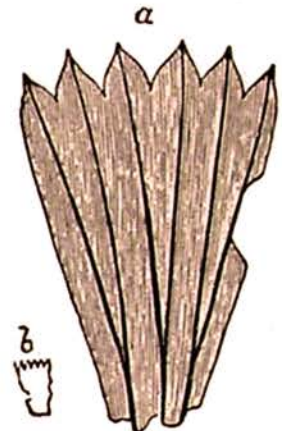


dichotomously, and covered with interrupted ridges. Leaves rudimentary, or short, rigid, and pointed; in barren stems, numerous and spirally arranged; in fertile stems and branchlets, sparsely scattered or absent; in decorticated specimens, represented by minute punctate scars. Young branches circinate; rhizomata cylindrical, covered with hairs or rammenta, and having circular areoles irregularly disposed, giving origin to slender cylindrical rootlets. Internal structure—an axis of scalariform vessels, surrounded by a cylinder of parenchymatous cells, and by an outer cylinder of elongated woody cells. Fructification consisting of naked oval spore-cases, borne usually in pairs on slender, curved pedicels, either lateral or terminal.



*nophyllum* *antiguum* (Erian, New Brunswick). See pp. 61, 67.

This species was fully described by me in the papers referred to above, from specimens obtained from the rich exposures at Gaspé Bay, and which enabled me to illustrate its parts more fully, perhaps, than those of any other species of so great antiquity. In the specimens I had obtained I was able to recognise the forms of the rhizomata, stems, branches, and rudimentary leaves, and also the internal structure of the stems and rhizomata, and to illustrate the remarkable resemblance of the forms and structures to those of the modern *Psilotum*. The fructification was, however, altogether peculiar, consisting of narrowly ovate sporangia, borne usually in pairs, on curved and apparently rigid petioles. Under the microscope these sporangia show indications of cellular structure, and appear to have been membranous in character. In some specimens dehiscence appears to have taken place by a slit in one side, and, clay having entered into the interior, both walls of the spore-case can be seen. In other instances, being flattened, they might be mis-