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pond has filled and its surface can be walked upon* It's flexible* It quakes* And eventually the crust is covered with Sundew and White Beak-rush and the liverwort, Cladopodiella fluitans* Matter continues to gather and the surface is elevated "un-til iT is no longer inundated. When this happens, the mat becomes populated by cushion-forming Sphagna." The Sundew-Beak-rush association are relaced by Bulrush and the Sedge, Carex exilis • resulting in the successional association of Bulrush and Sphagnum species. This in turn gives way to the Black Spruce-Reindeer Moss Cli? max' association • the association in which new ponds are created, thus completing the cycle. To return to the Sundew:it is another of several plants adapted for survival in nu? trient deficient bogs* The Sundew is an insect eater* Erskine: "Their round red leaves are covered with hairs shiny with sticky juice, and a fly that alights un? warily upon one of these leaves is caught' and the leaf folds gently about him* A day later the leaf unfolds and the skeleton of the fly lies exposed, the rest of him having been digested away*" The victim is rich in nitrogen and other minerals* Perhaps the most well-known insect eater is the Pitcher Plant (Sarracenia purpurea). Its funnel-shaped leaves collect water and "insects venturing into the leaves find themselves struggling against stiff hairs which urge them downward into the water where thev are slowly digested. In the bog pools float the bladderworts with spikes of butter-yellow flowers like small snapdragons and with leaves like long bottle- brushes set with tiny box-traps to catch small water animals." Bog Erosion and Regeneration While bogs are growing through peat accumulation, the work of wind and water is e- roding the surface, and because of their slopes the raised bogs are quite suscep? tible to the formation of gullies. These gullies will continue to erode until first Bulrushes and then an association of Black Spruce and Rhodora (Rhododendron cana? dense) takes hold* Ihis is really an extension of the surrounding forest into the bog, via the drainage gullies. These are truly stabalizing associations: in gullies Comeau located dwarf Black Spruce} one was 139 years old, the other was 144. The banks of the gullies are held, but in the shade below sphagnum cannot grow and thus close the gullies. They are worn wider and often become ponds. "They differ frora the raised surface ponds in that they have drainage* The water level (in) the ponds vary frora alraost dry to corapletely flooded conditions*" But the ponds gradually fill as the water carries in organic sediment, and again conditions favor the Yellow Pond- lily association* The filling in usually proceeds from the edges toward the center, confining the Pond-lily in a channel* Sphagntm cuspidatum aides in the filling-in* Again the peat is exposed and again Leafless bladderwort, Sundew and occasionally Beak-rush become established. "However," writes Comeau, "none of these plants ever become dominant here as they do in the raised sections of the bog*" The mucky peat is stabilized by an association of Cotton Grass (Eriophorum angustifolium). a plant that does well when partly submerged* Sphagnums aid in building the surface until the Bulrush becomes established with its own association with various Sphagnums. Up? building continues to the familiar climax association of black spruce and reindeer

moss, completing the regeneration of the surface of the bog. John Erskine: "Most of the other plants of the bog • orchids, heaths and sedges- have domesticated certain fungi which they keep in or about their roots. These fungi seem able to digest waste matter in the absence of air, and in sorae unknown way their hosts share in the profits. Some forest-living species, such as the coral-root orchids and Indian-pipe heaths, have given up leaves and have become v??'olly depen? dent upon their fungi, but the bog-inhabiting species always have leaves. Orchids are very complex and yet very ancient plants, an aristocracy decayed* Very long ago, before the first birds flew and while insects were the triumphant masters of the air, the orchids specialized in attracting insects for more certain pollination. But insects do not distribute seeds, so the orchids retained the primitive habit of scattering abroad thousands of tiny ill-provided seeds which must capture fungi to assist thera. Birds and raararaals have come, so that now conditions have changed. Today the successful plants leave pollination to chance but try to establish their child? ren with food to furnish them for their first daysf yet orchids go on, beautiful in their inefficiency, carrying forward proudly an obsolescent pattern of life." Our primary sources for the article were Paul Comeau's thesis from Acadia University --"A Study ot Five Raised Bogs on the Cape Breton Plateau;" and John Erskine?s ar? ticles on Lichen and Bog Plants from the Nova Scotia Museum publication. IN FOREST AND FIELD WITH JOHN ERSKINE. Most of the drawings of bog plants are by W. B. 'Scho' field and taken from that publication* Four sphagnum (pulchrura* papillosura.f'uscum* pylaesii) are by "a, W* Robertson, whose THE PEAIXAND FLORA OP NEWFOUNI'LAND is re- " gretablv gut of print. Our thanks to him for his assistance in gathering background material for this articJeT """ '. ' ~I~~~ '. ??; .,'- ,,..,.:,_, ~ .....: Cape Breton*s Magazine/13