MC2
Armeria maritima-Ligusticum scoticum maritime rock-crevice community

Synonymy
Armeria maritima-Grimmia maritima rock crevice community Ostenfeld 1908; *Armeria maritima-Ligusticum scoticum* low cliff vegetation Petch 1933; *Armeria maritima-Grimmia maritima* and *Asplenium marinum-Grimmia maritima* Associations Birks 1973; Habitat Groups II & III Goldsmith 1975; *Armeria maritima-Grimmia maritima* association Malloch & Okusanya 1979.

Constant species
Armeria maritima, *Festuca rubra*, *Ligusticum scoticum*, *Schistidium maritimum.*

Physiognomy
As in the *Crithmo-Spergularietum*, the vegetation comprises a low-growing, very open cover, mainly of vascular perennials whose precise arrangement is strongly influenced by the availability and pattern of rock-crevices. There is no single dominant but *Armeria maritima*, *Festuca rubra* and *Ligusticum scoticum* may each be abundant in particular stands. *Plantago maritima*, *Rhodiola rosea* and *Silene vulgaris* ssp. *maritima* are frequent. Although *Schistidium maritimum* is occasionally present in the *Crithmo-Spergularietum*, it is here constant, though always in small amounts. Other bryophytes are rare. Birks (1973) recorded *Anaptychia fusca* and *Ramalina siliquosa* as frequently occurring lichens exclusive to this vegetation on Skye.

Asplenium marinum is an occasional in the community but it may become locally abundant in sheltered rock-crevices with *Trichostomum brachydontium* (Birks 1973).

Habitat
The *Armeria-Ligusticum* community replaces *Crithmo-Spergularietum* as the most maritime vascular plant community north of Galloway. It occurs on all rock types, being limited mainly by the physical structure of the deposits. On softer sandstones, such as parts of the Old Red Sandstone which comprises much of the Caithness cliffs, the vegetation cover tends to be greater than usual. The community also occurs among moderately large pebbles on some spray-drenched shingle beaches.

The soils are always simply skeletal accumulations of rock fragments, blown sand and organic debris and, though moist, they are free-draining. Superficial pH is always high, around 7.

The local abundance of *Asplenium marinum* in sheltered situations is probably due to its susceptibility to air-frosting in the open.

The inaccessibility of the stands normally precludes grazing, though where sheep gain access *Ligusticum scoticum* is readily eaten (Goldsmith 1973, Tutin 1980*b*).

Zonation and succession
Towards high-water mark, the community grades into the *Ramalinetum scopularis* lichen zone which, in sheltered sites in western Scotland, may have some of the larger foliose lichens characteristic of Lobarion communities (James *et al.* 1977). Above, there is often a transition to the *Festuca-Armeria* maritime grassland, sometimes abrupt, in other cases more gradual through the *Ligusticum* variant of the typical sub-community of the grassland. On some very tall cliffs, where there are more sheltered ledges above, there may be a switch from the *Armeria-Ligusticum* community to the *Rhodiola-Armeria* community before an intact grassland develops. Where waterlogged saline soils occur on ledges or abut onto low cliff-tops, the community is replaced by perched salt-marsh vegetation of the *Leontodon* sub-community of the *Juncetum gerardi.*

Distribution
The *Armeria-Ligusticum* community is the northern equivalent of the *Crithmo-Spergularietum* extending from the Mull of Galloway round to Shetland with a few east coast occurrences as far south as St Abb's Head.

The switch from one community to the other is probably climatically controlled: the growth of *Ligusticum scoticum* is less sensitive to cold than *Crithmum maritimum*, *Spergularia rupicola* or *Inula crithmoides* and maximum germination requires cold, wet conditions. Drought sensitivity may also restrict its extension southwards (Okusanya 1979*c*).

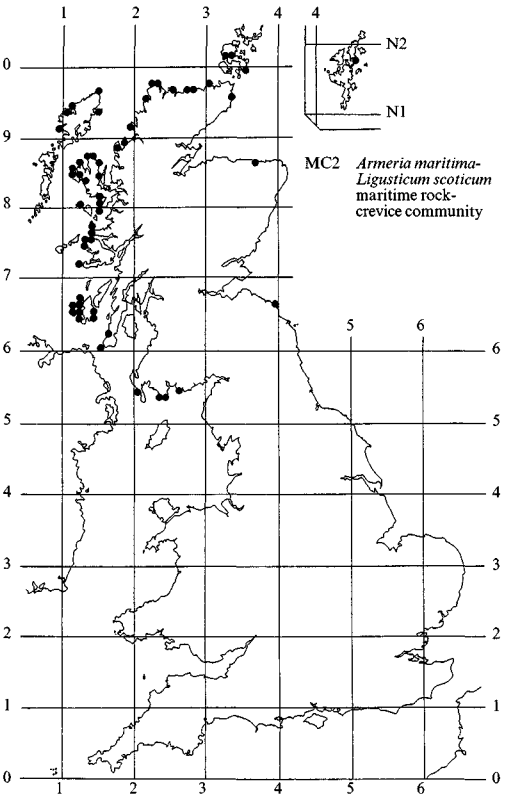
Similar vegetation has been described form the Faeroes (Ostenfeld 1908) and from Norway (Nordhagen 1922, Störmer 1938, Skogen 1965).

Affinities

The vegetation included here belongs to the Arctic counterpart of the predominantly Atlantic maritime crevice communities grouped by Géhu (1964) in the Crithmo-Armerietalia. An alternative treatment of the *Asplenium marinum*-rich component would be to regard it as a separate maritime Asplenietea community, perhaps part of the *Asplenietum marinae* Br.-Bl. & R.Tx. 1952 (e.g. Birks 1973).

Floristic table MC2

Armeria maritima	V (2–7)
Festuca rubra	IV (2–8)
Ligusticum scoticum	IV (1–6)
Schistidium maritimum	IV (2–4)
Plantago maritima	III (2–4)
Rhodiola rosea	III (2–5)
Silene vulgaris maritima	III (2–4)
Agrostis stolonifera	II (1–4)
Cochlearia officinalis	II (1–4)
Matricaria maritima	II (1–4)
Plantago coronopus	I (1–4)
Leontodon autumnalis	I (1–2)
Cerastium fontanum	I (1–3)
Rumex crispus	I (1–3)
Atriplex hastata	I (2–4)
Spergularia rupicola	I (3–4)
Asplenium marinum	I (1–2)
Number of samples	41
Number of species/sample	7 (3–11)
Vegetation height (cm)	9 (2–20)
Total cover (%)	20 (5–100)
Altitude (m)	12 (2–50)
Slope (°)	29 (0–80)



https://doi.org/10.1017/CBO9780511541834.057 Published online by Cambridge University Press