) or sand, coarse sands and muddy maerl in areas with weak to strong tidal streams and across the spectrum of wave exposure (although it is unlikely that dense beds can survive in shallow [wave exposed](#) locations) (Connor *et al*, 1997; JNCC, 1999; Hall-Spencer & Moore, 2000b; Tyler-Walters, 2003).

File shell beds are characterized by dense populations of *Limaria hians* where nests coalesce into a carpet over the sedimentary substratum. These nests can be built of shell, stones debris and [maerl](#) (when present) interlaced by several hundred byssus threads, and lined by mucus, [mud](#) and their faeces (Gilchrist, 1896; Hall-Spencer & Moore, 2000b). Nests may be constructed by expansion of smaller burrows, in gravel, shell [sand](#) or laminarian holdfasts, or may be simply composed of byssus threads (see Merrill & Turner (1963) and Gilmour (1967) for details). Nests are about the maximum gape of shell in diameter by about twice the length of the animal, with holes for the entrance and exit of water. Nests vary in size and complexity with individual [Limaria hians](#) being recorded from nests of 2–5cm diameter, while larger nests of up to 25cm diameter and 10cm in length consisted of numerous ventilated holes and galleries (Gilmour, 1967; Tebble, 1976; Hall-Spencer & Moore, 2000). Hall-Spencer and Moore (2000) reported that six of these large nests contained 24–52 small and 25–40 large individuals of *Limaria hians*, with adult individuals occupying single galleries with two ventilation holes, while juveniles occupied complex galleries with multiple ventilation holes. *Limaria hians* can also occur individually or in small numbers, for example in [kelp](#) holdfasts, or under stones intertidally (Jason Hall-Spencer, pers. comm.).

The biotope occurs at high densities in the Creag Gobhainn area of Loch Fyne (Hall-Spencer & Moore, 2000), is widespread in areas of accelerated tidal streams within Loch Sunart (Howson, 1996; Bates *et al*, 2004; Mercer *et al*, 2007) and a number of other sealochs on the west coast of Scotland (Loch Carron, Loch Creran, Loch Alsh, Lochs Broom and lower Loch Linnhe) and within Moross Channel, Mulroy Bay, Ireland (Minchin, 1995).

### Biotores associated with this habitat:

*Limaria hians* beds in tide-swept sublittoral muddy mixed sediment (SS.SMX.IMX.Lim).


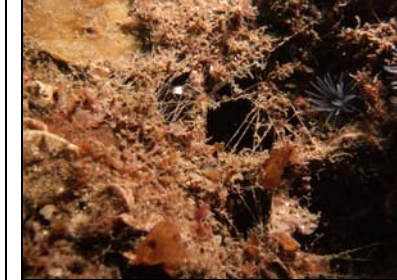



Further information & references on this biotope is available from the Marlin website:

<http://www.marlin.ac.uk/habitatsbasicinfo.php?habitatid=112&code=2004>.

### Current and potential threats

- *Fisheries*: Trawling

## Images

		
<p><i>Limaria hians</i> on nest surface (openings visible) at ~14m – Loch Carron. Photo: Laura Baxter, © SNH.</p>	<p><i>Limaria hians</i> nest surface openings ~14m – Loch Carron. Photo: Laura Baxter, © SNH.</p>	<p>Empty <i>Limaria hians</i> shell on dense carpet of nest material (numerous nest openings visible) ~14m – Loch Carron. Photo: Laura Baxter, © SNH.</p>
		
<p><i>Limaria hians</i> with brittlestars – Loch Sunart. Photo: Jon Moore, © SNH.</p>	<p><i>Limaria hians</i> with brittlestars – Loch Sunart. Photo: Jon Moore, © SNH.</p>	<p><i>Limaria hians</i> with brittlestars in mixed sediments – Loch Sunart. Photo: Christine Howson, © SNH.</p>

File shell beds images, SNH

## References

Bates, C.R., Moore, C.G., Harries, D.B., Austin, W. & Lyndon, A.R. (2004) Broad scale mapping of sublittoral habitats in Loch Sunart, Scotland. *Scottish Natural Heritage Commissioned Report No. 006* (ROAME No. F01AA401C).

Mercer, T., Howson, C.M. & Moore, J.J. (2007) Site Condition Monitoring: Loch Sunart marine SAC and SSSI. *Scottish Natural Heritage Commissioned Report No. 286* (ROAME No. R06AC701).

Tyler-Walters, H. (2003) *Limaria hians* beds in tide-swept sublittoral muddy mixed sediment. *Marine Life Information Network: Biology and Sensitivity Key Information Sub-programme [on-line]*. Plymouth: Marine Biological Association of the United Kingdom. [cited 13/09/2007]. Available from: <http://www.marlin.ac.uk>.

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