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# Serapias orientalis subsp. siciliensis (Orchidaceae), a new subspecies from Sicily

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## RÉSUMÉ

BARTOLO, G. & S. PULVIRENTI (1993). *Serapias orientalis* subsp. *siciliensis* (Orchidaceae), nouvelle sous-espèce de Sicile. *Candollea* 48: 231-236. En anglais, résumés français et anglais.

*Serapias orientalis* subsp. *siciliensis* Bartolo & Pulvirenti, sous-espèce nouvelle de Sicile est décrite et illustrée. Ses relations avec les autres sous-espèces de *S. orientalis* sont examinées.

## ABSTRACT

BARTOLO, G. & S. PULVIRENTI (1993). *Serapias orientalis* subsp. *siciliensis* (Orchidaceae), a new subspecies from Sicily. *Candollea* 48: 231-236. In English, French and English abstracts.

*Serapias orientalis* subsp. *siciliensis* Bartolo & Pulvirenti is a new subspecies from Sicily described and illustrated. Its relationships with the other subspecies of *S. orientalis* are discussed.

KEY-WORDS: Taxonomy — Flora — *Serapias orientalis* subsp. *siciliensis* — Sicily — ORCHIDACEAE.

## Introduction

In the ambit of taxonomical researches on the Orchids from Sicily, a new taxon belonging to the cycle of *Serapias orientalis* was found. This taxon was previously object of numerous studies by various authors (NELSON, 1968; GREUTER, 1974; GÖLZ & REINHARD, 1980; MOORE, 1980; SUNDERMANN, 1980; CAMPBELL & CAMPBELL, 1986; BAUMANN & KÜNKELE, 1988, 1989; DAVIES & al., 1988; DEL PRETE & TOSI, 1988), who emphasized its relationship with *S. vomeracea* and *S. cordigera*. In fact, for this reason GREUTER (l.c.) and then also GÖLZ & REINHARD (l.c.), CAMPBELL & CAMPBELL (l.c.) and DAVIES & al. (l.c.) treated *S. orientalis* as a subspecies of *S. vomeracea*, while SUNDERMANN (l.c.) considered it a subspecies of *S. cordigera*.

According to NELSON (l.c.) and BAUMANN & KÜNKELE (l.c.), *S. orientalis* due to a lot of peculiar characters can be considered as a distinct species. Up to now within *S. orientalis*, the following subspecies were individuated: subsp. *orientalis* (Greece, Crete, C. Egean isles, Cyprus, Syrie, Lebanon, Palestine), subsp. *carica* (S.W. Turkey, E. Egean isles) and subsp. *apulica* (S. Italy).

Some *Serapias* populations collected in Southern Sicily showed intermediate characters between *S. vomeracea* and *S. cordigera*, both of them well widespread in the island; but, on the basis of flower morphology, these specimens resulted more closely related to taxa belonging to *S. orientalis* group. In particular, they were firstly attributed to *S. orientalis* subsp. *apulica* by BAR-TOLO & PULVIRENTI (1991).

Successively, the comparison of Sicilian specimens with living material of subsp. *apulica*, coming from Apulian area, allowed to establish that effectively there are some similarities with the last, but some differences enable taxonomically to distinguish very well the two populations. Therefore the Sicilian plants represent a new taxon, which can be treated as a subspecies of *S. orientalis*.

**Serapias orientalis** (Greuter) Baumann & Künkele subsp. **siciliensis** Bartolo & Pulvirenti, **subsp. nov.** (Fig. 1, 2).

**Typus:** Sicilia: Niscemi, presso il vallone Arcia, 13.3.1991, *Bartolo, Brullo & Pulvirenti s.n.* (holotypus: CAT).

Planta elata (13-)14-25(-28) cm alta, tuberibus 2 ovoideis, breviter appendiculatis. Caulis erectus, teres, viridis. Folia basalia 4-6, viridia, basi albescentia, rubro maculata, lanceolata 10-16 × 0.7-1.5(-2) cm; folia caulinea 1-2, caulem involventia saepe purpurea. Inflorescentia elongata, (3-)4-7(-8) floribus densiuscule congestis. Bractea ventricosa, ovato-lanceolata, acuto-apiculata, viridia dilute violacea, aliquando purpureo-violacea, (3-)3.5-4.8(-5.5) × (1.2-)1.4-1.8(-2.3) cm, subequalia vel longior sepalorum. Sepala et petala galeam acutam formant, in pagina externa dilute violacea, 5 nervibus viridi-violaceis. Sepala lateralia oblique lineari-lanceolata, (22-)24-28(-30) × (5-)6-8 mm. Sepalum medium lineari-lanceolatum, 23-27(-29) × 6-9 mm. Petala subrotundo-compressa, atropurpurea, longe apiculata, (1.8-)2-2.5 × 0.6-0.7(-0.8) cm. Labellum 32-42 × 20-24 mm, geniculatum, epichilo verticali, basi callis duobus, linearibus, divergentibus, roseo-purpureis, albescentibus in parte terminali, lucidis, in fauce et in superiore parte epichili pilosum. Hypochilum late reniformis, 10-11 × 20-24 mm, marginibus purpureo-violaceis, centro albo-roseo, inclusum vel paulo exsertum e galea. Epichilum subcordato-parabolicum, (20-)22-28(-31) × (11-)12-17 mm, uniformiter purpureo-violaceum, aliquando ocreo-purpureum, margine saepe crenulato. Gynostemium rostro lineari-lanceolato, purpureo, 6 mm longo, pollinia olivacea.

*Examined specimens.* — Sicily: Niscemi, presso il Vallone Arcia, 23.3.1990, *Bartolo, Brullo & Pulvirenti s.n.* (CAT); *ibid.*, 13.3.1991, *Bartolo, Brullo & Pulvirenti s.n.* (CAT); *ibid.*, 11.4.1992, *Bartolo, Brullo & Pulvirenti s.n.* (CAT); Niscemi (cda. Pisciotto), 11.4.1992, *Bartolo, Brullo & Pulvirenti s.n.* (CAT); Sampieri (cda. Pisciotto), 20.4.1992, *Bartolo & Brullo s.n.* (CAT).

### Ecology

*Serapias orientalis* subsp. *siciliensis* was collected in S. Sicily, where it grows in the *Quercus suber* L. woods and in the garigues of *Thymus capitatus* (L.) Hoffm. & Link and *Helichrysum stoechas* (L.) Moench. It occurs prevalently on sandy soils together with other orchids, viz *Serapias lingua* L., *Serapias vomeracea* (Burm. f.) Briq. subsp. *vomeracea*, *Serapias vomeracea* (Burm. f.) Briq. subsp. *laxiflora* (Soò) Gözl & Reinhard, *Barlia robertiana* (Loisel.) Greuter, *Ophrys tenthredinifera* Willd., *Ophrys fusca* Link, *Ophrys sphegodes* Miller, *Ophrys incubacea* Bianca ex Tod., *Ophrys lunulata* Parl., *Ophrys oxyrhynchus* Tod., *Ophrys ciliata* Biv., *Ophrys bertolonii* Moretti, *Ophrys bombyliflora* Link, *Orchis longicornu* Poiret, *Orchis papilionacea* L. subsp. *grandiflora* (Boiss.) Baumann, *Orchis italica* Poiret, *Orchis collina* Banks & Sol. ex Russel. Therefore, *S. orientalis* subsp. *siciliensis* can be considered a psammophilous element, geographically quite isolated from the other populations belonging to *S. orientalis* cycle.

### Relationships

*S. orientalis* is a species with a prevalently E. Mediterranean distribution, showing close relations with *S. vomeracea*, from which differs in denser inflorescence, wider petals (6-12 mm),

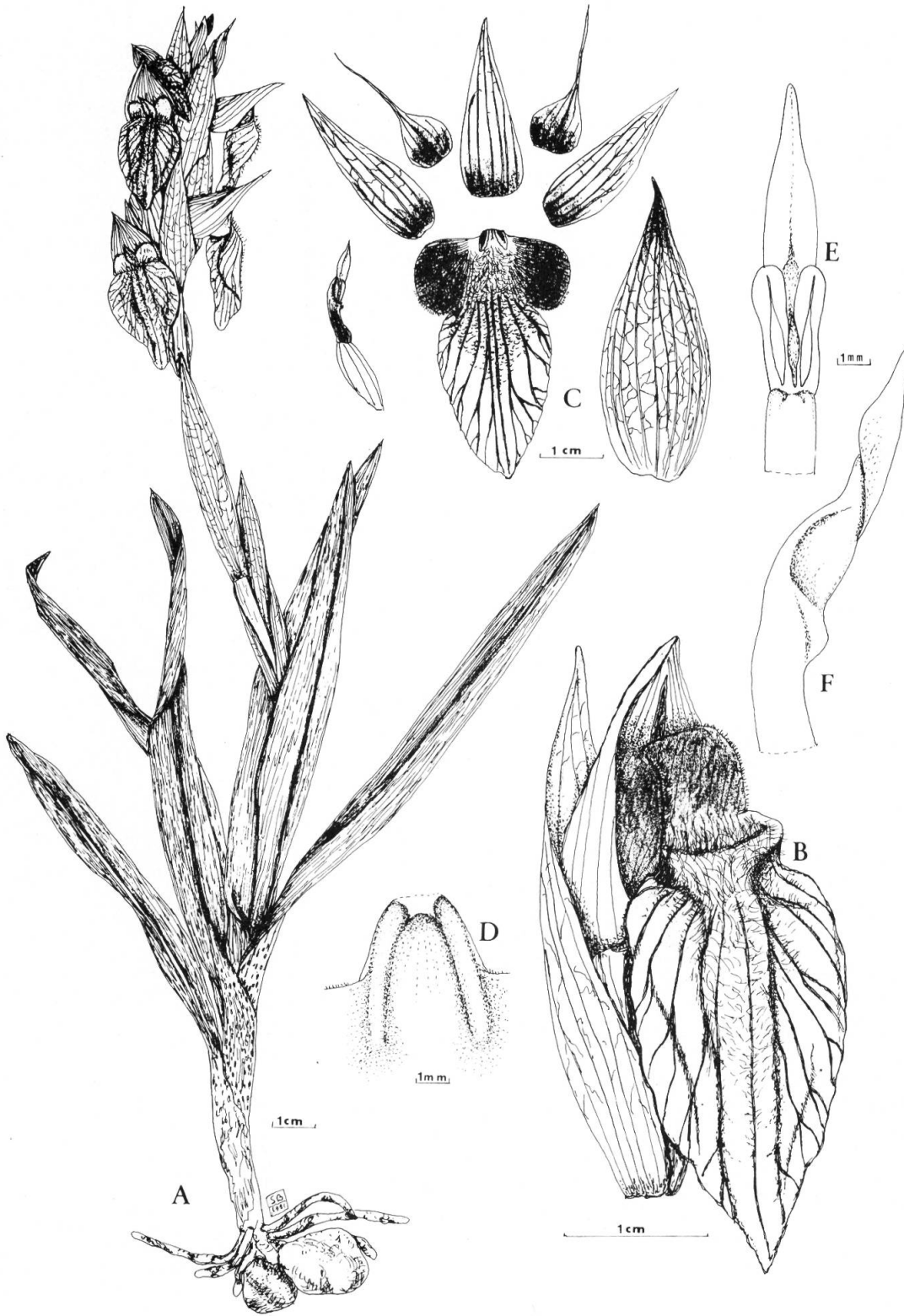


Fig. 1. — *Serapias orientalis* subsp. *siciliensis* Bartolo & Pulvirenti.  
A, habit; B, flower and bract; C, flower pieces; D, basal ridges; E, gynostegium frontal view; F, gynostegium lateral view.



Fig. 2. — Flower variability.

Character	<i>S. orientalis</i> subsp. <i>siciliensis</i>	<i>S. orientalis</i> subsp. <i>apulica</i>
Inflorescence flowers	No. (3-)4-7(-8)	No. 2-5
Bract length . . . . .	(3-)3.5-4.8(-5.5) cm	(3.5-)4.5-5 cm
Bract width . . . . .	(1.2-)1.4-1.8(2.3) cm	1.5-2.7 cm
Bract colour . . . . .	green-purplish	purplish-violet
Lateral sepal width . .	(5-)6-8 mm	7-11(-12) mm
Central sepal width . .	6-9 mm	7-12 mm
Sepal colour . . . . .	green-purplish to purplish-violet	dark-purplish to purplish-violet
Petal width . . . . .	6-7(-8) mm	8-12 mm
Petal outline . . . . .	subrounded flattened	rounded or ovate-rounded
Petal colour . . . . .	black-purplish with sharpness green-purplish	entirely black-purplish
Hypochile dimension	10-11 × 20-24 mm	11-13(-15) × (21-)24-28 mm
Hypochile colour . . .	laterally purplish-violet, centrally white-pinkish	laterally black-purplish, centrally purplish-violet
Basal ridges . . . . .	divergent, 3.5-4 mm long, purplish near basal region, white-pinkish distally	parallel or lightly divergent, 5 mm long, uniformly black-purplish
Gynostegium beak . . .	linear-lanceolate, 6 mm long	linear-acute, 3-3.5 mm long

Table 1. — Morphological differences between the subsp. *siciliensis* and the subsp. *apulica* of *S. orientalis*. Measurements are based on living material.

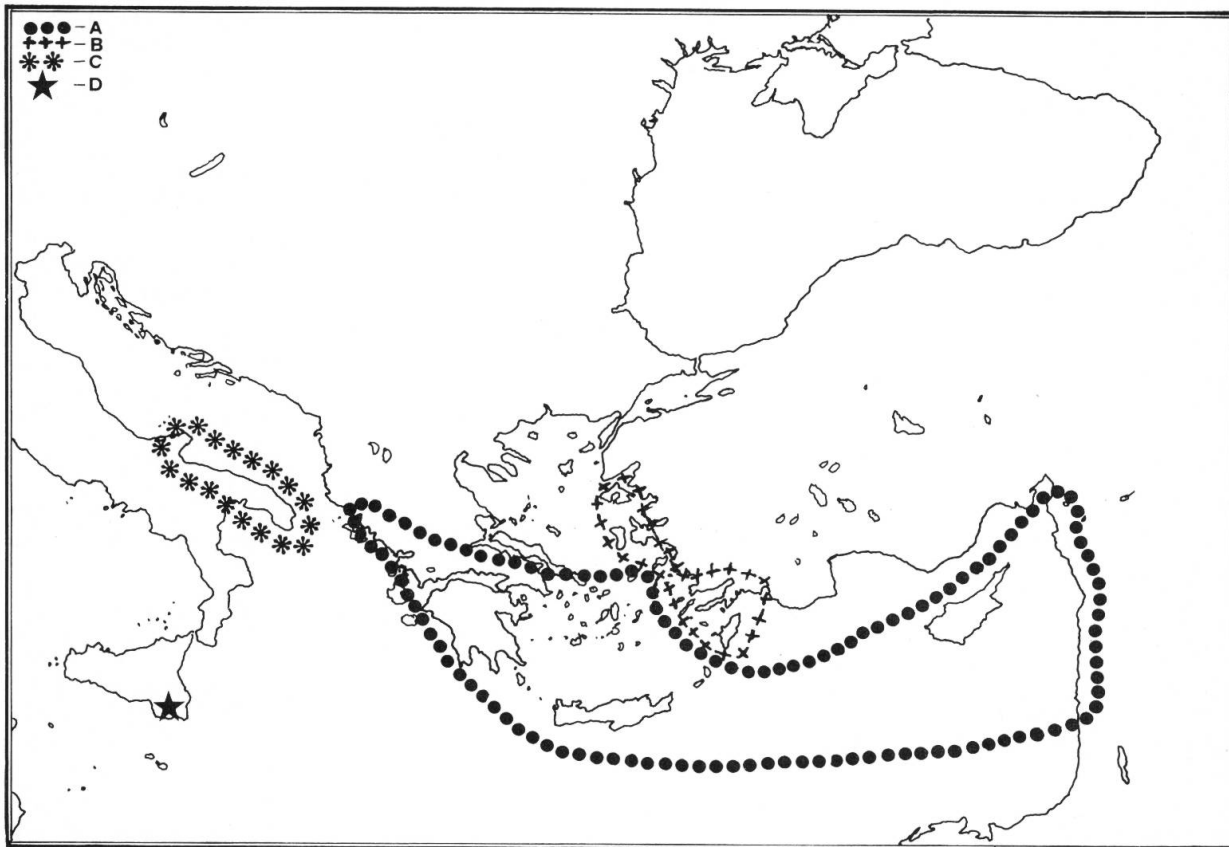


Fig. 3. — Geographical distribution of the subspecies of *Serapias orientalis* (Greuter) Baumann & Künkele. A, subsp. *orientalis*; B, subsp. *carica*; C, subsp. *apulica*; D, subsp. *siciliensis*.

purplish to black-purplish basal ridges and ovato-lanceolate to cordate label (11-23 mm wide); in fact *S. vomeracea* is normally characterized by laxe inflorescence, narrower petals (5-7 mm), pale basal ridges and lanceolate epichile (9-11 mm wide).

As above emphasized in the ambit of *S. orientalis*, can be individuated various subspecies well differentiated taxonomically and for its identification the following key is given.

#### Key

1. Epichile normally ochre to pale-purple, 8-11 mm wide . . . . . subsp. **orientalis**
- 1a. Epichile red-purplish to black-purplish, 10-17 mm wide . . . . . 2
2. Petals 8-12 mm wide, basal ridges parallel or slightly divergent . . . . . subsp. **apulica**
- 2a. Petals 6-7 mm wide, basal ridges divergent . . . . . 3
3. Hypochile 11-15 mm wide, with lateral lobes markedly auriculate . . . . . subsp. **carica**
- 3a. Hypochile 10-11 mm wide, with lateral lobes reniform . . . . . subsp. **siciliensis**

In particular, as concerns the subsp. *siciliensis*, it shows the closest similarities with the subsp. *apulica*, mainly for the occurrence of a dark-purplish epichile, 11-17 mm wide, since the subsp. *orientalis* is characterized by ochre to pale-purple epichile, 8-11 mm wide. However between the Sicilian populations and the Apulian ones there are remarkable differential characters, which allow to distinguish the two taxa (cf. Table 1).

Besides the subsp. *siciliensis* results quite related with the subsp. *carica*, with which it has in common the epichile red-purplish, normally very dark, the occurrence of basal ridges divergent and petal 6-7 mm wide, but differs for several morphological characters. In fact the subsp. *carica* has a fewer inflorescence with max 5 flowers, the epichile normally smaller (17-24 × 10-14 mm), the wider hypochile (11-15 mm) with lateral lobes markedly auriculate.

As regards its distribution in Sicily, *S. orientalis* subsp. *siciliensis* occurs, apart from the Southern part of the island, probably near Palermo too, where a population of *Serapias* with intermediate characters between *S. orientalis* and *S. neglecta* was found by GÖLZ & REINHARD (l.c.). Effectively on the basis of the photo published by those authors (Fig. 2) the specimen seems very similar to *S. orientalis* subsp. *siciliensis*, but only the observation of exsiccata, or better of living material, can permit an exact identification.

As concerns the geographical distribution of the subspecies up to now known of *S. orientalis*, it is reported in the Fig. 3.

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