S19
Eleocharis palustris swamp
Eleocharitetum palustris Schennikow 1919

Synonymy
Eleocharis palustris consocies Pearsall 1918.

Constant species
Eleocharis palustris.

Physiognomy
The *Eleocharitetum palustris* is dominated by an open or closed cover of the slender shoots of *Eleocharis palustris*. There are no other species frequent throughout.

Sub-communities

***Eleocharis palustris* sub-community:** *Eleocharis palustris* Community Birse 1980. Here are included pure and species-poor stands in which *E. palustris* is overwhelmingly the most abundant species. *Alisma plantago-aquatica*, *Mentha aquatica*, *Myosotis laxa* ssp. *caespitosa* and *Ranunculus flammula* occur occasionally and a variety of other water-margin species at very low frequency.

***Littorella uniflora* sub-community:** *Eleocharis palustris-Littorella* sociation Spence 1964. In this sub-community *Littorella uniflora* forms a diminutive understorey to the *E. palustris*, sometimes with a little *Lobelia dortmanna*. There is frequently some emergent *Equisetum fluviatile* and floating *Juncus bulbosus* and aquatics such as *Potamogeton natans* and *Myriophyllum alterniflorum* occur occasionally.

***Agrostis stolonifera* sub-community:** *Eleocharis palustris-Agrostis stolonifera* nodum Adam 1981. Here, *Agrostis stolonifera* and, less frequently, *Potentilla anserina*, form a sometimes extensive low mat beneath the *E. palustris* and there are occasional records for species characteristic of the *Juncetum gerardi*: *Festuca rubra*, *Juncus gerardi*, *Glaux maritima*, *Triglochin maritima* and *Trifolium repens*. *Eleocharis quinqueflora* may be locally prominent.

Habitat
The *Eleocharitetum* is a swamp of standing or running waters up to 50 cm deep and it occurs round large lakes, small ponds and along stream sides. The sub-communities show some relationships to substrate type and trophic state of the waters. The *Eleocharis* sub-community occurs over various substrates including silts in mesotrophic conditions; the *Littorella* sub-community is more characteristic of sandy or stony substrates in more oligotrophic waters and is common around the shores of some Scottish lakes; the *Agrostis* sub-community occurs in brackish and saline habitats on upper salt-marshes.

Zonation and succession
The community can occur as the distal component of swamp and fen zonations in open-water transitions. The *Littorella* sub-community is commonly found in such situations over sand and gravels around exposed shores in some Scottish lakes (Spence 1964). Here, it grades in deeper water to submerged vegetation with combinations of *L. uniflora*, *Lobelia dortmanna* and *Juncus bulbosus*. In other cases there is a front of the *Scirpetum lacustris* in deeper water. Inshore, this sub-community can give way to the *Caricetum rostratae*, the *Caricetum vesicariae*, the *Phragmitetum australis* or the *Phalaridetum arudinaceae* (e.g. Pearsall 1918).

In lowland open-water transitions with silty substrates the *Eleocharis* sub-community can again lead the zonation giving way to aquatic vegetation with *Potamogeton natans* and duckweeds in deeper water or occur in shallow water mosaics with the *Equisetetum fluviatile* and the *Sparganietum erecti*.

The *Agrostis* sub-community has been encountered as a dense fringe to streams running across the upper salt-marsh in a few isolated localities in west Wales and around the Scottish coast (Adam 1976, 1981). On Arran, it also occurs in flushes among coastal rocks and here *E. palustris* seems to replace *E. uniglumis* which is very rare

on the island but the usual *Eleocharis* sp. dominant in such northern situations (Adam *et al.* 1977).

Distribution

The *Eleocharis* sub-community has a scattered distribution throughout the British lowlands. The *Littorella* sub-community has been recorded only from Scotland, although it probably occurs in the Lake District and Snowdonia. The *Agrostis* sub-community has been encountered in the few localities detailed above.

Affinities

In its various sub-communities, the *Eleocharitetum* shows affinities with various other swamp types, most obviously with the *Equisetetum fluviatile*. Adam (1976, 1981) provisionally assigned his *Eleocharis-Agrostis* nodum to the *Eleocharion uniglumis* along with the *Eleocharetum uniglumis* and the *Blysmetum rufi*. Although the *Agrostis* sub-community shows a similar ecological and geographical distribution to these two communities, it is best kept within this community in a Phragmition or its equivalent.

Floristic table S19

	a	b	c	19
Eleocharis palustris	V (6–10)	V (3–7)	V (7–9)	V (3–10)
Alisma plantago-aquatica	II (1–7)			I (1–7)
Mentha aquatica	II (1–5)			I (1–5)
Myosotis laxa caespitosa	II (1–3)			I (1–3)
Juncus effusus	I (3–5)			I (3–5)
Typha latifolia	I (3–5)			I (3–5)
Phalaris arundinacea	I (1–2)			I (1–2)
Carex hirta	I (2–4)			I (2–4)
Drepanocladus fluitans	I (2–6)			I (2–6)
Juncus acutiflorus	I (3–5)			I (3–5)
Cardamine pratensis	I (2–3)			I (2–3)
Holcus lanatus	I (4)			I (4)
Polygonum persicaria	I (3)			I (3)
Littorella uniflora	I (2)	IV (2–4)		II (2–4)
Equisetum fluviatile	I (2–7)	III (1–3)		II (1–7)
Juncus bulbosus		III (1)		I (1)
Potamogeton natans		II (1)		I (1)
Myriophyllum alternifolium		II (1)		I (1)
Lobelia dortmanna		II (1)		I (1)
Scorpidium scorpioides		I (3)		I (3)
Potamogeton polygonifolius		I (1)		I (1)
Utricularia minor		I (1)		I (1)
Fontinalis antipyretica		I (1)		I (1)
Agrostis stolonifera	I (1–2)		V (2–8)	II (1–8)
Potentilla anserina	I (2–3)		III (2–6)	II (2-6)
Glaux maritima			III (2–5)	I (2–5)
Triglochin maritima			III (2–3)	I (2–3)
Trifolium repens	I (3)		II (5)	I (3–5)
Juncus gerardi			II (4–5)	I (4–5)
Festuca rubra			II (3–5)	I (3–5)
Eleocharis quinqueflora			II (2–4)	I (2–4)
Algal mat			I (6–7)	I (6–7)
Leontodon autumnalis			I (2–4)	I (2–4)
Plantago maritima			I (3)	I (3)

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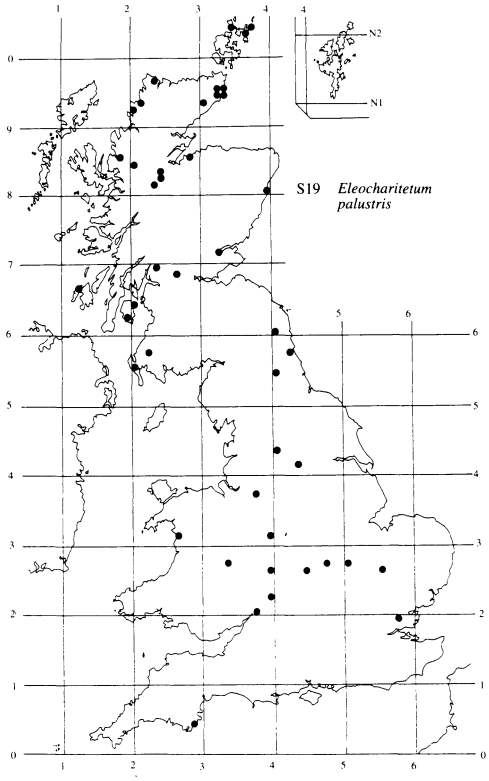
Juncus articulatus	I (3–4)	II (1)	II (3–4)	I (1–4)
Ranunculus acris	I (2–4)	I (1)	I (3)	I (1–4)
Ranunculus flammula	II (1–4)	II (1)		I (1–4)
Polygonum amphibium	I (2–4)	I (1)		I (1–4)
Glyceria fluitans	I (4)	I (1)		I (1–4)
Carex rostrata	I (8)	I (1)		I (1–8)
Caltha palustris	I (1–4)	I (1)		I (1–4)
Hydrocotyle vulgaris	I (4–6)		I (2–4)	I (2–6)
Galium palustre	I (1–3)		I (3)	I (1–3)
Alopecurus geniculatus	I (3–5)		I (2–4)	I (2–5)
Poa trivialis	I (3–4)		I (4)	I (3–4)
Ranunculus repens	I (1–2)		I (5)	I (1–5)
Carex nigra		I (1)	I (4)	I (1–4)
Number of samples	25	11	11	47
Number of species/sample	7 (1–14)			

a *Eleocharis palustris* sub-community
b *Littorella uniflora* sub-community
c *Agrostis stolonifera* sub-community
19 *Eleocharitetum palustris* (total)



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