

the black cliffs of the Athabasca is *Pisaspphaltum reniferum*, characteristic of the tertiaries. It flows in summer in wide sheets from the schistose flanks of the cliffs down into the river, mixing with the sands and solidifying so as to form a conglomerate sometimes softened by the sun's rays and at others hard and brittle, of which fragments detached by the waters are carried down and deposited on the shores of the Athabasca-Mackenzie system, where they could be mistaken for nodules of basalt. They acquire an astonishing degree of hardness, and it is only by accident that their true origin is eventually discovered.

The bituminous schists are replaced at intervals by a shell-bearing limestone of dolomitic tendency, sometimes milky white. From this I have extracted various fossils, including *Terebratulæ*, very small Belemnites, *Atrypa reticularis*, *Cyrtina hamiltonensis*, and *C. unbraculosa*. These limestone strata are undulating, and occur both above and below the water-level.

The shores of the Athabasca present an attractive sight. Far from injuring plant life, the presence of naphtha and the subterranean fires seem to have imparted new vigour to it, so that the lofty banks have their steep slopes covered with vigorous and varied vegetation. Besides white pine, larch, aspen, and birch (which gives its name to the Bark Mountain), the forest trees here include Virginian pine, cypress, Banks's pine, Weymouth pine, balsam-poplar, alder, and many kinds of willow.

Along its waters, discoloured by muddy matter and loaded with deposits to such an extent as to be prejudicial to fish-life, I have collected a large number of medicinal plants: *Geum strictum* and *rivale*, *Verbascum*, *Elwagnus argentea* (a very sweet-smelling shrub whose berries are a great delicacy to bears), *Lonicera parviflora*, *Cypripedium* with its large golden lips, saxifrages, *Polygala*, *Erythronium dens-canis*, and beautiful scarlet lilies, like the Martagon, which would be an ornament to any garden. The Indians are very fond of the bulbs of this latter plant, which the Tinney\* call "Télé-muié" (or Crane bread) and the Crees "Okitsanak." The catoble *Hedysarum* with blue flowers and the poisonous one with yellow (known as the Travelling Vetch) are found there also. The male fern adorns the woods with its large fronds, and others, such as *Polypodium*, *Capillary*, and *Scelopendria*, carpet the mossy rocks with their elegant plumes. But the most abundant plant all along the river is sarsaparilla. The Tinney of the Beaver tribe know this smilacine plant as a febrifuge and sudorific, and collect its roots; but they are not aware of the anti-syphilitic properties of smilacine, a tannic base contained in it, and which I have more than once pointed out to them.

It is a curious fact that I have never heard a *Cicada* in the North-west, though on two occasions (in 1876 and 1879) I satisfied myself of

\* Also variously written as Tinnèh, Tinnè, Dinnè, Dinnè, Dinè, Dinneh, Dènè, &c. (meaning "men" or "people")—the great northern or Athabaskan family of Indians.