

On a new Genus in the Order Mucedines.
By FREDERICK CURREY, M.A., F.R.S., Sec. L.S.

PLATE VII.

[Read June 20, 1872.]

THE plant here described was brought to my notice by Dr. R. O. Cunningham, F.L.S., who had received an account of it from Dr. D. D. Cunningham, of Calcutta, where the fungus is found in the rainy season covering the flowers of *Hibiscus rosæ sinensis*. I have since corresponded with Dr. D. D. Cunningham upon the subject, and received from him further information, accompanied by some admirable drawings; and I am thus enabled to lay before the Society the following account of the fungus in question.

The mycelium traverses the tissue of the fading corolla of the *Hibiscus*, and is only scantily jointed. The fertile threads are erect, unbranched, and continuous. These threads are swollen at the apex; and from the swollen apex proceed numerous shortly stalked pyriform cells, which ultimately form the funnels hereafter to be noticed. The spores originate from the above-mentioned cells in the manner shown in fig. 6 (Pl. VII.), which represents a cell very highly magnified, with the young spores attached. At this stage of growth there is no differentiation of one part of the cell from the other; but shortly afterwards a line appears cutting off the upper portion of the cell, to which the spores are attached, as shown in fig. 5. This upper portion ultimately collapses and sinks down, or falls inwards, as it were, carrying with it the ripe spores. The subsequent fate of this collapsing membrane is not very clear; but it seems probable that it decays, and thus sets free the ripe spores. The result, however, is that the spores eventually become detached, and the cells, which were originally pyriform, assume the shape of stalked funnels still attached to the capitate portion of the fertile thread. This condition of the fungus is shown in fig. 3, where the spores have almost disappeared, a few detached ones being still visible in some of the funnels, and one of the latter being still quite full of spores. It happens occasionally that the margins of the funnels, instead of being entire and sharply defined, exhibit irregular torn fragments of membrane, being obviously the remains of the collapsed upper portion. On one occasion Dr. Cunningham observed a funnel from which the spores had escaped, leaving a bladder-like protrusion, which had shrunk away from the funnel, but had not become detached. From the appearance

presented in this instance, and which is shown in fig. 8, it would seem that the bladder-like protrusion must be the inner membrane of the capitate cell, from which the upper portion of the outer membrane has become detached by a sort of circumscissile dehiscence. The ripe spores of the fungus are obovate and of a deep madder-brown colour.

With regard to the classification of this interesting plant, it is not easy to find a fitting place for it. It belongs, of course, to the order *Mucedines*; but there is not in that order, as far as I know, any genus to which it is at all nearly related. The peculiar character is the differentiation of the upper and lower portions of the sporiferous cells and the formation of the funnels by the collapse of the upper portion. I propose for its reception a new genus, to be called *Cunninghamia*, which may be thus characterized:—

CUNNINGHAMIA, novum genus.

Mycelium repens, sparsim septatum: *flocci fertiles* simplices, erecti, ad apices clavato-incrassati, sporophoris ornati: *sporophoræ* primum pyriformes, dein, parte superiore subsidente, infundibuliformes: *sporæ* juniores hyalinæ, maturæ rubro-fusæ, capitulis densis stipatæ, dein in infundibulis acervatim cumulatæ.

Unica species:—

CUNNINGHAMIA INFUNDIBULIFERA, Curr.

Hab. Ad petala marcescentia *Hibisci rosæ sinensis*, in horto botanico apud Calcuttam tempore pluvio.

EXPLANATION OF THE PLATE.

- Fig. 1. A spore germinating, and a portion of the mycelium from the tissues of the corolla of *Hibiscus rosæ sinensis*, magnified 330 times.
- Fig. 2. A fertile thread, viewed by reflected light, magnified 65 times.
- Fig. 3. A fertile thread past maturity, most of the spores having fallen and the sporophores having collapsed and assumed the shape of funnels, magnified 103 times.
- Fig. 4. Three funnels, with a small portion of the clavate apex of the fertile thread. The fragments of membrane adherent to the edges of the funnels appear to be the remains of the upper, collapsed portion of the sporophores.
- Fig. 5. An immature sporophore, with young spores, showing the line of demarcation at which the sporophore eventually collapses, magnified 330 times.
- Fig. 6. A similar sporophore before the formation of the line of demarcation, with five young spores attached, magnified 700 times.
- Fig. 7. A ripe spore, magnified 330 times.
- Fig. 8. A sporophore past maturity, exhibiting a bladder-like protrusion, being apparently the inner membrane of that portion of the sporophore which was above the line of demarcation.
-

