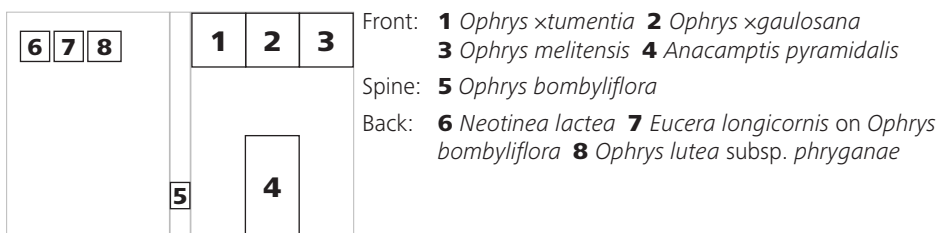


# ORCHIDS OF THE MALTESE ISLANDS

a descriptive guide



*by Stephen Mifsud*



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## The *Ophrys iricolor* group

The species within the *Ophrys iricolor* group are easy to distinguish from other groups as they have elevated ridges at the base of the lip with their crests turned slightly sideways (FIG. 1). This group is mainly represented in Malta by two morphologically distinct taxa flowering at different, albeit close, intervals of the year (FIG. 2). They are sometimes referred to as the early-flowering and late-flowering *O. iricolor* species. Two additional *iricolor* orchids have also been reported locally but are very rare. These will be discussed at the end of this discussion.

The early-flowering *iricolor* orchid (FIG. 3) is found in bloom from mid-December to late January, with a few individuals persisting into early February. The labellum is medium-sized, typically 13–14 mm long, and its underlip is usually entirely green, although some individuals can have an underlip that is tinged red at the centre (FIG. 4). In addition, compared with the later-flowering *iricolor* orchid, the early-flowering species is more slender and petite (6–18 cm tall), producing only two to five flowers. This orchid has been ascribed as a distinct subspecies, *O. iricolor* subsp. *mesaritica* (Paulus, C. Alibertis & A. Alibertis) Kreutz (DELFORGE, 1993, 2006; MIFSUD & LEWIS, 2011, 2013). At one stage, subsp. *mesaritica* was recorded only from Crete and Malta, two islands separated by a geographical gap of almost 1,000 km. DELFORGE (1993) was the first to record subsp. *mesaritica* from Malta and later, he decided to describe the Maltese early-flowering *iricolor* as a new species with the name *O. hospitalis* Delforge (DELFORGE, 2012) (= *O. iricolor* subsp. *hospitalis* (Delforge) Mifsud & L. Lewis).



FIG. 1. Elevated side-turned ridges at the base of the lip which is characteristic for the *Ophrys iricolor* group.

In his description of *O. hospitalis*, DELFORGE (2012) points out only two morphological differences in comparison to subsp. *mesaritica*: *O. hospitalis* has a slightly shorter lip (by about 1 mm) and a somewhat lighter-hued underlip. These characteristics on their own, however, are not enough to separate them into

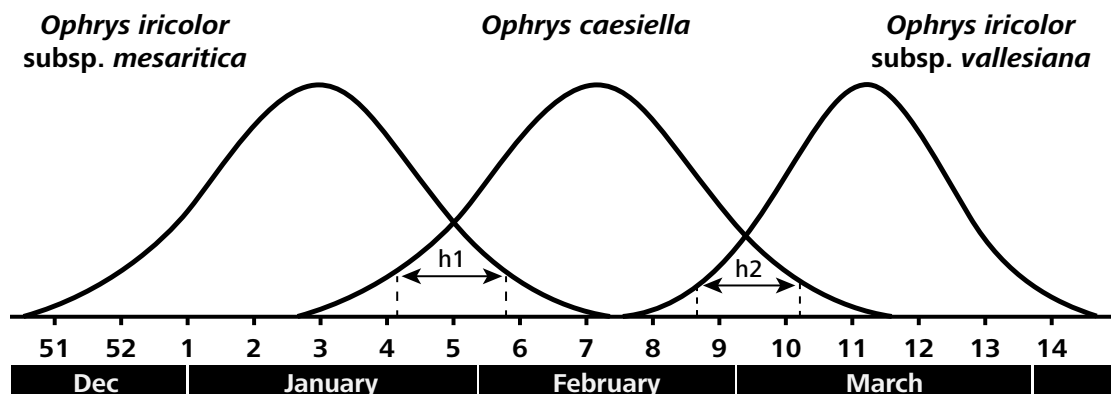


FIG. 2. Model of the flowering periods of *Ophrys iricolor* subsp. *mesaritica* (end of December to end of January/early February), *O. caesiella* (mid-January to mid-March) and *O. iricolor* subsp. *vallesiana* (end of February to end of March), indicating a short overlapping period of about two weeks at h1 and h2 where pollination and hybridisation can take place. Interval markings represent the start of the indicated numbered week in the Gregorian calendar.



FIG. 3. Plant and flower detail of *Ophrys iricolor* subsp. *mesaritica* (Fawwara, 16 Jan. 2018).



FIG. 4. Green underlip of *Ophrys iricolor* subsp. *mesaritica*.

2017) and Malta. The presence of this taxon in southern Italy is also plausible and some of the past records of *O. fusca* Link s. l., *O. iricolor* subsp. *leonora* (Devillers-Terschuren & Devillers) Paulus & Gack (GIROS, 2016) and *O. iricolor* subsp. *lojaconoi* (P.Delforge) Kreutz, which are closely related, may actually refer to this taxon.

Despite the fact that the peak flowering times of these two main subspecies are about six weeks apart, there may occasionally be cases where late-blooming examples of subsp. *mesaritica* are in flower at the same time as early-blooming examples of subsp. *vallesiana* and where cross-pollination is feasible. Localities where both species occur, like Dingli Cliffs, Fawwara (Siggjiewi) and Wied Babu (Žurrieq), are examples of where these intermediates may be found and would be expected to flower in mid-February, but such individuals are difficult to locate and identify in the field due to their close overall resemblance to their putative parents.

two distinct orchids. *O. iricolor* subsp. *mesaritica* was later recorded from Tunisia (MARTIN et al., 2015), and is now known to have a central-eastern Mediterranean distribution spanning from Greece across to Malta and further west to Tunisia (DELFORGE, 2006; MARTIN et al., 2015). Although this subspecies was never recorded from Sicily, its presence there is highly plausible as would seem to be confirmed by photographic evidence posted on social media under the taxa *O. lupercalis* Devillers and Devillers-Terschuren and *O. forestieri* (Rchb fil.) Lojac. Upon the confirmation of subsp. *mesaritica* from North Africa, the argument of describing *O. hospitalis* to make up for the geographic disjunction between Malta and Crete does not hold and as a result, *O. hospitalis* is best treated as a synonym of subsp. *mesaritica*.

The later-flowering *iricolor* orchid (FIG. 5) blooms from late February to early April and is represented by individuals that are larger and more robust (15–35 cm tall), having larger leaves and an inflorescence with more flowers, each of which develops a longer labellum, typically between 14–16 mm long. The underlip is normally purple-red with a distinct yellowish-green border of about 1.5 mm in width (FIG. 6). Examples with pale pink or pale green centres have been observed within populations, however this falls within the variability of this taxon (DELFORGE, 2006). According to MIFSUD & LEWIS (2011), this rainbow bee orchid fits best with *O. iricolor* subsp. *vallesiana* (Devillers-Terschuren & Devillers) Paulus & Gack which was first described from Tunisia in 1994. Its distribution seems to be restricted to Tunisia, Algeria (only in areas bordering with Tunisia,



FIG. 5. Plant and flower detail of *Ophrys iricolor* subsp. *vallesiana* (Bingemma, 12 Mar. 2018).

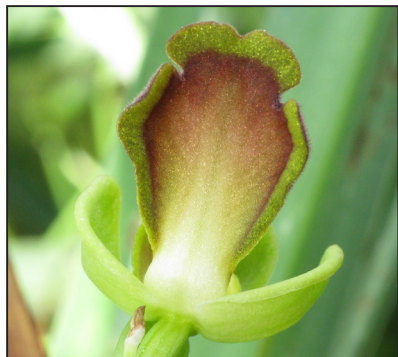


FIG. 6. Red underlip with yellowish green border of *Ophrys iricolor* subsp. *vallesiana*.

To make things even more complex, the two subspecies of the *O. iricolor* group occurring in Malta have been reported to hybridise with *O. caesiella* P.Delforge, forming localised hybrid swarms (MIFSUD, 2014b). Since *O. caesiella* flowers from the end of January to the beginning of March, overlapping with both subsp. *mesaritica* and subsp. *vallesiana*, it can serve as a genetic bridge linking these three hybridisable species to form a hybrid complex (See *O. xtumentia*, pg. 156). Nevertheless, the three taxa are still distinct in the Maltese Islands even when they occur within populations of hybrid swarms.

A third member of the *O. iricolor* group is *O. iricolor* subsp. *lojaconoi* (P.Delforge) Kreutz, which was first reported from Malta in the early 2000s. It is a very rare orchid with a restricted distribution in the Maltese Islands (MIFSUD, 2009). This orchid was first described by Pierre Delforge from Foggia (Italy), but its distinctiveness is questionable given that it is only based only on having lips with very small lateral lobes and an elongated median lobe which together form a unique oblong-shaped lip with wide sinuses between the reduced lateral lobes and the median lobe (FIG. 7). There seems to be no consensus as to whether this is a distinct species, however Italian authorities (GIROS, 2016) accept it at the subspecies rank based on findings from Apulia and Basilicata, whereas KREUTZ (pers. comm., 2018) ranks it as a variety.

*O. iricolor* subsp. *eleonora* (Devillers-Terschuren & Devillers) Paulus & Gack, (= *O. iricolor* subsp. *maxima* (A.Terraccino) Paulus & Gack) has sometimes been reported from the Maltese Islands. It is closely related to subsp. *vallesiana* but subsp. *eleonora* is a larger plant producing less flowers but with longer lips, measuring 16–26 mm according DELFORGE (2006) but only up to 20 mm according GIROS (2016). Additionally, this species is distributed and localised in Corsica and Sardinia, hence its occurrence in Malta is not expected. Unconfirmed reports from Puglia (Italy) and Algeria (GIROS, 2016) are likely referable to subsp. *vallesiana*. A comprehensive study comparing many specimens from different localities is suggested to shed light on this taxonomic issue.



FIG. 7. *Ophrys iricolor* subsp. *lojaconoi* with its typical small lateral lobes and wide sinuses between them and the elongated median lobe. (Wied tal-Faham, 26 Jan. 2016).

Finally, GÖGLER et al. (2016) judged that subsp. *vallesiana* is indistinct from and should be synonymised with subsp. *eleonora*, basing their findings on the fact that both of these purportedly different subspecies produce similar odour bouquets, attract the same pollinators, have overlapping flower morphologies and are genetically indistinct. Orchidologists, however, still maintain these taxa are distinct due to distributional disjunction and the differences observed in the size of lip.

**TABLE 1.** Comparison of *Ophrys iricolor* subsp. *mesaritica*, subsp. *vallesiana* and subsp. *lojaconoi* from Malta (adapted from MIFSUD, 2008; MIFSUD & LEWIS, 2013) and subsp. *eleonora* (adapted from DELFORGE, 2006).

Diagnostic characters	<i>O. iricolor</i> subsp. <i>mesaritica</i>	<i>O. iricolor</i> subsp. <i>vallesiana</i>	<i>O. iricolor</i> subsp. <i>lojaconoi</i>	<i>O. iricolor</i> subsp. <i>eleonora</i>
No. of flowers	2–5	3–10	3–5	2–5
Plant height (cm)	6–18	12–35	15–30	25–50
Sepal length (mm)	11–13	12–14	11–13	12–14
Petal length (mm)	6–8	7–9	6–8	8–10
Lip length (mm)	12–15 (mean 13 mm)	14–19 (mean 16 mm)	12–15 (mean 13 mm)	15–26 (mean 18 mm)
Labellum colour	dull brown with a purple tinge	dull brown with a purple tinge	dull brown with a purple tinge	dull brown with a purple tinge
Underlip colour	Entirely green, or sometimes tinged pale reddish at the centre; with or without an evident green border	Red or pink with a distinct yellowish-green border; sometimes entirely green	Red or pink with a yellowish-green border (not always very distinct); sometimes entirely green	Pink or orange with a distinct yellowish-green border; rarely entirely green
Lateral lobes	Large	Large	Small	Large
Crests at base of lip	Moderately defined, sometimes weak or obscure	Well defined, large	Moderately defined, sometimes weak or obscure	Well defined, large
Flowering period in Malta	Mid-December to early February	End of February to early April	Mid-February to mid-March	End of March to early May*
Geographical distribution	Tunisia, Malta, (?Sicily), Greece, Crete	Tunisia, Malta, (?Sicily)	Southern Italy, Malta, (?Sicily)	Corsica, Sardinia

\*Flowering period as reported from populations overseas

## The *Ophrys lutea* group

The situation of the *Ophrys lutea* group in the Maltese Islands is currently unresolved, however the taxa of this group can be proposed based on the morphological assessment of many local populations examined in the field. Up until the 1980s, records in historic literature were under the broad taxon *Ophrys lutea* without giving any reference to or morphological notes on the size, colour or outline shape of the lip. The second taxon within the *O. lutea* group was first reported in Malta by SCHEMBRI et al. (1987) as *O. lutea* subsp. *murbeckii* (H.Fleischm.) Soó, which was then reported again in the Red Data Book of the Maltese Islands (LANFRANCO, 1989). This is now known to be a hybrid between *O. fusca* Link and *O. sicula* Tineo, and in fact, further studies revealed that this yellow bee orchid corresponded to subsp. *sicula* (Tineo) Soldano (BARTOLO et al., 2001). By the early 2000s, two species within the *O. lutea* group were confirmed from Malta - the large-lipped subsp. *lutea* and the small-lipped subsp. *sicula* - and at the time it was assumed that the latter is more frequent on the Maltese Islands (LANFRANCO, 1989; BARTOLO et al., 2001).

The presence of a third subspecies, *O. lutea* subsp. *phryganae* (Devillers-Terschuren & Devillers) Melki, was first reported from Bingemma and Għar il-Kbir by MIFSUD (2008) and later recorded from four other stations. This orchid has an intermediate morphology between the other two subspecies and the major differences are summarised in **TABLE 1**. The observations and measurements of specimens of *O. lutea* s. l. taken by Stephen Mifsud from the Maltese Islands between 2008 and 2018 are shown in **TABLE 2**. The characters of specimen 16 clearly correspond with those of subsp. *sicula*. Most of the characters of the other specimens match with subsp. *phryganae*, with the exception of the measurements of the lip length (15–16 mm) of a few specimens which overlap between this subspecies and subsp. *lutea*. The