

you could read me flower <sup>& bud</sup> dried without  
crushing them - At any rate I should be  
sorry to put the plant into *Orchis* from  
which it differs so widely in other respects  
whilst it resembles so closely the *H. obtusata*  
with which you have associated it in your  
Manual - Differing chiefly in the colour  
of the flower and as regards the anther  
cells much as *H. bipolia* differs from  
*H. chlorantha* - both of them are  
nearly allied to the *H. spatulata* from  
the Himalayas which Reichenbach for  
reasons similar to yours (I suppose) puts into *Orchis*

I think that *Donatea* with its enormous  
helmet shaped nectaries must be retained but  
for 2 Cape species only *D. speciosa* & *D. foliosa*.  
The stigmatic processes are of no use generically  
they differ so very much in species otherwise  
very closely allied and though evanescant perhaps  
in each species pass so gradually from one  
to another that I for one can make no  
use of them for generic distinctions

Yours very sincerely  
George Bentham

25, WILTON PLACE.

London S.W.

June 19/60

My dear Gray

Very glad to hear of your  
having taken the decided step of engaging  
a berth for England in September I hope  
I may retain till then my present health  
I doubt however if I shall even then  
have got over my *Orchideous* trouble,  
I now write to ask upon what ground you  
put *Habenaria rotundifolia* into *Orchis*  
It is very difficult to ascertain from dried  
specimens the precise form of the top of the  
column in the smaller flowered *Orchideae*  
but on a careful examination of a bud and  
of an open flower of *H. rotundifolia* I can  
find no trace of the deep prominently raised  
pouch into which the 2 caudic glands  
of *Orchis* are immersed nor is it represented  
in both Hooker's original analysis very



imperfectly copied in the Flora Boreali-Americana. I have been for two or three weeks working at Habenaaria and tried much to separate the principal genera which have been proposed but finding the characters upon which they have been established to vary so much from species to species that I have been obliged to revert to the views of your manual and reuniting the whole into one genus of which we have in the New Herbarium about 340 species including *Gymnadenia*, *Myriophylla*, *Menisadenia*, *Neotinea*, *Reichb.*, *Leucorchis*, *E. & Kelly* or *Reichb.*, *Psittacanthus*, *Perularia*, *Leicht.*, *Deroceras*, *Reichb.*, *Perityle*, *B. & C.* or *Psittacanthia*, *Reichb.*, *Coeloglossum*, *Habenaria*, *Coeloglossum*, *Leicht.* (different from *Habenaria*), *Orchobroma*, *Leicht.*, *Centrochelus*, *Schum.*, *Platanthera*, *Reichb.*, *Leicht.* and *Dioschymum*, *Schum.*

In all *Ophrys* I take the caudicle to be a true caudicle, a portion of the protheca, but the gland to which it attaches itself is I think as in other *Orchideae* the produce of the back of the upper surface of the rostellum. In all

*Ophrys* the anther cells are closely adnate to the clinandrium the real connective being so closely consolidated with the clinandrium as not to be distinguishable from it. In *Habenaria* the apex of the anther cell (inferior in consequence of the reversed position of the anther) is sometimes <sup>about</sup> very short and adnate to the end of the rostellum, very short or scarcely prominent in others the apices are much prolonged and though when open often quite free yet I believe they are always in the early bud closely applied to or almost adnate to corresponding <sup>lobes</sup> lobes of the rostellum. These lobes of the rostellum are often channelled sometimes almost closed over the apex of the anther cell and occasionally slightly turned up at the end but never as far as I can see forming the distinct single pouch of *Orchis* & *Scapula* or the two pouches of *Ophrys*. This slight turn up has been the occasion of the dispute whether *Epipactis*, *Scapula*, *Hemipilia*, *Glossa*, and other single species of *Habenaria* have or have not the pouches of *Ophrys*. What I want to know from you is whether you have examined *H. rotundifolia* in a fresh state and whether



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