LIX. Description of the Nymphæa Cærulea

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Dirschaw, of very large dimensions, and having the same characters which distinguish the one found on the Ohio.

Until the discovery of this bone in America, the tradition of the Indians concerning the great buffalo has been considered as entitled to very little attention. Many interpreted it as having entire reference to the mammoth, whose pre-eminent size was obvious, and whose carnivorous teeth were well calculated to excite terror; but I have now no hesitation in believing that the tradition, which, with such little variation, prevails through all North America, mentioning the antient existence of a great buffalo, is a tradition really handed down to them from their forefathers, but, like all other traditions, clouded with fable: yet it is not improbable, since we find the remains of the mammoth and the great buffalo in the same country, that the distinct ideas of each have been in time confounded, the terrible *power* of the one with the *name* of the other.

It has been too much the custom, whenever any large bones have been found in Europe, to call them all elephants' bones; and in America, to think them all belonging to the mammoth: but from the progress now made in this inquiry there is reason to hope for additional light on this interesting subject, whether it be considered as a foundation to theological faith, or regarded as a conspicuous monument in the history of the world.

LIX. *Description of the Nymphæa Cærulea.* By JULIUS CÆSAR SAVIGNY, of the *Institute of Egypt* *.

IT is well known that the lotus of the antient Egyptians was one of the most celebrated plants of antiquity. Rising every year with the waters of a river which overflowed its banks only to fecundate the earth; springing up amidst plains formerly desert, which it embellished with its beautiful flowers; and cultivated to serve as food to the least sensual, but the most numerous class of the inhabitants; it was judged worthy of homage by one of the first people in the world, who considered it as the happy sign of abundance, and as a sacred pledge of the favour of the gods.

It is to the genus of the *nymphæa* that the modern botanists have referred the lotus, which has been described by most of the antient historians, and which is engraven on all the antique monuments of Egypt. Two species of this genus,

* From *Annales du Muséum National*, No. 5.

one with white and the other with azure flowers, still ornament, during the time of the inundation, the surface of the canals and rivers, and in general of all the fields of Lower Egypt, which are covered by the waters of the river. Plants so similar were no doubt beheld by the Egyptians with equal veneration; and though Linnæus, who was well acquainted with the former, gave it the name of *lotus*, it is to be presumed that the second procured the same advantages and served for the same mysteries. Its flowers have more splendour and a sweeter smell, and the azure colour they exhibited might become, among a people so religious, the emblem of the residence of the deity on the waters.

The *nymphæa lotus* is very well described, and a good figure is given of it, in several Systems of Botany; but the case is not the same with those the flowers of which are azure-coloured. It was scarcely observed by a few travellers, and if mentioned, it was only in a vague and incorrect manner. Forskal, who travelled through Egypt in 1761, and who gave a Flora of that country, did not observe it. His silence in this respect is the more astonishing, as the plant in question and the *nymphæa lotus* grow together and usually intermix their leaves. It is not even indicated in the last edition of the *Systema Naturæ*, published by Gmelin. This author, however, collected with great attention all the feathered species to be found in the different works which have hitherto appeared*.

It is therefore indispensably necessary that a name and specific character should be assigned to this *nymphæa*; it is also necessary that a correct description should be given of it: this, in some measure, will be enriching botany with a new plant; and this, indeed, is the object which I propose in the present memoir.

But as this species has a great resemblance to the *nymphæa lotus*, and as it is possible that they may have often been confounded, I have thought it will be of advantage to give a comparative description of both. By these means the reader will be better enabled to comprehend the characters by which they are distinguished, and which render it necessary to form of them two separate species.

The root of the *nymphæa lotus*, and that of the other species, which from the colour of its flowers I have called the azure nenuphar (*nymphæa cærulea*), consist of long, white, pulpy filaments, the upper extremities of which adhere to round tubercles. In several provinces of Egypt these tuber-

* Willdenow in his *Species Plantarum* does not speak of this *nymphæa*.
cles,

cles, and particularly those of the first species, are plucked up after the inundation: they are used as food; they have an insipid earthy taste, and form a delicate dish.

The leaves of both are large, pretty numerous, sub-orbicular, divided into two lobes from their base to the place where the petiole is inserted; that is to say, nearly to the middle of the disk. They are not so thick as those of our nenuphars in Europe: they have a darker green colour, and a shining appearance above; and below are often tinged with purple or violet. These leaves are supported by radical cylindrical petioles, slightly compressed and sometimes very long, which float on the surface of the water.

The flowers are very large, and are often more than four inches in diameter. Their pedicles, which arise from the root, are numerous and differ very little from the petioles.

The calyx of these flowers is composed of eight leaves disposed in two rows, and coloured in the inside: the more interior ones are the most coloured, and have some resemblance to the petioles.

The latter, from twelve to twenty in number, are also disposed in several series.

The stamina are of a yellow colour with large filaments, and petaliform.

The radii of the stigma vary, for the most part, in number from twelve to twenty-five. They have the same colour as the stamina, are compressed and slightly bent at the summit.

Such is the common appearance of the roots, the leaves, and the flowers. Let us now examine the differences they exhibit.

The leaves of the *nymphæa lotus* are bordered quite round with very acute indentations, firm and almost like prickles: their lobes, for the most part, are exactly parallel and sometimes even; they converge, and mutually cover each other: their inferior surface is charged with very prominent ribs, which form a very apparent reticulation: their petioles are rough.

On the other hand, those of the *nymphæa cærulea* have their edges scarcely sinuated; their lobes are more pointed, and commonly divergent. The inferior surface exhibits ribs scarcely sensible, the principal ones of which only are somewhat prominent; the rest being concave and less elevated than the disk. The petioles of these leaves are exceedingly rough.

In the *nymphæa lotus* the leaves are always more open. The folioles of the calyx are oval, lanceolated, greenish externally,

nally, without spots, but marked with seven paler ribs very distinct.

The folioles of the calyx in the *nymphæa cærulea* are much narrower, lanceolated, and almost cuneiform: the exterior side of them is of a dark green colour, constantly varied with an infinite number of points and small lines of a purplish colour, and have no apparent ribs.

The petals of the *nymphæa lotus* are oval, lanceolated, and very unequal; those of the last being much smaller than the rest: their colour is a pure milk-white, tinged with a greenish purple colour on the outside, but rarely.

In the *nymphæa cærulea* the petals are lanceolated all perfectly equal, of a bright white colour, tinged, in particular towards the summit, with the most beautiful azure, inclining slightly however, sometimes, to violet.

The stamina of the *nymphæa lotus* have antheræ very much compressed, lanceolated, without any appendix at the summit, and have scarcely the length of the filaments.

On the other hand, the antheræ of the *nymphæa cærulea* are very little compressed, lineal and longer than the filaments; their summit is terminated by a subulated blueish appendix similar to a small petal.

In the last place, the summits of the radii of the stigma are longer and subulated in the *nymphæa lotus*; shorter, oval, and lanceolated, in the *nymphæa cærulea*.

The smell exhaled from the flowers of each kind is also very different: that of the *nymphæa cærulea* is exceedingly sweet and agreeable; that of the *nymphæa lotus* is stronger, more pungent, and much less agreeable.

In regard to the fruit, I did not find in them any very remarkable difference: in both species it consists of a dry round berry, which is long, covered by the bases of the folioles of the calyx and those of the petals; truncated and radiated at the summit, which is always stained by the decomposition of the stamina and interior petals: it is divided into several cells, each of which corresponds to a radius of the stigma, and contains a quantity of round seeds of a rose colour.

The Arabs have very well distinguished these plants, and given to each a particular name: the former they call *neou-far*, and the latter *bachenin*.

By selecting from the description here given the most prominent differences, both species may be characterized as follows:

NYMPHÆA LOTUS,

N. foliis dentatis, antheris apice simplicibus.

NYMPHÆA CÆRULEA,

N. foliis repandis, antheris apice subulato-petaloidæis.

Explanation of the Plate. (VII.)

1. A petal.
2. A flamen of the interior series.
3. A flamen of the exterior series.
4. The ovarium and stigma.
5. The seeds.
6. A section of the pedicle.

LX. On Mr. GREATHEAD'S Life-Boat*.

SIR,

A CONSIDERABLE time has elapsed since I had the honour to lay before the Society a model of the life-boat of my invention.

I have now enclosed a particular account of its construction in a letter from Mr. Hinderwell, explaining upon what principle it is built, so as to render it superior to any other form of a boat for the dangerous enterprises for which it was intended, and has been used.

I am, Sir, your humble servant,
HENRY GREATHEAD.

South Shields,

Jan. 1, 1822.

To Mr. Charles Taylor.

SIR,

IT is much to be lamented, that in an age enlightened by science, such a languid indifference should prevail on many important public occasions; and that the most excellent inventions should have to combat the force of inveterate prejudice.

How many valuable discoveries have languished in obscurity! How many useful projects have perished in embryo, deprived of the fostering aid of the public, and the patronage of influence and authority! In the class of useful improvements for the diminution of the dangers incident to a maritime profession, the life-boat, invented by Mr. Greathead, of Shields, has a claim to a distinguished patronage. An experimental conviction of its great utility in saving the lives of shipwrecked seamen, and of its perfect safety in the most agitated sea, has induced me to advocate the cause with a

* From the *Transactions of the Society for the Encouragement of Arts, &c. for 1802*.—The Society's gold medal and fifty guineas were voted to Mr. Greathead for this invention.

zeal