

Journal
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HARDY ORCHID SOCIETY



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The Hardy Orchid Society

Our aim is to promote interest in the study of Native European Orchids and those from similar temperate climates throughout the world. We cover such varied aspects as field study, cultivation and propagation, photography, taxonomy and systematics, and practical conservation. We welcome articles relating to any of these subjects, which will be considered for publication by the editorial committee. Please send your submissions to the Editor, and please structure your text according to the "Advice to Authors" (see website www.hardyorchidsociety.org.uk, January 2004 Journal, Members' Handbook or contact the Editor). Views expressed in journal articles are those of their author(s) and may not reflect those of HOS.

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Front Cover Photograph

Ophrys apifera var. *botteronii*, Somerset, 2nd July 2009, see article on page XX
Photo by Simon Mackie

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Editorial Note

Chairman's Note
Celia Wright

Enclosed with this copy of the Journal, you will find booking forms for the autumn HOS meetings at Leeds and Capel Manor. The programmes are on the back of each form. I hope to meet many of you on one or both days. There are also a few places left on the seed sowing workshop on Sunday 7th August. Contact Alan Leck as soon as possible if you are interested in attending this event, described by those who attended last year as inspirational and full of practical help.

Iain and I recently spent an enjoyable day helping with the relocation of some White Helleborine plants, something HOS had been asked to do by the landowner who will be driving a new access road through the site later this year. Bill organized this in his role as Conservation Officer, but needed to alter the date for the work at short notice as locals had started to remove plants, sadly in a way that means they are certain to die. I'm writing about this to encourage other HOS members to contact Bill and offer their services for this type of activity. We drove a long way to help as Bill had insufficient more local members to call upon. If he could expand his list of possible helpers to give better geographical cover, there would be less travelling and more members could have fun doing it. Please get in touch with Bill (contact details inside the front cover) if you are interested, giving him your name, membership number, telephone number and (where you have one) your email address.

At our most recent committee meeting, we discussed how HOS could be more proactive about conservation of orchids and their habitats, especially on a more regional/local basis, giving both advice and practical help. A number of suggestions were made and these will be taken forward. I will write again about this in the October Journal. Meanwhile, anyone who might like to be involved in local conservation for HOS should let Bill know.

HOS Photography Competition 2010

The following two pages display some of the second place winners in the 2010 HOS Photography Competition. Numbers indicate the Class entered and the species plus photographer are as follows:

- 7:-** Mike Gasson - *Dactylorhiza praetermissa*
- 16:-** David Hughes - *Platanthera bifolia*
- 4:-** Alan Blackman - *Dactylorhiza maculata*
- 6:-** Alan Blackman - *Dactylorhiza praetermissa*
- 17:-** David Pearce - *Ophrys umbilicata* subsp. *attica*
- 8:-** Christine Hughes - *Orchis simia*
- 14:** Sean Cole - *Dactylorhiza fuchsii* & *D. praetermissa*
- 5:-** Tony Hughes - *Anacamptis longicornu*



17



8



14



5



***Ophrys apifera* var. *botteronii* in Britain**

Simon Mackie, Richard Mielcarek & Les Lewis

Most of the variants of *Ophrys apifera* (Bee Orchid) that occur in Britain are recognised by differences in the colour and/or shape of the labellum. In one, the variant is characterised by the presence of large sepaloid petals and the labellum is the same as in normal *O. apifera*. In Britain, and until recently elsewhere, this variant has generally been called var. *friburgensis* - see, for example, Ettliger (1998), page 197 and Harrap (2005), page 403. It is rare in Britain although in recent years it has occurred at three different sites, at least, in southern England. In our experience the shape and patterning of the labellum is normally consistent at these three sites.

On 26th June 2008, at a site on the Mendips, Somerset that contained a number of normal var. *friburgensis*, one of us (SM) found a plant with sepaloid petals but with a strange elongated, 5-lobed, labellum that had not been seen before in var. *friburgensis*. Initially, it was thought possibly to be a cross with var. *trollii*. Another of us (RM) visited the site two days later but could not find any sign of the plant. However, in another part of the site a plant with two flowers bearing sepaloid petals was found. Each of these had a curious concave curved, 5-lobed, labellum covered with unusual, and different, patterning (Fig 1).

In 2009 we visited the site independently. Although neither of us could find any sign of the previous year's plants (at this site plants rarely flower two years in succession) a new plant was found that again had an elongated, 5-lobed, labellum, similar to the initial 2008 plant, and with odd patterning; Fig 2 shows a comparison of the two



Fig 1 *Ophrys apifera* var. *botteronii*, Somerset - the plant with a concave labellum, 28th June 2008

Photos by Richard Mielcarek



Fig 2 *Ophrys apifera* var. *botteronii*, Somerset – note the elongated, 5-lobed labellum, 26th June 2008 (left), 2nd July 2009 (right)

Photos by Simon Mackie

plants. At that time it was unclear as to the identity of any of these plants and they were all dismissed as some sort of aberrant var. *friburgensis*. No plants were found in 2010 in what was a poor year locally for *O. apifera*.

After looking at photographs on various European orchid websites, Simon Mackie raised the question as to why these plants were not var. *botteronii*? They seemed to match photographs labelled as that variant, including those in Delforge (2006). However, there appears to be no previous report of this variant growing in Britain and the descriptions, as well as the names, of this variant in various books were inconsistent. To resolve the problem of the correct description of var. *botteronii* reference was made to the original literature. It was first described as a new species *Ophrys botteroni* (note spelling) by Chodat (1887, 1889). The perianth and lip are described (in English translation) as follows:

“Perianth in six parts, the three exterior [=sepals] acuminate, pink with a green medial vein: the two interior [=petals] being a third smaller than the exterior ones, with a green medial vein, like the exterior ones, perfectly smooth and petaloid, of the same consistency as the exterior ones and the same colour. Labellum velvety, tawny brown, marked towards the centre with a glabrous escutcheon-shaped patch together with irregular yellowish lines and points; enlarged towards the tip and sub-five-lobed; either almost flat and non-convex or folded underneath; without a terminal appendix, but with short lobe in its place.”

O. botteroni Chodat was subsequently renamed by Brand (1905) as *O. apifera* var. *botteroni*. The variant was also later re-described under the synonym *O. apifera* subsp. *jurana* var. *botteroni* Rupert in Zimmerman (1911) which includes drawings (reproduced below in Figs 3 and 4) comparing three forms of var. *botteroni* with both normal *O. apifera* (two drawings “a”) and var. *friburgensis* (drawing “b”). Drawing “c” shows the form of var. *botteroni* with the sides of the lip reflexed making it look narrow (similar to the lips shown in Figs 2 and cover), while drawings “f” and “g” show forms with flatter lips (similar to the lips shown in Fig 1). Drawings “d” and “e” also show the five-lobed *botteroni* lip shape which is apparent in each of the lips shown in Figs 1 and 2 as well as on the cover. A larger drawing in Zimmerman (Fig 4) shows a typical *botteroni* lip pattern, similar to that in Fig 1. It is therefore apparent that each of the orchids illustrated in Figs 1 and 2 and on the cover are *Ophrys apifera* var. *botteroni* as described by Chodat (1889) and Brand (1905), and illustrated by Zimmerman (1911).

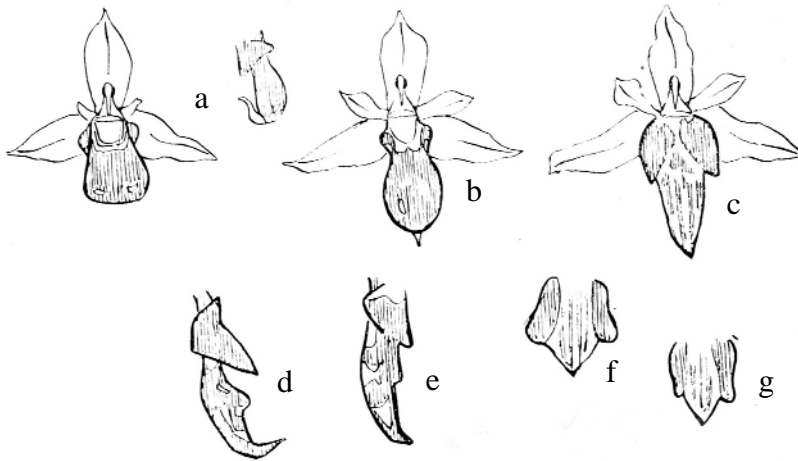
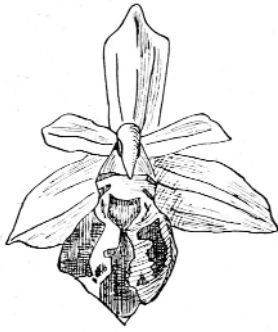


Plate of drawings reproduced from Zimmerman (1911) showing normal *O. apifera* (a), *var. friburgensis* (b) and *var. botteroni* (c-e)

The name was later corrected under the International Code of Botanical Nomenclature to *O. apifera* var. *botteronii*, the name which was then used most frequently in the literature for this variant, at least until quite recently. However, certain references in recent literature raise doubt as to whether var. *botteronii* is now still considered the correct nomenclature for this variant. Thus, while in his “*Feldführer Deutsche Orchideen*” (2002), Kreutz used the name *O. apifera* var. *botteronii* as distinct from var. *friburgensis*, two years later in his “*Catalogue of European Orchids*” (2004), he listed var. *botteronii* as a synonym of var. *friburgensis* and presented var. *jurana* as a separate taxon.



Drawings reproduced from Zimmerman (1911) showing typical *botteroni* lip pattern

In contrast, Delforge (2006) treats *O. apifera* with sepaloid petals as belonging to subsp. *jurana* and recognises two variants, var. *botteronii* and var. *friburgensis* (although Kreutz (2004) states that subsp. *jurana* is an illegal name). As further variation on this theme, Foley & Clarke (2005) list both *O. apifera* subsp. *jurana* and *O. botteroni* as synonyms for var. *friburgensis*. Some other authorities recognise a third variant called *saraepontana* but this does not appear to be generally accepted as a separate taxon: for example, Delforge (2006) treats this as a synonym of *botteronii* while Kreutz (2004) lists it as a synonym for var. *jurana*.

The reason that *botteronii* and *friburgensis* are now considered to be synonyms is explained by Baumann in “*Die Orchideen Deutschlands*” (2005). He reports that the plant first described as var. *friburgensis* by Freyhold (1879) was in fact the variant with the abnormal lip like that later described by Chodat as *O. botteroni*. That is, it was not the form with the normal lip as previously assumed. Baumann therefore uses var. *friburgensis* (syn. var. *botteronii*) for the form with the abnormal lip and *O. apifera* var. *jurana* for the form with the normal lip. This explanation strongly suggests that the nomenclature used by Baumann is strictly correct. However, the epithet *friburgensis* has been widely used for at least a century to denote the form with a normal lip. So to use it now to denote instead the form with an abnormal lip (syn. *botteronii*) is potentially confusing. Accordingly, the unambiguous synonym *Ophrys apifera* var. *botteronii* has been retained for the purposes of the present article.

When a plant with sepaloid petals was first recorded in Britain, in Wiltshire in 1984, it was named as the first British record of subspecies *jurana* (Laurence, 1986) but is listed as forma *botteronii* (syn. subsp. *jurana*) by Sell & Murrell (1996 page 362) and is illustrated in Lang (2004) as var. *friburgensis*. This illustration shows a plant with sepaloid petals but an unusual lip pattern; however the lip appears to be of normal shape and the plant therefore does not appear to be var. *botteronii*. Accordingly, in the apparent absence of any earlier references, or illustrations, it would appear the Somerset plants found in 2008 and 2009 are the first records of *Ophrys apifera* var. *botteronii* in Britain.

Acknowledgement

We would like to thank Prof. Clive Stace for advising that the correct name is *Ophrys apifera* var. *botteronii* (not var. *botteroni*).

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My New Zealand Trip in 2010

Graham Giles

After much deliberation about going to Australia I decided to visit New Zealand instead, and made contact with the convenor of their native orchid group, David McConachie, to ask about potential sites. This led to an invitation to join a week



Pterostylis irwinii
Photo by Graham Giles

long field trip to the Southern Alps which was taking place the first week of January. Here at height the orchids would be later than in the North. I couldn't believe how well this would turn out. I met a very nice group of about 20 fellow enthusiasts and we all stayed at the Outdoor Education Centre in Arthur's Pass, a small village with 54 residents at 2,500 ft. on the main road between the East and West coasts of South Island. In the course of daily trips to about 16 sites we saw most of the 40 different species for the area, plus 7 more not recorded there before. The total list is over 160 for the country. All of these, except *Spiranthes*, were in families entirely new to me and very different to what we are used to in Europe or the Americas. As one might expect there is much controversy over species and recently much renaming has taken place.

One of the major families is called *Pterostylis* (Greenhood orchids) and there are at least 33 of these, depending how you count. Australia has several, but few in common with NZ. As with ophrys there is much debate, and many hybrids to discuss. One of the best we found was *Pterostylis irwinii* and that made the newspaper. The climate of South Island is wetter and colder than the North where the season would be well advanced and I could not expect to find many others. I really wanted to see the *Spiranthes* which was similar to those I know. In this I was extremely fortunate to see *S. novae-zeelandiae* which is really a form of *S. sinensis*, a widespread orchid



Sun orchid. (*Thelymitra* sp.)
Photo by Graham Giles

found in Japan and the Far East. The main difference was its pink colour. In New Zealand it is quite rare but my guide in Taupo, Robbie Graham, showed it to me and also gave up a day of his time to take me to the Iwitahi orchid reserve in that area. This has recorded over 30 species and is the only place specifically managed for orchids. Luckily several plants were still in flower there, including a *Thelymitra* known as Sun orchid. This group usually flowers only when the sun is out. It is a large family with many colors ranging through white, pink, and red, to spectacular blues, and purples. Pictures of these plants are usually much bigger than the flowers themselves as they are really only the size of our helleborines.



Spiranthes novae-zeelandiae
Photo by Graham Giles

Further North in Auckland the formidable Allan Ducker and I found a flowering Horned orchid – *Orthoceras novae-zeelandiae* and he also showed me four more of the eight epiphytic orchids which are found on the islands. One of these was the tiny *Ichthyostomum pygmaeum* – Piripiri or Pygmy Tree Orchid, whose flowers are only 2.5 mm across.



Orthoceras novae-zeelandiae
Photo by Graham Giles

For the rest of my three week motoring trip I hunted dragonflies, explored the volcanic areas around Rotorua, visited a yellow-eyed penguin colony, glowworm caves, the Moeraki beach with its magnificent boulders, and botanic gardens in Christchurch, Wellington and Auckland. I failed to see nocturnal kiwi in the wild so had to be content with kiwi in zoo-like enclosures indoors in the dark. Here my infra-red camera came in handy just for once !

Special thanks are due to Gordon Sylvester who organized the meeting and field trips for



Ichthyostomum pygmaeum
Photo by Graham Giles

the first week. I still cannot believe my luck in being welcomed by such a friendly group of people who taught me so much about totally new orchids, and other plants. Thanks to Melanie Brigden who welcomed me at the airport, and was generous with her hospitality, and to Coleen Ducker for feeding and bedding me in Auckland. These ladies were just great. Yes, it was all worth the 24 hours flying time and Air New Zealand's return fare of £1,177 (via Hongkong).

If anyone else thinks of going for orchids the timing must be considered carefully as the season has a wide range depending on which island you visit, and at what height you are looking. Generally a trip before Christmas would be best.

The New Zealand Native Orchid Group has a really excellent website:-
<http://www.nativeorchids.co.nz> and there are more pictures of mine to be seen at:-
<http://www.flickr.com/photos/ggstable/>.

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Neottianthe cucullata in Poland

Mike Parsons

Neottianthe cucullata is a species so distinctive that it has a genus all to itself and is definitely no relative of either *Neottia* or *Neotinea*. It is a late flowering orchid of temperate woodland and grows as far east as Japan. The bad news is that the nearest site to Britain is in the north east of Poland. It is variously known as the Pink Frog Orchid, the Hooded Orchid and the Hooded *Neottianthe*. A slight plant with a lax, one-sided head, it can look a little like a *Gymnadenia* from a distance. Flower colour can be red, pink or lilac and, unsurprisingly, a white var *albiflora* has been recorded. Since it flowers in July and August, it cannot be seen with the spring flowering orchids and a dedicated trip is needed.

Although it had been on my “to see” list for many years, I did not feel I could justify a visit to Poland simply to see one orchid. The solution was to combine a late orchid trip with a general sightseeing visit. I had already been to Warsaw and Poznan before, and my wife, Carol had been to Krakow. We therefore looked for a fresh area that would be worth visiting. We chose Wroclaw in the south partly because Ryanair flew there at a reasonable price, but mainly because the city (formerly Breslau) has significant historical interest. The down side was that Wroclaw was at the opposite end of the country from the orchid area we planned to visit. This failed to deter us but I suggest that anyone going to see *Neottianthe* should fly to Warsaw,

which is much more convenient. Wroclaw proved to be a wonderful place to visit, but did not combine well with the north east. However, we made the best of things by finding plenty of interest en route.



Augustow canal (top) and
Neottianthe cucullata habitat
Photos by Jess Stone

Arriving in the north east we headed for the town of Augustow. *Neottianthe* has been well documented in this area for many years and I have had notes about this site dating from the 1980s. Curiously, it seems to be known only at this one, very vulnerable site and, although it seems to flourish here by the banks of the Augustow canal, there is no mention of it growing successfully elsewhere in Poland. I do know that it grows at a few sites nearby in single figures. The only other places that I have seen it recently recorded are in Estonia, Belarus and Russia. The plant was in fact first recorded in Siberia



and in China the tubers are harvested for use in herbal medicine. All of the photos I have seen of this orchid, in numerous wildlife books, have all been near Augustow.

We had booked accommodation on line with the Delfin Hotel in Augustow, which was recommended to us, for three nights. This proved to be a good choice since the hotel was great value with excellent food. The following two nights we stayed at a farm house also recommended. The main reason for staying here was to enjoy a peaceful area where storks nested on the roof and European Cranes and other unusual birds regularly made appearances

Our trips to look for the orchids were quite pleasant, especially as we enjoyed warm sunny weather with good conditions for photography. After parking our car by a bridge over the canal it was not long before we found about twenty *N cucculata* beside the path. In fact along both sides of the canal we found several pockets of the orchid, never too far away from the paths, with the best ones in the glades leading to the forest. It was a nice experience to see this wonderful, rare orchid in its natural habitat and finding that it was doing quite well considering that you only had to move a few yards away before the plants disappeared.

Here too we found in abundance *Goodyera repens* scattered around the forest floor and it was an enjoyable challenge to try and fit both plants in the same photographic frame. The two species often grow together. We also found numerous *Epipactis atrorubens* in the same area although they avoided the deeper shade. I was surprised to see this species flowering so well in early August. Another orchid we found occasionally in the open glades was *Epipactis distans* and here we even recorded hybrids with *Epipactis atrorubens* and *Epipactis helleborine*. The latter species occasionally made an appearance but seemed quite rare in the area. We believe we even saw the hybrid of *Epipactis atrorubens* with *Epipactis helleborine*. Other orchids in the area were *Cephalanthera rubra* and *Platanthera bifolia* but they had gone to seed and were not very noticeable at this time of the year.



The only other orchid we saw was *Neottia nidus-avis* in an entirely different area by the

Whole plant and flower close ups of *Neottianthe cucculata* (page left) and *Epipactis distans* (above)
Photos by Jess Stone (left) and Mike Parsons (above)

side of the road leading to the Bialowieza forest where we tried to see the European bison in its last remaining habitat. Unfortunately we only saw the bison in a paddock beside the pristine forest which is vulnerable as a new motorway could be diverted through the forest to link the Baltic States to the rest of Europe.

I would like to thank Karin & Ralf-Bernd Hansen, Gunther Blaich, Jess Stone & Kath Barrett and Sean Cole for their notes and advice.

Orchids in the Herbarium of Felix Platter

Phillip Cribb

Introduction

The Herbarium of the Swiss physician Felix Platter, dating from the 16th century, comprises nine surviving volumes containing some 1800 specimens. These include some of the earliest known herbarium specimens of orchids, all of them European. The Herbarium was explicitly compiled to assist in the identification and naming of plants that occurred in Switzerland and adjacent countries.



Fig. 1. Felix Platter of Basel
Portrait by Hans Bock,
Regenzimmer der
Kollegienhause, Petersplatz,
Basel.

Felix Platter (1536 – 1614) (Fig. 1) was an eminent physician and Professor of Medicine in Basel. As a 15-year old he left Basel to train under Guillaume Rondelet (1507-1566) at the medical school in Montpellier, France, which had been established in 1137 and attracted elite students from all over western Europe. Rondelet had been a student of the Italian Luca Ghini (1490-1556), an eminent teacher at Pisa who introduced the idea of the Herbarium, using pressed plant specimens to identify and name plants useful to physicians. The pressed plants were attached with glue to paper and bound into a book. Platter began to amass a herbarium of pressed plants whilst still a student in Montpellier (Jennet, 1961) and continued whilst practising medicine in Basel.

Platter's Herbarium was lost to posterity until 1806 when nine volumes (Fig. 2) were



Fig. 2. Volume from the Platter Herbarium

received by a bookseller in Bern as payment for an overdue loan from an antiquary in Zürich. They were purchased by a Swiss botanist who bequeathed them to the Botanical Garden in Bern, Switzerland. They remained more or less unexamined until early 1931 when they were studied in great detail by Professor Walther Rytz. His detailed accounts of the Herbarium (Rytz, 1931, 1933, 1936) provide our present knowledge of the history and contents of the nine volumes that constitute the Herbarium Felix Platters.

Historical and Botanical significance

The earliest surviving herbarium, compiled in 1563 and surviving in Florence, is that of the Italian Andrea Cesalpino (1519-1603), like Rondelet a student of Luca Ghina. Platter started his herbarium at about the same time as Cesalpino, and it is amongst the earliest surviving herbals. It was seen by Michel, Seigneur de Montaigne, when he visited Platter in Basel in 1580. It is incomplete but comprises pressed specimens of some 813 plant species

Amongst Platter's contemporaries at Montpellier were Charles de l'Ecluse (Clusius) (1525-1609), Matthias de l'Obel (Lobelius), Pierre Pena, Jacques d'Alechamps (Dalechampius) and his fellow Baseler Jean Bauhin, all of whom contributed significantly to the development of modern botany and published herbals with original observations of plants. Platter maintained contact with them, and with other eminent physicians and botanists (the two disciplines being scarcely distinct), such as Conrad Gessner (1516-1565) and Joachim Camerarius (1534-1598), throughout his career. Rytz (1933) identified herbarium specimens sent by some of them to Platter, no doubt in exchange for plants that he had collected.

The herbarium contains much of interest to the modern botanist. The representation is broad, including flowering plants, ferns and mosses. The plants are arranged systematically to aid identification and naming. Thus, specimens from currently recognised families, such as orchids, lilies, daisies, legumes and umbellifers, are grouped together. The range of species is remarkable for the time. Of particular interest are the specimens of American plants, such as *Capsicum annuum* and *Aloe mexicana*, and Asian plants, such as *Hemerocallis flava* and *H. fulva*, *Fritillaria persica* and *F. imperialis*, and African plants, such as papyrus, that are included. These probably represent the earliest pressed specimens of these exotic species. Another feature is

4



5



6

Gynostemio latifolia Brong. h. J. B. v. 3.
 Mart. - 2. p.
 alom. Des.



7

Satyria hispida L. - *Palma Christi minor* Mart.

Satyria hispida L. - *Palma Christi minor* Mart.



Satyria nigra L.

the inclusion of two or more specimens of a species on a sheet to show variation, good examples are those of *Maianthemum bifolium* and the cress, *Erophila verna*. Rytz (1933) provided a current, if not modern, nomenclature for all the plants in the collection.

Another feature which distinguishes this herbarium from earlier exemplars is the inclusion of coloured woodcuts and original watercolours of the species placed opposite the herbarium specimens (Fig. 3). Rytz (1933) identified a series of cut-out watercolour illustrations which were attached opposite the herbarium specimens of a number of plants as those of Hans Weiditz of Strasburg. These were used as the models for the woodcuts of Otto Brunfels' (1488-1534) *Herbarum vivae eicones* (1530-1536), one of the first Renaissance herbals with realistic illustrations of plants (Arber, 1989; Pavord, 2005). 86 of Brunfels' woodcuts are mentioned by Linnaeus (1753) in the first edition of his *Species Plantarum* (Jarvis, 2007), the publication of which signals the start of modern scientific nomenclature for plants. Two of these, the illustrations of *Ophrys spiralis* (now *Spiranthes spiralis*) (Fig. 4) and *Viola hirta*,

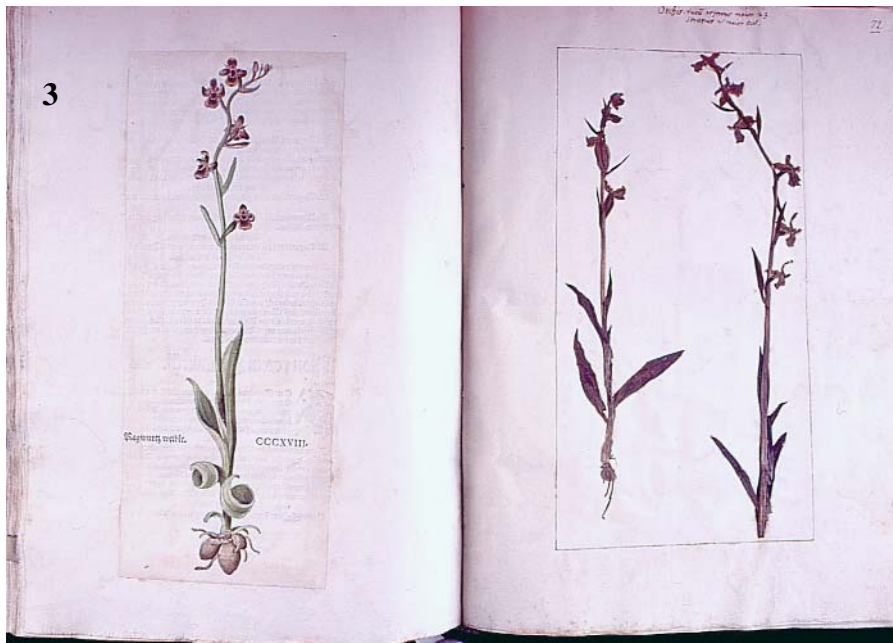


Fig. 3(above). Platter herbarium spread of *Ophrys fuciflora*

Fig. 4. Weiditz's original watercolour illustration of *Spiranthes spiralis*

Fig. 5. Wieditz's original illustration of *Orchis militaris*

Fig. 6. Platter Herbarium specimen of *Orchis militaris*

Fig. 7. Platter Herbarium specimens of *Nigritella nigra*

are the types of those species. Brunfels has been widely criticised for his often chaotic arrangement of the plants, sometimes not matching their descriptions in his work. It is scarcely surprising that Pavord (2005) considered that the significance of Brunfels' herbal lay mainly in its illustrations: "Why is the book important? Primarily because of Weiditz's illustrations. They provide a new baseline which everyone with access to the book appreciated. All over Europe, scholars recognised that here was the start of a new journey towards a full knowledge of the plant world."

The other watercolours were painted directly on the paper opposite the herbarium specimens, and are the work of unknown Basel artists, undoubtedly commissioned by Platter. The floral representations are often of a high quality, the leaves rather pedestrian, but the underground organs often depicted in some detail.

Orchids in the Platter Herbarium

The orchid specimens, woodcuts and illustrations in the Platter Herbarium are listed in Table 1. Representing 18 species, they are probably also the earliest surviving specimens of European orchids.

The Weiditz watercolours of *Anacamptis morio*, *Orchis militaris* (Fig. 5) and *Spiranthes spiralis* are the best known elements of the collection. The Latin names used by Platter come from contemporary herbals by Caspar Bauhin, Clusius, Dalechamps, Dodoens, Lobel and Tabernaemontanus (details provided by Rytz, 1933). Of particular interest is the mention of localities in Switzerland, such as Pilatus (*e monte Pilati*), a mountain in central Switzerland near Lucerne, where the specimens of *Listera ovata*, *Nigritella nigra* (Fig. 7) and *Spiranthes aestivalis* were collected.

Conclusion

The Platter Herbarium remains little-known to botanists and those interested in the history and philosophy of science. Few modern botanists have even heard of its existence; even fewer have seen it and they express wonder that it should have survived at all and in such fine condition. This is, in part, due to its storage in the Bern Burgerbibliothek, an Institute that is not normally visited by biologists. As one of Switzerland's most significant botanical treasures it deserves to be better known and accessible.

Herbaria continue to provide an important service to plant science. Plant names depend upon reference specimens, called types, lodged in specified herbaria. Anatomical, micro-morphological, chemical and DNA data can be extracted from herbarium specimens. Botanical work also depends upon vouchers stored in herbaria to enable studies to be replicated. Presently, interest is increasing in the utility of herbarium specimens in climate and other environmental change studies, since

they provide a record of a flora at a particular time and place. Early herbaria are also important since many plants have current distributions that have contracted significantly in industrial times.

Acknowledgements

I would like to thank the Dr Engler and the staff of the Bern Burgbibliothek for allowing me to examine the Platter Herbarium and Samuel Sprunger for his help during the visit.

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Table 1. (on the following two pages)

Orchid specimens, illustrations and watercolour paintings in the Platter herbarium in Bern, Switzerland (after Rytz, W. 1933. *Das Herbarium Felix Platters*. Ein Beitrag zur Geschichte der Botanik des XVI. Jahrhunderts. Basel: Naturforsch. Gesellsch.). Rh = right hand; lh = left hand; l = lower; u = upper; Lob. = Lobelius; Dod. = Dodoens; Dalech. = Dalechamps; C.B. = Caspar Bauhin; Th. = Tabernaemontanus; Xyl. = woodcut; Lugd. = Leiden (Dalechamps).

Platter Number	Species	Name used by Platter Right hand specimen	Name used by Platter left hand specimen
69	rh: <i>Orchis militaris</i> L. lh: <i>Listera ovata</i> (L.) R.Br.	<i>Cynorchis latifolia ter-tia hiate cucullo 3. / maior</i> Lob. / <i>altera</i> Dod.	3. <i>Cynosorchis latifolia 3. hiate cucullo</i> (Weiditz watercolour)
70	Lh: <i>Orchis purpurea</i> Hudson		<i>Cynosorchis latifolia altera lilifolia est cu 3 sed pluribus foliis</i>
71	rh: <i>Platanthera bifolia</i> (L.) Rich.	<i>Orchis bifolia minor flore papilione referens 19 ut 21</i>	
72	rh: <i>Ophrys fuciflora</i> (F.W.Schmidt) Crantz	<i>Orchis, fucu referens maior 23 / Serapias 29 maior</i> Dod.	
73	rh: <i>Ophrys fuciflora</i>	<i>Orchis, fucu referens minor 24 / ilitias siue apis cadaueru referes</i> Lob.	lh: <i>Orchios angustifoliae maris genus 7</i> rh: <i>Orchios angustifol. Maris genus 8.</i>
74	rh: <i>Pseudorchis albida</i> (L.) A. & D. Löve	<i>Orchis/Viva e mote fracto</i>	
75	lh: <i>Anacamptis morio</i> (L.) Bateman et al.	Two watercolours by Weiditz (later removed to separate volume)	<i>Orchis</i> (andere Hds.) <i>strateumatica minor</i> Lob.
76	rh: <i>Herminium monorchis</i> (L.) R.Br. lh: <i>Spiranthes spiralis</i> (L.) C.Koch	<i>Orchis odorata 44. / Triorchis alba odorata oblonga radice</i>	<i>Orchis odorata</i> l. (Th. Pl.) <i>Orchis angustifolia odorata / Wollschmeckend Knabelraut</i> Weiblin. (Xyl. "Fuchs") Weiditz watercolour
77	rh: <i>Traunsteineria globosa</i> (L.) Rchb.	<i>Orchis globosa flore luteo 39 / rotundus Dalech.</i>	(Xyl. Lugd.)

Platter Number	Species	Name used by Platter Right hand specimen	Name used by Platter left hand specimen
78	?		(Th. Pl.) <i>Triorchis mas major</i> . Gross Ragwurz mennlin
79	rh & lh: <i>Gymnadenia conopsea</i> (L.) R.Br.	<i>Satyrium basilicum angustifolium</i> Lob.	<i>Satyrium basilicum angustifolium</i> C.B. (Xyl. Fuchs)
80	rh: <i>Dactylorhiza fuchsii</i> (Druce) Sóo	<i>Satyrium basilicum angustifolium</i> Lob.	<i>pratense non maculatum angustifol.</i> / <i>Satyrii basilica</i> genus 1. Kreuzbum menle das erste
81	rh: <i>Dactylorhiza maculata</i> (L.) Sóo	<i>Satyrium basilicum pratense latifolia</i> 4.	<i>Satyrii basilica foeminae gns alt:</i> / Kreuzblum weiblin das ander (Xyl. Fuchs)
82	rh l u: <i>Spiranthes aestivalis</i> (Lam.) Rich. rh m: <i>Gymnadenia odoratissima</i> (L.) Rich.	<i>Spiranthes basilica angust.</i> <i>Palma Christi maior</i> Math. <i>Ex monte Pilati.</i> <i>Satyrii basilica angustifolium</i> 7.	<i>Satyrium basilicum pratense maculosum</i>
83	rh: <i>Neotinea ustulata</i> (L.)	<i>Satyrii basilica alt. odoratis.</i> 8 / <i>Ex motibs. odorata dicebat ea D. Chmiel.</i>	(Xyl. Lugd.)
84	rh: <i>Nigritella nigra</i> (L.) Rich.	<i>Satyrii basil. angust.</i> 10. <i>Palma Christi minor</i> Math. <i>Viua e monte Pilati uocat.</i> <i>Brendlin</i>	(Xyl. Lugd.)
89	rh: <i>Listera ovata</i> (L.) R.Br. lh: <i>Listera ovata</i> (L.) R.Br.	<i>Ophrys l: e motibs.; r: Ex monte Pilati.</i> Below: Weiditz water-colour	(Xyl. Fuchs)



Howell Hill Local Nature Reserve

Tom Turner

When a field behind some houses on the Cheam/Epsom border was levelled in the early 60s to create school playing grounds, some chalk and soil designated as “surplus to requirements” was dumped on neighbouring waste ground. The soil heap has produced little of interest to us, (though the Wembley arch can be seen from its top) but the chalk mound, in the form of a long ridge, has become home to a surprisingly large range of orchids. In the 80s conservation measures were initiated to prevent scrub invasion, and the 5ha site is now a Site of Nature Conservation Importance, and is the best site in Surrey for the Small blue butterfly.

The first orchids to appear in Spring are the White Helleborines, though they are not easy to find and are mostly in one small area surrounded by scrub. In most years there are a few really splendid specimens. It is surprising that Common Twayblades did not colonise until recently, but now they are present in good numbers and are quite widespread. A really exciting development has been the appearance of Man Orchids. In 2010 there were about a dozen flowering spikes in two locations. Just 3 or 4 beside a path, which I took the liberty to protect by “planting” some hawthorn sticks between them and the path. A relatively mild form of human intervention which protects the flowers from humans, and their canine companions! The larger group is on a slope near the end of the chalk ridge. The flower spikes can be very compact with the “men” forming a dense cluster. It will be interesting to see if the number of plants of this species increases.

It seems that Bee Orchids were the first to have arrived on the site, but their numbers have declined noticeably in recent years. The “usual suspects” are present in good numbers, and both slopes of the ridge are a splendid sight in June with Common Spotted and Fragrant Orchids, and then Pyramidal Orchids. For two or three years a Southern Marsh Orchid flowered near the top of the bank. (The books say they can get lost sometimes!) What is of greater interest is that in



Orchids at Howell Hill – Fig. 1: Man Orchid
Figs. 2 and 4 (above): Broad-leaved Helleborine
Fig. 3: Hybrid between Common Spotted and Fragrant Orchids
Photos by Tom Turner

2009 there were five and 2010 three Common Spotted × Fragrant hybrids (There could have been more, of course, the others hiding from the author of this article!) They show a wide variation in colour and marking as would be expected. I was shown one, then started looking for fragrant orchids with spots. However, after having found a few you get your “eye in” and they become quite noticeable. Although



I know several places where both species grow in close proximity, this is the only one where I’ve found any hybrids.

Finally, the Broad Leaved Helleborines come into flower. They are often out in the open and can be subject to “burning off” in dry years. Some have beautiful pink flowers, while some are pale with yellow/green leaves. The nature of these plants is under scrutiny as they seem to resemble the var. *neerlandica*, an exciting possibility.



That makes eight residents and a visitor, not counting the hybrids. Then there are the 24 species of butterfly, and all the other flowers and insects. For 37 years I taught maths at the school for which the field was levelled. I even went round the cross country course (I did one afternoon games for some years) over that very chalk mound, without realising what was flowering there in the summer! Although it’s interesting to visit new locations, and see orchids that do not grow near home, there is something special about regularly visiting a Local Nature Reserve and seeing it develop and acquire new species.

I cannot close without paying tribute to Eileen Taylor who for many years has been the voluntary warden, spending many hours clearing scrub and keeping things in good order, and to Richard Denny who monitored the orchids and taught me the trick with hawthorn twigs.

Fig. 5: Orchid colony at Howell Hill

Fig. 6: Common Spotted × Fragrant Orchid hybrid
Photos by Tom Turner

Orchid Hunting on Saaremaa

Simon Tarrant

Saaremaa is an island in the Baltic, the largest island in Estonia. It measures about 80km east to west by 40km north to south with a few odd bits sticking out. The population is around 40,000, of whom 16,000 live in the only town, Kuresaare, on the south coast. Having previously enjoyed independence, Estonia was occupied by the Soviet Union from 1940 to 1991, except when it was occupied by Nazi Germany.

Geologically Saaremaa is composed of the same series of Silurian rocks as the Swedish island of Gotland. These are predominantly limestones of different types. They have escaped major folding, but dip to the south-east, so the rocks at the surface get younger from north-west to south-east. The Ice Ages had a major impact in this region and the whole area has been subject to heavy erosion. The land has risen relative to the sea at different times in the last few thousand years, producing the landscape features such as inland cliffs and raised beaches we see today.

Moira and I had had an orchid holiday on Gotland in 2000 (Tarrant 2000), and I had visited Saaremaa in 2001 and I was struck by the similarities between the two islands. I didn't have any opportunity to look for orchids on that visit, but vowed to return to Saaremaa one day to look for orchids. Eventually in early June 2010 we were able to achieve that ambition. As well as having the right geology for orchids, both Gotland and Saaremaa have low population densities, non-intensive agriculture, and regimes sympathetic to nature conservation. The biggest difference is the climate. Because Saaremaa is a bit further north, and a bit closer to the continental landmass the Baltic around Saaremaa can be guaranteed to freeze every winter, but it doesn't around Gotland.



Fig. 1: View of Saaremaa
Photo by Simon Tarrant

We only had a few days on Saaremaa, so we did some research beforehand to make the best use of our time. We relied heavily on the Internet, and fortunately there is a lot of information about flora and fauna in general tourist websites (in English) as well as very good websites covering the many nature reserves, although these are mostly in Estonian only. Our research coupled with experience of Gotland gave us a picture of the habitat types and the range of orchids that they might support.

The variety of habitats we found included natural woodland, with pine, oak and mixed woods being widespread. There are many areas of open country, and it is not obvious whether these are areas that have ever supported agriculture, or where tree cover has been removed. The raised beaches caused by drops in sea level are most frequent around the northern and western parts of the island, and being composed of pebbles several centimetres across the plant life on them is quite limited. The amount of water present in any of these habitats can vary, so they can range from dry to marshy, which clearly influences the plant cover, and transitional zones between habitat types can provide the right conditions for some orchids.

Many of the best areas for orchids are nature reserves, but by no means all. We found a very rewarding area of open country near Arandi, a few kilometres west of Kuresaare. We stopped because we saw a group of *Orchis militaris* beside the road. In fact this was the most noticeable orchid across the island, being abundant on road-



side verges, in open country, on woodland margins and even occurring close to built-up areas. Having parked the car we followed an inviting track away from the road. Apart from more Military Orchids, the next species we encountered was *Orchis mascula* (Early Purple Orchid). This turned out to be the only place where we saw it. The flowers displayed the typical range of colours of this species, but few of the plants had any leaf-spotting, they were mostly plain green.

Although *Orchis militaris* seems to be the commonest orchid on Saaremaa, I think that privilege belongs rightly to *Neottia (Listera) ovata*, the Twayblade. As we progressed along the track we passed a great many Twayblades, and where a pinewood grew close to the track we saw some good stands of *Neottia nidus-avis* (Birds-nest Orchid). They also grew under oak trees at other

Fig. 2 (above): Sword-leaved Helleborine (*Cephalanthera longifolia*)

Fig 3.: Military Orchid (*Orchis militaris*)

Fig 4: Early Marsh Orchid (*Dactylorhiza incarnata*)

Fig. 5: Lesser Butterfly Orchid (*Platanthera bifolia*)

Fig. 6: Red Helleborine (*Cephalanthera rubra*)

Photos by Simon Tarrant





sites. A little further along the same walk we found the only species of *Ophrys* to occur in Estonia, *Ophrys insectifera*, the Fly Orchid, of which we found several specimens. Our timing was perfect for their flowers.

Roadside verges were the best places for the first of two species of *Cephalanthera* to be found, *Cephalanthera longifolia*, the Sword-leaved Helleborine, which cropped up in a number of places, often in the company of Twayblades.

I remembered the raised beaches on Gotland as being orchid-rich sites, and the same turned out to be true on Saaremaa. Again the most noticeable orchid was *Orchis militaris*, but we also saw a number of Dark-red Helleborine (*Epipactis atrorubens*) plants coming up, and on one walk where a pinewood adjoined a raised beach we realised they were joined by a number of Red Helleborine, *Cephalanthera rubra*, also in bud. We could only imagine how spectacular the display would be a week or two later. Having failed to find any open flowers we returned to the car and were just about to drive off when Moira noticed a splash of red, so we got out to investigate and found a single Red Helleborine with a wide-open flower.



Fig. 10: Dark-red Helleborine (*Epipactis atrorubens*) in bud
Photo by Simon Tarrant

Where the raised beaches graduated into marshland there were a lot of *Dactylorhizas*. Typically they were squat plants with unspotted leaves and deep purple flowers, no doubt versions of Early Marsh Orchid, *Dactylorhiza incarnata*. The Estonians recognise a number of marshland *Dactylorhiza* species, but I lack the confidence to be more precise!

Many orchids occur in woodland. As well as the two species of *Neottia* already mentioned, both familiar species of *Platanthera* can be found. We were a bit early in the season for these and most of the plants we saw were still in bud, but the few we saw with open flowers were all Lesser Butterfly Orchids (*Platanthera bifolia*). We

Figs. 7-9: Lady's-slipper Orchid (*Cypripedium calceolus*)
Photos by Simon Tarrant

explored an oakwood nature reserve just outside Kuresaare. As we entered the reserve we saw the ubiquitous Twayblades and Military Orchids. There were two waymarked trails through the wood, so we followed the first of these. Coming into a clearing we disturbed a roe deer, which hastily disappeared off to our right. As I stood watching the place where it had been, Moira suggested I look behind me. I was standing in front of a group of about thirty Lady's-slipper Orchids (*Cypripedium calceolus*) which I had completely overlooked in my excitement at watching the deer. We resumed our walk after taking some photographs, encountering some *Dactylorhiza fuchsii* (Common Spotted Orchid), as well as some more Military Orchids.

Having returned to the little car park, we took the second marked trail. This took us along a track through the wood, from which we saw a lot of yellow blobs in the wood. I hoped these would turn out to be more *Cypripediums*, but there were so many of them, I thought they must be some more common plant. However, as we got closer to them, they clearly were Lady's-slipper Orchids, growing amongst Twayblades. Some of the flowers in the open had gone over, but many were just right. We were quite unprepared for the sheer quantity that we saw, they must have numbered well over a thousand flowering plants. This site had been well trampled by tourists coming to admire the *Cypripediums*, indeed, we had seen a minibus full of Finnish tourists leaving the site as we arrived. I am sure that there are plenty of other locations on the island with equally spectacular displays away from such public attention.

I have skimmed through the orchids that we saw, but there is a lot more than orchids to enjoy on Saaremaa, many other interesting plants as well as birds and animals, some fascinating meteorite craters, and man-made entertainment in the form of vernacular and historic architecture, museums and so on. Estonia is readily accessible by budget airline from the UK, public transport is cheap and efficient, hotels and car hire are up to international standards. The tourist office in Kuresaare can provide useful information on nature reserves, and sells Estonian official series 1:50,000 maps of the area. There is a lot of botanical and geological information in the museum in Kuresaare Castle, and another informative geological museum at the Kaali meteorite crater site. I can certainly recommend Saaremaa for an orchid holiday, and I am happy to pass on recommendations for suitable sites to visit.

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