

On *Habenari-orchis viridi-maculata*, Rolfe,
hyb. nat.

BY

R. A. ROLFE, A.L.S.

Assistant, Herbarium, Royal Gardens, Kew.

—♦—

With Plate XVIII.

—♦—

THE subject of the present note is an extremely interesting plant which was sent to Kew for determination by Cecil H. Spencer Perceval, Esq., Longwitton Hall, Morpeth, in July 1891. It was found in a field at Longwitton, Northumberland, on the west side of Trench New Plantation (or Spencer's Plantation) in July 1891, together with *Orchis incarnata*, *O. maculata*, *Habenaria viridis*, *H. chlorantha*, *H. bifolia*, and *Listera ovata*. That it was none of these species, nor indeed any other British one, was at once apparent, and on careful examination it was seen to be so precisely intermediate between *Habenaria viridis* and *Orchis maculata*, or, more correctly speaking, perhaps, to present such an unmistakable combination of the characters of these two species, as to leave no doubt that it was a natural hybrid between them. How far this is the case may be seen in the annexed careful drawing by Miss Smith (Plate XVIII). Fig. 1 shows the hybrid, and Figs. 2 and 3 its supposed parents. In general shape, the flower of the hybrid bears a considerable resemblance to that of *Orchis maculata*, especially in the spreading sepals, and the shape of the lip, yet the latter organ has the narrower more acute side lobes, much exceeding the small median lobe, which strongly indicates the influence of the other parent. And as regards colour, the same influence was unmistakable. Instead of the pale lilac or nearly white shade of the *Orchis*, there was a strong suffusion of pale green

which masked, but did not altogether obliterate, the former colour. The spur is remarkably modified, both in shape and size, having neither the long slender and tapering form of the *Orchis*, nor the very short saccate form of the *Habenaria*, but a linear-oblong, very slightly clavate body barely over a line in length. With regard to the anther, the only really essential difference between the two genera, the balance of characters is rather in favour of the *Habenaria* parent. The two cells are quite parallel, and the glands are exposed, i.e. not enclosed within a pair of pouches, as in *Orchis*, nor do the two cells slightly diverge upwards, as in *Orchis maculata*. There is, however, either a slight abnormality in the development of the tissue at this point, which causes the glands to be more than usually exposed, as shown in the drawing, or else a shrinking of tissue has taken place before the drawing was made. This point was not carefully observed until afterwards, when the specimen was not absolutely fresh. The pollinia, however, are normally developed, as shown in the drawing.

The occurrence of this hybrid is very interesting, as natural hybrids appear to be very rare in Britain, though *Orchis latifolio-maculata* has been recorded from Hampshire (Townsend, Fl. of Hampsh., p. 341) and from Plymouth (Rolfe in Gard. Chron., 1889, pt. II, p. 10). Nor have I succeeded in finding any record of the occurrence of this particular hybrid on the continent of Europe. The one to which it is most closely analogous has been called *Platanthera Erdingeri*, Kerner (Verh. zool.-bot. Ges. Wien, XV, p. 229, t. 4, figs. 4-9), a natural hybrid between *Habenaria viridis* and *Orchis sambucina*, found on the Plateau des Klauswaldes, in Austria.

As the present plant is a hybrid between species of two distinct genera, it may be of interest to call attention to other instances of generic hybrids among Orchids. At least four such cases are known in a wild state; namely, hybrids between *Aceras* and *Orchis*, *Serapias* and *Orchis*, *Lælia* and *Cattleya*, and between *Cattleya* and *Epidendrum*. The first is a natural hybrid between *Aceras anthropophora* and *Orchis militaris*, found in the forest of Fontainebleau. Of the second,

several instances have been recorded, namely, between *Orchis laxiflora* and three different species of *Serapias*, *S. Lingua*, *S. cordigera*, and *S. longipetala*; also the last named with *Orchis Morio* and *O. militaris*; and *O. Morio* with *Serapias Lingua*. Between *Lælia* and *Cattleya* three well-marked cases are known; namely, *Lælia purpurata*, with both *Cattleya guttata* and *C. intermedia*, from the province of Santa Catharina, S. Brazil; and the last named with *Lælia boothiana*, from a region somewhat further north. The last of the series is a natural hybrid between *Cattleya Skinneri* and *Epidendrum aurantiacum*, found together with its parents in Guatemala. Between *Habenaria* and *Orchis* three other examples have been recorded, besides the two already mentioned, namely, *Habenaria Conopsea*, with both *Orchis latifolia* and *O. pyramidalis*, and *H. odoratissima* with *O. maculata*.

Under cultivation several other generic hybrids have been raised; namely *Sophronitis* with *Cattleya*, *Phaius* with *Calanthe*, *Zygopetalum* with *Colax*, and *Hæmaria* with *Dossinia*, *Macodes*, and *Anæctochilus*, while between *Lælia* and *Cattleya*, mentioned above, several other combinations have been effected.

Some of the natural hybrids recorded in books are, to say the least, doubtful, but there are many instances of which no reasonable doubt can exist, and as four disputed cases have been actually confirmed by direct experiment under cultivation, we must at least allow that some of the recorded instances are genuine, and that by careful examination it is possible to trace their origin.

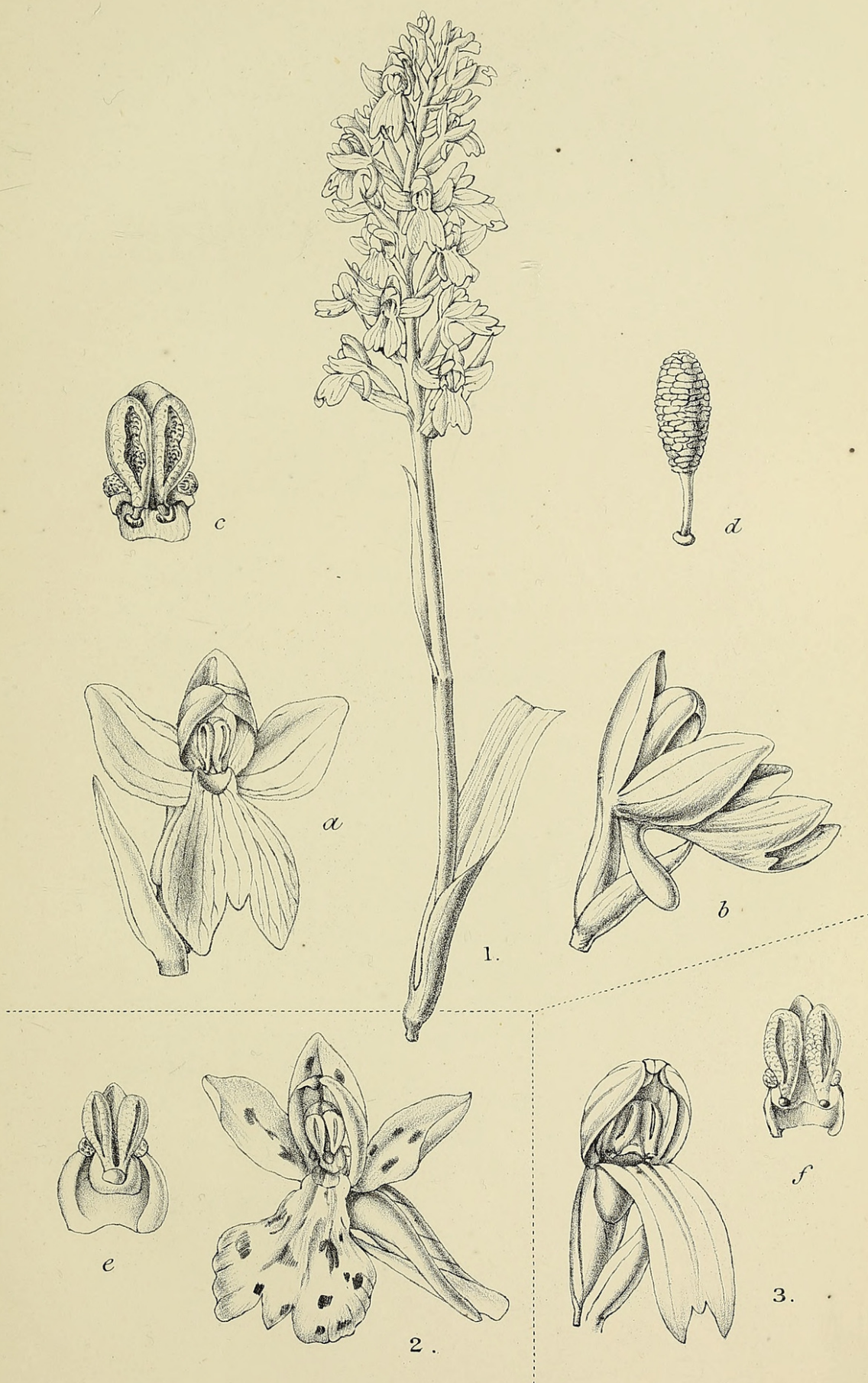
EXPLANATION OF FIGURES IN PLATE XVIII.

Illustrating Mr. Rolfe's paper on *Habenari-orchis viridi-maculata*.

Fig. 1. *Habenari-orchis viridi-maculata*, nat. size, *a*, flower seen from front; *b*, ditto seen from side; *c*, column showing the anther-cells with protruded glands; *d*, pollinium.

Fig. 2. Flower of *Orchis maculata*. *e*, column of same.

Fig. 3. Flower of *Habenaria viridis*. *f*, column of same.



M. Smith del.

University Press, Oxford.

ROLFE.-ON HABENARI-ORCHIS VIRIDI-MACULATA.



Rolfe, Robert Allen. 1892. "On Habenari-orchis viridi-maculata, Rolfe, hyb. nat." *Annals of botany* 6, 325–327.

<https://doi.org/10.1093/oxfordjournals.aob.a090682>.

View This Item Online: <https://www.biodiversitylibrary.org/item/234968>

DOI: <https://doi.org/10.1093/oxfordjournals.aob.a090682>

Permalink: <https://www.biodiversitylibrary.org/partpdf/317715>

Holding Institution

Smithsonian Libraries and Archives

Sponsored by

Biodiversity Heritage Library

Copyright & Reuse

Copyright Status: Not in copyright. The BHL knows of no copyright restrictions on this item.

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.