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Review: Brown Seaweeds of the Salt Marsh

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zone) is uniformly higher than in the higher zones (*Sclerochloa* zone 0.09 per cent., *Festuca* zone 0.03 per cent.); (4) the reclaimed pastures owe their existence to uniformly low saline content due to infrequent tidal immersion owing to higher level, and to improved surface drainage from accumulation of humus.

The author points out that while a strand flora is usually regarded as essentially a halophytic vegetation, this is more particularly true of a mud formation lining a sea-coast, the closely packed soil retaining the salt to a far greater extent than the better draining soils, and that probably the most characteristic halophyte vegetation will ultimately prove to be that of the mud, while sand and shingle vegetation may often fall rather into the category of the xerophyte formations. In areas like that studied, two distinct sets of problems are presented by the pelophilous or mud formations, and the psammophilous (sand or shingle) formations.

BROWN SEAWEEDS OF THE SALT MARSH

Baker, Sarah M. "On the brown seaweeds of the salt marsh." *Journal Linnean Soc., Bot.*, **40**, 1912, pp. 275—291, 2 plates, 8 figures.

The salt marshes at Blakeney, Norfolk, show a somewhat uniform vegetation in which certain brown seaweeds are associated with phanerogams. Two "associations" are described: (1) a *Salicornia-Pelvetia* association, with plants of *S. herbacea* surrounded by a network of an unattached form of *P. canaliculata*; (2) an *Aster-Fucus* association, with plants of *A. Tripolium* growing up through a close formation of *F. volubilis*. The presence of the free-growing variety of *Pelvetia* (*P. canaliculata* var. nov. *libera*) has been shown to be beneficial to the *Salicornia*, probably acting as a "surface mulch."

It would perhaps have been better had the authoress of this interesting paper used the non-committal term "community" in place of "association"; the "associations" described are certainly not of the rank currently denoted by that term.

ECOLOGICAL TERMINOLOGY OF MARINE ALGAL COMMUNITIES

Johnson, N. M. "Ecological terminology as applied to marine Algae." *Scottish Bot. Review*, **1**, 1912, pp. 44—46.

The author points out that different writers, like Warming and Borgesen, appear to have very different views as to the scope of "formation" and "association" as applied to Algae, and suggests a method of ecological classification based on his investigations in two districts on the Firth of Forth (County of Fife, Scotland):—nereid formation of Algae; marine (halo-nereid) sub-formation; littoral region.

District I.—Rocks and sandy beach, creeks and isolated rocks. (1) *Fucaceae* association with *F. vesiculosus* (without bladders) dominant between high and low water mark. (2) Plant societies of *Callithamnion scopulorum*, *Enteromorpha compressa*, and *Porphyra laciniata*.

District II.—A, a series of creeks; B, a bay with rock areas. A. (1) *Fucaceae* association with *F. vesiculosus* dominant; (2) Plant societies of *F. serratus*, *F. spiralis*, *Pelvetia canaliculata*, *Enteromorpha compressa*, etc. B. (1) *Fucaceae* association with *F. vesiculosus* and *F. serratus*; (2) Plant societies of *Ascophyllum nodosum*, *Callithamnion scopulorum* and *Gigartina mamillata*, etc.

A CAMBRIDGESHIRE WOODLAND

Adamson, R. S. "An ecological study of a Cambridgeshire woodland." *Journal Linnean Soc., Bot.*, **40**, 1912, pp. 339—384, 6 plates, 1 text-figure.

This is a notable contribution to woodland ecology—indeed, the most thorough study of the kind that has yet been published in Britain. The author's observations were made in Gamlingay Wood, near Cambridge, situated on a ridge of boulder-clay, with two distinct soil types, occupying two sharply marked areas separated by a narrow band of intermediate soil—(1) a heavy stiff *calcareous clay*, or *marl*, in which few if any roots, except those of the trees, penetrate more than