

## A new variety of *Ophrys apifera* Hudson (Orchidaceae)

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### ABSTRACT

Variation within *Ophrys apifera* Hudson (Bee Orchid) in Britain is briefly reviewed. A new variety, *O. apifera* var. **belgarum** D. M. T. Ettliger var. **nov.**, is proposed for specimens with labella that lack side lobes and basal fields, and bear distinctive harness-shaped patterns of sharp-edged yellow bands.

KEYWORDS: Bee Orchid, variation, Britain.

### INTRODUCTION

*Ophrys apifera* Hudson (Orchidaceae) is an almost, if not entirely, obligate autogam (occasional hybrids with other *Ophrys* species may be due to insect visitors removing excess pollen from already-fertilised flowers). Consequently, any variant tends to be perpetuated since there is no means apart from genetic drift by which mutated genes can be eliminated. The most frequent of these variants have been described and named, albeit at various ranks, over many years (e.g. the summary by Camus & Camus 1921).

In more recent times, Landwehr (1977) recognised and illustrated in great detail the following:

a. subsp. *jurana* Ruppert var. *friburgensis* (Freyhold) Ruppert: labellum normal; petals greatly enlarged into the shape of sepals, usually pink sometimes yellow-green or whitish speckled with pink spots;

b. subsp. *jurana* f. *botteronii* (Chodat) Ruppert: as for *friburgensis* but with the side-lobes, which are normally separated from the main labellum, reduced to unseparated pointed humps near its apex;

c. subsp. *jurana* f. *saraepontana* Ruppert: similar to *friburgensis* but with a marbled labellum pattern and side lobes either reduced or modified in the manner of f. *botteronii*;

d. var. *aurita* Moggridge: as normal *apifera* but with long, straight, yellow-green petals that appear very narrow because the edges are sharply reflexed;

e. var. *bicolor* (Naegeli) E. Nelson: labellum pattern replaced by a green or pale brownish area near the base, shading smoothly to a blackish-brown near the apex; basal field absent;

f. f. *chlorantha* (Hegetschweiler) K. Richter: lacking anthocyanin, the tepals are greenish white and the labellum greenish yellow with only the ghost of a pattern;

g. var. *flavescens* Rosbach: a less pronounced version of *chlorantha*, it has a pale brown labellum bearing a normal but faded pattern; and

h. var. *trollii* (Hegetschweiler) E. Nelson: labellum elongated, tapering to a pointed tip that is not or only slightly reflexed; side lobes prominent and often widely separated; labellum pattern asymmetric and diffusely marbled; basal field distorted or missing.

Sundermann (1980) limited his recognition to vars *flavescens* and *friburgensis* (in which latter he – reasonably – included all the variants with sepaloid petals, *friburgensis* having priority at varietal rank). It was also reasonable to discard *aurita*, which is poorly differentiated from the norm, but his reason for preferring *flavescens* to the more morphologically extreme *chlorantha* is unclear. His omission of the highly distinctive *trollii* and *bicolor* is also difficult to understand.

Buttler (1986) also preferred *flavescens*, which he included with *trollii*, *bicolor* and *botteronii* in his illustrations and descriptions but he refrained from quoting any formal ranks.

Baumann & Künkele (1988) mentioned *botteronii*, *trollii* and *bicolor* but only as synonyms of *apifera*.

Stace (1991) was sparing in his use of subspecies and variety, and admitted none to *apifera* in the British Isles.

Delforge (1994) mentioned and illustrated *jurana friburgensis*, *jurana botteronii*, *trollii* and *bicolor* but without assigning ranks to them; he also illustrated an unequivocal specimen of *chlorantha* but only as an unnamed example of "hypochromy" (abnormal absence of colour, in this case anthocyanins).

Devillers & Devillers-Terschuren (1994) did not formally recognise any taxon below the rank of species.

Sell & Murrell (1996) mentioned *bicolor*, *flavescens*, *trollii* and *botteronii*, and chose forma rank for all, with appropriate stat. nov. authorities. They also chose to equate *flavescens* with *chlorantha*, as apparently did Sundermann (1980) and Buttler (1986), though Landwehr (1977) clearly illustrates a distinction. Their preference for *botteronii* for the sepaloid-petal variant is logical at forma rank but their description is so unlike any published illustration (or specimen in the field) that one must suspect some accidental omission of text.

#### VARIATION IN BRITAIN

It is clear that, with time, infraspecific taxa have become progressively less often recognised among European orchids, Sell & Murrell (1996) being a welcome exception. This is not the place to discuss the reasons for this or to attempt a refutation: the problem seems to lie partly in the subjectivity surrounding the definitions of the terms species, subspecies, variety and forma. I believe that the infraspecific taxa as I would define them have evolutionary potential, even if it is sometimes slight, and suggest that the following taxa should be recognised within British *Ophrys apifera*. They invariably occur with normal *apifera* and varietal rank seems to me to be the most appropriate for all of them (the summarised descriptions are above; I am not in a position to comment on the validity of the authorities).

Var. *aurita*. Probably widely overlooked; distribution uncertain.

Var. *bicolor*. Recorded at one site in Anglesey (v.c. 52) in 1976 and one site in Dorset (v.c. 9) since 1993. A third British site was discovered in N. Essex (v.c. 19) in June 1997 by J. Tyler; c. 20 specimens (!) were growing with c. 35 var. *chlorantha* and 100+ var. *apifera*.

Var. *chlorantha*. Not uncommon in southern and eastern England, rare elsewhere but sometimes in large numbers (e.g. several hundred in a good year at one site in Yorkshire). Intermediates ("flavescens") seem to be very rare in the British Isles and should not be confused with normal flowers that have faded with age.

Var. *friburgensis*. Rare, mostly in south-western England. Intermediates, with pink petals larger than normal but not sepaloid in shape, occur more frequently.

Var. *trollii*. Uncommon in southern and south-western England, rare elsewhere. Intermediates occur occasionally but should not be confused with normal *apifera* with labellum apices that are for some reason not properly reflexed.

#### A NEW VARIETY

In July 1985, while examining a colony of *O. apifera* at a dune system near Rhosneigr, Anglesey (v.c. 52), I found a specimen whose flowers differed greatly from the norm and from any described variety; however, one plant at one locality does not justify taxonomic recognition. In June 1993 M. N. Jenkinson kindly drew my attention to the variants in a colony on a roadside verge near Winchester (v.c. 11). To my surprise, these were exactly the same as the Anglesey specimen and a rough count showed c. 200 flowering plants accompanied by c. 20 plants with normal flowers. Since the County Council was persuaded (at least temporarily) to change its mowing policy at the site, the numbers have remained satisfactory, though subject to the substantial fluctuations normal in the species. Identical flowers had been known in smaller numbers at Twyford Down, c. 4 km to the south west, since the 1960s (23 plants in 1964) by M. N. Jenkinson and R. J. Laurence (pers. comm., 1993, 1995). Personal enquiries, accompanied by colour transparencies at a reproduction ratio of 1:1, have shown that the new variety has also been found near Great Gaddesden (v.c. 20) by

R. M. Bateman in 1980 (though he recorded it at the time as non-standard var. *trollii* Bateman 1982), and at two sites near Bath (v.c. 6) by R. J. Laurence (pers. comm., 1995). Similar enquiries seem to show that it occurs only rarely on the Continent since it has only been seen at one site in France by P. Delforge and at "several" in Switzerland by H. R. Reinhard, whilst the equally experienced orchidologists P. Jacquet and D. Rückbrodt have never seen it (all replies in litt. 1996). If anyone has close-up photographs thought to be of this variety I should be very glad to see them, since I am confident that it occurs more widely in Britain and Ireland.

## DESCRIPTION

***Ophrys apifera* Hudson var. *belgarum* D. M. T. Ettliger var. nov.**

**HOLOTYPE:** roadside verge on chalk near Winchester, Hampshire (v.c. 11), England, 18 June 1994, D. M. Turner Ettliger now in the Orchid Herbarium at K.

Ab *apifera* typica non differt nisi labello. Labellum  $\pm$  obovatum, apparenter globosum, hirsutum ad margines superiores. Lobi laterales absentes. Usualis parva area annularis basalis absens. Apex acutus plerumque sed non semper plene reflexus. Color atrocastaneus cum vitta aurea argutaque in medio et vittibus tenuibus unde versus humeros.

It differs from typical *apifera* only in its labellum which is more-or-less obovate, well rounded in appearance, the upper edges very hairy. Side lobes absent. Basal field absent. Apex sharply pointed, usually though not always well reflexed under the lip. Ground colour dark chestnut, with a clear-cut bright yellow band across the middle and smaller subsidiary bands extending from the sides of the middle band up to the shoulders.

Etymology: *belgarum* = "of the Belgae", the Celtic tribe who inhabited the type area in Roman times and whose chief town Venta Belgarum ("the market of the Belgae") evolved into the modern Winchester. Jenkinson (1995) has a good illustration of the variety in his book; he informally suggested the name *pseudotrollii* but I believe that that name would be more appropriate for normal *apifera* whose apices have failed to tuck themselves under the lip.

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