

RAMBLES WITH NATURE STUDENTS.

By Mrs. BRIGHTWEN, Author of "Wild Nature Won by Kindness."

PAPYRUS.

AN object of much pleasure to me in my hot-house is a fine specimen of the Egyptian papyrus reed, with stems fully eight feet high, growing with remarkable luxuriance and beauty. I never look upon its graceful flowering plumes without being reminded of a chain of interesting associations.

The infant Moses was laid amongst these so-called "bulrushes," which then grew along the margin of the Nile.

The "ark" in which the child was laid was formed of papyrus stems, and the small cradle would be readily concealed amongst "the flags by the river's brink."

This plant is now wholly extinct in Egypt, although it still grows abundantly in the marshes of the White Nile in Nubia.

A verse in Isaiah, in the revised edition (chap. xviii., 2) shows that in ancient days even boats were made of papyrus, and a modern traveller speaks of the plant being still used by the Abyssinians for the same purpose.



PAPYRUS SYRIACUS.

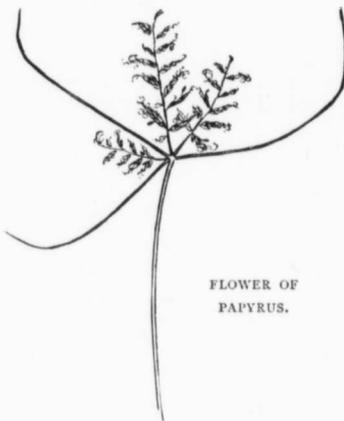
It has lately been discovered that mummy cases were sometimes constructed of old papyrus rolls, and many very ancient and valuable writings have been obtained by soaking these coffins in water until, with the exercise of great patience and care, the original strips of papyrus can be separated and then pieced together, so that the writing can be deciphered.

Many years ago I listened to an address by Mr. John MacGregor, in which he gave a vivid description of his explorations in Palestine, and mentioned his discovery of an immense extent of papyrus growing in the upper reaches of the Jordan.

The snow melting from Mount Hermon trickles down in small streams, forming marshes five miles in length and about three miles broad, closely filled with papyrus stems from eleven to fourteen feet in height.

Such a reedy swamp would have been impenetrable but for a narrow channel winding through it which enabled Mr. MacGregor to make his way with the Rob Roy canoe until he reached the open waters of Lake Merom.

After examining some fragments of ancient

FLOWER OF
PAPYRUS.

papyri, I felt sure that it would not be impossible to make paper of the same kind from my own specimen, and this was the way in which I succeeded in the manufacture.

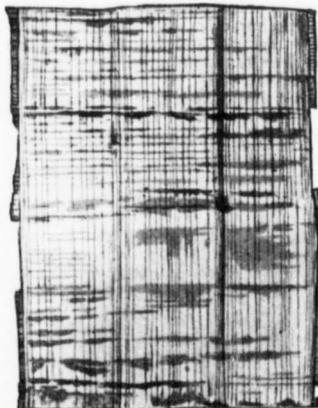
I cut a stem eight feet long into lengths of about six inches, and with a sharp knife sliced off the green rind from its three sides, and cut the remaining white pith into very thin layers.

Having a hot iron ready at hand, I quickly laid the strips of pith side by side, each a little overlapping the other, on a sheet of white paper, and when it was covered I placed another layer upon it at right angles to the first layer. With a sheet of paper to keep the iron from adhering to the pith, I pressed the two thicknesses of pith firmly together until they were closely united.

In about a quarter of an hour, by repeated ironing, I found I had made a piece of light grey material exactly resembling the ancient papyrus which was my pattern.

The sap of the plant appears to possess an adhesive quality, so that no gum is required, the action of heat being sufficient to make the strips unite into a flat even surface, suitable to be written upon with a quill and ordinary ink.

In olden times the young succulent shoots



PAPYRUS PAPER.

of this reed appear to have been used as an article of diet, and when stewed and served with a rich kind of sauce it was reckoned, by both Jews and Egyptians, as a table delicacy.

As I have already remarked, the chief interest which centres in this plant is the fact of its great antiquity. In the British Museum we may see papyrus rolls which were inscribed three thousand years ago. The key to the ancient languages has been discovered, and the learned in such matters can decipher that which was penned in the days when the Israelites were toiling in Egypt, and many deeply-interesting facts concerning Scripture history have in this way been brought to light.

GALLS.

The pretty wild rose-gall, popularly known as Robin's Fincushion, or Bedeguar Gall, (*Rhodites rose*), shows itself very conspicuously in the hedges at this season.



WILD-ROSE GALL.



OAK-LEAF GALLS.

It is like a bunch of finely divided green moss-sprays, brightly tinged with crimson, and is produced by a small four-winged fly, *Cynips rosea*.

Early in June this glossy black fly lays its eggs in young briar-shoots, the presence of these eggs interrupts the flow of the sap and woody tissue begins to form around the eggs.

If we take a gall of this kind in an early stage of growth and cut it in half, we shall find several little cells, each containing a small white grub. These larvæ continue to grow to their full size, and then remain quiescent until the following spring, when they change to chrysalides. The perfect fly emerges when the days become warm and sunny.

The oak-tree is victimised by gall-flies innumerable. They lay their eggs in its leaves, branches, flowers, and roots, no part of the tree being exempt from their attacks.

Mr. Stephens, a great authority upon insects, says that there are nearly two thousand species of insects which prey upon the oak-tree, either as gall-flies depositing their eggs in its substance, or as caterpillars feeding upon its leaves.