

Rhodora

JOURNAL OF

THE NEW ENGLAND BOTANICAL CLUB

Vol. 17.

August, 1915.

No. 200.

PLANTS AND PLANT SOCIETIES AT ROQUE BLUFFS, MAINE.

CLARENCE H. KNOWLTON.

ABOUT 40 miles east of Mt. Desert, and the same distance southwest of Eastport lies the town of Roque Bluffs, Washington county, Maine. Machias Bay lies just east, and Cutler, across the bay, is sixteen miles to the eastward. The body of water just south is called Englishman's Bay, and receives the waters of Englishman's River, a tidal estuary with tributary brooks, named for the first settler. The waters offshore are very cold, from the Greenland current, and fogs are frequent and dense in summer. This gives the coast a boreal climate, although it lies just south of North Latitude 45° .

The underlying rock is a silicious slate, cut by numerous dikes of diabase, many of which have been eroded by the sea, making deep sea-caves among the cliffs. West of the slate there is a large area of a fine-grained reddish granite, which forms the "red rocks" as the cliffs are locally called. This mass, too, has numerous diabase dikes. Except for these dikes, the rock is silicious and there is little lime to affect the soil and flora. Over the bedrock lies a thick layer of till containing many boulders, mostly of granite, coarse and fine. Over this in many level places lie beds of marine clay.

Between two of the rocky points the waves and the 16-foot tide have thrown up a half-mile of barrier beach, so wide that the inner half of it is under cultivation, and the pond behind it is of water entirely fresh. Besides the Englishman's River there is a smaller unnamed estuary, and the salt marshes border these. The rest of the shore is rocky and in many places precipitous.

For several years I have spent a week or more of my summer vacation in this interesting place. To insure a complete survey of the flora there should be, of course, spring and fall visits as well, but the season there is so short that the plants often overlap. Thus I have seen *Ledum* in bloom on July 4, wild roses on Sept. 3, and *Cornus canadensis* in flower and in fruit in the last week of July. The following lists are therefore reasonably complete.

For convenience in presentation, and to show the natural plant societies of the region, I have selected the eight natural habitats — sea beach, salt-marsh, rocky headlands, peat-bogs, barrier beach pond, swamps, Canadian forest and cleared upland. The swamps and cleared upland are less primitive than the other six groups, and new plants seem to be working into these areas from the warmer region back of the coast.

For completeness the fields should be added, but their flora is largely of outside origin. Four introduced weeds, however, deserve special mention. *Matricaria suaveolens* is the commonest of dooryard and roadside weeds, completely covering the ground in places, and giving forth its pineapple-like odor when crushed. *Rumex Patientia* is the early broad-leaved dock and abounds in many parts of the county. The prevailing *Leontodon* is a large plant 4–5 dm. in height and full of good-sized heads all through July. This plant is pubescent and the involucre is densely covered with hairs. This is quite different from the smooth slender plant which is in bud at the same time, which is the type, while this larger plant is *L. autumnalis*, var. *pratensis*. Another unusual plant, *Arrhenatherum elatius*, has been introduced in grass seed in one place only, but has flourished there for several years.

SEA BEACH, SAND OR GRAVEL.

<i>Agropyron repens</i>	<i>Arenaria peploides</i> L.
<i>Ammophila arundinacea</i>	var. <i>robusta</i> Fernald
<i>Elymus arenarius</i>	<i>Cakile edentula</i>
<i>Hierochloa odorata</i>	<i>Rosa virginiana</i>
<i>Spartina Michauxiana</i>	<i>Lathyrus maritimus</i>
<i>Polygonum aviculare</i> , var. <i>vegetum</i>	<i>Oenothera muricata</i>
<i>Rumex pallidus</i>	<i>Coelopleurum actaeifolium</i>
<i>Atriplex patula</i> , var. <i>hastata</i>	<i>Convolvulus sepium</i> , var. <i>pubescens</i>
<i>Suaeda maritima</i>	<i>Mertensia maritima</i>
	<i>Galium Aparine</i>

Of the above plants it is interesting to note the comparative abundance of *Elymus arenarius* on gravelly beaches. This circumboreal plant is now known along the coast to Casco Bay, the Isles of Shoals and Provincetown. *Rosa virginiana* deserves mention from its great abundance, its variability and the remarkable size and beauty of its flowers and glossy green leaves. *Oenothera muricata* is a very handsome species here. The buds are massed at the top of the stem, appearing cymose, and often ten or a dozen will open at once, forming a ring of flowers. *Mertensia maritima* is a peculiar prostrate plant, with glaucous blue-green leaves, red buds, and blue flowers. It is occasional, but never abundant, on gravelly beaches. *Galium Aparine* occurs in only two places, in loose shingle above high tide, and it has evidently been brought in ballast from further south.

SALT MARSH.

<i>Zostera marina</i>	<i>Juncus bufonius</i> , var. <i>halophilus</i>
<i>Triglochin maritima</i>	" <i>Gerardi</i>
<i>Agropyron repens</i>	<i>Atriplex patula</i> , var. <i>hastata</i>
<i>Agropyron caninum</i> (L.) Beauv.,	<i>Suaeda maritima</i>
var. <i>tenerum</i> (Vasey) Pease & Moore	<i>Salicornia europaea</i>
<i>Agrostis alba</i>	<i>Polygonum Fowleri</i>
<i>Festuca rubra</i>	<i>Stellaria humifusa</i>
<i>Hierochloe odorata</i>	<i>Spergularia canadensis</i>
<i>Hordeum jubatum</i>	<i>Ranunculus Cymbalaria</i>
<i>Puccinellia angustata</i>	<i>Potentilla pacifica</i>
<i>Spartina glabra</i> , var. <i>alterniflora</i>	<i>Limonium carolinianum</i>
" <i>patens</i>	<i>Glaux maritima</i> , var. <i>obtusifolia</i>
<i>Carex maritima</i>	<i>Plantago decipiens</i>
<i>Scirpus americanus</i>	<i>Aster novi-belgii</i> , var. <i>litoreus</i>
<i>Juncus balticus</i> , var. <i>littoralis</i>	<i>Solidago sempervirens</i>
" <i>bufonius</i>	

In the salt-marshes *Carex maritima* covers large areas so densely that other species are few. The past season, however, after diligent search I found good specimens of the northern *Stellaria humifusa*, prostrate in the tidal mud between the stalks of the *Carex* in one of these areas. *Juncus balticus*, var. *littoralis* is the only salt-marsh species which seems able to compete successfully with other species in other habitats. It is frequent in swampy places some distance from the sea, and at one place I have found it in the shade of spruce trees at the edge of a peat-bog.

ROCKY HEADLANDS.

<i>Picea rubra</i>	<i>Ligusticum scoticum</i>
<i>Juniperus horizontalis</i>	<i>Vaccinium Vitis-Idaea</i> , var. <i>minus</i>
<i>Alnus mollis</i>	<i>Convolvulus sepium</i> ,
<i>Deschampsia flexuosa</i>	var. <i>pubescens</i>
<i>Festuca rubra</i>	<i>Euphrasia americana</i>
<i>Iris setosa</i> , var. <i>canadensis</i>	" <i>Randii</i>
<i>Arenaria lateriflora</i>	<i>Rhinanthus Crista-galli</i> L.,
<i>Sagina procumbens</i>	var. <i>fallax</i>
<i>Potentilla tridentata</i>	<i>Plantago decipiens</i>
<i>Rosa virginiana</i>	<i>Campanula rotundifolia</i>
<i>Vicia angustifolia</i> , var. <i>segetalis</i>	<i>Senecio sylvaticus</i>
<i>Empetrum nigrum</i>	<i>Solidago Randii</i>

Roque Bluffs is near the southern limit of *Iris setosa*, var. *canadensis* at Little Duck Island. This is frequent on the headlands within reach of the sea-spray, but it does not grow in the salt-marshes. *Empetrum nigrum* is a sprawling undershrub on many of the sea-cliffs, and is different in habit and size from the same plant growing in the sphagnum of peat-bogs. *Euphrasia Randii* I have found in only one place, close to a large diabase dike, but at Machiasport it grows over quartzite, so there is apparently no lithological reason for its scarcity. *Senecio sylvaticus* is a slender annual, occasional in crevices, but never abundant.

PEAT-BOGS.¹

<i>Larix laricina</i>	<i>Vaccinium macrocarpon</i>
<i>Picea mariana</i>	" <i>Oxycoccus</i>
<i>Betula alba</i> , var. <i>cordifolia</i>	<i>Scheuchzeria palustris</i>
<i>Nemopanthus mucronata</i>	<i>Carex canescens</i> , var. <i>disjuncta</i>
<i>Chamaedaphne calyculata</i>	" <i>leptalea</i>
<i>Andromeda glaucophylla</i>	" <i>limosa</i>
<i>Gaylussacia baccata</i>	" <i>oligosperma</i>
" <i>dumosa</i> (Andr.) T. & G.	" <i>pauciflora</i>
var. <i>Bigeloviana</i> Fernald	" <i>paupercula</i> , var. <i>irrigua</i>
<i>Kalmia angustifolia</i>	" <i>sterilis</i>
" <i>polifolia</i>	" <i>trisperma</i>
<i>Ledum groenlandicum</i>	" <i>trisperma</i> , var. <i>Billingsii</i>
<i>Rhododendron canadense</i>	<i>Rhynchospora alba</i>

¹ In this and the following plant societies I have placed trees and shrubs before the herbaceous plants, as a slight aid to visualizing the groups.

<i>Eriophorum callitrix</i>	<i>Comandra livida</i>
“ <i>tenellum</i>	<i>Drosera longifolia</i>
“ <i>angustifolium</i>	“ <i>rotundifolia</i>
“ <i>virginicum</i>	<i>Rubus Chamaemorus</i>
<i>Smilacina trifolia</i>	<i>Empetrum nigrum</i>
<i>Arethusa bulbosa</i>	<i>Menyanthes trifoliata</i>
<i>Calopogon pulchellus</i>	<i>Melampyrum lineare</i>
<i>Pogonia ophioglossoides</i>	<i>Aster nemoralis</i> , var. <i>Blakei</i>
<i>Microstylis unifolia</i>	<i>Solidago uniligulata</i>

The peat-bogs are one of the most striking features of the landscape. They are level, or a bit higher in the middle, with stunted trees of *Picea mariana* to add dreariness to the view. Around the edges they are very wet, and some of the bogs quake as you walk in the wet sphagnum. In others the central part is firm and even dry.

The Labrador tea, *Ledum groenlandicum*, is abundant, and has beautiful white flowers in June. One bog is full of staminate *Rubus Chamaemorus*, another has both staminate and pistillate plants, mostly the latter. It is a curious sight to see this plant well fruited, for the berries are a very rich golden yellow, and lie on the beds of sphagnum like so many gold coins. *Gaylussacia dumosa*, var. *Bigeloviana* I have found in only one bog so far, with the moss up nearly to the tuft of leaves at the tip. It is in full bloom in late July, a most attractive cream-white bell-flower. *Scheuchzeria* grows in the peat-bog by the barrier-beach pond, as the other bogs do not seem wet enough for it. *Carex limosa* grows with it, and also flourishes under swamp conditions across the pond. *Carex trisperma*, var. *Billingsii* flourishes in the same place, while the other sedges listed are of more general distribution. *Comandra livida* grows in only one bog, and does not flower or fruit. An examination of several extensive root-systems indicates that this species is not parasitic here. It was new to eastern Maine when I found it in 1907, but it has since been found by Prof. M. L. Fernald at West Quoddy Head. Another tenuous little bog plant is *Melampyrum lineare*, which has linear leaves and is much more delicate than the woodland form of the same species.

The peat-bog flora contains a large number of boreal plants, because these cold wet masses of sphagnum are so much like the bogs northward under the Arctic Circle. Among these boreal plants are *Scheuchzeria*, *Carex limosa*, *C. pauciflora*, *Eriophorum angustifolium*, *Comandra livida* and *Rubus Chamaemorus*. Along with them are many other bog plants whose range is from Newfoundland to Georgia or Florida.

Such are *Carex sterilis*, *Arethusa*, *Pogonia* and *Drosera longifolia*. On the whole, however, the peat-bogs are much more distinctly boreal in character than any of the other plant societies at this place. Many of the species also flourish on the granitic mountain-tops of northern New England.

BARRIER-BEACH POND.

<i>Typha latifolia</i>	<i>Eleocharis palustris</i>
<i>Sparganium fluctuans</i>	“ <i>palustris</i> , var. <i>vigens</i>
<i>Potamogeton alpinus</i>	<i>Scirpus validus</i>
“ <i>epihydrus</i>	<i>Nymphaea advena</i> , var. <i>variegata</i>
“ <i>natans</i>	<i>Potentilla palustris</i> (L.) Scop.,
<i>Carex filiformis</i>	var. <i>villosa</i> (Pers.) Lehm.
“ <i>rostrata</i> , var. <i>utriculata</i>	<i>Sium cicutaefolium</i>
<i>Dulichium arundinaceum</i>	<i>Menyanthes trifoliata</i>

The most vigorous of these fresh-water plants is *Menyanthes*, which occupies large areas of the shallow water, and works inland to some extent in peat-bog and swamp. The *Potentilla* is large and handsome, with big stalks, and long root-stocks.

SWAMPS AND WET FIELDS.

<i>Salix lucida</i>	<i>Glyceria canadensis</i>
<i>Myrica Gale</i>	“ <i>grandis</i>
<i>Alnus incana</i>	“ <i>laxa</i>
<i>Pyrus melanocarpa</i>	“ <i>nervata</i>
<i>Rosa virginiana</i>	“ <i>pallida</i>
“ <i>nitida</i>	“ <i>Torreyana</i>
<i>Rubus hispidus</i>	<i>Carex conoidea</i>
<i>Spiraea latifolia</i>	“ <i>Crawfordii</i>
<i>Ilex verticillata</i>	“ <i>Crawfordii</i> , var. <i>vigens</i>
<i>Lonicera caerulea</i> , var. <i>villosa</i>	“ <i>crinita</i> , var. <i>gynandra</i>
<i>Aspidium cristatum</i>	“ <i>debilis</i> , var. <i>Rudgei</i>
“ <i>Thelypteris</i>	“ <i>filiformis</i>
<i>Asplenium Filix-femina</i>	“ <i>hormathodes</i>
<i>Osmunda cinnamomea</i>	“ <i>limosa</i>
“ <i>Claytoniana</i>	“ <i>Oederi</i> , var. <i>pumila</i>
<i>Equisetum arvense</i>	“ <i>pallescent</i>
<i>Agrostis alba</i>	“ <i>rostrata</i> , var. <i>utriculata</i>
<i>Bromus ciliatus</i>	“ <i>stellulata</i>
<i>Calamagrostis canadensis</i>	“ <i>stellulata</i> , var. <i>angustata</i>
<i>Glyceria borealis</i>	“ <i>stellulata</i> , var. <i>cephalantha</i>

<i>Carex scoparia</i>	<i>Thalictrum polygamum</i>
“ <i>scoparia</i> , var. <i>condensa</i>	var. <i>hebecarpum</i>
“ <i>scoparia</i> , var. <i>moniliformis</i>	<i>Impatiens biflora</i>
<i>Cladium mariscoides</i>	<i>Hypericum canadense</i>
<i>Dulichium arundinaceum</i>	“ <i>ellipticum</i>
<i>Eleocharis acicularis</i>	“ <i>virginicum</i>
“ <i>palustris</i>	<i>Viola cucullata</i>
“ <i>tenuis</i>	“ <i>incognita</i>
<i>Eriophorum angustifolium</i>	“ <i>lanceolata</i>
<i>Rhynchospora alba</i>	“ <i>pallens</i>
<i>Scirpus atrocinctus</i>	“ <i>primulifolia</i>
“ <i>georgianus</i>	<i>Epilobium adenocaulon</i>
“ <i>rubrotinctus</i>	“ <i>densum</i>
“ <i>rubrotinctus</i> , var. <i>confertus</i>	<i>Conioselinum chinense</i>
<i>Juncus balticus</i> , var. <i>littoralis</i>	<i>Heracleum lanatum</i>
“ <i>brevicaudatus</i>	<i>Hydrocotyle americana</i>
“ <i>bufonius</i>	<i>Lysimachia terrestris</i>
“ <i>effusus</i> , var. <i>Pylaei</i>	<i>Convolvulus sepium</i>
“ <i>filiformis</i>	<i>Cuscuta Gronovii</i>
“ <i>tenuis</i>	<i>Lycopus uniflorus</i>
<i>Iris versicolor</i>	<i>Scutellaria galericulata</i>
<i>Habenaria clavellata</i>	<i>Chelone glabra</i>
<i>Polygonum sagittatum</i>	<i>Galium Claytoni</i>
<i>Rumex Brittanica</i>	“ <i>trifidum</i>
“ <i>Patientia</i>	<i>Aster Radula</i>
<i>Arenaria lateriflora</i>	<i>Eupatorium perfoliatum</i>
<i>Stellaria borealis</i>	“ <i>purpureum</i> ,
“ <i>graminea</i>	var. <i>maculatum</i>
<i>Ranunculus pennsylvanicus</i>	<i>Solidago graminifolia</i>
<i>Thalictrum polygamum</i>	

Most of these plants are not uncommon in our range, and this habitat is less boreal than several of the others. There are probably other plants in this group which further search would reveal. Of the sedges *Carex Oederi*, var. *pumila* is very common in wet pastures and by roadsides, both in clay and muck. *Viola incognita* is the common white violet of swamps and woods. *Conioselinum* is rare enough to please the botanist decidedly, when he discovers its bright green dissected leaves and white umbels of flowers. *Heracleum* is at only one station near the coast, but flourishes inland.

CANADIAN FOREST.

- Abies balsamea*
Larix laricina
Picea canadensis
 " *rubra*
Thuja occidentalis
Populus tremuloides
Betula alba, var. *cordifolia*
 " " var. *papyrifera*
Taxus canadensis
Salix balsamifera
 " *discolor*
 " *discolor*, var. *eriocephala*
 " *humilis*
 " *rostrata*
Alnus incana
 " *mollis*
Ribes oxycanthoides
 " *prostratum*
Amelanchier laevis Wiegand
Prunus pennsylvanica
Pyrus americana
 " *arbutifolia*, var. *atropurpurea*
 " *sitchensis*
Rubus nigricans
 " *tardatus*
Ilex verticillata
Nemopanthus mucronata
Diervilla Lonicera
Lonicera canadensis
Sambucus racemosa
Viburnum cassinoides
 " *Lentago*
Aspidium noveboracense
 " *spinulosum*,
 var. *dilatatum*
 var. *intermedium*
Asplenium Filix-foemina
Phegopteris polypodioides
Polypodium vulgare
Equisetum sylvaticum
Lycopodium annotinum
 " *clavatum*
 " *lucidulum*
- Lycopodium obscurum*,
 var. *dendroideum*
Carex brunnescens
 " *communis*
 " *crinita*
 " *crinita*, var. *gynandra*
 " *novae-angliae*
 " *trisperma*
Luzula saltuensis
Maianthemum canadense
Streptopus roseus
Trillium undulatum
Cypripedium acaule
Habenaria obtusata
Polygonum cilinode
Coptis trifolia
Dalibarda repens
Rubus triflorus
Oxalis Acetosella
Circaea alpina
Viola incognita
 " *pallens*
Aralia hispida
 " *nudicaulis*
Cornus canadensis
Chiogenes serpyllifolia
Gaultheria procumbens
Moneses uniflora
Monotropa uniflora
Pyrola americana
 " *elliptica*
Trientalis americana
Melampyrum lineare
Veronica officinalis
Mitchella repens
Linnaea borealis, var. *americana*
Aster acuminatus
 " *lateriflorus*, var. *hirsuticaulis*
 " *puniceus*
 " *radula*
Solidago macrophylla
 " *rugosa*
Prenanthes trifoliolata

These woods are dark and mossy with frequent glades. The evergreens predominate, for the poplars are only casual. As for the birches, instead of having the dazzling white bark which often characterizes the paper birches, these trees have a dull reddish bark, and are not conspicuous in the forest. Such rich woods trees as the maples and yellow birch are rare near the shore, even in the undergrowth.

Salix balsamifera is an occasional shrub, with bright red young leaves at the tips of the branches. It does not give out its resinous perfume until it has wilted. *Amelanchier laevis* is the only species of the genus which I have so far been able to find. It is abundant and fruits heavily. *Pyrus sitchensis* is occasional close to the sea, but seems to be much less frequent than *P. americana*. In *Rubus* there is a good deal of a trailing species which seems to be *R. nigricans*, while there is another more erect species which always comes out *R. tardatus*, by the key in the seventh edition of Gray's Manual.

The most conspicuous fern is *Aspidium spinulosum*, var. *dilatatum*. It fills moist glades in the woods with great masses of delicate fronds four or five feet long, and often over a foot in width. *Solidago macrophylla*, so frequent in mountain woods inland, here flourishes near sea-level.

In general the flora of these Canadian woods is full and typical, except that the calciphiles are lacking.

CLEARED UPLAND (PASTURES, OLD FIELDS AND ROADSIDES).

<i>Juniperus communis</i> , var. <i>depressa</i>	<i>Dicksonia punctilobula</i>
<i>Myrica asplenifolia</i>	<i>Pteris aquilina</i>
<i>Alnus incana</i>	<i>Lycopodium clavatum</i>
<i>Betula populifolia</i>	<i>Agrostis alba</i> , var. <i>vulgaris</i>
<i>Crataegus</i> sp.	“ <i>hyemalis</i>
<i>Rosa virginiana</i>	<i>Danthonia spicata</i>
<i>Rubus canadensis</i>	<i>Panicum boreale</i>
“ <i>idaeus</i> , var. <i>aculeatissimus</i>	“ <i>implicatum</i>
<i>Spiraea latifolia</i>	<i>Poa pratensis</i>
“ <i>tomentosa</i>	“ <i>triflora</i>
<i>Vaccinium canadense</i>	<i>Carex adusta</i>
“ <i>pennsylvanicum</i>	“ <i>pallescens</i>
“ <i>pennsylvanicum</i> , var. <i>nigrum</i>	<i>Juncus Greenei</i>
<i>Diervilla Lonicera</i>	<i>Sisyrinchium angustifolium</i>
<i>Aspidium spinulosum</i>	<i>Spiranthes Romanzoffiana</i>
	<i>Polygonum cilinode</i>

<i>Corydalis sempervirens</i>	<i>Cornus canadensis</i>
<i>Potentilla canadensis</i> , var. <i>simplex</i>	<i>Prunella vulgaris</i> L.,
" <i>monspeliensis</i>	var. <i>lanceolata</i> (Barton) Fernald
" <i>tridentata</i>	<i>Euphrasia americana</i>
<i>Lechea intermedia</i>	<i>Houstonia caerulea</i>
<i>Oxalis corniculata</i>	<i>Achillaea Millefolium</i>
<i>Viola incognita</i>	<i>Anaphalis margaritacea</i>
" <i>labradorica</i>	<i>Antennaria canadensis</i>
" <i>primulifolia</i>	<i>Aster lateriflorus</i> , var. <i>hirsuticaulis</i>
" <i>septentrionalis</i>	" <i>paniculatus</i>
<i>Epilobium angustifolium</i>	<i>Hieracium floribundum</i>
<i>Oenothera pumila</i>	" <i>aurantiacum</i>
<i>Aralia hispida</i>	<i>Solidago rugosa</i>

Several of these plants seem to be introductions from outside. Such are *Juniperus communis*, var. *depressa*, *Myrica asplenifolia*, *Betula populifolia* and perhaps the lone *Crataegus* tree.

Last summer I was much pleased to find in dry soil where brush had been burned, a very vigorous sedge which I soon found to be *Carex adusta*, a well-named species. This has been known in New England only from Mt. Desert, and is a northern plant, so it is interesting to secure this Washington County station for it. *Juncus Greenei* is here at its northeastern limit so far as known, its previous limit being Mt. Desert. *Lechea intermedia* is another dry land plant which is rather frequent. *Spiranthes Romanzoffiana* is an early bloomer, as I have found it in late July. *Viola labradorica* seems to be the least of all the violets. The plants are tiny, the leaves small, and the branches very slender, though short. I have found it in only one place.

There are several other very interesting plants which I have found in adjoining towns, and may at some time discover at Roque Bluffs. Thus at Libby Island, Machiasport, I have found *Sagina nodosa*, var. *glandulosa*, *Sedum roseum*, *Lathyrus palustris*, var. *pilosus*, *Epilobium adenocaulon*, var. *perplexans*, *Primula farinosa*, var. *macropoda*, and *Prenanthes nana*. At Point of Maine, Machiasport, are *Sedum roseum* and *Lathyrus palustris*, var. *pilosus*. At Roque Island, which lies a mile off shore in Englishman's Bay, but is a part of Jonesport, I have found *Sparganium angustifolium* and *Montia lamprosperma*, also a hardwood forest of beeches, ash, and hornbeam. At Machias, the next town inland, I have found *Scirpus pedicellatus*, *Streptopus amplexifolius*, *Listera cordata* and *Senecio Robbinsii*, all of which are to be expected in Roque Bluffs.

In addition to Rand and Redfield's excellent Flora of Mt. Desert there have been many RHODORA articles in regard to the flora of the Maine coast. The following list of these articles may be useful for reference.

CHAMBERLAIN, E. B. Meeting of the Josselyn Botanical Society, X. 172.

COLLINS, F. S. An Algologist's Vacation in Eastern Maine, IV. 174; The Marine Flora of Great Duck Island, II. 209.

COOK, M. P. Plants of the Island of Monhegan, III. 187.

CUSHMAN, J. A. *Primula farinosa*, var. *macropoda* on the Maine Coast, IX. 217; Some Interesting Maine Plants, XI. 12.

FERNALD, M. L. Notes from the Phaenogamic Herbarium of the N. E. Botanical Club,—II, XIII. 177.

FERNALD M. L., and WIEGAND, K. M. Botanizing in Eastern Maine, XII. 101, 133.

GRAVES, A. H. Woody Plants of Brooklin, Maine, XII. 173.

HILL, A. F. Notes on the Flora of the Penobscot Bay Region, Maine, XVI. 189.

KENNEDY, G. G. The Maine Coast at Cutler, IV. 23.

KNOWLTON, C. H. Plants collected at Roque Bluffs, Maine, in 1907, IX. 218.

MOULTON, D. H. Annual Meeting of the Josselyn Society, IV. 188.

NORTON, A. H. Plants from the Islands and Coast of Maine, XV. 137.

RAND, E. L. *Pinus Banksiana* on Mt. Desert Island, I. 135; *Subularia* on Mt. Desert, Island I. 155; Plants from the Duck Islands, II. 207; Additions to the Plants of Mt. Desert Island, X. 145.

SHAW, E. L. A New Station for *Iris Hookeri* in Maine, X. 145.

HINGHAM, MASSACHUSETTS.



Knowlton, Clarence Hinckley. 1915. "PLANTS AND PLANT SOCIETIES AT ROQUE BLUFFS, MAINE." *Rhodora* 17, 145–155.

View This Item Online: <https://www.biodiversitylibrary.org/item/14488>

Permalink: <https://www.biodiversitylibrary.org/partpdf/188043>

Holding Institution

Missouri Botanical Garden, Peter H. Raven Library

Sponsored by

Missouri Botanical Garden

Copyright & Reuse

Copyright Status: Public domain. The BHL considers that this work is no longer under copyright protection.

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.