

# A Synopsis and Nomenclatural Review of *Orobanche* (Orobanchaceae)

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## Abstract

A synopsis of the genus *Orobanche* (Orobanchaceae) at the specific and infraspecific ranks is provided. *Orobanche* is here circumscribed to include all species that have recently been placed in the genera *Aphyllon*, *Boulardia*, *Orobanche*, *Orobanchella*, *Phelipaea*, and *Phelipanche*. In total, 174 species are recognised; six of them are divided into subspecies and 15 into varieties, making for a total of 216 taxa at the specific and infraspecific ranks. *Orobanche* subg. *Aphyllon* (Mitch.) Domina and *O.* subg. *Diphelypaea* Domina are established. The new name *Orobanche collinsii* Domina (*Aphyllon spectabile* L.T.Collins, Velazco & A.C.Schneid) is proposed along with twenty-six new combinations, including 12 at species rank and 14 at varietal rank. For each accepted taxon, synonymy, distribution, and information on host plants is provided.

**Keywords** Taxonomy · nomenclature · inventory · checklist · new synonyms · new combinations · parasitic plants · broomrape

## Introduction

A synopsis of *Orobanche* (Orobanchaceae) at the specific and infraspecific levels is provided here. This study aims to provide a stable backbone of accepted names with synonyms, distributions, and known hosts of all accepted taxa. *Orobanche* sensu lato includes parasitic plants distributed in all continents except Antarctica. This group of plants lacks vegetative parts; the floral scape lasts a couple of weeks and loses some morphological characteristics with desiccation. Different hosts may be responsible for morphological variations in the parasite (Domina, 2018), but genetic differentiation may be obscured by cryptic morphology (Thorogood et al., 2009). All these circumstances have further complicated earlier studies. The last published revision of the entirety of *Orobanche* is that of Beck (1930). He divided the genus into four sections: *O.* sect. *Gymnocaulis* Nutt., sect. *Myzorrhiza* (Philippi) G. Beck [=sect. *Nothaphyllon* (A. Gray) Heckard], sect. *Osproleon* Wallr. [sect. *Orobanche*], and sect. *Trionychon* Wallr., and for each taxon, he provided the accepted name, synonyms, description, distribution,

host plants, and specimens seen. Starting at the end of the 19<sup>th</sup> century, several authors have proposed dividing *Orobanche* into different genera on the basis of morphological (Piwowarczyk, 2015; Zare & Dönmez, 2016; Ruraž & Piwowarczyk, 2022) and karyological (Schneeweiss et al., 2004b) approaches. On the basis of molecular data some authors (e.g., Schneeweiss, et al., 2004a) divided *Orobanche* into four genera: *Aphyllon* Mitch., *Boulardia* F. W. Schultz, *Orobanche* L., and *Phelipanche* Pomel. A fifth genus, *Orobanchella* Piwow., M. Nobis, & Madeja, was subsequently proposed (Piwowarczyk et al., 2015), with macro-morphological features of *Orobanche* and pollen micro-morphology as in *Phelipanche*.

The phylogenetic relationships among the species of *Orobanche* sensu lato were assessed in studies using plastid (*rps2*, *matK*, *rbcL*) and nuclear (18S, ITS, *PhyA*) markers (Manen et al., 2004; Park et al., 2008; Piwowarczyk et al., 2021; Mortimer et al., 2022; Xuekun et al., 2023; Cai et al., 2025), and are not univocal with regard to the classification of individual species. This highlights the importance of a well sampled and well resolved phylogenies, which are still missing for this group. In all of these studies, the complex of taxa attributed to *Orobanche* sensu stricto, *Aphyllon*, *Boulardia*, *Diphelypaea*, and *Phelipanche* always appears separate from other *Orobanche*-like taxa, such as *Cistanche*. Over the years, genetic studies initially separated *Phelypaea* from *Orobanche* due to its distinctive morphology but retained other *Orobanche*-like plants within the genus *Orobanche*

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(Schneeweiss & al., 2004). For “*Phelypaea*” [= *Orobanche sect. Trionychon*], the name *Phelipanche* had to be resurrected. For taxa having a single, large, terminal flower, Nicolson (1975) proposed the name *Diphelypaea*, until then little used (Cullen, 2010). Afterwards, *Aphyllon* was separated, because according to plastid genome analysis it forms a distinct clade (Schneider, 2016). All studies agree that these taxa are morphologically and phylogenetically distinct; but not every clade or subclade that is resolved and supported necessarily requires a generic name. In the present case, it seems more practical to place the few species of *Aphyllon*, *Boulardia*, *Diphelypaea*, and *Phelipanche* in *Orobanche* and thus provide a nomenclaturally much more stable framework. The distinction can still be made at the level of sections, as proposed by Beck (1930), or subgenera, as proposed by Tzvelev (1981) and Pujadas Salvà (2007).

When assessed on the basis of current knowledge, this approach may initially appear to be a step backwards, but it actually brings taxonomy and nomenclature closer to the justified needs of users and avoids the proliferation of new, additional genera and taxa. Parasitic plants arouse the interest not only of taxonomists but also agronomists (for the damage that some taxa may cause to crops), conservationists (due to the threatened status of many taxa), and amateurs (for their botanical curiosity). The protection of stable nomenclatural systems is essential for effective and universal scientific communication (Jiménez-Mejías et al., 2024). It seems more appropriate to me to respond to the needs of all users of the names (agronomists, legislators, traders, etc.), rather than those of the taxonomists alone, to recognize as species only taxa morphologically well recognizable on which there is a general consensus, to distinguish subspecies when there are morphological and clear geographical distinctions, and varieties for taxa that are poorly differentiated, that share the same geographical distribution, and for which a varying taxonomic ranks have been accepted. New genera and taxa could be proposed when more detailed investigations lead to the detection of stable subdivisions.

Concerning taxon delimitation, the tug-of-war between splitters and lumpers has found fertile ground in this genus. Research has often led to the splitting of taxa that are difficult to recognize even for taxonomists and that create confusion among plant scientists and other users. For instance, *Orobanche canescens* C. Presl was described as a species very similar to *O. minor* Sm., but differing by its tubular corolla and yellow stigma. But individuals with intermediate features are found, for which attribution to one or other of the two species is an arbitrary decision.

*Orobanche* species do exhibit great intraspecific variability, accentuated by the paucity of diagnostically useful vegetative features. Morphological adaptation to environmental conditions and morphological variations due to the hosts (Domina, 2018) can lead to mere forms or varieties

that were sometimes interpreted as different species (Thoroughgood et al., 2009; Schneider et al., 2016). Taxa with minor morphological differences may, in some cases, grow on the same host and be given different names (e.g., *Orobanche lavandulacea* Rchb. and *Phelipanche lavandulacioides* Carlón et al.). In other cases, slight morphological differences appear to reflect host preference (e.g., *O. cernua* L. on *Artemisia* spp., *O. cumana* on *Helianthus annuus* L., *O. grenieri* F. W. Schultz on *Lactuca* spp.). To confound matters even more, type specimens for many taxa have yet to be designated, and among those which have, several are in poor condition of preservation or have been lost. All this generates further confusion, as was recently highlighted in a study of *Cistanche* (Aldughayman et al., 2024).

## Materials & Methods

For this review, morphological study of the original materials on which the names were based were examined. When these were unavailable, they were substituted by herbarium specimens collected in the original localities. Particular care was used in the cases of taxa known from a single locality and for groups of taxa that are known to share the same host plant. The checklist generated by POWO (2024) was chosen as a starting point. The taxa recognized by some authors at the specific level, but that show insufficient morphological differentiation, are here treated as varieties, so as not to lose potentially useful information. The varieties accepted here, therefore, are the better known ones, which are currently widely recognized at some rank, but many others could be distinguished with equal justification.

For each accepted name, the synonyms (homotypic first, then heterotypic, in chronological order), the gross native and naturalized distribution, and the known host plant(s) are reported.

The hosts were recorded from literature (e.g., Beck-Mannagetta, 1930; Gilli, 1976, 1982; Sánchez Pedraja et al., 2017 onward; Piwowarczyk et al., 2019, 2023) or, for very few cases, directly from the herbarium specimens (e.g., *Orobanche parishii*); herbarium codes follow Thiers (2025).

The distributional areas were verified using the major taxonomic reviews, floras (Beck-Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Chater & Webb, 1972; Gilli, 1976, 1982; Jafri, 1976; Greuter et al., 1989; Uhlich et al., 1995; Domina et al., 2013; Collins & Yatskievych 2015; Schneider, 2016; Colwell et al., 2017; Collins et al., 2019, 2023; Piwowarczyk et al., 2019, 2023; Francisco-Gutiérrez & Alvarado Cárdenas, 2023; Zhang & Tzvelev, 2024; Rätzel et al., 2025) on Euro+Med (2006 onward), Sánchez Pedraja et al. (2016 onward), GBIF.org (2024 onward), POWO (2025), and CABI (2025). For the geographical summary at the level of continents,

geographical rather than geopolitical criteria were used: the Canary Islands were considered as part of Africa; Anatolia, Cyprus, and the eastern coasts of the Mediterranean were considered as part of Asia.

## Results

In total, 174 species of *Orobanche* are recognized here: 25 in subgenus *Aphyllon*, one in subgenus *Ceratocalyx*, two in subgenus *Diphelypaea*, 96 in subgenus *Orobanche*, and 50 in subgenus *Trionychnon* (Table 1). Six of the species are divided into subspecies (all from *O.* subg. *Aphyllon*), and fifteen into varieties (from *O.* subg. *Diphelypaea*, *O.* subg. *Orobanche*, and *O.* subg. *Trionychnon*), for a combined total of 216 taxa at the specific and infraspecific levels (Table 1). The difference in infraspecific ranks may be due in part to the different biology of the two groups of taxa, and/or in part to the attitude of American taxonomists (e.g., Schneider et al., 2016; Collins et al., 2019, 2023), who have aimed to search for morphological variability associated with the geographical distribution. This study proposes the following taxonomic revisions within *Orobanche*: Two new subgenera are established, *Orobanche* subg. *Aphyllon* (Mitch.) Domina to accommodate taxa previously classified under *Aphyllon* Mitch., and *O.* subg. *Diphelypaea* Domina for taxa formerly placed in *Phelypaea* L. Additionally, the new name *Orobanche collinsii* Domina is proposed for *Aphyllon spectabile* L.T.Collins, Velazco & A.C.Schneid. The work includes 26 new combinations, comprising 12 at the specific level for taxa originally described under *Aphyllon*, *Phelipanche*, and *Phelypaea* that required corresponding combinations in *Orobanche*, along with 14 at the varietal rank to formally recognize infraspecific variation within other species (Table 2). Eight unplaced names were reported at the end because they remain undetermined given that the original materials are unknown and the descriptions are incomplete.

The continent that hosts the highest number of *Orobanche* species is Asia (106 spp.), followed by Europe (79), Africa (26), North America (22), South America (5), and Australia (4).

Asteraceae are the family that is most often parasitized by *Orobanche* (76 parasitic species), followed by Lamiaceae (23), Apiaceae and Fabaceae (22 each), Brassicaceae (10), Dipsacaceae and Solanaceae (7 each), Boraginaceae

(5), Chenopodiaceae and Rosaceae (4), Fagaceae, Plantaginaceae and Ranunculaceae (3), Anacardiaceae, Geraniaceae, Oleaceae, Plantaginaceae, and Viburnaceae (2). Many families are reported as regular hosts of a single species of *Orobanche* (Araliaceae, Berberidaceae, Campanulaceae, Euphorbiaceae, Garryaceae, Resedaceae, Scrophulariaceae, etc.). For fourteen species, no host is known. Thirty-three species of *Orobanche* have a species-specific relationship with their host, 47 are mostly reported on a single genus, 52 on different species from the same family, and 25 are putatively generalists (Table 3). In several cases, there is no certainty of the host, even when digging around parasites the roots of several potential hosts as the haustoria appear tangled. We can mention *Orobanche chironii* Lojac. and *O. pinorum* Geyer ex Hooker, so called because they were thought to grow on *Opopanax chironium* (L.) W.D.J.Koch (Apiaceae) and *Pinus* spp. (Pinaceae), respectively, but these hosts have never been confirmed (Domina & al., 2011; Collins et al., 2019).

## Taxonomic Treatment

***Orobanche* L., Sp. Pl.: 632 (1753). TYPE: *Orobanche major* L., Sp. Pl.: 632 (1753) nom. rej.**

The name *Orobanche major* L. was rejected after the proposal by Turland and Rumsey (1997) because it has been applied to three different species. In the same contribution Turland and Rumsey (1997) designated as lectotype of this name the specimen: Herb. Clifford: 321, *Orobanche* No. 1, fol. A (BM). According to Art. 56.1, note 1, of the International Code of Nomenclature for algae, Fungi and Plants (Turland et al. 2025) a name rejected does not become illegitimate on account of its rejection and can continue to provide the type of a name at higher rank. This means *O. major* L. continues to define the identity of both the subgenus *Orobanche* and the entire genus *Orobanche*.

***Orobanche* subg. *Aphyllon* (Mitch.) Domina, subg. nov.** *Aphyllon* Mitch., Diss. Bot. Zool.: 43 (1769). *Thalesia* Raf. ex Britton, Mem. Torrey Bot. Club 5: 298 (1894), nom. illeg. TYPE: *Orobanche uniflora* L., Sp. Pl.: 633 (1753).

*Loxanthes* Raf., Neogenyton: 3 (1825).

**Table 1** Number of taxa accepted in *Orobanche* subdivided in subgenera

Taxon	<i>O.</i> subg. <i>Aphyllon</i>	<i>O.</i> subg. <i>Ceratocalyx</i>	<i>O.</i> subg. <i>Diphelypaea</i>	<i>O.</i> subg. <i>Orobanche</i>	<i>O.</i> subg. <i>Trionychnon</i>	Total
Species	26	1	2	96	50	175
Subspecies	11	0	0	0	0	11
Varieties	0	0	2	24	4	31
TOTAL	37	1	4	120	54	216

**Table 2** Nomenclatural novelties here proposed

New name	Basionim
<b>Orobanche</b> subg. <i>Aphyllon</i> (Mitch.) Domina, <b>subg. nov.</b>	<i>Aphyllon</i> Mitch., Diss. Bot. Zool.: 43 (1769).
<b>Orobanche castiloi</b> (Franc.Gut., Cházaro & Espejo) Domina, <b>comb. nov.</b>	<i>Aphyllon castilloi</i> Franc.Gut., Cházaro & Espejo, Nordic J. Bot. 37(4)-e02124: 5 (2019).
<b>Orobanche chiapensis</b> (Franc.Gut. & L.O.Alvarado) Domina, <b>comb. nov.</b>	<i>Aphyllon chiapense</i> Franc.Gut. & L.O.Alvarado, Bot. Sci. 101: 1177 (2023).
<b>Orobanche collinsii</b> Domina, <b>nom. nov.</b>	<i>Aphyllon spectabile</i> L.T.Collins, Velazco & A.C.Schneid., Syst. Bot. 48: 588 (2023).
<b>Orobanche epigalia</b> (Colwell & A.C.Schneid.) Domina, <b>comb. nov.</b>	<i>Aphyllon epigalium</i> Colwell & A.C.Schneid., Madroño 64(3): 100. (2017).
<b>Orobanche franciscana</b> (Achey) Domina, <b>comb. nov.</b>	<i>Orobanche fasciculata</i> var. <i>franciscana</i> Achey, Bull. Torrey Bot. Club 60: 450 (1933).
<b>Orobanche gypsophila</b> (L.T.Collins) Domina, <b>comb. nov.</b>	<i>Aphyllon gypsophilum</i> L.T.Collins, Syst. Bot. 48: 591 (2023)
<b>Orobanche</b> subg. <i>Diphelypaea</i> Domina, <b>subg. nov.</b>	<i>Diphelypaea</i> Nicolson, nom. illeg. <i>Phelypaea</i> L., 1758 (non <i>O.</i> subg. <i>Phelipaea</i> Nyman, Consp. Fl. Eur.: 133. 1854-1855?).
<b>Orobanche coccinea</b> var. <i>boissieri</i> (Reut.) Domina, <b>comb. nov.</b>	<i>Anoplanthus biebersteinii</i> var. <i>boissieri</i> Reut. in A.P.de Candolle, Prodr. 11: 42 (1847).
<b>Orobanche coccinea</b> var. <i>helenae</i> (Popl. ex Sukaczew) Domina, <b>comb. &amp; stat. nov.</b>	<i>Phelypaea helenae</i> Popl. ex Sukaczew, Dokl. Akad. Nauk S.S.S.R. 1928: 385 (1928).
<b>Orobanche tournefortii</b> (Desf.) Domina, <b>comb. nov.</b>	<i>Phelypaea tournefortii</i> Desf., Ann. Mus. Hist. Nat. 10: 298 (1807).
<b>Orobanche alba</b> var. <i>epithymoides</i> (Duby) Domina, <b>comb. nov.</b>	<i>Orobanche epithimum</i> var. <i>epithymoides</i> Duby, Bot. Gall., ed. 2, 1: 349 (1828).
<b>Orobanche buekii</b> var. <i>mayeri</i> (Suess. & Ronniger) Domina, <b>comb. nov.</b>	<i>Orobanche alsatica</i> var. <i>mayeri</i> Suess. & Ronniger, Beitr. Naturk. Forsch. Oberrheingebiet 7: 123 (1942)
<b>Orobanche caryophyllacea</b> var. <i>clausonis</i> (Pomel) Domina, <b>comb. nov.</b>	<i>Orobanche clausonis</i> Pomel, Nouv. Mat. Fl. Atl. 1: 107 (1874)
<b>Orobanche centaurina</b> var. <i>staehelinae</i> (D. Pav., Michaud, Véla & J.-M. Tison) Domina, <b>comb. &amp; stat. nov.</b>	<i>Orobanche staehelinae</i> D. Pav., Michaud, Véla & J.-M. Tison, Phytotaxa 207: 96 (2015).
<b>Orobanche cernua</b> var. <i>grenieri</i> (F.W.Schultz) Domina, <b>comb. &amp; stat. nov.</b>	<i>Orobanche grenieri</i> F.W.Schultz, Flora 28: 739 (1845).
<b>Orobanche elatior</b> var. <i>leptantha</i> (Pomel) Domina, <b>comb. &amp; stat. nov.</b>	<i>Orobanche leptantha</i> Pomel, Nouv. Mat. Fl. Atl. 1: 110 (1874).
<b>Orobanche litorea</b> var. <i>iammonensis</i> (Pujadas & P.Fraga) Domina, <b>comb. &amp; stat. nov.</b>	<i>Orobanche iammonensis</i> A.Pujadas & P.Fraga, Bot. J. Linn. Soc. 158: 723 (2008).
<b>Orobanche minor</b> var. <i>canescens</i> (C.Presl) Domina, <b>comb. &amp; stat. nov.</b>	<i>Orobanche canescens</i> C.Presl in J.S.Presl & C.B.Presl, Delic. Prag.: 72 (1822).
<b>Orobanche reticulata</b> var. <i>agigensis</i> (Rätzel & Uhlich) Domina, <b>comb. &amp; stat. nov.</b>	<i>Orobanche reticulata</i> subsp. <i>agigensis</i> Rätzel & Uhlich, Willdenowia 46: 430 (2016).
<b>Orobanche chionistrae</b> (Rätzel, Hand, Christodoulou & Uhlich) Domina, <b>comb. nov.</b>	<i>Phelipanche chionistrae</i> Rätzel, Hand, Christodoulou & Uhlich, Candollea 76: 78 (2021).
<b>Orobanche gussoneana</b> (Lojac.) Domina, <b>comb. nov.</b>	<i>Phelypaea gussoneana</i> Lojac., Naturalista Sicil. 1: 197 (1882).
<b>Orobanche hajastanica</b> (Piwow., Ó.Sánchez & Moreno Mor.) Domina, <b>comb. nov.</b>	<i>Phelipanche hajastanica</i> Piwow., Ó.Sánchez & Moreno Mor., Ann. Bot. Fenn. 54: 118 (2017).
<b>Orobanche inexpectata</b> var. <i>sinaica</i> (Beck) Domina, <b>comb. nov.</b>	<i>Orobanche mutelii</i> var. <i>sinaica</i> Beck, Biblioth. Bot. 4(19): 97 (1890).
<b>Orobanche lavandulacea</b> var. <i>carlonii</i> Domina, <b>nom. nov. &amp; stat. nov.</b>	<i>Phelipanche lavandulaceoides</i> Carlón, G.Gómez, M.Laínz, Moreno Mor., Ó.Sánchez & Schneew., Doc. Jard. Bot. Atlántico 6: 87 (2008).
<b>Orobanche lavandulacea</b> var. <i>trichocalyx</i> (Webb & Berthel.) Domina, <b>comb. &amp; stat. nov.</b>	<i>Phelypaea trichocalyx</i> Webb & Berthel., Hist. Nat. Iles Canaries 3(2; 3): 154 (1845).
<b>Orobanche pallens</b> (Bunge ex Ledeb.) Domina, <b>comb. nov.</b>	<i>Phelypaea pallens</i> Bunge ex Ledeb., Fl. Ross. 3: 312 (1849).
<b>Orobanche sevanensis</b> (Piwow., Ó.Sánchez & Moreno Mor.) Domina, <b>comb. nov.</b>	<i>Phelipanche sevanensis</i> Piwow., Ó.Sánchez & Moreno Mor., Phytotaxa 292(3): 232 (2017).
<b>Orobanche zangezuri</b> (Piwow., Ó.Sánchez & Moreno Mor.) Domina, <b>comb. nov.</b>	<i>Phelipanche zangezuri</i> Piwow., Ó.Sánchez & Moreno Mor., Ann. Bot. Fenn. 55: 17 (2017).

Table 3 Host plant preference in the different subgenera of *Orobanchae*

Host	Host Host	Host Host	O. subg. <i>Ceratocalyx</i>	O. subg. <i>Diptelypaea</i>	O. subg. <i>Orobanchae</i>	O. subg. <i>Triorycton</i>	Total
Single species	5	0	0	0	15	14	33
Single genus	7	1	1	1	27	13	47
Single family	9	0	0	1	36	7	52
Generalist	3	0	0	0	10	12	25
Unknown	2	0	0	0	8	4	14
TOTAL	26	1	1	2	96	50	175

*Gymnocaulis* (Nutt.) Nutt., J. Acad. Nat. Sci. Philadelphia, ser. 2, 1: 180 (1848).

*Myzorrhiza* Phil., Linnaea 29: 36 (1858).

**1. *Orobanchae arizonica*** L.T.Collins, Phytoneuron 2015-48: 16 (2015). *Aphyllon arizonicum* (L.T.Collins) A.C.Schneid., PhytoKeys 75: 112 (2016).

**Distribution.** Nevada to New Mexico (Collins & Yatskievych 2015; Collins et al., 2019; POWO, 2025).

**Host.** *Gutierrezia* spp. (Asteraceae) (Schneider et al., 2016; Collins & Yatskievych 2015; Collins et al., 2019).

**2. *Orobanchae bulbosa*** Beck, Biblioth. Bot. 4(19): 83 (1890). *Phelypaea tuberosa* A.Gray, Proc. Amer. Acad. Arts 7: 371 (1868). *Aphyllon tuberosum* (A.Gray) A.Gray in S.Watson & al., Bot. California 1: 585 (1876). *Orobanchae tuberosa* (A.Gray) A.Heller, Cat. N. Amer. Pl.: 7 (1898), nom. illeg. *Myzorrhiza tuberosa* (A.Gray) Rydb., Bull. Torrey Bot. Club 36: 695 (1909).

**Distribution.** California to Mexico (Baja California Norte) (Beck Mannagetta, 1930; Sánchez Pedraja et al., 2016 onward; Collins et al., 2019; POWO, 2025).

**Host.** *Adenostoma fasciculatum* Hook. & Arn. (Rosaceae) (Schneider et al., 2016; Sánchez Pedraja et al., 2017 onward; Collins et al., 2019).

**3. *Orobanchae californica*** Cham. & Schltdl., Linnaea 3: 134 (1828).

**Distribution.** SW British Columbia to NW Mexico (Beck Mannagetta, 1930; Collins et al., 2019, 2023; POWO, 2025).

**Host.** Asteraceae (Schneider et al., 2016; Collins et al., 2019, 2023).

**3a. *Orobanchae californica* subsp. *californica*.** *Phelypaea californica* (Cham. & Schltdl.) G.Don, Gen. Hist. 4: 632 (1838). *Aphyllon californicum* (Cham. & Schltdl.) A.Gray in S.Watson & al., Bot. California 1: 584 (1876). *Myzorrhiza californica* (Cham. & Schltdl.) Rydb., Bull. Torrey Bot. Club 36: 695 (1909). *Orobanchae californica* var. *typica* Munz, Bull. Torrey Bot. Club 57: 619 (1930 publ. 1931), nom. inval.

*Phelypaea erianthera* S.Watson, Botany [Fortieth Parallel]: 225 (1871), nom. illeg.

*Myzorrhiza hutchinsoniana* Davidson, Bull. S. Calif. Acad. Sci. 20: 51 (1921).

*Orobanchae grayana* var. *nelsonii* Munz, Bull. Torrey Bot. Club 57: 616 (1930 publ. 1931).

**Distribution.** SW British Columbia to California (Collins et al., 2019; POWO, 2025).

**Host.** Mainly on *Grindelia* spp., reported also on *Eriophyllum* spp. and other Asteraceae (Collins et al., 2019).

**3b. *Orobanchae californica* subsp. *condensa*** Heckard, Madroño 22: 59 (1973). *Aphyllon californicum* subsp. *condensum* (Heckard) A.C.Schneid., PhytoKeys 75: 112 (2016).

**Distribution.** S California (Collins et al., 2019; POWO, 2025).

**Host.** *Heterotheca villosa* (Pursh) Shinnars (Asteraceae) (Collins et al., 2019).

**3c. *Orobanche californica* subsp. *feudgei*** (Munz) Heckard, Madroño 22: 62 (1973). *Orobanche grayana* var. *feudgei* Munz, Bull. Torrey Bot. Club 57: 616 (1930 publ. 1931). *Aphyllon californicum* subsp. *feudgei* (Munz) A.C.Schneid., PhytoKeys 75: 112 (2016).

**Distribution.** California to Mexico (Baja California) (Collins et al., 2019; POWO, 2025).

**Host.** *Artemisia tridentata* Nutt. (Asteraceae) (Collins et al., 2019).

**3d. *Orobanche californica* subsp. *grandis*** Heckard, Madroño 22: 60 (1973). *Aphyllon californicum* subsp. *grande* (Heckard) A.C.Schneid., PhytoKeys 75: 112 (2016).

**Distribution.** SW California (incl. Santa Rosa Island) (POWO, 2025).

**Host.** *Corethrogyne filaginifolia* (Hook. & Arn.) Nutt. and other Asteraceae (Schneider et al., 2016).

**3e. *Orobanche californica* subsp. *grayana*** (Beck) Heckard, Madroño 22: 54 (1973). *Orobanche grayana* Beck, Biblioth. Bot. 4(19): 79 (1890). *Myzorrhiza grayana* (Beck) Rydb., Bull. Torrey Bot. Club 36: 695 (1909). *Myzorrhiza californica* subsp. *grayana* (Beck) Uhlich, Kochia 9: 82 (2015). *Aphyllon californicum* subsp. *grayanum* (Beck) A.C.Schneid., PhytoKeys 75: 113 (2016).

*Orobanche comosa* Hook., Fl. Bor.-Amer. 2: 92 (1837), nom. illeg.

*Orobanche carnososa* J.G.Cooper, Nat. Hist. Wash. Territory: 50 (1859), orth. var.

*Phelypaea comosa* Torr. & A.Gray, Pacif. Railr. Rep. Stevens, Bot. 12(2): 45 (1860), nom. illeg.

*Aphyllon comosum* A.Gray in S.Watson & al., Bot. California 1: 584 (1876). *Myzorrhiza comosa* (A.Gray) Holub, Preslia 62: 196 (1990).

*Aphyllon violaceum* Eastw., Zoe 5: 85 (1900). *Myzorrhiza violacea* (Eastw.) Rydb., Bull. Torrey Bot. Club 36: 695 (1909). *Orobanche comosa* var. *violacea* (Eastw.) Jeps., Man. Fl. Pl. Calif.: 952 (1925). *Orobanche grayana* var. *violacea* (Eastw.) Munz, Bull. Torrey Bot. Club 57: 616 (1930, publ. 1931).

*Orobanche grayana* var. *typica* Munz, Bull. Torrey Bot. Club 57: 617 (1930 publ. 1931), nom. inval.

**Distribution.** Washington to California (Beck Mannagetta, 1930; Collins et al., 2019; POWO, 2025).

**Host.** Mainly *Aster* spp. and *Erygeron* spp., occasionally on *Grindelia* spp. (Asteraceae) (Schneider et al., 2016; Collins et al., 2019).

**3f. *Orobanche californica* subsp. *jepsonii*** (Munz) Heckard, Madroño 22: 57 (1973). *Orobanche grayana* var. *jepsonii* Munz, Bull. Torrey Bot. Club 57: 617 (1930 publ. 1931).

*Aphyllon californicum* subsp. *jepsonii* (Munz) A.C.Schneid., PhytoKeys 75: 113 (2016).

**Distribution.** Oregon to C California (Collins et al., 2019; POWO, 2025).

**Host.** Mainly on *Baccharis* spp., *Grindelia* spp., *Solidago* spp. (Asteraceae) (Collins et al., 2019).

**4. *Orobanche castilosa*** (Franc.Gut., Cházaro & Espejo) Domina, **comb. nov.** *Aphyllon castilloi* Franc.Gut., Cházaro & Espejo, Nordic J. Bot. 37(4)-e02124: 5 (2019).

**Distribution.** C Mexico (Collins et al., 2023; POWO 2025).

**Host.** *Simsia foetida* (Cav.) S.F.Blake (Asteraceae) (Collins et al., 2023).

**5. *Orobanche chiapensis*** (Franc.Gut. & L.O.Alvarado) Domina, **comb. nov.** *Aphyllon chiapense* Franc.Gut. & L.O.Alvarado, Bot. Sci. 101: 1177 (2023).

**Distribution.** S Messico (Francisco-Gutiérrez & Alvarado Cárdenas 2023).

**Host.** Unknown.

**6. *Orobanche chilensis*** (Phil.) Beck, Biblioth. Bot. 4(19): 82 (1890). *Myzorrhiza chilensis* Phil., Linnaea 29: 36 (1858). *Aphyllon chilense* (Phil.) Phil., Anales Univ. Chile 90: 201 (1895), pro syn. *Aphyllon chilense* (Phil.) A.C. Schneid. in PhytoKeys 75: 113 (2016).

**Distribution.** S Peru to Argentina (Beck Mannagetta, 1930; POWO, 2025).

**Host.** Asteraceae (Schneider et al., 2016).

**7. *Orobanche collinsii*** Domina, **nom. nov.** *Aphyllon spectabile* L.T.Collins, Velazco & A.C.Schneid., Syst. Bot. 48: 588 (2023).

**Distribution.** Northern Mexico (Collins et al., 2023).

**Host.** *Gymnosperma glutinosum* (Spreng.) Less. (Asteraceae) (probable host according to Collins et al., 2023).

**Notes.** This species was recently split by Collins et al. (2023) from *O. ludoviciana* by its larger flowers. To make a new combination under *Orobanche*, the name *O. spectabilis* could not be used because *O. spectabilis* Reut. is already in use for a Central Asian species parasiting *Artemisia* spp. It was, therefore, chosen to dedicate the new name to Turner L. Collins, a specialist in this group..

**8. *Orobanche cooperi*** (A.Gray) A.Heller, Cat. N. Amer. Pl.: 7 (1898).

**Distribution.** SW U.S.A. to NW Mexico (Beck Mannagetta, 1930; Collins et al., 2019, 2023; POWO, 2025).

**Host.** Asteraceae (*Ambrosia* spp., *Encelia* spp., *Sidneya* spp., *Viguiera* spp.) (Schneider et al., 2016; Collins et al., 2019, 2023).

**8a. *Orobanche cooperi* subsp. *cooperi*.** *Aphyllon cooperi* A.Gray, Proc. Amer. Acad. Arts 20: 307 (1885). *Orobanche ludoviciana* var. *cooperi* (A.Gray) Beck, Biblioth. Bot. 4(19): 81 (1890). *Myzorrhiza cooperi* (A.Gray) Rydb., Bull. Torrey Bot. Club 36: 695 (1909).

**Distribution.** SW U.S.A. to NW Mexico (Beck Managetta, 1930; Collins & Yatskiyevych 2015; Collins et al., 2019; POWO, 2025).

**Host.** Asteraceae (*Ambrosia* spp., *Encelia* spp., *Sidneya* spp.) (Collins & Yatskiyevych 2015; Collins et al., 2019).

**8b. *Orobanche cooperi* subsp. *latiloba*** (Munz) L.T.Collins, Phytoneuron 2015-48: 14 (2015). *Orobanche ludoviciana* var. *latiloba* Munz, Bull. Torrey Bot. Club 57: 621 (1930 publ. 1931). *Aphyllon cooperi* subsp. *latilobum* (Munz) A.C.Schneid., PhytoKeys 75: 114 (2016).

*Orobanche multicaulis* Brandegee, Univ. Calif. Publ. Bot. 6: 361 (1916). *Myzorrhiza multicaulis* (Brandegee) Holub, Preslia 62: 196 (1990).

*Orobanche multicaulis* var. *genuina* Munz, Bull. Torrey Bot. Club 57: 613 (1930 publ. 1931), nom. inval.

**Distribution.** SW U.S.A. to W Mexico (Collins & Yatskiyevych 2015; POWO, 2025).

**Host.** Asteraceae (Collins & Yatskiyevych 2015).

**8c. *Orobanche cooperi* subsp. *palmeri*** (Munz) L.T.Collins, Phytoneuron 2015-48: 16 (2015). *Orobanche multicaulis* var. *palmeri* Munz, Bull. Torrey Bot. Club 57: 613 (1930 publ. 1931). *Aphyllon cooperi* subsp. *palmeri* (Munz) A.C.Schneid., PhytoKeys 75: 114 (2016).

**Distribution.** S & C U.S.A. to NE & C Mexico (Collins & Yatskiyevych 2015; Collins et al., 2019; POWO, 2025).

**Host.** *Sidneya tenuifolia* (A.Gray) E.E.Schill. & Panero, *Viguiera* spp. (Asteraceae) (Collins & Yatskiyevych 2015; Collins et al., 2019; Francisco-Gutiérrez et al., 2019).

**9. *Orobanche corymbosa*** (Rydb.) Ferris, Contr. Dudley Herb. 5: 99 (1958).

**Distribution.** W & C Canada and U.S.A. (Collins et al., 2019; POWO, 2025).

**Host.** *Artemisia* spp. (Asteraceae), occasionally on *Iva* spp. (Asteraceae), *Atriplex* spp., and *Sarcobatus* spp. (Chenopodiaceae) (Schneider et al., 2016; Collins et al., 2019).

**9a. *Orobanche corymbosa* subsp. *corymbosa*.** *Myzorrhiza corymbosa* Rydb., Bull. Torrey Bot. Club 36: 696 (1909), *Orobanche californica* var. *corymbosa* (Rydb.) Munz, Bull. Torrey Bot. Club 57: 618 (1930 publ. 1931). *Aphyllon corymbosum* (Rydb.) A.C.Schneid., PhytoKeys 75: 114 (2016).

**Distribution.** W & C Canada and U.S.A. (Collins et al., 2019; POWO, 2025).

**Host.** *Artemisia tridentata* Nutt. (Asteraceae), occasionally on *Iva* spp. (Asteraceae), *Atriplex* spp., and *Sarcobatus* spp. (Chenopodiaceae) (Schneider et al., 2016; Collins et al., 2019).

**9b. *Orobanche corymbosa* subsp. *mutabilis*** Heckard, Canad. J. Bot. 56: 187 (1978). *Aphyllon corymbosum* subsp. *mutabile* (Heckard) A.C.Schneid., PhytoKeys 75: 114 (2016). *Aphyllon corymbosum* var. *mutabile* (Heckard) Tiehm, J. Bot. Res. Inst. Texas 18:15 (2024).

**Distribution.** W & C Canada to north-eastern California and New Mexico (CAS, barcode 499833; CAS, barcode 499834; COLO, barcode 00889600; COLO, barcode 00489492; COLO, barcode 01933530; GH, barcode 02082242; GH, barcode 02082243; US, barcode 686479; US, barcode 10957; WS, barcode 204916; POWO, 2025).

**Host.** *Artemisia* spp. (Asteraceae) (CAS, barcode 499834; GH, barcode 02082242).

**10. *Orobanche dugesii*** (S.Watson) Munz, Bull. Torrey Bot. Club 57: 613 (1930 publ. 1931). *Aphyllon dugesii* S.Watson, Proc. Amer. Acad. Arts 18: 132 (1882).

**Distribution.** C & S Mexico (Collins & Yatskiyevych, 2015; Schneider, 2016; Francisco-Gutiérrez et al., 2019; Francisco-Gutiérrez & Alvarado Cárdenas 2023).

**Host.** Asteraceae (probable hosts according to Collins & Yatskiyevych 2015) or *Nicotiana glauca* Graham (Solanaceae) (Francisco-Gutiérrez et al., 2019).

**11. *Orobanche epigalia*** (Colwell & A.C.Schneid.) Domina, **comb. nov.** *Aphyllon epigalium* Colwell & A.C.Schneid., Madroño 64(3): 100. (2017).

*Aphyllon epigalium* subsp. *notocalifornicum* Colwell & A.C. Schneid., Madroño 64(3): 103. (2017).

**Distribution.** Oregon to California (Colwell et al., 2017).

**Host.** *Galium* spp. (Rubiaceae) (Colwell et al., 2017).

**Notes.** Individuals with smaller, cream-colored corollas and slightly recurved lips were segregated by Colwell et al. (2017) as *Aphyllon epigalium* subsp. *notocalifornicum*.

**12. *Orobanche fasciculata*** Nutt., Gen. N. Amer. Pl. 2: 59 (1818). *Phelypaea fasciculata* (Nutt.) Spreng., Syst. Veg., ed. 16. 2: 818 (1825). *Anoplion fasciculatum* (Nutt.) G.Don, Gen. Hist. 4: 633 (1838). *Anoplanthus fasciculatus* (Nutt.) Walp., Repert. Bot. Syst. 3: 480 (1844). *Aphyllon fasciculatum* (Nutt.) Torr. & A.Gray in A.Gray, Manual: 281 (1848). *Gymnocaulis fasciculata* (Nutt.) Nutt., J. Acad. Nat. Sci. Philadelphia, ser. 2, 1: 180 (1848). *Thalesia fasciculata* (Nutt.) Britton, Mem. Torrey Bot. Club 5: 298 (1894). *Orobanche fasciculata* var. *typica* Achey, Bull. Torrey Bot. Club 60: 447 (1933), nom. inval.

*Phelypaea lutea* Parry, Amer. Naturalist 8: 214 (1874), nom. illeg.

*Aphyllon fasciculatum* var. *luteum* A.Gray, Syn. Fl. N. Amer. 2(1): 312 (1878). *Thalesia fasciculata* var. *lutea* (A.Gray) Britton, Mem. Torrey Bot. Club 5: 298 (1894). *Thalesia lutea* (A.Gray) Rydb., Bull. Torrey Bot. Club 36: 693 (1909). *Orobanche fasciculata* f. *lutea* (A.Gray) Beck in H.G.A.Engler (ed.), Pflanzenr., IV, 130: 51 (1930). *Anoplanthus luteus* (A.Gray) Rydb., Fl. Plains N. Amer.: 732 (1932). *Orobanche fasciculata* var. *lutea* (A.Gray) Achey, Bull. Torrey Bot. Club 60: 449 (1933).

*Orobanche fasciculata* var. *subulata* Goodman, Leaf. W. Bot. 5: 36 (1947).

**Distribution.** Alaska, Canada to Mexico (Baja California Norte, Chihuahua) (Beck Managetta, 1930; Sánchez

Pedraja et al., 2016 onward; Collins et al., 2019; POWO, 2025).

**Host.** Asteraceae (Beck Mannagetta, 1930; Schneider et al., 2016; Sánchez Pedraja et al., 2017 onward; Collins et al., 2019); Boraginaceae, Hydrophyllaceae, Namaceae, Polygonaceae, Rubiaceae, and others (Schneider et al., 2016; Collins et al., 2019).

**13. *Orobanche franciscana*** (Achey) Domina, **comb. nov.** *Orobanche fasciculata* var. *franciscana* Achey, Bull. Torrey Bot. Club 60: 450 (1933). *Aphyllon franciscanum* (Achey) A.C.Schneid., Syst. Bot. 46: 452 (2021).

**Distribution.** SW Canada, W U.S.A., NW Mexico (Schneider & al., 2021; POWO, 2025).

**Host.** Asteraceae, Hydrophyllaceae, Namaceae, Polygonaceae, Lamiaceae (Schneider & al. 2021).

**14. *Orobanche gypsophila*** (L.T.Collins) Domina, **comb. nov.** *Aphyllon gypsophilum* L.T.Collins, Syst. Bot. 48: 591 (2023)

**Distribution.** N Mexico (Collins et al., 2023; POWO, 2025).

**Host.** *Xanthisma* spp. (Asteraceae) (Collins et al., 2023).

**15. *Orobanche ludoviciana*** Nutt., Gen. N. Amer. Pl. 2: 58 (1818). *Phelypaea ludoviciana* (Nutt.) G.Don, Gen. Hist. 4: 632 (1838). *Conopholis ludoviciana* (Nutt.) A.Wood, Class-book Bot., ed. 2b: 512 (1861). *Aphyllon ludovicianum* (Nutt.) A.Gray in S.Watson & al., Bot. California 1: 585 (1876). *Orobanche ludoviciana* var. *genuina* Beck, Biblioth. Bot. 4(19): 81 (1890), nom. inval. *Myzorrhiza ludoviciana* (Nutt.) Rydb. in J.K.Small, Fl. S.E. U.S.: 1093 (1903).

*Aphyllon arenosum* Suksd., Allg. Bot. Z. Syst. 12: 27 (1906). *Orobanche multiflora* var. *arenosa* (Suksd.) Munz, Bull. Torrey Bot. Club 57: 623 (1930 publ. 1931). *Orobanche ludoviciana* var. *arenosa* (Suksd.) Cronquist, Vasc. Pl. Pacif. N.W. 4: 431 (1959).

*Orobanche ludoviciana* f. *albinea* B.Boivin, Phytologia 22: 347 (1972).

**Distribution.** W & C Canada, C U.S.A. (Beck Mannagetta, 1930; Collins et al., 2019, 2023; POWO, 2025).

**Host.** *Artemisia* spp., *Grindelia* spp., *Heterotheca villosa* (Pursh) Shinners, and other Asteraceae (Schneider et al., 2016; Collins et al., 2019, 2023).

**16. *Orobanche multiflora*** Nutt., Proc. Acad. Nat. Sci. Philadelphia 4(Mar.-Apr.): 22 (1848). *Aphyllon multiflorum* (Nutt.) A.Gray in S.Watson & al., Bot. California 1: 585 (1876). *Orobanche ludoviciana* var. *multiflora* (Nutt.) Beck, Biblioth. Bot. 4(19): 81 (1890). *Myzorrhiza multiflora* (Nutt.) Rydb., Bull. Torrey Bot. Club 33: 151 (1906). *Orobanche multiflora* var. *typica* Munz, Bull. Torrey Bot. Club 57: 622 (1930 publ. 1931), nom. inval. *Orobanche ludoviciana* subsp. *multiflora* (Nutt.) T.S.Collins ex H.L.White & W.C.Holmes, Sida 19: 623 (2001).

*Phelypaea erianthera* Engelm. ex A.Gray, Proc. Amer. Acad. Arts 7: 372 (1868).

*Orobanche multiflora* var. *pringlei* Munz, Bull. Torrey Bot. Club 57: 623 (1930 publ. 1931).

**Distribution.** Colorado to Texas (Beck Mannagetta, 1930; Collins et al., 2023; POWO, 2025).

**Host.** *Gutierrezia sarothrae* (Pursh) Britt. & Rusby and *Heterotheca* spp. (Asteraceae) (Collins et al., 2023).

**17. *Orobanche parishii*** (Jeps.) Heckard, Madroño 22: 66 (1973).

**Distribution.** Oregon to Mexico (Baja California) (Collins et al., 2019; POWO, 2025).

**Host.** Asteraceae (Schneider et al., 2016; Collins et al., 2019).

**17a. *Orobanche parishii*** subsp. *parishii* *Orobanche californica* var. *parishii* Jeps., Man. Fl. Pl. Calif.: 952 (1925). *Myzorrhiza parishii* (Jeps.) Holub, Preslia 62: 196 (1990). *Aphyllon parishii* (Jeps.) A.C.Schneid., PhytoKeys 75: 115 (2016).

**Distribution.** Oregon to Mexico (Baja California Norte) (Collins et al., 2019; POWO, 2025).

**Host.** Asteraceae (Schneider et al., 2016; Collins et al., 2019).

**17b. *Orobanche parishii*** subsp. *brachyloba* Heckard, Madroño 22: 68 (1973). *Aphyllon parishii* subsp. *brachylobum* (Heckard) A.C.Schneid., PhytoKeys 75: 115 (2016).

**Distribution.** SW California (incl. Channel Islands) to Mexico (Baja California) (Channel) (Collins et al., 2019).

**Host.** *Isocoma menziesii* (Hook. & Arn.) G.L.Nesom (Asteraceae).

**18. *Orobanche pinorum*** Geyer ex Hook., Hooker's J. Bot. Kew Gard. Misc. 3: 297 (1851). *Aphyllon pinorum* (Geyer ex Hook.) A.Gray in S.Watson & al., Bot. California 1: 585 (1876). *Myzorrhiza pinorum* (Geyer ex Hook.) Rydb., Bull. Torrey Bot. Club 36: 695 (1909). *Phelypaea pinorum* (Geyer ex Hook.) A. Gray in Proc. Amer. Acad. Arts 7: 371 (1868) ["pinetorum"(sic)].

**Distribution.** SW Canada (south of Vancouver Island) to NW California and New Mexico (Beck Mannagetta, 1930; Collins et al., 2019; POWO, 2025).

**Host.** *Holodiscus discolor* (Pursh) Maxim. (Rosaceae) (Schneider et al., 2016; Collins et al., 2019).

**19. *Orobanche riparia*** L.T.Collins, J. Bot. Res. Inst. Texas 3: 7 (2009). *Aphyllon riparium* (L.T.Collins) A.C.Schneid., PhytoKeys 75: 116 (2016). *Myzorrhiza riparia* (L.T.Collins) Weakley, J. Bot. Res. Inst. Texas 11: 314 (2017).

**Distribution.** Colorado to West Virginia and Texas (Collins et al., 2019; POWO, 2025).

**Host.** Mainly on *Ambrosia* app., *Dicorsia canescens* A. Gray, *Xanthium strumarium* L. (Asteraceae) (Schneider et al., 2016; Collins et al., 2019).

**20. *Orobanche robbinsii*** Heckard ex Colwell & Yatsk., Phytoneuron 2016-58: 2 (2016). *Aphyllon robbinsii* (Heckard) A.C.Schneid., PhytoKeys 75: 116 (2016).

**Distribution.** SW California (Collins et al., 2019; POWO, 2025).

**Host.** Mainly on *Eriophyllum staechadifolium* Lag. (Asteraceae) (Collins et al., 2019).

**21. *Orobanche tacnaensis*** Mattf., Notizbl. Bot. Gart. Berlin-Dahlem 8: 185 (1922). *Myzorrhiza tacnaensis* (Mattf.) Holub, Preslia 62: 196 (1990). *Aphyllon tacnaense* (Mattf.) A.C.Schneid., PhytoKeys 75: 116 (2016).

**Distribution.** Peru (Beck Mannagetta, 1930; Schneider, 2016; POWO, 2025).

**Host.** *Artemisia* spp. (Asteraceae) (Beck Mannagetta, 1930).

**22. *Orobanche tarapacana*** Phil., Anales Mus. Nac. Santiago de Chile 1: 69 (1891). *Aphyllon tarapacanum* (Phil.) A.C.Schneid., PhytoKeys 75: 116 (2016).

**Distribution.** Chile (Tarapacá) (Beck Mannagetta, 1930; POWO, 2025).

**Host.** Asteraceae (Schneider et al., 2016).

**23. *Orobanche uniflora*** L., Sp. Pl.: 633 (1753).

**Distribution.** Canada to U.S.A. (Beck Mannagetta, 1930; Schneider et al., 2016; Collins et al., 2019).

**Host.** *Antennaria* spp., *Senecio* spp., *Solidago* spp. (Asteraceae), *Perideridia* spp. (Apiaceae), *Lithophragma* spp., *Saxifraga* spp. (Saxifragaceae) and others including *Betula* spp., *Ostrya* spp. (Betulaceae) and *Quercus* spp. (Fagaceae) (Beck Mannagetta, 1930; Collins et al., 2019; POWO, 2025).

**23a. *Orobanche uniflora*** subsp. *occidentalis* (Greene) Abrams ex Ferris, Contr. Dudley Herb. 5: 99 (1958). *Aphyllon uniflorum* var. *occidentale* Greene, Man. Bot. San Francisco: 285 (1894). *Orobanche uniflora* var. *occidentalis* (Greene) Roy L. Taylor & MacBryde, Canad. J. Bot. 56: 187 (1978).

*Thalesia purpurea* A.Heller, Bull. Torrey Bot. Club 24: 313 (1897). *Orobanche uniflora* var. *purpurea* (A.Heller) Achey, Bull. Torrey Bot. Club 60: 445 (1933). *Aphyllon purpureum* (A.Heller) Holub, Preslia 70: 100 (1998).

*Orobanche porphyrantha* Beck, Pflanzenareale 1: 74 (1927).

*Aphyllon minutum* Suksd., Deutsche Bot. Monatsschr. 18: 155 (1900). *Thalesia minuta* (Suksd.) Rydb., Bull. Torrey Bot. Club 36: 692 (1909). *Orobanche uniflora* var. *minuta* (Suksd.) Beck in H.G.A.Engler (ed.), Pflanzenr., IV, 261: 49 (1930).

*Aphyllon sedi* Suksd., Deutsche Bot. Monatsschr. 18: 155 (1900). *Thalesia sedii* (Suksd.) Rydb., Bull. Torrey Bot. Club 36: 692 (1909). *Orobanche sedii* (Suksd.) Fernald, Rhodora 28: 236 (1926 publ. 1927). *Orobanche uniflora* f. *sedi* (Suksd.) Beck in H.G.A.Engler (ed.), Pflanzenr., IV, 261: 48 (1930). *Orobanche uniflora* var. *sedi* (Suksd.) Achey, Bull. Torrey Bot. Club 60: 446 (1933).

*Aphyllon inundatum* Suksd., Allg. Bot. Z. Syst. 12: 27 (1906). *Orobanche uniflora* f. *inundata* (Suksd.) Beck in H.G.A.Engler

(ed.), Pflanzenr., IV, 261: 49 (1930). *Orobanche tuberosa* f. *inundata* Beck in H.G.A.Engler (ed.), Pflanzenr., IV, 130: 49 (1930).

*Orobanche uniflora* f. *nana* Stapf, Bot. Mag. 153: t. 9194 (1930).

**Distribution.** Canada to W U.S.A. (Collins et al., 2019; POWO, 2025).

**Host.** *Sedum* spp. (Crassulaceae), *Antennaria* spp., *Senecio* spp. (Asteraceae), *Perideridia* spp. (Apiaceae), *Lithophragma* spp., *Saxifraga* spp. (Saxifragaceae) and others (Schneider et al., 2016; Collins et al., 2019).

**23b. *Orobanche uniflora*** subsp. *uniflora* *Anoplanthus uniflorus* (L.) Endl., Iconogr. Gen. Pl.: t. 72 (1839). *Aphyllon uniflorum* (L.) A.Gray, Manual: 290 (1848). *Gymnocaulis uniflora* (L.) Nutt., J. Acad. Nat. Sci. Philadelphia, ser. 2, 1: 180 (1848). *Thalesia uniflora* (L.) Britton, Mem. Torrey Bot. Club 5: 298 (1894). *Orobanche uniflora* var. *typica* Achey, Bull. Torrey Bot. Club 60: 443 (1933), nom. inval.

*Orobanche biflora* Nutt., Gen. N. Amer. Pl. 2: 59 (1818). *Phelypaea biflora* (Nutt.) Spreng., Syst. Veg., ed. 16. 2: 818 (1825). *Anoplon biflorum* (Nutt.) G. Don, Gen. Hist. 4: 634 (1838). *Gymnocaulis biflora* (Nutt.) Nutt., J. Acad. Nat. Sci. Philadelphia, ser. 2, 1: 180 (1848).

*Orobanche terrae-novae* Fernald, Rhodora 28: 235 (1926 publ. 1927). *Orobanche uniflora* var. *terrae-novae* (Fernald) Achey, Bull. Torrey Bot. Club 60: 444 (1933).

**Distribution.** Alaska, Canada to E U.S.A. (Beck Mannagetta, 1930; Schneider et al., 2016; Collins et al., 2019; POWO, 2025).

**Host.** *Solidago* spp., *Senecio* spp., other Asteraceae, and occasionally other species of other families including *Betula* spp., *Ostrya* spp. (Betulaceae), and *Quercus* spp. (Fagaceae) (Beck Mannagetta, 1930; Schneider et al., 2016).

**24. *Orobanche valida*** Jeps., Madroño 1: 255 (1929).

**Distribution.** CE & SW California (Collins et al., 2019; POWO, 2025).

**Host.** *Garrya* spp. (Garryaceae), reports on *Eriodictyon trichocalyx* A.Heller (Boraginaceae) and *Quercus chrysolepis* Liebm. (Fagaceae) need confirmation (Collins et al., 2019).

**24a. *Orobanche valida*** subsp. *howellii* Heckard & L.T.Collins, Madroño 29: 98 (1982). *Aphyllon validum* subsp. *howellii* (Heckard & L.T.Collins) A.C.Schneid., PhytoKeys 75: 117 (2016).

**Distribution.** NW California (Collins et al., 2019; POWO, 2025).

**Host.** *Garrya fremontii* Torr. (Garryaceae), reports on *Quercus chrysolepis* Liebm. (Fagaceae) need confirmation (Collins et al., 2019).

**24b. *Orobanche valida*** subsp. *valida* *Orobanche ludoviciana* var. *valida* (Jeps.) Munz, Bull. Torrey Bot. Club 57: 621 (1930 publ. 1931). *Myzorrhiza valida* (Jeps.)

Holub, Preslia 62: 196 (1990). *Aphyllon validum* (Jeps.) A.C.Schneid., PhytoKeys 75: 117 (2016).

**Distribution.** CE & SW California (POWO, 2025).

**Host.** *Garrya vetachii* (Garryaceae) (Schneider et al., 2016; Collins et al., 2019), reported also on *Eriodictyon trichocalyx* A.Heller (Boraginaceae).

**25. *Orobanche vallicola*** (Jeps.) Heckard, Madroño 22: 64 (1973). *Orobanche comosa* var. *vallicola* Jeps., Man. Fl. Pl. Calif.: 952 (1925). *Myzorrhiza vallicola* (Jeps.) Holub, Preslia 62: 196 (1990). *Aphyllon vallicolum* (Jeps.) A.C. Schneid. in PhytoKeys 75: 117 (2016) "vallicolum [sic]".

*Orobanche californica* var. *claremontensis* Munz, Bull. Torrey Bot. Club 57: 618 (1930 publ. 1931).

**Distribution.** California (Collins et al., 2019; POWO, 2025).

**Host.** *Sambucus* spp. (Viburnaceae), reported also on *Asteraceae*, *Caprifoliaceae*, and *Fagaceae* (Schneider et al., 2016; Collins et al., 2019).

**26. *Orobanche weberbaueri*** Mattf., Notizbl. Bot. Gart. Berlin-Dahlem 8: 183 (1922). *Myzorrhiza weberbaueri* (Mattf.) Holub, Preslia 62: 196 (1990). *Aphyllon weberbaueri* (Mattf.) A.C.Schneid., PhytoKeys 75: 117 (2016).

**Distribution.** Peru (Beck Mannagetta, 1930; Schneider, 2016).

**Host.** Unknown.

***Orobanche*** subg. *Ceratocalyx* Coss. ex Nyman in Syll. Fl. Eur.: 130 (1854-1855). TYPE: *Orobanche latisquama* (F.W.Schultz) Batt. in J.A.Battandier & L.C.Trabut, Fl. Algérie, Dicot.: 659 (1890). *Boulardia latisquama* F.W.Schultz, Arch. Fl. France Allemagne: 104 (1847).

*Boulardia* F. W. Schultz, Arch. Fl. France Allemagne: 103 (1847).

*Ceratocalyx* Coss., Ann. Sci. Nat., Bot., sér. 3, 9: 145 (1848), nom. illeg.

**27. *Orobanche latisquama*** (F.W.Schultz) Batt. in J.A.Battandier & L.C.Trabut, Fl. Algérie, Dicot.: 659 (1890). *Boulardia latisquama* F.W.Schultz, Arch. Fl. France Allemagne: 104 (1847). *Ceratocalyx macrolepis* Coss., Ann. Sci. Nat., Bot., sér. 3, 9: 146 (1848), nom. superfl. *Orobanche macrolepis* Pomel, Bull. Soc. Sci. Phys. Algérie 11: 108 (1874), nom. superfl.

*Ceratocalyx fimbriata* Lange, Vidensk. Meddel. Naturhist. Foren. Kjøbenhavn 1863: 52 (1863).

*Orobanche latisquama* f. *ochroleuca* Maire, Bull. Soc. Hist. Nat. Afrique N. 26: 220 (1935).

**Distribution.** E to SE Spain, NW Africa (Beck Mannagetta, 1930; Uhlich et al., 1995; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Salvia rosmarinus* Schleid. and *S. jordanii* J.B.Walker (Lamiaceae) (Beck Mannagetta, 1930; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward).

***Orobanche*** subg. *Diphelypaea* Domina, **subg. nov.** *Diphelypaea* Nicolson, nom. illeg. *Phelypaea* L., 1758 (non

*O.* subg. *Phelipaea* Nyman, Consp. Fl. Eur.: 133. 1854-1855?). TYPE: *Orobanche tournefortii* (Desf.) Domina, comb. nov. *Phelypaea tournefortii* Desf., Ann. Mus. Hist. Nat. 10: 298 (1807).

**28. *Orobanche coccinea*** M.Bieb., Tabl. Prov. Mer Casp.: 58 (1798).

**Distribution.** C Greece, Crimea, Turkey to NW Iran (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Gilli, 1976, 1982; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Centaurea* spp., *Psephellus* spp. and other Asteraceae (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Gilli, 1976, 1982; Sánchez Pedraja et al., 2017 onward).

**Notes.** A study of protologues and original material results indicates that the taxa originally described as *Phelypaea coccinea* (M.Bieb.) Poir., *Anoplanthus biebersteinii* var. *boissieri* Reut., and *Phelypaea helenae* Popl. ex Sukaczew are very closely related to one another and their distributions are overlapping. The distinction at varietal rank is, therefore, proposed here.

**28a. *Orobanche coccinea*** var. *boissieri* (Reut.) Domina, comb. nov. *Anoplanthus biebersteinii* var. *boissieri* Reut. in A.P.de Candolle, Prodr. 11: 42 (1847). *Phelypaea boissieri* (Reut.) Stapf, Bull. Misc. Inform. Kew 1915: 291 (1915). *Diphelypaea boissieri* (Reut.) Nicolson, Taxon 24: 654 (1975), nom. inval. *Diphelypaea coccinea* var. *boissieri* (Reut.) Uhlich, Kochia 9: 83 (2015), nom. inval.

*Anoplanthus coccineus* var. *nigrovittatus* Boiss., Fl. Orient. 4: 494 (1879).

*Phelypaea boissieri* f. *lutea* Subaşı, Piwow. & Ó.Sánchez, PhytoKeys 186: 164 (2021).

**Distribution.** N Balkan Peninsula, Turkey (Beck Mannagetta, 1930; Gilli, 1982; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Centaurea* spp. (Asteraceae) (Beck Mannagetta, 1930; Gilli, 1982; Sánchez Pedraja et al., 2017 onward).

**28b. *Orobanche coccinea*** var. *coccinea* *Phelypaea coccinea* (M.Bieb.) Poir. in J.B.A.M.de Lamarck, Encycl. 5: 268 (1804). *Anoplanthus coccineus* (M.Bieb.) Walp., Repert. Bot. Syst. 3: 481 (1844). *Anoplon coccineum* (M.Bieb.) Riedl & Schiman-Czeika, Fl. Iranica, Orobanch.: 3 (1964). *Diphelypaea coccinea* (M.Bieb.) Nicolson, Taxon 24: 654 (1975), nom. inval.

*Lathraea anblatum* L., Sp. Pl.: 606 (1753).

*Lathraea phelipaea* Gueldenst., Reis. Russland 1: 422 (1787).

*Orobanche phelypaea* M.Bieb., Tabl. Prov. Mer Casp., German ed.: 179 (1800).

*Phelypaea foliata* Lamb., Trans. Linn. Soc. London 10: 260 (1811).

*Anoplon biebersteinii* C.A.Mey., Verz. Pfl. Casp. Meer.: 104 (1831).

*Aeginetia coccinea* Juss. ex Walp., Repert. Bot. Syst. 3: 481 (1844), pro syn.

*Phelypaea biebersteinii* Fisch. ex Walp., Repert. Bot. Syst. 3: 481 (1844).

*Anoplanthus biebersteinii* Reut. in A.P.de Candolle, Prodr. 11: 42 (1847).

*Anoplanthus tournefortii* Reut. in A.P.de Candolle, Prodr. 11: 42 (1847).

*Phelypaea bayernii* Novopokr. in A.A.Grossheim, Opred. Rast. Kavk.: 730 (1949).

**Distribution.** C Greece, Crimea, Turkey to NW Iran (Beck Mannagetta, 1930; Schiman-Czeika, 1964; Gilli, 1976, 1982; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Centaurea* spp., *Psephellus* spp., and other Asteraceae (Beck Mannagetta, 1930; Schiman-Czeika, 1964; Gilli, 1976, 1982; Sánchez Pedraja et al., 2017 onward).

**28c. *Orobancha coccinea* var. *helenae*** (Popl. ex Sukaczew) Domina, **comb. & stat. nov.** *Phelypaea helenae* Popl. ex Sukaczew, Dokl. Akad. Nauk S.S.S.R. 1928: 385 (1928). *Anoplanthus helenae* (Popl. ex Sukaczew) Stankov in S.S.Stankov & V.I.Taliev, Syst. Classif. Vasc. Pl. Eur. Russ.: 825 (1949). *Diphelypaea helenae* (Popl. ex Sukaczew) Tzvelev, Fl. Evropejskoí Chasti SSSR 5: 319 (1981), nom. inval.

**Distribution.** Krym (Novopokrovskij & Tzvelev, 1958; POWO, 2025).

**Host.** *Psephellus declinatus* (M. Bieb.) K. Koch (Asteraceae) (Novopokrovskij & Tzvelev, 1958).

**29. *Orobancha tournefortii*** (Desf.) Domina, **comb. nov.** *Phelypaea tournefortii* Desf., Ann. Mus. Hist. Nat. 10: 298 (1807). *Anoplon tournefortii* (Desf.) G.Don, Gen. Hist. 4: 633 (1838).

*Diphelypaea tournefortii* (Desf.) Nicolson, Taxon 24: 654 (1975), nom. inval.

*Anoplanthus coccineus* var. *peduncularis* Boiss., Fl. Orient. 4: 494 (1879).

**Distribution.** E Turkey to S Transcaucasus (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Sánchez Pedraja et al., 2016 onward).

**Host.** *Tanacetum* spp. (Asteraceae) (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Sánchez Pedraja et al., 2017 onward).

***Orobancha*** L. subg. ***Orobancha***. *Orobancha* subg. *Osproleon* (Wallr.) Pomel in Bull. Soc. Sci. Phys. Algérie 11: 109 (1874). TYPE: *Orobancha major* L., Sp. Pl.: 632 (1753) nom. rej.

*Catodiacrum* Dulac, Fl. Hautes-Pyrénées: 369 (1867).

*Platypholis* Maxim., Bull. Acad. Imp. Sci. Saint-Pétersbourg, sér. 3, 31: 88 (1887).

*Necranthus* Gilli, Notes Roy. Bot. Gard. Edinburgh 28: 297 (1968).

*Orobanchella* Piwow. & al., Pl. Syst. Evol. 301: 806 (2014).

**30. *Orobancha alba*** Stephan ex Willd., Sp. Pl., ed. 4. 3: 450 (1800).

**Distribution.** Europe to C Himalaya, SE Tibet to China (north-east Sichuan), north-west Africa (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Jafri, 1976; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; Zhang & Tzvelev, 2024; POWO, 2025).

**Host.** Lamiaceae, rarely on Fabaceae (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Jafri, 1976; Sánchez Pedraja et al., 2017 onward; Zhang & Tzvelev, 2024).

**Notes.** Uhlich et al. (2015) interpreted the variability of *O. alba* at the subspecific and varietal level. Since there are no clear geographical or ecological separations between the recognized taxa, a distinction only at the varietal rank is proposed here.

**30a. *Orobancha alba* var. *alba*.**

*Orobancha epithimum* DC. in J.B.A.M.de Lamarck & A.P.de Candolle, Fl. Franç., éd. 3, 3: 499 (1805).

*Orobancha rubra* Sm., Engl. Bot. 25: t. 1786 (1807).

*Orobancha helianthemii* J.St.-Hil., Pl. France 3: 80 (1809).

*Orobancha sparsiflora* Wallr., Sched. Crit.: 309 (1822).

*Orobancha caryophyllacea* var. *sparsiflora* (Wallr.) Dumort., Fl. Belg.: 33 (1827).

*Orobancha sparsiflora* var. *pauciflora* Wallr., Sched. Crit.: 309 (1822).

*Orobancha nuda* W.D.J.Koch ex Wallr., Orobanches Gen. Diask.: 48 (1825).

*Orobancha paradoxa* W.D.J.Koch ex Wallr., Orobanches Gen. Diask.: 48 (1825).

*Orobancha epithimum* var. *epithymoides* Duby, Bot. Gall., ed. 2, 1: 349 (1828).

*Orobancha thymi-serpilli* Vaucher ex Duby, Bot. Gall.: 349 (1828).

*Orobancha thymi-vulgaris* Vaucher ex Duby, Bot. Gall.: 349 (1828).

*Orobancha satirejae-montanae* F.W.Schultz, Bot. Lit.-Blätt. 5: 500 (1830).

*Orobancha thymi-serpylli* F.W.Schultz, Bot. Lit.-Blätt. 5: 500 (1830), orth. var.

*Orobancha glabrata* C.A.Mey. in K.E.I.von Eichwald, Pl. Nov. Casp.-Cauc.: 16 (1831).

*Orobancha epithimum* var. *origani* Mert. & W.D.J.Koch in J.C.Röhling, Deutschl. Fl., ed. 3, 4: 446 (1833).

*Orobancha serpylli* Vaucher ex Des Moul., Ann. Sci. Nat., Bot., sér. 2, 3: 76 (1835).

*Orobancha rubiginosa* A.Dietr., Fl. Boruss.: t. 252 (1836).

*Orobancha crassistyla* F.W.Schultz, Flora 26: 131 (1843).

*Orobancha diaphana* F.W.Schultz, Flora 26: 130 (1843).

*Orobancha lycica* F.W.Schultz, Flora 26: 128 (1843).

*Orobancha punctata* F.W.Schultz, Flora 26: 131 (1843).

- Orobanche ferruginea* K.Koch, Linnaea 17: 291 (1844).  
*Orobanche alexandri* Tineo in G.Gussone, Fl. Sicul. Syn., Add. 2, 2: 845 (1845).  
*Orobanche annulata* Griseb., Spic. Fl. Rumel. 2: 188 (1846).  
*Orobanche hymenocalyx* Reut. in A.P.de Candolle, Prodr. 11: 20 (1847).  
*Orobanche psilandra* K.Koch, Linnaea 22: 668 (1849).  
*Orobanche epithymum* var. *pallescens* Gren. & Godr., Fl. France Corse 2: 632 (1850).  
*Orobanche epithymum* var. *lutescens* Boreau, Fl. Centre France, éd. 3, 2: 341 (1857).  
*Orobanche hians* Steven, Bull. Soc. Imp. Naturalistes Moscou 30(I): 354 (1857).  
*Orobanche squalida* Steven, Bull. Soc. Imp. Naturalistes Moscou 30(I): 354 (1857).  
*Orobanche epithymoides* Heuff., Oesterr. Bot. Z. 8: 28 (1858).  
*Catodiocrum sparsiflorum* Dulac, Fl. Hautes-Pyrénées: 370 (1867).  
*Orobanche epithymum* var. *minor* Čelak., Prodr. Fl. Böhmen: 341 (1871).  
*Orobanche wiedemannii* Boiss., Fl. Orient. 4: 510 (1879).  
*Orobanche epithymophyta* St.-Lag., Ann. Soc. Bot. Lyon 7: 131 (1880).  
*Orobanche transsilvanica* Porcher, Fl. Phan. Naseud.: 73 (1881).  
*Orobanche thymophyta* St.-Lag. in A.Cariot, Étude Fl., éd. 8, 2: 648 (1889).  
*Orobanche alba* var. *bidentata* Beck, Biblioth. Bot. 4(19): 211 (1890).  
*Orobanche alba* var. *longibracteata* Beck, Biblioth. Bot. 4(19): 211 (1890). *Orobanche epithymum* var. *longibracteata* (Beck) Rouy in G.Rouy & J.Foucaud, Fl. France 11: 173 (1909).  
*Orobanche caryophyllacea* f. *besseri* Beck Biblioth. Bot. 4(19): 158 (1890).  
*Orobanche chassia* Formánek, Verh. Naturf. Vereins Brünn 35: 178 (1897).  
*Orobanche psilostemon* Novopokr., Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 13: 324 (1950).  
*Orobanche consimilis* Schiman-Czeika, Fl. Iranica 5: 19 (1964).  
**Distribution.** Europe to C Himalaya, SE Tibet to China (NW Sichuan), NW Africa (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Euro+Med, 2006 onward; Uhlich & Rätzel 2015; Sánchez Pedraja et al., 2016 onward; Zhang & Tzvelev, 2024; POWO, 2025).  
**Host.** Lamiaceae (Beck Mannagetta, 1930; Sánchez Pedraja et al., 2017 onward; Zhang & Tzvelev, 2024).  
**30b. *Orobanche alba* var. *cuprea*** (Boiss. & Balansa ex Boiss.) Uhlich, Kreutz & Rätzel, Phytotaxa 222: 4 (2015).  
*Orobanche cuprea* Boiss. & Balansa ex Boiss., Fl. Orient. 4: 510 (1879). *Orobanche alba* subsp. *cuprea* (Boiss. & Balansa ex Boiss.) Uhlich, Kreutz & Rätzel, Phytotaxa 222: 4 (2015).  
**Distribution.** S Turkey, Cyprus (Beck Mannagetta, 1930; Gilli, 1982; Uhlich & al. 2015; Sánchez Pedraja et al., 2016 onward; POWO, 2025).  
**Host.** Lamiaceae (Beck Mannagetta, 1930; Gilli, 1982; Uhlich & al. 2015; Sánchez Pedraja et al., 2017 onward).  
**30c. *Orobanche alba* var. *epithymoides*** (Duby) Domina, **comb. nov.** *Orobanche epithymum* var. *epithymoides* Duby, Bot. Gall., ed. 2, 1: 349 (1828).  
*Orobanche epithymum* var. *superba* Solms ex Čelak., Sitzungsber. Königl. Böhm. Ges. Wiss. Prag 1864: 110 (1864). *Orobanche alba* var. *superba* (Solms ex Čelak.) Uhlich & Rätzel, Phytotaxa 222: 7 (2015).  
*Orobanche epithymum* var. *major* Čelak., Prodr. Fl. Böhmen: 341 (1871). *Orobanche alba* f. *major* (Čelak.) Soó, Magyar Fl. Veg. 3: 241 (1968). *Orobanche alba* subsp. *major* (Čelak.) Zázvorka, Preslia 72: 88 (2000).  
*Orobanche alba* f. *maxima* Beck, Biblioth. Bot. 4(19): 210 (1890).  
**Distribution.** Europe to Iran (Uhlich & Rätzel 2015; Sánchez Pedraja et al., 2016 onward).  
**Host.** Lamiaceae (Uhlich & Rätzel 2015; Sánchez Pedraja et al., 2017 onward).  
**30d. *Orobanche alba* var. *raddeana*** (Beck) Beck in H.G.A.Engler (ed.), Pflanzenr., IV, 130: 154 (1930). *Orobanche raddeana* Beck, Biblioth. Bot. 4(19): 194 (1890).  
*Orobanche alba* subsp. *xanthostigma* Rätzel & Uhlich, Feddes Rept. 115: 198 (2004).  
*Orobanche alba* f. *sineglandulosa* Rätzel & Uhlich, Feddes Rept. 115: 201 (2004).  
**Distribution.** S Bulgaria, NE Turkey to Caucasus (Beck Mannagetta 1930; Novopokrovskij & Tzvelev, 1958; Gilli, 1982; Sánchez Pedraja et al., 2016 onward; Piwowarczyk et al., 2019, 2023; POWO, 2025).  
**Host.** *Dorycnium latifolium* Willd. (Fabaceae) (Beck Mannagetta 1930; Novopokrovskij & Tzvelev, 1958; Gilli, 1982; Sánchez Pedraja et al., 2017 onward; Piwowarczyk et al., 2019, 2023).  
**31. *Orobanche amethystea*** Thuill., Fl. Env. Paris, ed. 2: 317 (1799).  
*Orobanche eryngii* Duby, Bot. Gall., ed. 2, 1: 350 (1828). *Orobanche amethystea* f. *eryngii* (Duby) Batt. in J.A.Battandier & L.C.Trabut, Fl. Algérie, Dicot.: 662 (1890).  
*Orobanche bracteata* Viv., Ann. Storia Nat. 4: 235 (1830).  
*Orobanche eryngii-campestris* F.W.Schultz, Bot. Lit.-Blätt. 5: 500 (1830).  
*Orobanche amethystina* Rchb., Icon. Fl. Germ. Helv. 7: 42 (1845).

*Orobanche attica* Reut. in A.P.de Candolle, Prodr. 11: 28 (1847).

*Orobanche caerulea* Planellas, Ensayo Fl. Gallega: 325 (1852), nom. illeg.

*Orobanche knappii* Pant., Verh. Vereins Natur- Heilk. Presburg 2: 73 (1872).

*Orobanche laxa* Pomel, Nouv. Mat. Fl. Atl. 1: 109 (1874).

*Orobanche lamyana* Nyman, Consp. Fl. Eur.: 562 (1881).

*Orobanche eryngiophya* St.-Lag. in A.Cariot, Étude Fl., éd. 8, 2: 651 (1889), orth. var.

*Orobanche minor* f. *flavescens* Batt. in J.A.Battandier & L.C.Trabut, Fl. Algérie, Dicot.: 662 (1890), nom. illeg.

**Distribution.** W Europe to W & C Mediterranean area, Turkey to N Pakistan (Beck Mannagetta, 1930; Jafri, 1976; Gilli, 1982; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** Apiaceae (Beck Mannagetta, 1930; Jafri, 1976; Gilli, 1982; Sánchez Pedraja et al., 2017 onward).

**32. *Orobanche amoena*** C.A.Mey. in C.F.von Ledebour, Fl. Altaic. 2: 457 (1830).

*Orobanche amoena* var. *calycina* Reut. in A.P.de Candolle, Prodr. 11: 31 (1847).

*Orobanche ianthina* Franch., Ann. Sci. Nat., Bot., sér. 6, 18: 227 (1884). *Orobanche amoena* f. *ianthina* (Franch.) Beck, Biblioth. Bot. 4(19): 149 (1890).

*Orobanche amoena* f. *colossea* Beck, Biblioth. Bot. 4(19): 149 (1890). *Orobanche colossea* (Beck) Novopokr., Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 12: 276 (1950).

*Orobanche amoena* f. *regeliana* Beck, Biblioth. Bot. 4(19): 149 (1890). *Orobanche amoena* var. *regeliana* (Beck) Uhlich & Rätzl, Nordic J. Bot. e04155: 4 (2024)

*Orobanche amoena* f. *dzejveri* Beck, Feddes Rep. 30: 35 (1922). *Orobanche amoena* var. *dzejveri* (Beck) Uhlich & Rätzl, Nordic J. Bot. e04155: 4 (2024)

*Orobanche ariana* Gontsch., Trudy Bot. Inst. Akad. Nauk S.S.S.R., Ser. 1, Fl. Sist. Vyssh. Rast. 1: 173 (1933).

*Orobanche comosula* Novopokr., Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 12: 280 (1950).

*Orobanche amoena* f. *parviflora* Gilli, Candollea 34: 295 (1979), no type indicated.

**Distribution.** European Russia to Mongolia and Pakistan (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Jafri, 1976; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; Zhang & Tzvelev, 2024; POWO, 2025).

**Host.** *Artemisia* spp. (Asteraceae) (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Sánchez Pedraja et al., 2017 onward).

**33. *Orobanche apuana*** Domina & Soldano, Phytotaxa 207: 164 (2015).

**Distribution.** C Italy (Domina & Soldano, 2015; POWO, 2025).

**Host.** *Santolina pinnata* Viv. (Asteraceae) (Domina & Soldano 2015).

**34. *Orobanche arpica*** Piwow., Ó.Sánchez & Moreno Mor., Phytotaxa 361: 66 (2018).

**Distribution.** S Transcaucasus (Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Psephellus pulcherrimus* (Willd.) Wagenitz. (Asteraceae) (Sánchez Pedraja et al., 2017 onward).

**35. *Orobanche artemisiae-campestris*** Vaucher ex Gaudin, Fl. Helv. 4: 179 (January-July 1829).

*Orobanche loricata* Rchb., Iconogr. Bot. Pl. Crit. 7: 41 (1829). *Orobanche picridis* var. *loricata* (Rchb.) Posp., Fl. Öst. Küstenl. 2: 664 (1899), nom. superfl.

*Orobanche carotae* Des Moul., Ann. Sci. Nat., Bot., sér. 2, 3: 78 (1835). *Orobanche picridis* var. *carotae* (Des Moul.) Beck, Biblioth. Bot. 4(19): 246 (1890).

*Orobanche artemisiae* Gren. in Grenier & Godron, Fl. France Corse 2: 638 (1853).

*Orobanche scolymi* Pomel, Nouv. Mat. Fl. Atl. 1: 108 (1874).

*Orobanche carotae* Freyn, Verh. K. K. Zool.-Bot. Ges. Wien 27: 394 (1877), nom. illeg.

*Orobanche artemisi-epiphyta* St.-Lag., Cat. Fl. Bass. Rhone: 611 (1883).

*Orobanche artemisiophya* St.-Lag. in A. Cariot, Étude Fl., éd. 8, 2: 652 (1889).

*Orobanche lusitanica* J.A.Guim. ex Beck in H.G.A.Engler (ed.), Pflanzenr., IV, 261: 199 (1930), pro syn.

*Orobanche pseudoloricata* J.A.Guim. ex Beck in Engler (ed.), Pflanzenr., IV, 261: 199 (1930), pro syn.

*Orobanche loricata* f. *albstigma* Gilli, Verh. Zool.-Bot. Ges. Wien 110-111: 5 (1972).

**Distribution.** Europe to Caucasus (Beck Mannagetta, 1930; Uhlich et al., 1995; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** Asteraceae and Apiaceae (Beck Mannagetta, 1930; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward).

**36. *Orobanche australis*** Moris ex Bertol., Fl. Ital. 6: 440 (1846).

*Orobanche thapsoides* Lojac., Naturalista Sicil. 2: 60 (1883).

**Distribution.** Sardinia, Sicily, S Italy (Sánchez Pedraja et al., 2016 onward; Domina et al., 2022; POWO, 2025).

**Host.** Asteraceae (Sánchez Pedraja et al., 2017 onward; Domina et al., 2022).

**37. *Orobanche ballotae*** A.Pujadas, Acta Bot. Malac. 22: 30 (1997).

**Distribution.** Spain, Tunisia, and S Greece (Sánchez Pedraja et al., 2016 onward; POWO, 2025; El Mokni & Domina, 2025).

**Host.** *Ballota hirsuta* Benth. (Lamiaceae) (Sánchez Pedraja et al., 2017 onward; El Mokni & Domina, 2025).

**38. *Orobanche bartlingii*** Griseb., Spic. Fl. Rumel. 2: 57 (1844).

*Orobanche libanotidis* Rupr., Beitr. Pflanzenk. Russ. Reiches 4: 70 (1845). *Orobanche alsatica* var. *libanotidis* (Rupr.) Beck, Biblioth. Bot. 4(19): 177 (1890). *Orobanche alsatica* subsp. *libanotidis* (Rupr.) Tzvel. in Novosti Sist. Vyssh. Rast. 10: 363 (1973). *Orobanche alsatica* subsp. *libanotidis* (Rupr.) Pusch, Sommerwurzarten des Kreises Artern, ed. 2: 59 (1996) (nom. illeg.). *Orobanche buekii* subsp. *libanotidis* (Rupr.) Rätzel & Uhlich, Kochia 18: 223 (2025).

*Orobanche leucantha* subsp. *banatica* Nyman, Consp. Fl. Eur.: 592 (1881).

**Distribution.** Europe to Caucasus (Beck Mannagetta, 1930; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; Piwowarczyk et al., 2019, 2023; POWO, 2025).

**Host.** Apiaceae (Beck Mannagetta, 1930; Sánchez Pedraja et al., 2017 onward; Piwowarczyk et al., 2019, 2023).

**39. *Orobanche baumanniorum*** Greuter, Willdenowia 16: 448 (1987).

*Orobanche baumanniorum* var. *longebracteata* Uhlich, Willdenowia 23: 50 (1994).

**Distribution.** SE Italy to Turkey (Greuter et al., 1989; Uhlich et al., 1995; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Pterocephalus* spp. (Dipsacaceae) (Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward).

**40. *Orobanche benkertii*** Rätzel & Uhlich, Feddes Repert. 115: 190 (2004).

**Distribution.** Caucasus (Sánchez Pedraja et al., 2016 onward; Rätzel & Uhlich, 2004).

**Host.** *Astrantia* cf. *pontica* Albov (Apiaceae) and *Solidago virgaurea* L. (Asteraceae) (Sánchez Pedraja et al., 2017 onward; Rätzel & Uhlich, 2004).

**41. *Orobanche boninsimae*** (Maxim.) Tuyama, Bull. Res. Inst. Nat. Resources 10: 18 (1946). *Platypholis boninsimae* Maxim., Bull. Acad. Imp. Sci. Saint-Pétersbourg, sér. 3, 31: 88 (1886).

**Distribution.** Ogasawara-shoto (Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Callicarpa subpubescens* Hook. & Arn. (Lamiaceae) (Sánchez Pedraja et al., 2017 onward).

**42. *Orobanche buekii*** A.Dietr., Fl. Boruss. iii. t. 145. (1835).

**Distribution.** Europe to SW Siberia and China (Sichuan, W. Hubei) (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; Zhang & Tzvelev, 2024; POWO, 2025; Rätzel et al., 2025).

**Host.** *Peucedanum* spp. and other Apiaceae (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Sánchez

Pedraja et al., 2017 onward; Zhang & Tzvelev, 2024; Rätzel et al., 2025).

**42a. *Orobanche buekii* var. *buekii***

*Orobanche alsatica* Kirschl., Prodr. Fl. Alsace: 109 (1836). *Orobanche minor* subsp. *alsatica* (Kirschl.) Nyman, Consp. Fl. Eur.: 562 (1881).

*Orobanche cervariae* Kirschl. ex Suard in D.A.Godron, Fl. Lorraine 2: 180 (1843).

*Orobanche apiculata* Griseb., Spic. Fl. Rumel. 2: 58 (1844), nom. illeg.

*Orobanche brachysepala* F.W.Schultz, Arch. Fl. France Allemagne: 69 (1844).

*Orobanche buekiana* W.D.J.Koch, Syn. Fl. Germ. Helv., ed. 2: 619 (1844).

*Orobanche macrosepala* F.W.Schultz, Arch. Fl. France Allemagne: 70 (1844). *Orobanche cervariae* var. *macrosepala* (F.W.Schultz) Rouy in G.Rouy & J.Foucaud, Fl. France 11: 178 (1909).

*Orobanche caudata* De Not., Prosp. Fl. Ligust.: 53 (1846).

*Orobanche leucantha* Rchb.f. in H.G.L.Reichenbach, Icon. Fl. Germ. Helv. 20: 97 (1862), nom. illeg.

*Orobanche cervarihaerens* St.-Lag., Ann. Soc. Bot. Lyon 7: 131 (1880).

*Orobanche leucantha* subsp. *banatica* Nyman, Consp. Fl. Eur.: 559 (1881).

*Orobanche strumosa* Rogow. ex Trautv., Trudy Imp. S.-Peterburgsk. Bot. Sada 9: 83 (1884), nom. nud.

*Orobanche peucedanophya* St.-Lag. in A.Cariot, Étude Fl., éd. 8, 2: 652 (1889), nom. illeg.

*Orobanche fuscovinosa* Maire, Bull. Soc. Hist. Nat. Afrique N. 31: 110 (1940 publ. 1941).

**Distribution.** N Africa, Europe to SW Siberia and China (Sichuan, W. Hubei) (Beck Mannagetta, 1930; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Peucedanum* spp. and other Apiaceae (Beck Mannagetta, 1930; Sánchez Pedraja et al., 2017 onward).

**42b. *Orobanche buekii* var. *mayeri*** (Suess. & Ronniger) Domina, **comb. nov.** *Orobanche alsatica* var. *mayeri* Suess. & Ronniger, Beitr. Naturk. Forsch. Oberrheingebiet 7: 123 (1942). *Orobanche alsatica* subsp. *mayeri* (Suess. & Ronniger) Kreutz, *Orobanche* (Central & N. Europe) 1: 56 (1995). *Orobanche mayeri* (Suess. & Ronniger) Bertsch & F.Bertsch, Fl. Württ. Hohenz., ed. 2: 385 (1948). *Orobanche buekii* subsp. *mayeri* (Suess. & Ronniger) Rätzel & Uhlich, Kochia 18: 223 (2025).

**Distribution.** SW Germany, Carpathians (Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Laserpitium latifolium* L. and other Apiaceae (Sánchez Pedraja et al., 2017 onward).

**43. *Orobanche calendulae*** Pomel, Nouv. Mat. Fl. Atl. 1: 110 (1874). *Orobanche minor* var. *calendulae* (Pomel)

- Batt. & Trab., Fl. Algérie Tunisie: 254 (1905). *Orobanche mauretana* subsp. *calendulae* (Pomel) Cout., Fl. Portugal: 569 (1913), nom. superfl. *Orobanche artemisiae-campestris* subsp. *calendulae* (Pomel) O.Bolòs, Vigo, Masalles & Ninot, Fl. Man. Països Catalans: 1214 (1990).
- Orobanche mauretana* Beck, Biblioth. Bot. 4(19): 233 (1890). *Orobanche calendulae* var. *mauretana* (Beck) Maire in É.Jahandiez & al., Cat. Pl. Maroc 3: 699 (1934).
- Orobanche amethystea* f. *galactitis* Batt. in J.A.Battandier & L.C.Trabut, Fl. Algérie, Dicot.: 662 (1890).
- Orobanche mauretana* var. *reverchonii* Willk., Suppl. Prodr. Fl. Hispan.: 187 (1893).
- Orobanche mauretana* subvar. *helichrysi* J.A.Guim., Brotéria 3: 151 (1904). *Orobanche mauretana* subsp. *helichrysi* (J.A.Guim.) Cout., Fl. Portugal: 570 (1913).
- Orobanche mauretana* var. *pogonia* J.A.Guim., Brotéria 3: 152 (1904).
- Orobanche mauretana* var. *welwitschii* J.A.Guim., Brotéria 3: 151 (1904).
- Orobanche mauretana* subvar. *xeroxantha* J.A.Guim., Brotéria 3: 151 (1904).
- Orobanche almeriensis* A.Pujadas, Anales Jard. Bot. Madrid 53: 48 (1995).
- Distribution.** Madeira, S Portugal to SW Spain, NW Africa (Beck Mannagetta, 1930; Uhlich et al., 1995; Sánchez Pedraja et al., 2016 onward; POWO, 2025).
- Host.** Asteraceae (Beck Mannagetta, 1930; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward).
- 44. *Orobanche campanulae*** Rätzel, Ristow & Uhlich, Haussknechtia 14: 10 (2018).
- Distribution.** Caucasus (Sánchez Pedraja et al., 2016 onward; Rätzel et al., 2018; POWO, 2025).
- Host.** *Campanula ciliata* Steven. (Campanulaceae) (Sánchez Pedraja et al., 2017 onward; Rätzel et al., 2018).
- 45. *Orobanche camptolepis*** Boiss. & Reut. ex Boiss., Fl. Orient. [Boissier] 4: 515 (1879).
- Orobanche platylepis* Reut. ex Boiss., Fl. Orient. [Boissier] 4: 516 (1879).
- Orobanche cernua* f. *kryptantha* Beck, Biblioth. Bot. 4(19): 143 (1890).
- Orobanche cernua* var. *latebracteata* Beck in H.G.A.Engler (ed.), Pflanzenr., IV, 261(96): 126 (1930).
- Orobanche coriosepala* Solms ex Beck in H.G.A.Engler (ed.), Pflanzenr., IV, 261: 126 (1930), pro syn.
- Orobanche ovata* Blakelock, Kew Bull. 4: 537 (1949 publ. 1950).
- Orobanche gontscharovii* Novopokr. & Nepli, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 13: 316 (1950).
- Orobanche schugnanica* Novopokr., Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 13: 319 (1950).
- Orobanche sideana* Gilli, Feddes Repert. 82: 400 (1971). *Orobanche camptolepisa* f. *sideana* (Gilli) Uhlich & Rätzel, Nordic J. Bot. e04155: 8 (2024).
- Orobanche hermonis* Mouterde, Saussurea 4: 23 (1973).
- Distribution.** Arabian Peninsula to W & C Asia (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Linke, 1993; Sánchez Pedraja et al., 2016 onward; POWO 2025).
- Host.** Polygonaceae (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Linke, 1993; Sánchez Pedraja et al., 2017 onward).
- 46. *Orobanche caryophyllacea*** Sm., Trans. Linn. Soc. 4: 169 (1798).
- Distribution.** Europe to Xinjiang and Pakistan, NW Africa (Beck Mannagetta, 1930; Uhlich et al., 1995, Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; Zhang & Tzvelev, 2024; POWO, 2025).
- Host.** Rubiaceae (Beck Mannagetta, 1930; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward; Zhang & Tzvelev, 2024).
- 46a. *Orobanche caryophyllacea* var. *caryophyllacea***
- Orobanche major* L., Sp. Pl.: 632 (1753), nom. rej.
- Orobanche vulgaris* Poir. in J.B.A.M.de Lamarck, Encycl. 4: 621 (1798).
- Orobanche fragrans* Raf., Amer. Monthly Mag. & Crit. Rev. 1: 440 (1817).
- Orobanche laevis* Geners. ex Wallr., Orobanches Gen. Diask.: 36 (1825), nom. inval.
- Orobanche galii* Duby, Bot. Gall., ed. 2, 1: 349 (1828).
- Orobanche bipontina* F.W.Schultz, Beitr. Kenntn. Deut. Orobanch.: 7 (1829).
- Orobanche laxiflora* Rchb., Iconogr. Bot. Pl. Crit. 7: 39 (1829).
- Orobanche strobiligena* Rchb., Iconogr. Bot. Pl. Crit. 7: 38 (1829).
- Orobanche galii-molluginis* F.W.Schultz, Bot. Lit.-Blätt. 5: 500 (1830).
- Orobanche incurva* F.W.Schultz, Bot. Lit.-Blätt. 5: 500 (1830).
- Orobanche papyracea* DC. ex F.W.Schultz, Bot. Lit.-Blätt. 5: 500 (1830).
- Orobanche adenostemon* Rchb., Fl. Germ. Excurs. 1: 354 (1831).
- Orobanche torquata* Rchb., Iconogr. Bot. Pl. Crit. 9: 12 (1831).
- Orobanche tubiflora* A.Dietr., Fl. Boruss.: t. 147 (1835).
- Orobanche caryophyllacea* var. *flava* Noulet, Fl. Bass. Sous-Pyrén.: 485 (1837).
- Orobanche citrina* A.Dietr., Fl. Boruss.: t. 441 (1839).
- Orobanche caryophyllacea* var. *citrina* (A.Dietr.) Beck, Biblioth. Bot. 4(19): 151 (1890).
- Orobanche gilva* A.Dietr., Fl. Boruss.: t. 439 (1839).
- Orobanche krausei* A.Dietr., Fl. Boruss. 7: t. 437 (1839).

*Orobanche macrantha* A.Dietr., Fl. Boruss.: t. 438 (1839).

*Orobanche ligustri* Suard ex Godr., Fl. Lorraine 2: 178 (1843). *Orobanche galii* var. *ligustri* (Suard ex Godr.) Gren. & Godr., Fl. France Corse 2: 632 (1850). *Orobanche caryophyllacea* subsp. *ligustri* (Suard ex Godr.) Nyman, Consp. Fl. Eur.: 559 (1881). *Orobanche caryophyllacea* var. *ligustri* (Suard ex Godr.) Beck, Biblioth. Bot. 4(19): 151 (1890).

*Orobanche latepubescens* Guss., Fl. Sicul. Syn. 2: 749 (1844).

*Orobanche quadrifida* K.Koch, Linnaea 22: 665 (1849).

*Orobanche erubescens* Saut., Flora 35: 577 (1852).

*Orobanche buhsei* Reut., Nouv. Mém. Soc. Imp. Naturalistes Moscou 12: 169 (1860). *Orobanche epithymum* var. *buhsei* (Reut.) Boiss., Fl. Orient. 4: 509 (1879). *Orobanche caryophyllacea* var. *buhsei* (Reut.) Beck, Ann. K.K. Naturhist. Hofmus. 2: 148 (1887).

*Catodiacrum incurvum* Dulac, Fl. Hautes-Pyrénées: 370 (1867).

*Orobanche galionepiphyta* St.-Lag., Ann. Soc. Bot. Lyon 7: 131 (1880), orth. var.

*Orobanche galiophya* St.-Lag. in A.Cariot, Étude Fl., éd. 8, 2: 648 (1889).

*Orobanche myrtilli* H.Lév. & Labbé, Bull. Acad. Int. Géogr. Bot., sér. 3, 19: 212 (1909).

**Distribution.** Europe to Xinjiang and Pakistan, NW Africa (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Jafri, 1976; Uhlich et al., 1995; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; Piwowarczyk et al., 2019, 2023; Zhang & Tzvelev, 2024; POWO, 2025).

**Host.** Rubiaceae (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward; Zhang & Tzvelev, 2024).

**46b. *Orobanche caryophyllacea* var. *clausonis*** (Pomel) Domina, **comb. nov.** *Orobanche clausonis* Pomel, Nouv. Mat. Fl. Atl. 1: 107 (1874). *Orobanche galii* var. *clausonis* (Pomel) Batt. in J.A.Battandier & L.C.Trabut, Fl. Algérie, Dicot.: 661 (1890).

*Orobanche galii* var. *atlantica* Batt. in J.A.Battandier & L.C.Trabut, Fl. Algérie, Dicot.: 661 (1890).

*Orobanche lucorum* var. *hesperina* J.A.Guim., Brotéria 3: 85 (1904). *Orobanche hesperina* (J.A.Guim.) Beck in H.G.A.Engler (ed.), Pflanzenr., IV, 261: 266 (1930). *Orobanche clausonis* subsp. *hesperina* (J.A.Guim.) M.J.Y.Foley, Anales Jard. Bot. Madrid 54: 324 (1996).

**Distribution.** W Mediterranean area to Malta (Beck Mannagetta, 1930; Uhlich et al., 1995; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** Rubiaceae (Beck Mannagetta, 1930; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward).

**Notes.** The shape of the calyx and corolla, as well as the host, clearly indicate *O. clausonis* is within the variability of *O. caryophyllacea* Sm. In a study based on RAPD markers (Román et al., 2003, fig. 1), *O. clausonis* is included in the same cluster of *O. mutellii* F.W.Schultz, *O. ramosa* L., *O. nana* Rchb. and *O. arenaria* Borkh. [all *O.* subgen. subg. *Trionychon* (Wallr.) Spach]. Clearly this arrangement does not provide a satisfactory interpretation of the variability observed.

**47. *Orobanche castellana*** Reut. in A.P.de Candolle, Prodr. 11: 29 (1847). *Orobanche amethystea* subsp. *castellana* (Reut.) Rouy in G.Rouy & J.Foucaud, Fl. France 11: 185 (1909). *Orobanche minor* subsp. *castellana* (Reut.) Rouy in G.Rouy & J.Foucaud, Fl. France 11: 185 (1909).

*Orobanche amethystea* var. *henriquesii* J.A.Guim., Brotéria 3: 128 (1904).

**Distribution.** W Mediterranean area, N Africa (Beck Mannagetta, 1930; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Digitalis* spp. (Plantaginaceae) (Beck Mannagetta, 1930; Sánchez Pedraja et al., 2017 onward).

**48. *Orobanche centaurina*** Bertol., Fl. Ital. 6: 430 (1846).

**Distribution.** France to Xinjiang and Himalaya (Beck Mannagetta, 1930; Sánchez Pedraja et al., 2016 onward; Euro+Med, 2006 onward; POWO, 2025).

**Host.** *Centaurea* spp., *Echinops* spp., and other Asteraceae (Beck Mannagetta, 1930; Sánchez Pedraja et al., 2017 onward).

**48a. *Orobanche centaurina* var. *centaurina***

*Orobanche kochii* F.W.Schultz, Flora 30: 66 (1847).

*Orobanche elatior* var. *forojuliensis* Coss., Notes Pl. Crit.: 8 (1849). *Orobanche forojuliensis* (Coss.) Nyman, Consp. Fl. Eur.: 560 (1881).

*Orobanche ritro* Gren. in J.C.M.Grenier & D.A.Godron, Fl. France Corse 2: 635 (1853). *Orobanche major* f. *ritro* (Gren.) Beck, Biblioth. Bot. 4(19): 171 (1890). *Orobanche major* var. *ritro* (Gren.) Willk., Suppl. Prodr. Fl. Hispan.: 188 (1893). *Orobanche major* proles *ritro* (Gren.) Rouy in G.Rouy & J.Foucaud, Fl. France 11: 181 (1909). *Orobanche major* subsp. *ritro* (Gren.) R.C.V.Douin in G.E.M.Bonnier, Fl. Ill. France 8: 97 (1926).

*Orobanche elatior* var. *tommassinii* Rchb.f. in H.G.L.Reichenbach, Icon. Fl. Germ. Helv. 20: 118 (1862). *Orobanche speciosa* subsp. *tommassinii* (Rchb.f.) Nyman, Consp. Fl. Eur.: 558 (1881).

*Orobanche comosa* Schur, Enum. Pl. Transsilv.: 505 (1866), nom. illeg.

*Orobanche echinopis* Pančić, Oesterr. Bot. Z. 18: 80 (1868).

*Orobanche salviae* subsp. *echinopis* (Pančić) Nyman, Consp. Fl. Eur.: 560 (1881).

*Orobanche echinopophya* St.-Lag. in A.Cariot, Étude Fl., éd. 8, 2: 650 (1889).

*Orobanche major* f. *karelinii* Beck, Biblioth. Bot. 4(19): 171 (1890).

*Orobanche major* f. *microphyla* Beck, Biblioth. Bot. 4(19): 171 (1890).

*Orobanche major* f. *oreites* Beck, Biblioth. Bot. 4(19): 171 (1890).

*Orobanche major* f. *trichocheilon* Beck, Biblioth. Bot. 4(19): 171 (1890).

*Orobanche major* f. *moravica* Beck, Repert. Spec. Nov. Regni Veg. 18: 36 (1922).

*Orobanche loscosii* Carlón, M.Laínz, Moreno Mor. & Ó.Sánchez, Flora Montiber. 48: 91 (2011).

**Distribution.** France to Xinjiang and Himalaya (Beck Mannagetta, 1930; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; Zhang & Tzvelev, 2024; POWO, 2025).

**Host.** *Centaurea* spp., *Echinops* spp. and other Asteraceae (Beck Mannagetta, 1930; Sánchez Pedraja et al., 2017 onward).

**48b. *Orobanche centaurina* var. *staehelinae*** (D. Pav., Michaud, Véla & J.-M. Tison) Domina, **comb. & stat. nov.** *Orobanche staehelinae* D. Pav., Michaud, Véla & J.-M. Tison, Phytotaxa 207: 96 (2015).

**Distribution.** SE France (Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Staehelina dubia* L. (Asteraceae) (Sánchez Pedraja et al., 2017 onward).

**Notes.** From the study of the protologue and the type material of *O. staehelinae*, no significant morphological differences with *O. centaurina* emerge. Thus, *O. staehelinae* falls within the variability of *O. centaurina*.

**49. *Orobanche cernua*** L. in Loeffl., Iter Hispan.: 152 (1758).

**Distribution.** Europe, Mediterranean area, N & E Africa, Asia, W & S Australia (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Jafri, 1976; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; Zhang & Tzvelev, 2024; POWO, 2025).

**Host.** *Artemisia* spp., *Senecio* spp., and other Asteraceae, rarely on Solanaceae (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Sánchez Pedraja et al., 2017 onward).

**Notes.** *Orobanche cernua* is divided into different varieties based on small morphological differences. Pujadas-Salvà & Velasco (2000) and Dor et al. (2020) report chemotaxonomic differences between *O. cernua* and *O. cumana*, but large morphological overlaps exist between the two taxa. The difference in host, and the geographical separation in the case of *O. cernua* var. *australiana* (F.Muell.) Beck, are accompanied by some morphological and biochemical differences that may lead to a process of speciation over time.

**49a. *Orobanche cernua* var. *australiana*** (F.Muell.) Beck in J.M.Black, Fl. S. Austral. 4: 517 (1929). *Orobanche*

*australiana* F.Muell., Syst. Census Austral. Pl.: 98 (1882). *Orobanche cernua* f. *australiana* (F.Muell.) Beck, Gatt. Orobanche: 144 (1890).

**Distribution.** W & S Australia (Beck Mannagetta, 1930; POWO, 2025).

**Host.** *Senecio* spp. and *Ixiolaena tomentosa* (Sond. & F.Muell. ex Sond.) Paul G.Wilson (Asteraceae).

**49b. *Orobanche cernua* var. *bicolor*** (C.A.Mey.) Reut. in A.P.de Candolle, Prodr. 11: 32 (1847). *Orobanche bicolor* C.A.Mey. in C.F.von Ledebour, Fl. Altaic. 2: 458 (1830).

*Orobanche arenaria* M.Bieb., Fl. Taur.-Caucas. 2: 83 (1808), nom. illeg.

*Orobanche cumana* Wallr., Orobanches Gen. Diask.: 58 (1825). *Orobanche cernua* var. *cumana* (Wallr.) Beck in H.G.A.Engler (ed.), Pflanzenr., IV, 261: 128 (1930). *Orobanche cernua* f. *cumana* (Wallr.) Beck, Biblioth. Bot. 4(19): 143 (1890). *Orobanche cernua* subsp. *cumana* (Wallr.) Soó, Feddes Repert. 83: 187 (1972).

*Orobanche glaucantha* Trautv., Trudy Imp. S.-Peterburgsk. Bot. Sada 1: 26 (1871).

*Orobanche cernua* subsp. *parviflora* Kotov, Sovetsk. Bot. 1935(4): 90 (1935).

*Orobanche sarmatica* Kotov, Fl. RSS Ucr. 10: 454 (1961).

*Orobanche cernua* subsp. *rajahmundrica* Teryokhin, Novosti Sist. Vyssh. Rast. 33: 210 (2001).

*Orobanche cumana* var. *helianthi* Tzvelev, Novosti Sist. Vyssh. Rast. 46: 214 (2015).

**Distribution.** E Europe to S Siberia and E & N China (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; Piwowarczyk et al., 2019, 2023; POWO, 2025).

**Host.** *Helianthus* spp. and other Asteraceae, and on Solanaceae (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Sánchez Pedraja et al., 2017 onward).

**49c. *Orobanche cernua* var. *cernua***

*Orobanche media* Desf., Fl. Atlant. 2: 59 (1798).

*Orobanche mutila* Dumort., Fl. Belg.: 33 (1827).

*Orobanche curviflora* Viv., Pl. Aegypt. Dec. 4(1): 22 (1830).

*Orobanche indica* Wall., Numer. List: n.° 3966 (1831), nom. inval.

*Orobanche gallica* Gren., Acad. Sci. Besançon, Séance Publique 1838: 144 (1838).

*Orobanche hispanica* Boiss., Voy. Bot. Espagne 2: 476 (1841).

*Orobanche bicolor* Bertol., Fl. Ital. 6: 448 (1844), nom. illeg.

*Orobanche berthelotii* Webb & Berthel., Hist. Nat. Iles Canaries 3(2; 3): 155 (1845).

*Orobanche cernua* var. *nepalensis* Reut. in A.P.de Candolle, Prodr. 11: 33 (1847).

*Orobanche pogonantha* Reut. in A.P.de Candolle, Prodr. 11: 33 (1847).

*Orobanche nicotianae* Wight, Ill. Ind. Bot. 2: t. 158 (1850).

*Orobanche galii* Klotzsch, Bot. Ergebn. Reise Waldemar: 111 (1862), nom. illeg.

*Orobanche solmsii* C.B.Clarke ex Hook.f., Fl. Brit. India 4: 325 (1884).

*Orobanche tineoi* Lojac., Naturalista Sicil. 6: 12 (1887).

*Orobanche cernua* f. *desertorum* Beck, Biblioth. Bot. 4(19): 142 (1890). *Orobanche cernua* var. *desertorum* (Beck) Stapf in D.Oliver & auct. Suc. (eds.), Fl. Trop. Afr. 4(2): 466 (1906).

*Orobanche cernua* f. *taurica* Beck in H.G.A.Engler (ed.), Pflanzenr., IV, 261(96): 128 (1930). *Orobanche cernua* var. *taurica* (Beck) Tzvelev, Novosti Sist. Vyssh. Rast. 46: 214 (2015).

*Orobanche badchysensis* Novopokr. & V.V.Nikitin, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 13: 315 (1950).

*Orobanche brevidens* Novopokr., Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 12: 282 (1950).

*Orobanche mulgedii* Novopokr., Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 13: 314 (1950).

*Orobanche nikitinii* Novopokr., Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 12: 287 (1950).

*Orobanche clavata* Schiman-Czeika, Fl. Iranica 5: 14 (1964).

*Orobanche wendelboi* Schiman-Czeika, Fl. Iranica 5: 12 (1964).

*Orobanche cernua* var. *pseudoclarkei* Jafri, Fl. W. Pakistan 98: 18 (1976).

*Phelipanche nikitae* Teryokhin, Novosti Sist. Vyssh. Rast. 24: 160 (1987).

**Distribution.** Europe, W Asia, N & E Africa (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Gilli, 1976; Jafri, 1976; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; Zhang & Tzvelev, 2024; POWO, 2025).

**Host.** *Artemisia* spp. and other Asteraceae, rarely on Solanaceae (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Gilli, 1976; Sánchez Pedraja et al., 2017 onward).

**49d. *Orobanche cernua* var. *grenieri*** (F.W.Schultz) Domina, **comb. & stat. nov.** *Orobanche grenieri* F.W.Schultz, Flora 28: 739 (1845).

*Orobanche lactucae* Arv.-Touv., Essai Pl. Dauphiné: 54 (1871).

*Orobanche cernua* f. *subgrandis* Beck, Bull. Herb. Boiss. 4 (ser. 2): 679 (1904).

**Distribution.** N Spain to C Asia (Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; Raab-Straube & Raus, 2017; Piwowarczyk et al., 2019, 2023; POWO, 2025).

**Host.** *Lactuca* spp. (Asteraceae) (Raab-Straube & Raus, 2017; Sánchez Pedraja et al., 2017 onward; Piwowarczyk et al., 2019, 2023).

**50. *Orobanche chironii*** Lojac., Contr. Fl. Sicilia: 12 (1878). *Orobanche alsatica* var. *chironii* (Lojac.) Bég. in A.Fiori & al., Fl. Anal. Italia 2: 480 (1902). *Orobanche buekii* subsp. *chironii* (Lojac.) Rätzel & Uhlich, Kochia 18: 220 (2025).

**Distribution.** Sicily (Domina et al., 2011; POWO, 2025).

**Host.** Asteraceae, mainly on *Anthemis cupaniana* Tod. (Domina et al., 2011).

**51. *Orobanche cicerbitae*** (Uhlich & Rätzel) Tzvelev, Novosti Sist. Vyssh. Rast. 46: 210 (2015). *Orobanche flava* subsp. *cicerbitae* Uhlich & Rätzel, Feddes Repert. 115: 207 (2004).

**Distribution.** Caucasus (Sánchez Pedraja et al., 2016 onward; Piwowarczyk et al., 2019, 2023; POWO, 2025).

**Host.** *Cicerbita petiolata* (K. Koch) Gadnidze and *Senecio propinquus* Schischk. (Asteraceae) (Piwowarczyk et al., 2019, 2023).

**52. *Orobanche cilicica*** Beck, Biblioth. Bot. 4(19): 119 (1890). *Phelipanche cilicica* (Beck) Soják, Čas. Nár.Mus., Odd. Přír. 140: 129 (1972).

**Distribution.** Turkey to Caucasus and Iran (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Gilli, 1976, 1982; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** Lamiaceae (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Gilli, 1976, 1982; Sánchez Pedraja et al., 2017 onward).

**53. *Orobanche clarkei*** Hook.f., Fl. Brit. India 4: 326 (1884).

**Distribution.** C Asia to W Tibet and W Himalaya (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Jafri, 1976; Sánchez Pedraja et al., 2016 onward; Zhang & Tzvelev, 2024; POWO, 2025).

**Host.** *Artemisia* spp. (Asteraceae) (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Jafri, 1976; Sánchez Pedraja et al., 2017 onward).

**54. *Orobanche coerulescens*** Stephan in C.L.Willdenow, Sp. Pl., ed. 4. 3: 349 (1800).

**Distribution.** Temperate Eurasia (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Uhlich et al., 1995; Sánchez Pedraja et al., 2016 onward; Piwowarczyk et al., 2019, 2023; Zhang & Tzvelev, 2024; POWO, 2025).

**Host.** *Artemisia* spp. (Asteraceae) (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Uhlich et al., 1995;

Sánchez Pedraja et al., 2017 onward; Zhang & Tzvelev, 2024).

**54a. *Orobanchae coerulescens* var. *coerulescens***

*Orobanchella coerulescens* (Stephan) Piwow., M.Nobis & Madeja, Pl. Syst. Evol. 301: 806 (2014).

*Orobanchae ammophila* C.A.Mey. in C.F.von Ledebour, Fl. Altaic. 2: 454 (1830).

*Orobanchae canescens* Bunge, Mém. Acad. Imp. Sci. St.-Petersbourg Divers Savans 2: 124 (1835), nom. illeg.

*Orobanchae albolanata* Steud., Nomencl. Bot., ed. 2, 2: 230 (1841).

*Orobanchae borealis* Reut. in A.P.de Candolle, Prodr. 11: 32 (1847), nom. illeg.

*Orobanchae quadrivalvis* Regel, Trudy Imp. S.-Peterburgsk. Bot. Sada, prepr. 6: 354 (1879).

*Orobanchae coerulescens* var. *albiflora* Kuntze, Trudy Imp. S.-Peterburgsk. Bot. Sada 10: 225 (1887).

*Orobanchae coerulescens* f. *typica* Beck, Biblioth. Bot. 4(19): 139 (1890), nom. inval.

*Orobanchae coerulescens* f. *pekinensis* Beck, Biblioth. Bot. 4(19): 138 (1890).

*Orobanchae coerulescens* f. *albiflora* Korsh., Tent. Fl. Ross. Orient.: 327 (1898), nom. illeg.

*Orobanchae bodinieri* H.Lév., Repert. Spec. Nov. Regni Veg. 9: 451 (1911).

*Orobanchae feddei* H.Lév., Repert. Spec. Nov. Regni Veg. 12: 285 (1913).

*Orobanchae mairei* H.Lév., Repert. Spec. Nov. Regni Veg. 12: 285 (1913).

*Orobanchae japonensis* Makino, J. Jap. Bot. 6: 9 (1929).

*Orobanchae pycnostachya* var. *yunnanensis* Beck in H.G.A.Engler (ed.), Pflanzenr., IV, 261: 118 (1930).

*Orobanchae akiana* Honda, Bot. Mag. (Tokyo) 46: 676 (1932).

*Orobanchae korshinskyi* Novopokr., Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 13: 311 (1950).

*Orobanchae coerulescens* f. *korshinskyi* (Novopokr.) Ma, Fl. Intramongolica 5: 311 (1980 publ. 1981).

*Orobanchae coerulescens* f. *alba* Y.N.Lee, Bull. Korea Pl. Res. 5: 27 (2005).

**Distribution.** Temperate Eurasia (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Uhlich et al., 1995; Sánchez Pedraja et al., 2016 onward; Piwowarczyk et al., 2019, 2023; Zhang & Tzvelev, 2024; POWO, 2025).

**Host.** *Artemisia* spp. (Asteraceae) (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward; Zhang & Tzvelev, 2024).

**54b. *Orobanchae coerulescens* var. *nipponica*** (Makino) Uhlich & Rätzl, Novosti Sist. Vyssh. Rast. 53: 98 (2022).

*Orobanchae nipponica* Makino, J. Jap. Bot. 5: 40 (1928).

*Orobanchae coerulescens* f. *nipponica* (Makino) Kitam, Acta Phytotax. Geobot. 17(1): 8 (1957).

**Distribution.** Japan (Lee et al., 2016).

**Host.** *Artemisia japonica* Thunb. (Asteraceae) (Lee et al., 2016).

**55. *Orobanchae colorata*** K.Koch, Linnaea 17: 291 (1844).

*Orobanchae anatolica* Boiss. & Reut. in A.P.de Candolle, Prodr. 11: 17 (1847).

*Orobanchae leucopogon* Boiss. & Hausskn. in P.E.Boissier, Fl. Orient. 4: 504 (1879).

**Distribution.** Turkey to Syria and Iran (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Gilli, 1976, 1982; Sánchez Pedraja et al., 2016 onward; Piwowarczyk et al., 2019, 2023; POWO, 2025).

**Host.** *Salvia* spp. (Lamiaceae) (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Gilli, 1976; Sánchez Pedraja et al., 2017 onward; Piwowarczyk et al., 2019, 2023).

**56. *Orobanchae connata*** K.Koch, Linnaea 22: 669 (1849).

*Orobanchae caerulescens* K.Koch, Linnaea 17: 291 (1844), nom. illeg.

**Distribution.** S Transcaucasus (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** Unknown.

**57. *Orobanchae crenata*** Forssk., Fl. Aegypt.-Arab.: 113 (1775).

*Orobanchae alba* M.Bieb., Fl. Taur.-Caucas. 2: 82 (1808), nom. illeg.

*Orobanchae speciosa* DC. in J.B.A.M.de Lamarck & A.P.de Candolle, Fl. Franç., éd. 3, 6: 393 (1815). *Orobanchae pruinosa* var. *speciosa* (DC.) Ball, J. Linn. Soc., Bot. 16: 605 (1878).

*Orobanchae pruinosa* Lapeyr., Hist. Pl. Pyrénées, Suppl.: 87 (1818).

*Orobanchae viciifabae* F.W.Schultz, Bot. Lit.-Blätt. 5: 500 (1830).

*Orobanchae minor* var. *lapeyrousii* Noulet, Fl. Bass. Sous-Pyrén.: 486 (1837).

*Orobanchae grandiflora* Bory & Chaub., Nouv. Fl. Pélop.: 40 (1838), nom. illeg.

*Orobanchae klugei* J.J.Schmitz & Regel, Fl. Bonn.: 190 (1841).

*Orobanchae angustisepala* F.W.Schultz, Flora 26: 130 (1843).

*Orobanchae segetum* Spruner, Flora 26: 129 (1843).

*Orobanchae canescens* F.W.Schultz, Flora 26: 129 (1843), nom. illeg.

*Orobanchae punctata* var. *glabrata* Guss., Enum. Pl. Inarim.: 247 (1855).

*Orobanchae tommasinii* Rchb.f. in H.G.L.Reichenbach, Icon. Fl. Germ. Helv. 20: 92 (1862). *Orobanchae crenata* subsp. *tommasinii* (Rchb.f.) Nyman, Consp. Fl. Eur.: 558 (1881).

- Orobanche pelargonii* Caldesi, Nuovo Giorn. Bot. Ital. 12: 175 (1880). *Orobanche speciosa* var. *pelargonii* (Caldesi) Arcang., Comp. Fl. Ital., ed. 2: 413 (1894).
- Orobanche speciosa* subsp. *gussonei* Nyman, Consp. Fl. Eur.: 558 (1881).
- Orobanche altissima* Noë ex Nyman, Consp. Fl. Eur.: 558 (1881), nom. inval.
- Orobanche crenata* subsp. *gussonei* Nyman, Consp. Fl. Eur.: 558 (1881).
- Orobanche cyamophya* St.-Lag. in A.Cariot, Étude Fl., éd. 8, 2: 648 (1889).
- Orobanche crenata* f. *silvestris* Beck, Biblioth. Bot. 4(19): 227 (1890). *Orobanche crenata* var. *silvestris* (Beck) Beck in H.G.A.Engler (ed.), Pflanzenr., IV, 261: 139 (1930).
- Orobanche crenata* var. *lactiflora* Pau, Anales Soc. Esp. Hist. Nat. 27: 444 (1899).
- Orobanche crenata* subsp. *borzii* Albo, Vita Piante Vasc. Sicilia Mer.-Or. 2: 236 (1919).
- Orobanche amethystea* var. *maura* Jahand. & Maire, Bull. Soc. Hist. Nat. Afrique N. 14: 68 (1923).
- Orobanche crenata* f. *alba* Maire, Bull. Soc. Hist. Nat. Afrique N. 30: 358 (1939).
- Orobanche crenata* var. *brachysepala* Maire, Bull. Soc. Hist. Nat. Afrique N. 30: 358 (1939).
- Orobanche clementei* C.Vicioso, Anales Jard. Bot. Madrid 6(2): 75 (1946).
- Orobanche crenata* var. *callieri* Tzvelev, Novosti Sist. Vyssh. Rast. 23: 262 (1986). *Orobanche callieri* (Tzvelev) Tzvelev, Novosti Sist. Vyssh. Rast. 46: 206 (2015).
- Distribution.** Native to Macaronesia, Mediterranean area to N Iran (Beck Mannagetta 1930; Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Gilli, 1976; Uhlich et al., 1995; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; POWO, 2025). Naturalized in eastern Africa, Caucasus, Russia and Indian subcontinent (CABI 2025).
- Host.** Fabaceae and Apiaceae, rarely also on other families (Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Gilli, 1976; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward).
- 58. *Orobanche cypria*** Reut. ex Kotschy in F.J.A.Unger & C.G.T.Kotschy, Ins. Cypern: 294 (1865).
- Orobanche cypria* var. *pterocephali* Beck, Bull. Herb. Boiss. 2(4): 682 (1904).
- Distribution.** Cyprus, N Iraq to NW & NC Iran (Beck Mannagetta, 1930; Schiman-Czeika, 1964; Gilli, 1976; Sánchez Pedraja et al., 2016 onward; POWO, 2025).
- Host.** *Pterocephalus* spp. (Dipasacaceae) and *Scutellaria* spp. (Lamiaceae) (Beck Mannagetta, 1930; Schiman-Czeika, 1964; Gilli, 1976; Sánchez Pedraja et al., 2017 onward).
- 59. *Orobanche cyrenaica*** Beck ex E.A.Durand & Baratte, Fl. Libyc. Prodr.: 183 (1910).
- Distribution.** NE Libya (Beck Mannagetta, 1930; Sánchez Pedraja et al., 2016 onward; POWO, 2025).
- Host.** *Pistacia lentiscus* L. (Anacardiaceae) (Beck Mannagetta, 1930; Sánchez Pedraja et al., 2017 onward).
- 60. *Orobanche cyrnea*** Jeanm., Habashi & Manen, Candollea 60: 257 (2005).
- Distribution.** Corse (Sánchez Pedraja et al., 2016 onward; POWO, 2025).
- Host.** *Santolina corsica* Jord. & Fourr. (Asteraceae) (Sánchez Pedraja et al., 2017 onward).
- 61. *Orobanche dagestanica*** Ó. Sánchez, Piwow., Fateryga, Svirin & Murtaz., Phytotaxa 653: 68 (2024).
- Distribution.** Daghestan, Caucasus (Piwowarczyk et al., 2024).
- Host.** *Lophiolepis* spp. (Asteraceae) (Piwowarczyk et al., 2024).
- 62. *Orobanche densiflora*** Salzm. ex Bertol., Fl. Ital. 6: 444 (1846).
- Orobanche crinita* Rchb., Iconogr. Bot. Pl. Crit. 7: t. 922 (1829), sensu auct.
- Orobanche densiflora* var. *macraixma* J.A.Guim., Broteria 3: 144 (1904).
- Orobanche crinita* var. *occidentalis* M.J.Y.Foley, Anales Jard. Bot. Madrid 58: 226 (2000 publ. 2001).
- Orobanche densiflora* var. *tarifae* A.Pujadas, Acta Bot. Malac. 33: 363 (2008).
- Distribution.** W & C Portugal, SW Spain, NW Africa (Beck Mannagetta, 1930; Sánchez Pedraja et al., 2016 onward; POWO, 2025).
- Host.** *Lotus* spp., rarely on other Fabaceae (Beck Mannagetta, 1930; Sánchez Pedraja et al., 2017 onward).
- 63. *Orobanche denudata*** Moris, Stirp. Sard. Elench. 2(App.): 1 (1828).
- Orobanche decora* Moris ex Reut. in A.P.de Candolle, Prodr. 11: 26 (1847).
- Distribution.** Sardinia (Beck Mannagetta, 1930; Sánchez Pedraja et al., 2016 onward; POWO, 2025).
- Host.** *Rubus* spp. (Rosaceae) (Beck Mannagetta, 1930; Uhlich et al., 1995).
- 64. *Orobanche dominae*** El Mokni, Medit. Bot. 44-e80515: 2 (2023).
- Distribution.** Tunisia (Sánchez Pedraja et al., 2016 onward; El Mokni, 2023; POWO, 2025).
- Host.** *Onopordum espiniae* Bonnet. (Asteraceae) (Sánchez Pedraja et al., 2017 onward; El Mokni, 2023).
- 65. *Orobanche ebuli*** Huter & Rigo, Oesterr. Bot. Z. 57: 354 (1907).
- Distribution.** C Italy (Beck Mannagetta, 1930; Sánchez Pedraja et al., 2016 onward; POWO, 2025).
- Host.** *Sambucus ebulus* L. (Viburnaceae) (Beck Mannagetta, 1930; Sánchez Pedraja et al., 2017 onward).
- 66. *Orobanche elatior*** Sutton, Trans. Linn. Soc. 4: 178 (1798).

**Distribution.** Europe, N Africa to N Iran and C China (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Gilli, 1976; Uhlich et al., 1995; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Centaurea* spp. (Asteraceae) (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Gilli, 1976; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward).

**Notes.** *Orobanche elatior* is a widely distributed species parasitic on *Centaurea* spp. *Orobanche. elatior* var. *icterica* and *O. elatior* var. *leptantha*, from Spain and north-western Africa respectively, are proposed here on the basis of morphological variations of the corolla.

**66a. *Orobanche elatior* var. *elatior***

*Orobanche elatior* var. *microglossa* Wallr., *Orobanches* Gen. Diask.: 51 (1825).

*Orobanche centaureae-scabiosae* F.W.Schultz, Bot. Lit.-Blätt. 5: 500 (1830).

*Orobanche fragrans* W.D.J.Koch in J.C.Röhling, *Deutschl. Fl.*, ed. 3, 4: 463 (1833), nom. illeg.

*Orobanche stigmatodes* Wimm., *Fl. Schles.*: 280 (1840).

*Orobanche confusa* F.W.Schultz, *Flora* 30: 66 (1847).

*Orobanche major* var. *Forojuliensis* Coss., *Notes Pl. Crit.*: 9 (1849).

*Orobanche centaurophyta* St.-Lag. in A.Cariot, *Étude Fl.*, éd. 8, 2: 649 (1889).

*Orobanche borbasiana* Beck, *Biblioth. Bot.* 4(19): 173 (1890).

*Orobanche alsatica* var. *caudata* (De Not.) Bég. in A.Fiori & al., *Fl. Anal. Italia* 2: 480 (1902).

*Orobanche kioviensis* Rogow. ex Beck in H.G.A.Engler (ed.), *Pflanzenr.*, IV, 261: 247 (1930), pro syn.

**Distribution.** Europe to NW & C China (Beck Mannagetta, 1930; Beck Mannagetta, 1930; Schiman-Czeika, 1964; Gilli, 1976; Uhlich et al., 1995; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Centaurea* spp. (Asteraceae) (Beck Mannagetta, 1930; Beck Mannagetta, 1930; Schiman-Czeika, 1964; Gilli, 1976; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward).

**66b. *Orobanche elatior* var. *leptantha*** (Pomel) Domina, **comb. & stat. nov.** *Orobanche leptantha* Pomel, *Nouv. Mat. Fl. Atl.* 1: 110 (1874).

*Orobanche curvata* Pomel, *Nouv. Mat. Fl. Atl.* 1: 111 (1874). *Orobanche minor* var. *curvata* (Pomel) Batt. & Trab., *Fl. Algérie Tunisie*: 254 (1905).

*Orobanche icterica* Pau, *Not. Bot. Fl. Españ.* 3: 5 (1889).

*Orobanche major* subsp. *icterica* (Pau) A.Pujadas, *Flora Montiber.* 11: 16 (1999). *Orobanche elatior* subsp. *icterica* (Pau) A.Pujadas, *Flora Montiber.* 17: 11 (2001).

**Distribution.** Spain and NW Africa (Beck Mannagetta, 1930; Uhlich et al., 1995; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Centaurea* spp. (Asteraceae) (Beck Mannagetta, 1930; Sánchez Pedraja et al., 2017 onward).

**Notes.** A comparative study of the protologues, type material, and field populations of the taxa described as *O. elatior*, *O. leptantha* and *O. icterica* highlights that, based on the characters of the calyx and corolla, they all belong to the same species. *Orobanche leptantha* and *O. icterica* in the field do not show any difference and are here grouped in the same variety. This taxon has some differences in the corolla compared to *O. elatior* sensu stricto, also the phylogenetic study based on nuclear ITS sequences (Carlón et al., 2008: 13, Fig. 2) shows some differences.

**67. *Orobanche esulae*** Pančić, *Fl. Serbiae*, Add.: 194 (1884).

**Distribution.** Serbia to C & S Bulgaria (Beck Mannagetta, 1930; Uhlich et al., 1995; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Euphorbia esula* L. (Euphorbiaceae) (Beck Mannagetta, 1930; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward; POWO, 2025).

**68. *Orobanche flava*** Mart. ex F.W.Schultz, *Beitr. Kenntn. Deut. Orobanch.*: 9 (1829).

*Orobanche tussilaginis* Mutel, *Fl. Franç. Herbor.* 2: 349 (1835).

*Orobanche froelichii* Rchb.f. in H.G.L.Reichenbach, *Icon. Fl. Germ. Helv.* 20: 106 (1862).

*Orobanche petasites* Borbás, *Oesterr. Bot. Z.* 35: 76 (1885), nom. nud.

*Orobanche flava* f. *adenostylidis* Beck, *Repert. Spec. Nov. Regni Veg.* 18: 36 (1922).

*Orobanche flava* var. *doriae* Emb. & Maire, *Bull. Soc. Hist. Nat. Afrique N.* 27: 252 (1936).

**Distribution.** Mts. of C Europe to Caucasus, Morocco (Beck Mannagetta, 1930; Uhlich et al., 1995; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; Piwowarczyk et al., 2019, 2023; POWO, 2025).

**Host.** *Adenostyles* spp. and *Petasites* spp., rarely on other Asteraceae (Beck Mannagetta, 1930; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward; Piwowarczyk et al., 2019, 2023).

**69. *Orobanche foetida*** Poir., *Voy. Barbarie* 2: 195 (1789), nom. cons.

*Orobanche fusca* Lam., *Encycl.* 4: 621 (1798).

*Orobanche barbata* Brot., *Fl. Lusit.* 1: 183 (1804), nom. illeg.

*Orobanche barbata* var. *atropurpurea* Brot., *Fl. Lusit.* 1: 183 (1804).

*Catodiocrum foetidum* Dulac, *Fl. Hautes-Pyrénées*: 371 (1867).

*Orobanche foetida* var. *comosa* Ball, *J. Linn. Soc., Bot.* 16: 604 (1878).

- Orobanche hookeriana* Ball, J. Linn. Soc., Bot. 16: 605 (1878). *Orobanche foetida* f. *hookeriana* (Ball) Beck, Biblioth. Bot. 4(19): 204 (1890).
- Orobanche foetida* f. *comigera* Beck, Biblioth. Bot. 4(19): 204 (1890).
- Orobanche haenseleri* var. *baetica* Beck, Biblioth. Bot. 4(19): 216 (1890).
- Orobanche atropurpurea* H.Gay, Rev. Bot. Bull. Mens. 10: 718 (1892), nom. illeg.
- Orobanche foetida* var. *broteri* Merino, Contr. Fl. Galicia 2: 49 (1897). *Orobanche foetida* subsp. *broteri* (Merino) J.A.Guim., Brotéria 3: 105 (1904).
- Orobanche densiflora* var. *erythrina* J.A.Guim., Brotéria 3: 143 (1904).
- Orobanche foetida* var. *iodestigma* J.A.Guim., Brotéria 3: 109 (1904).
- Orobanche foetida* var. *ochrostigma* J.A.Guim., Brotéria 3: 106 (1904).
- Orobanche foetida* subvar. *pericalla* J.A.Guim., Brotéria 3: 111 (1904).
- Orobanche foetida* subvar. *platantha* J.A.Guim., Brotéria 3: 106 (1904).
- Orobanche foetida* subsp. *lusitanica* Brot. ex Cout., Fl. Portugal: 568 (1913).
- Orobanche foetida* var. *kabylica* Maire, Bull. Soc. Hist. Nat. Afrique N. 23: 204 (1932).
- Orobanche foetida* var. *subgracilis* Maire, Bull. Soc. Hist. Nat. Afrique N. 24: 270 (1932).
- Distribution.** W & S Mediterranean area (Beck Mannagetta, 1930; Uhlich et al., 1995; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; POWO, 2025).
- Host.** Fabaceae (Beck Mannagetta, 1930; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward).
- 70. *Orobanche gamosepala*** Reut. in A.P.de Candolle, Prodr. 11: 15 (1847).
- Ceratocalyx reuteri* Lange, Vidensk. Meddel. Naturhist. Foren. Kjøbenhavn 1863: 52 (1863).
- Necranthus orobanchoides* Gilli, Notes Roy. Bot. Gard. Edinburgh 28: 297 (1968).
- Distribution.** NE Turkey to Caucasus (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Gilli, 1982; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; Piwowarczyk et al., 2019, 2023; POWO, 2025).
- Host.** *Geranium* spp. (Geraniaceae) (Novopokrovskij & Tzvelev, 1958; Gilli, 1982; Sánchez Pedraja et al., 2017 onward; Piwowarczyk et al., 2019, 2023).
- 71. *Orobanche georgii-reuteri*** (Carlón, G.Gómez, M.Laínz, Moreno Mor., Ó.Sánchez & Schneew.) A.Pujadas, Lagasalia 26: 246 (2006). *Phelipanche georgii-reuteri* Carlón, G.Gómez, M.Laínz, Moreno Mor., Ó.Sánchez & Schneew., Doc. Jard. Bot. Atlántico 3: 17 (2005). *Orobanche mutelii* subsp. *georgii-reuteri* (Carlón, G.Gómez, M.Laínz, Moreno Mor., Ó.Sánchez & Schneew.) A.Pujadas, Acta Bot. Malac. 32: 266 (2007).
- Distribution.** SE Spain (Sánchez Pedraja et al., 2016 onward; POWO, 2025).
- Host.** *Lepidium* spp. and other Brassicaceae (Sánchez Pedraja et al., 2017 onward).
- 72. *Orobanche gigantea*** (Beck) Gontsch., Trudy Bot. Inst. Akad. Nauk S.S.S.R., Ser. 1, Fl. Sist. Vyssh. Rast. 1: 55 (1933). *Orobanche kotschyi* var. *gigantea* Beck, Biblioth. Bot. 4(19): 147 (1890).
- Orobanche pamiroalaica* Gontsch. & Novopokr., Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 12: 277 (1950).
- Distribution.** C Asia (Beck Mannagetta, 1930; Sánchez Pedraja et al., 2016 onward; POWO, 2025).
- Host.** Probably Apiaceae (Sánchez Pedraja et al., 2017 onward).
- 73. *Orobanche glabricaulis*** Tzvelev in V.L.Komarov (ed.), Fl. URSS 23: 685 (1958).
- Distribution.** Caucasus (Novopokrovskij & Tzvelev, 1958; Sánchez Pedraja et al., 2016 onward; POWO, 2025).
- Host.** Apiaceae (Sánchez Pedraja et al., 2017 onward).
- 74. *Orobanche gracilis*** Sm., Trans. Linn. Soc. 4: 172 (1798).
- Distribution.** C & S Europe to SW Turkey, Caucasus, NW Africa (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Gilli, 1982; Uhlich et al., 1995; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; Piwowarczyk et al., 2019, 2023). Naturalized in Ukraine and in the Sandinavian Peninsula (CABI 2025).
- Host.** Fabaceae (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Gilli, 1982; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward; Piwowarczyk et al., 2019, 2023; POWO, 2025).
- 74a. *Orobanche gracilis* var. *deludens*** (Beck) A.Pujadas, Anales Jard. Bot. Madrid 61: 131 (2004). *Orobanche haenseleri* var. *deludens* Beck, Repert. Spec. Nov. Regni Veg. 18: 38 (1922). *Orobanche gracilis* subsp. *deludens* (Beck) A.Pujadas, Lagasalia 26: 247 (2006).
- Orobanche tetuanensis* Ball, J. Linn. Soc., Bot. 16: 606 (1878). *Orobanche gracilis* f. *tetuanensis* (Ball) Pau, Mem. Real Soc. Esp. Hist. Nat. 12: 370 (1924).
- Orobanche austrohispanica* M.J.Y.Foley, Anales Jard. Bot. Madrid 58: 224 (2000 publ. 2001).
- Distribution.** Spain, Morocco, Tunisia (Beck Mannagetta, 1930; Sánchez Pedraja et al., 2016 onward; El Mokni et al., 2023; POWO, 2025).
- Host.** Fabaceae, reported also on *Fumana* spp. (Cistaceae) (Beck Mannagetta, 1930; Sánchez Pedraja et al., 2017 onward; El Mokni et al., 2023).
- 74b. *Orobanche gracilis* var. *gracilis***

- Orobanche cruenta* Bertol., Rar. Lig. [Ital.] Pl. 3: 56 (1810). *Catodiocrum cruentum* (Bertol.) Dulac, Fl. Hautes-Pyrénées: 371 (1867).
- Orobanche foetida* Lapeyr., Hist. Pl. Pyrénées: 358 (1813), nom. illeg.
- Orobanche gracilis* var. *lutescens* Hoffmanns. & Link, Fl. Portug. 1: 314 (1813).
- Orobanche labellata* Dumort., Fl. Belg.: 33 (1827).
- Orobanche caryophyllacea* F.W.Schultz, Beitr. Kenntn. Deut. Orobanch.: 8 (1829), nom. illeg.
- Orobanche vulgaris* var. *minor* Gaudin, Fl. Helv. 4: 177 (1829).
- Orobanche dorycnii-suffruticosi* F.W.Schultz, Bot. Lit.-Blätt. 5: 500 (1830).
- Orobanche genistae-cinereae* F.W.Schultz, Bot. Lit.-Blätt. 5: 500 (1830).
- Orobanche genistae-germanicae* F.W.Schultz, Bot. Lit.-Blätt. 5: 500 (1830).
- Orobanche genistae-sagittalis* F.W.Schultz, Bot. Lit.-Blätt. 5: 500 (1830).
- Orobanche genistae-tinctoriae* F.W.Schultz, Bot. Lit.-Blätt. 5: 500 (1830).
- Orobanche spartii-juncei* F.W.Schultz, Bot. Lit.-Blätt. 5: 500 (1830).
- Orobanche ulicis-europaeae* F.W.Schultz, Bot. Lit.-Blätt. 5: 500 (1830).
- Orobanche ulicis* Des Moul., Ann. Sci. Nat., Bot., sér. 2, 3: 71 (1835). *Orobanche cruenta* var. *ulicis* (Des Moul.) Reut. in A.P.de Candolle, Prodr. 11: 16 (1847). *Orobanche gracilis* var. *ulicis* (Des Moul.) Rouy in G.Rouy & J.Foucaud, Fl. France 11: 175 (1909).
- Orobanche lobelii* Noulet, Fl. Bass. Sous-Pyrén.: 481 (1837).
- Orobanche breviflora* F.W.Schultz, Flora 26: 130 (1843).
- Orobanche spruneri* F.W.Schultz, Flora 26: 130 (1843).
- Orobanche gracilis* var. *spruneri* (F.W.Schultz) Beck, Biblioth. Bot. 4(19): 198 (1890).
- Orobanche cruenta* var. *citrina* Coss. & Germ., Fl. Descr. Anal. Paris 2: 309 (1845).
- Orobanche wierzbickii* F.W.Schultz, Flora 28: 324 (1845). *Orobanche cruenta* var. *wierzbickii* (F.W.Schultz) F.W.Schmidt, Verh. K. K. Zool.-Bot. Ges. Wien 8: 171 (1858).
- Orobanche superba* De Not., Prosp. Fl. Ligust.: 35 (1846).
- Orobanche galeopsiflora* Zumagl., Fl. Pedemont. 1: 197 (1849).
- Orobanche grandiuscula* Moris, Diagn. Stirp. Sard.: 2 (1857).
- Orobanche ilicis* L.Mathieu, Fl. Forest.: 383 (1858).
- Orobanche congesta* Rchb.f. in H.G.L.Reichenbach, Icon. Fl. Germ. Helv. 20: 117 (1862).
- Orobanche cruenta* var. *glabra* Willk. in M.Willkomm & J.M.C.Lange, Prodr. Fl. Hispan. 2: 621 (1870).
- Orobanche condensata* Ball, J. Linn. Soc., Bot. 16: 606 (1878), nom. illeg.
- Orobanche cruenta* subsp. *gracilis* (Sm.) Arcang., Comp. Fl. Ital.: 526 (1882), nom. illeg.
- Orobanche gracilis* var. *citrina* (Coss. & Germ.) Rouy in G.Rouy & J.Foucaud, Fl. France 11: 176 (1909).
- Orobanche levieri* Lojac., Contr. Fl. Sicilia: 14 (1878).
- Orobanche cruenta* subsp. *noeana* Nyman, Consp. Fl. Eur.: 558 (1881).
- Orobanche minor* subsp. *welwitschii* Nyman, Consp. Fl. Eur.: 562 (1881).
- Orobanche todaroi* Lojac., Naturalista Sicil. 1: 215 (1882). *Orobanche gracilis* var. *todaroi* (Lojac.) Domina & Mazzola, Bocconea 21: 229 (2007).
- Orobanche gracilis* f. *psilantha* Beck, Biblioth. Bot. 4(19): 197 (1890).
- Orobanche spruneri* Lojac., Fl. Sicul. 2(2): 158 (1907), nom. illeg.
- Orobanche gracilis* var. *psilantha* (Beck) O.Bolòs & Vigo, Fl. Països Catalans 3: 505 (1995 publ. 1996).
- Distribution.** C & S Europe to SW Turkey, Caucasus, North Africa (Beck Mannagetta, 1930; Gilli, 1982; Uhlich et al., 1995; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; POWO, 2025).
- Host.** Fabaceae (Beck Mannagetta, 1930; Gilli, 1982; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward).
- 75. *Orobanche grossheimii*** Novopokr., Bot. Zhurn. S.S.S.R. 34: 283 (1949).
- Orobanche grossheimii* f. *pallescens* Uhlich & Rätzel, Feddes Repert. 115: 203 (2004).
- Distribution.** Caucasus (Novopokrovskij & Tzvelev, 1958; Sánchez Pedraja et al., 2016 onward; Piwowarczyk et al., 2019, 2023; POWO, 2025).
- Host.** *Cephalaria* spp. (Dipsacaceae) (Novopokrovskij & Tzvelev, 1958; Sánchez Pedraja et al., 2017 onward; Piwowarczyk et al., 2019, 2023).
- 76. *Orobanche haenseleri*** Reut. in A.P.de Candolle, Prodr. 11: 22 (1847).
- Orobanche hellebori* Miégev., Bull. Soc. Bot. France 12: 247 (1865). *Orobanche alba* f. *hellebori* (Miégev.) Beck, Biblioth. Bot. 4(19): 212 (1890). *Orobanche alba* var. *hellebori* (Miégev.) Willk., Suppl. Prodr. Fl. Hispan.: 187 (1893). *Orobanche epithymum* proles *hellebori* (Miégev.) Rouy in G.Rouy & J.Foucaud, Fl. France 11: 173 (1909). *Orobanche epithymum* var. *hellebori* (Miégev.) P.Fourn., Quatre Fl. France: 797 (1937).
- Orobanche haenseleri* f. *grandiflora* Timb.-Lagr. ex Willk. in M.Willkomm & J.M.C.Lange, Prodr. Fl. Hispan. 2: 624 (1870).
- Distribution.** S Spain (Beck Mannagetta, 1930; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Helleborus foetidus* L. (Ranunculaceae) (Beck Mannagetta, 1930; Sánchez Pedraja et al., 2017 onward).

**77. *Orobanche hansii*** A.Kern., Ber. Naturwiss.-Med. Vereins Innsbruck 1: 111 (1870). *Orobanche cernua* f. *hansii* (A.Kern.) Beck, Biblioth. Bot. 4(19): 144 (1890).

*Orobanche foetida* Klotzsch, Bot. Ergebn. Reise Walde-mar: 111 (1862), nom. illeg.

*Orobanche inconspicua* Gontsch., Bot. Mater. Gerb. Glavn. Bot. Sada R.S.F.S.R. 1: 57 (1933).

*Orobanche vitellina* Novopokr., Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 12: 288 (1950).

**Distribution.** N Iran to C Asia and China (Sichuan) (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Gilli, 1976; Jafri, 1976; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Artemisia* spp. and *Cousinia* spp. (Asteraceae) (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Gilli, 1976; Jafri, 1976; Sánchez Pedraja et al., 2017 onward).

**78. *Orobanche hederæ*** Duby, Bot. Gall., ed. 2, 1: 350 (1828).

*Orobanche barbata* Sm., Engl. Bot. 36: t. 2559 (1813), nom. illeg.

*Orobanche medicaginis* Rchb., Iconogr. Bot. Pl. Crit. 7: 41 (1829), sensu auct.

*Orobanche hederæ-helicis* F.W.Schultz, Bot. Lit.-Blätt. 5: 500 (1830).

*Orobanche vaucheri* Noulet, Fl. Bass. Sous-Pyrén.: 487 (1837).

*Orobanche laurina* Bonap. ex Bertol., Fl. Ital. 6: 424 (1846).

*Orobanche yuccæ* Pi.Savi ex Bertol., Fl. Ital. 6: 423 (1846).

*Orobanche glaberrima* Guss. ex Reut. in A.P.de Candolle, Prodr. 11: 719 (1847).

*Orobanche helicis* Rota, Prosp. Piant. Pav.: 287 (1853).

*Orobanche chaboissæi* Lacroix, Bull. Soc. Bot. France 6: 565 (1859).

*Orobanche araliocetona* Meisn., Bot. Zeitung (Berlin) 24: 17 (1866).

*Catodiocrum luteum* Dulac, Fl. Hautes-Pyrénées: 370 (1867).

*Orobanche stenantha* Lojac., Naturalista Sicil. 2(3): 62 (1883). *Orobanche hederæ* f. *stenantha* (Lojac.) Beck, Biblioth. Bot. 4(19): 260 (1890).

*Orobanche hederifixa* St.-Lag. in A.Cariot, Étude Fl., éd. 8, 2: 651 (1889).

*Orobanche hederæ* var. *godronii* Rouy in G.Rouy & J.Foucaud, Fl. France 11: 190 (1909).

*Orobanche balearica* Sennen & Pau, Butl. Inst. Catalana Hist. Nat. 11: 18 (1911).

**Distribution.** Macaronesia, W Europe to Mediterranean area and N Iran (Beck Mannagetta, 1930; Novopokrovskij &

Tzvelev, 1958; Schiman-Czeika, 1964; Gilli, 1976; Uhlich et al., 1995; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; Piowarczyk et al., 2019, 2023; POWO, 2025).

**Host.** *Hedera* spp. (Araliaceae) (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Gilli, 1976; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward).

**79. *Orobanche ingens*** (Beck) Tzvelev, Novosti Sist. Vyssh. Rast. 27: 182 (1990). *Orobanche alba* f. *ingens* Beck, Repert. Spec. Nov. Regni Veg. 18: 38 (1922).

**Distribution.** Caucasus (Beck Mannagetta, 1930; Sánchez Pedraja et al., 2017 onward; Piowarczyk et al., 2019, 2023; POWO 2025).

**Host.** *Heracleum* spp. and other Apiaceae (Sánchez Pedraja et al., 2017 onward; Piowarczyk et al., 2019, 2023).

**80. *Orobanche inulæ*** Novopokr. & Abramov, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 13: 323 (1950).

**Distribution.** E Turkey to Caucasus (Beck Mannagetta, 1930; Gilli, 1982; Sánchez Pedraja et al., 2016 onward; Raab-Straube & Raus, 2017; Piowarczyk et al., 2019, 2023; POWO 2025).

**Host.** *Inula* spp. (Asteraceae) (Beck Mannagetta, 1930; Gilli, 1982; Sánchez Pedraja et al., 2017 onward; Piowarczyk et al., 2019, 2023).

**81. *Orobanche javakhetica*** Piwow., Ó.Sánchez & Moreno Mor., Phytotaxa 360: 137 (2018).

**Distribution.** S Transcaucasus (Piowarczyk et al., 2019, 2023; POWO 2025).

**Host.** *Dipsacaceae* and *Lamiaceae* (Sánchez Pedraja et al., 2017 onward; Piowarczyk et al., 2019, 2023).

**82. *Orobanche kashmirica*** C.B.Clarke ex Hook.f., Fl. Brit. India 4: 324 (1884).

**Distribution.** W Himalaya (Beck Mannagetta, 1930; Jafri, 1976; Sánchez Pedraja et al., 2016 onward; POWO 2025).

**Host.** Unknown.

**83. *Orobanche kotschyi*** Reut. in A.P.de Candolle, Prodr. 11: 33 (1847).

*Orobanche xanthostachya* Novopokr., Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 13: 321 (1950).

**Distribution.** E Turkey to N Xinjiang and Pakistan (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Gilli, 1982; Zhang & Tzvelev, 2024; POWO 2025).

**Host.** *Eryngium* spp. and *Ferula* spp. (Apiaceae) (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Gilli, 1982; Zhang & Tzvelev, 2024).

**84. *Orobanche krylowii*** Beck, Oesterr. Bot. Z. 31: 309 (1881). *Orobanche flava* var. *albicans* Rhiner, Prodr. Waldst. Gefäßspfl.: 97 (1870). *Orobanche major* subsp. *krylowii* (Beck) Nyman, Consp. Fl. Eur., Suppl. 2: 243 (1890). *Orobanche major* f. *krylowii* (Beck) Beck, Biblioth. Bot. 4(19): 171 (1890).

*Orobanche lycocetoni* Rhiner, Ber. Thätigk. St. Gal-lischen Naturwiss. Ges. 1892: 133 (1892). *Orobanche*

*lucorum* f. *lycoctoni* (Rhiner) Rhiner, Ber. Thätigk. St. Gallischen Naturwiss. Ges. 1892-1893: 240 (1894).

*Orobanche krylowii* f. *glaberrima* Krylov, Fl. Alt.: 997 (1907).

*Orobanche krylowii* f. *puberula* Krylov, Fl. Alt.: 997 (1907).

*Orobanche aconiti-lycoctoni* Moreno Mor., G.Gómez, Ó.Sánchez, Carlón & M.Laínz, Doc. Jard. Bot. Atlántico 1: 37 (2002).

**Distribution.** Europe, E Russia to Mongolia (Beck Mannagetta, 1930; Beck Mannagetta, 1930; Uhlich et al., 1995; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; Zhang & Tzvelev, 2024; POWO 2025).

**Host.** *Aconitum* spp. and *Thalictrum* spp. (Ranunculaceae) (Beck Mannagetta, 1930; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward; Zhang & Tzvelev, 2024).

**85. *Orobanche kurdica*** Boiss. & Hausskn. in P.E.Boissier, Fl. Orient. 4: 505 (1879).

*Orobanche kurdica* var. *macrocalyx* Beck in H.G.A.Engler (ed.), Pflanzenr., IV, 261: 260 (1930)

*Orobanche rosea* Tzvelev in V.L.Komarov (ed.), Fl. URSS 23: 687 (1958).

**Distribution.** E Turkey to Iran (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Gilli, 1976, 1982; Sánchez Pedraja et al., 2016 onward; Piwowarczyk et al., 2019; POWO 2025).

**Host.** *Prangos* spp. (Apiaceae) (Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Gilli, 1976, 1982; Sánchez Pedraja et al., 2016 onward; Piwowarczyk et al., 2019).

**86. *Orobanche laserpitii-sileris*** Reut. ex Jord., Observ. Pl. Nouv. 3: 223 (1846).

**Distribution.** Alps to NW Balkan Peninsula (Beck Mannagetta, 1930; Uhlich et al., 1995; Sánchez Pedraja et al., 2016 onward; POWO 2025).

**Host.** *Laserpitium* spp. (Apiaceae) (Beck Mannagetta, 1930; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward).

**86a. *Orobanche laserpitii-sileris* var. *habrocaulon*** Beck, Ann. K. K. Naturhist. Hofmus. 2: 147 (1887). *Orobanche laserpitii-sileris* f. *habrocaulon* (Beck) Beck, Biblioth. Bot. 4(19): 175 (1890).

*Orobanche gallica* Beauverd, Bull. Soc. Bot. Genève, sér. 2, 25: 313 (1932-1933 publ. 1934), nom. illeg.

*Orobanche beauverdii* Uhlich & Rätzel, Haussknechtia 15: 68 (2021).

**Distribution.** Alps to NW Balkan Peninsula (Beck Mannagetta, 1930; POWO, 2025).

**Host.** *Laserpitium latifolium* L. and *L. siler* L. (Apiaceae) (Sánchez Pedraja et al., 2017 onward; Uhlich & Rätzel, 2021).

**Notes.** The differences that are reported in the protologue and that emerge from the type material between *O. beauverdii* and *O. laserpitii-sileris* (larger distances between the

stem ribs, broader stem scales, laxer inflorescence, broader and less elongated bracts, narrower and longer calyx segments) are not such, in the specific delimitation adopted here, to distinguish this taxon at the species level.

**86b. *Orobanche laserpitii-sileris* var. *laserpitii-sileris*** *Orobanche alsatica* var. *laserpitii-sileris* (Reut. ex Jord.) Beck in E.von Halácsy & H.Braun, Nachtr. Fl. Nieder-Oesterr.: 129 (1882).

*Orobanche laserpitii* Reut. ex Jord., Observ. Pl. Nouv. 3: 223 (1846).

*Orobanche laserophya* St.-Lag. in A.Cariot, Étude Fl., éd. 8, 2: 650 (1889).

*Orobanche laserpitii-latifolii* P.A.Genty, Bull. Mens. Soc. Linn. Soc. Bot. Lyon 22: 130 (1953), no Latin descr.

**Distribution.** Alps to NW Balkan Peninsula (Beck Mannagetta, 1930; Uhlich et al., 1995; Sánchez Pedraja et al., 2016 onward; POWO 2025).

**Host.** *Laserpitium siler* L. (Apiaceae) (Beck Mannagetta, 1930; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward).

**87. *Orobanche litorea*** Guss., Fl. Sicul. Prodr. 2: 184 (1828). *Orobanche minor* var. *litorea* (Guss.) Bég. in A.Fiori & al., Fl. Anal. Italia 2: 484 (1902).

**Distribution.** S Portugal, SE France to Sicily and Turkey, NW Tunisia (Euro+Med, 2006 onward; Domina & al., 2011; Raab-Straube & Raus, 2018; POWO, 2025).

**Host.** *Anthemis maritima* L. and other Asteraceae, probably also on Plantaginaceae (Domina & al., 2011; Raab-Straube & Raus, 2018).

**87a. *Orobanche litorea* var. *iammonensis*** (Pujadas & P.Fraga) Domina, **comb. & stat. nov.** *Orobanche iammonensis* A.Pujadas & P.Fraga, Bot. J. Linn. Soc. 158: 723 (2008).

**Distribution.** Balearic Islands (Menorca) (Pujadas Salvà & Fraga, 2008; POWO, 2025).

**Host.** *Anthemis maritima* L. (Asteraceae) (Pujadas Salvà & Fraga, 2008).

**Notes.** From the study of the protologue and the type of *O. iammonensis*, the only morphological differences that emerge with *O. litorea* are the yellow color of the plant and the style minutely pubescent rather than glabrous or subglabrous.

**87b. *Orobanche litorea* var. *litorea***

*Orobanche fuliginosa* Reut. ex Jord., Observ. Pl. Nouv. 3: 225 (1846).

*Orobanche hyalina* Spruner ex Reut. in A.P.de Candolle, Prodr. 11: 24 (1847). *Orobanche minor* var. *hyalina* (Spruner ex Reut.) Batt. in J.A.Battandier & L.C.Trabut, Fl. Algérie, Dicot.: 662 (1890).

*Orobanche littoralis* Lojac., Naturalista Sicil. 2(3): 37 (1882), nom. superfl.

*Orobanche sabulicola* Lojac., Naturalista Sicil. 2(3): 61 (1883).

- Orobanche angelicifixa* Péteaux & St.-Lag., Ann. Soc. Bot. Lyon 17: 221 (1891).
- Distribution.** S Portugal, SE France to Sicily and Turkey, NW Tunisia (Euro+Med, 2006 onward; Domina & al. 2011).
- Host.** Mainly on *Anthemis maritima* L. and other Asteraceae, probably also on Plantaginaceae (Domina & al., 2011; Raab-Straube & Raus, 2018).
- 88. *Orobanche longibracteata*** Schiman-Czeika, Fl. Iranica 5: 17 (1964).
- Distribution.** E Turkey to W Iran (Schiman-Czeika, 1964; Gilli, 1976, 1982; Zare & Yildirimli 2013; POWO, 2025).
- Host.** Unknown.
- 89. *Orobanche lucorum*** A.Braun ex F.W.Schultz, Bot. Lit.-Blätt. 5: 504 (1830).
- Orobanche rubi* Vaucher ex Duby, Bot. Gall., ed. 2, 1: 350 (1828), nom. rej. *Orobanche lucorum* var. *rubi* (Vaucher ex Duby) A.Braun ex W.D.J.Koch in J.C.Röhling, Deutschl. Fl., ed. 3, 4: 458 (1833), nom. superfl. *Orobanche lucorum* f. *rubi* (Vaucher ex Duby) Beck, Biblioth. Bot. 4(19): 187 (1890), nom. superfl.
- Orobanche rubi-fruticosi* F.W.Schultz, Bot. Lit.-Blätt. 5: 500 (1830).
- Orobanche lucorum* var. *berberidis* A.Braun ex W.D.J.Koch in J.C.Röhling, Deutschl. Fl., ed. 3, 4: 458 (1833), nom. inval. *Orobanche berberidis* Facchini ex Reut. in A.P.de Candolle, Prodr. 11: 23 (1847).
- Orobanche lucorum* f. *kirroantha* Beck in H.G.A.Engler (ed.), Pflanzenr., IV, 261(96): 265 (1930)
- Distribution.** C & E Alps, Caucasus (Beck Mannagetta, 1930; Uhlich et al., 1995; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; POWO, 2025). Naturalized in central Europe and in the Scandinavian Peninsula (CABI 2025).
- Host.** *Berberis vulgaris* L. and other Berberidaceae (Beck Mannagetta, 1930; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward).
- 90. *Orobanche lutea*** Baumg., Enum. Stirp. Transsilv. 2: 215 (1816).
- Orobanche rubens* Wallr., Sched. Crit.: 307 (1822).
- Orobanche medicaginis* Duby, Bot. Gall., ed. 2, 1: 349 (1828).
- Orobanche medicaginis-sativae* F.W.Schultz, Bot. Lit.-Blätt. 5: 500 (1830).
- Orobanche avellanae* Pfund, Flora 26: 183 (1843).
- Orobanche subverticillata* F.W.Schultz, Flora 26: 128 (1843).
- Orobanche fragrantissima* Bertol., Fl. Ital. 6: 436 (1846).
- Orobanche alpigena* K.Koch, Linnaea 22: 668 (1849).
- Orobanche rubens* var. *pallens* A.Braun ex Solms, Verh. Bot. Vereins Prov. Brandenburg 5: 57 (1863).
- Orobanche medicaginifixa* St.-Lag. in A.Cariot, Étude Fl., éd. 8, 2: 649 (1889).
- Orobanche lutea* var. *concreta* Beck, Biblioth. Bot. 4(19): 166 (1890).
- Orobanche prosgolica* Formánek, Verh. Naturf. Vereins Brünn 33: 158 (1894 publ. 1895).
- Orobanche pruinosa* Formánek, Verh. Naturf. Vereins Brünn 33: 139 (1894 publ. 1895), nom. illeg.
- Orobanche cervariae* var. *seseli* Petitm., Monde Pl. 6: 48 (1904).
- Orobanche concreta* Rouy in G.Rouy & J.Foucaud, Fl. France 11: 166 (1909). *Orobanche lutea* var. *concreta* (Beck) P.Fourn., Quatre Fl. France: 799 (1937).
- Orobanche linczevskii* Novopokr., Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 13: 327 (1950).
- Orobanche armena* Tzvelev in V.L.Komarov (ed.), Fl. URSS 23: 686 (1958).
- Orobanche lutea* var. *dietchiana* Rätzel & Uhlich, Kochia 18: 225 (2025).
- Distribution.** Europe to C Asia and NW & C Iran (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Gilli, 1976; Uhlich et al., 1995; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; Piwowarczyk et al., 2019, 2023).
- Host.** Fabaceae (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Gilli, 1976; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward; POWO, 2025).
- 91. *Orobanche megalantha*** Harry Sm., Acta Horti Gothob. 8: 131 (1933).
- Orobanche eximia* Harry Sm., Acta Horti Gothob. 8: 132 (1933).
- Distribution.** China (north Sichuan) (Sánchez Pedraja et al., 2016 onward; Zhang & Tzvelev, 2024; POWO, 2025).
- Host.** *Indigofera* spp. (Fabaceae) and *Jasminum* spp. (Oleaceae) (Sánchez Pedraja et al., 2017 onward; Zhang & Tzvelev, 2024).
- 92. *Orobanche minor*** Sm., Engl. Bot. 6: t. 422 (1797).
- Distribution.** Europe to N Iraq, Macaronesia to Arabian Peninsula, S & tropical Africa (Beck Mannagetta, 1930; Uhlich et al., 1995; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward, POWO, 2025). Naturalized in North America, Chile, South Africa, central and eastern Asia, Australia (Collins et al., 2019; CABI 2025).
- Host.** Asteraceae, Apiaceae, Dipsacaceae, Fabaceae, and others (Beck Mannagetta, 1930; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward).
- Notes.** *Orobanche minor* is a species with a wide distribution and a broad host range. As indicated in the introduction, several other varieties could be distinguished on morphological or molecular basis.
- 92a. *Orobanche minor* var. *barbata*** (Poir.) Cout., Fl. Portugal: 570 (1913). *Orobanche barbata* Poir. in J.B.A.M.de Lamarck, Encycl. 4: 621 (1798).

*Orobanche bovei* Reut. in A.P.de Candolle, Prodr. 11: 24 (1847). *Orobanche minor* subsp. *bovei* (Reut.) J.A.Guim., Brotéria 3: 175 (1904). *Orobanche minor* var. *bovei* (Reut.) Batt. & Trab., Fl. Algérie Tunisie: 254 (1905).

*Orobanche minor* var. *strangulata* J.A.Guim., Brotéria 3: 174 (1904).

*Orobanche loricata* subvar. *balsensis* J.A.Guim., Brotéria 3: 163 (1904). *Orobanche loricata* f. *balsensis* (J.A.Guim.) Beck in H.G.A.Engler (ed.), Pflanzenr., IV, 261(96): 200 (1930). *Orobanche balsensis* (J.A.Guim.) Carlón, M.Laínz, Moreno Mor. & Ó.Sánchez, Flora Montiber. 60: 39 (2015).

*Orobanche loricata* var. *synomora* J.A.Guim., Brotéria 3: 163 (1904). *Orobanche loricata* f. *synomora* (J.A.Guim.) Beck in H.G.A.Engler (ed.), Pflanzenr., IV, 261(96): 200 (1930).

*Orobanche major* f. *hypochoeridis* Beck, Repert. Spec. Nov. Regni Veg. 18: 36 (1922).

*Orobanche minor* subvar. *strangulata* (J.A.Guim.) Beck in H.G.A.Engler (ed.), Pflanzenr., IV, 261(96): 212 (1930).

*Orobanche barbata* var. *violacea* Maire, Bull. Soc. Hist. Nat. Afrique N. 22: 58 (1931).

*Orobanche minor* var. *compositarum* Pugsley in J. Bot. (Lond.) 78: 111 (1940).

*Orobanche minor* var. *hypochoeridis* (Beck) Rumsey, Watsonia 26: 476 (2007).

**Distribution.** Europe, N Africa (Beck Mannagetta, 1930; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** Asteraceae (Beck Mannagetta, 1930; Sánchez Pedraja et al., 2017 onward).

**92b. *Orobanche minor* var. *canescens*** (C.Presl) Domina, **comb. & stat. nov.** *Orobanche canescens* C.Presl in J.S.Presl & C.B.Presl, Delic. Prag.: 72 (1822).

*Orobanche grandisepala* F.W.Schultz, Flora 26: 128 (1843).

*Orobanche canescens* var. *flavidiflora* Guss., Fl. Sicul. Syn. 2: 748 (1844).

*Orobanche canescens* var. *pedicellata* Reut. in A.P.de Candolle, Prodr. 11: 34 (1847).

*Orobanche minor* var. *lutescens* Guss., Enum. Pl. Inarim.: 249 (1855).

*Orobanche pubescens* var. *divaricata* Guss., Enum. Pl. Inarim.: 248 (1855).

*Orobanche lucana* N.Terracc., Bull. Orto Bot. Regia Univ. Napoli 3: 163 (1913).

*Orobanche tridentata* Beck in H.G.A.Engler (ed.), Pflanzenr., IV, 261: 182 (1930), pro syn.

**Distribution.** C & E Mediterranean area (Beck Mannagetta, 1930; Uhlich et al., 1995; Euro+Med, 2006 onward; POWO, 2025)

**Host.** Asteraceae (Beck Mannagetta, 1930; Uhlich et al., 1995; Domina et al., 2011).

**92c. *Orobanche minor* var. *grisebachii*** (Reut.) Hadidy in Boulos, Fl. Egypt Checklist: 140 (1995). *Orobanche grisebachii* Reut. in A.P.de Candolle, Prodr. 11: 28 (1847). *Orobanche minor* subsp. *grisebachii* (Reut.) Nyman, Consp. Fl. Eur.: 562 (1881).

*Orobanche condensata* Griseb., Spic. Fl. Rumel. 2: 56 (1844), nom. illeg.

*Orobanche striata* Reut. in A.P.de Candolle, Prodr. 11: 28 (1847).

*Orobanche palaestina* sensu auct., non Boiss., Fl. Orient. 4: 506 (1879).

**Distribution.** SE Europe to E Mediterranean area (Beck Mannagetta, 1930; Linke, 1993; Uhlich et al., 1995; Euro+Med, 2006 onward; POWO, 2025)

**Host.** Asteraceae, Fabaceae and others (Beck Mannagetta, 1930; Linke, 1993; Uhlich et al., 1995).

**92d. *Orobanche minor* var. *maritima*** (Pugsley) Rumsey & Jury, Watsonia 17: 444 (1989). *Orobanche maritima* Pugsley, J. Bot. 78: 110 (1940). *Orobanche minor* subsp. *maritima* (Pugsley) Rumsey, Watsonia 26: 474 (2007).

**Distribution.** France and Britain (Thorogood & Rumsey 2021; POWO, 2025).

**Host.** Apiaceae (Thorogood & al. 2009; Thorogood & Rumsey 2021).

**92e. *Orobanche minor* var. *minor***

*Orobanche obtusata* Raf., Amer. Monthly Mag. & Crit. Rev. 1: 440 (1817).

*Orobanche racemosa* Schleich., Cat. Pl. Helv., ed. 4: 25 (1821).

*Orobanche apiculata* Wallr., Sched. Crit.: 310 (1822).

*Orobanche nudiflora* Wallr., Sched. Crit.: 310 (1822).

*Orobanche arvensis* Dumort., Fl. Belg.: 33 (1827).

*Orobanche concolor* Duby, Bot. Gall., ed. 2, 1: 350 (1828).

*Orobanche arvensis* var. *rubiginosa* Dumort., Fl. Belg.: 33 (1827).

*Orobanche minor* var. *glaberrima* Gaudin, Fl. Helv. 4: 178 (1829).

*Orobanche minor* var. *procera* Gaudin, Fl. Helv. 4: 178 (1829).

*Orobanche crithmi-maritimi* F.W.Schultz, Bot. Lit.-Blätt. 5: 500 (1830). *Orobanche barbata* var. *crithmi-maritimi* (F.W.Schultz) Fiori, Nuov. Fl. Italia 2: 390 (1926). *Orobanche minor* var. *crithmi-maritimi* (F.W.Schultz) Bég. in A.Fiori & al., Fl. Anal. Italia 2: 484 (1902).

*Orobanche scabiosae-columbariae* F.W.Schultz, Bot. Lit.-Blätt. 5: 500 (1830).

*Orobanche trifolii-pratensis* F.W.Schultz, Bot. Lit.-Blätt. 5: 500 (1830).

*Orobanche speciosa* Salis, Flora 17(2 Beibl.): 20 (1834), nom. illeg.

*Orobanche minor* var. *pedunculata* Noulet, Fl. Bass. Sous-Pyrén.: 486 (1837).

- Orobanche polymorpha* Schrank ex Steud., Nomencl. Bot., ed. 2, 2: 231 (1841), nom. inval.
- Orobanche minor* var. *flava* Regel in Otto & A.Dietr., Allg. Gartenzeitung 10: 284 (1842).
- Orobanche leucantha* Griseb., Spic. Fl. Rumel. 2: 57 (1844).
- Orobanche crithmi* Bertol., Fl. Ital. 6: 424 (1846).
- Orobanche minor* subsp. *crithmi* (Bertol.) Bonnier & Layens, Tabl. Syn. Pl. Vasc. France: 1244 (1894).
- Orobanche minor* var. *flavescens* Reut. in A.P.de Candolle, Prodr. 11: 22 (1847).
- Orobanche reuteri* F.W.Schultz ex Reut. in A.P.de Candolle, Prodr. 11: 24 (1847), nom. inval.
- Orobanche abyssinica* A.Rich., Tent. Fl. Abyss. 2: 137 (1850).
- Orobanche columbariae* Gren. in J.C.M.Grenier & D.A.Godron, Fl. France Corse 2: 634 (1853).
- Orobanche hians* Boiss. & A.Huet, Exsicc. (Pl. Orient.) 1853: [s.p.] (1853), nom. illeg.
- Orobanche leonuri* Rota, Prosp. Piant. Pav.: 270 (1853).
- Orobanche unicolor* Boreau, Fl. Centre France, éd. 3, 2: 501 (1857). *Orobanche minor* subsp. *unicolor* (Boreau) Rouy in G.Rouy & J.Foucaud, Fl. France 11: 188 (1909).
- Orobanche densiflora* Moris, Fl. Sardoia 3: 249 (1859), nom. illeg.
- Orobanche boissieri* Rchb.f. in H.G.L.Reichenbach, Icon. Fl. Germ. Helv. 20: 118 (1862).
- Orobanche glabra* Gaudin ex Rchb.f. in H.G.L.Reichenbach, Icon. Fl. Germ. Helv. 20: 103 (1862), nom. inval.
- Orobanche livida* Sendtn. ex Rchb.f. in H.G.L.Reichenbach, Icon. Fl. Germ. Helv. 20: 104 (1862).
- Orobanche pumila* Rchb.f. in H.G.L.Reichenbach, Icon. Fl. Germ. Helv. 20: 104 (1862).
- Orobanche pyrrha* Rchb.f. in H.G.L.Reichenbach, Icon. Fl. Germ. Helv. 20: 105 (1862).
- Orobanche ambigua* Pomel, Nouv. Mat. Fl. Atl. 1: 109 (1874), nom. illeg.
- Orobanche minor* subsp. *grenieri* Nyman, Consp. Fl. Eur.: 562 (1881).
- Orobanche hydrocotylei* Colenso, Trans. & Proc. New Zealand Inst. 21: 41 (1888 publ. 1889).
- Orobanche trifolifixa* St.-Lag. in A.Cariot, Étude Fl., éd. 8, 2: 650 (1889).
- Orobanche hadroantha* Beck, Biblioth. Bot. 4(19): 242 (1890).
- Orobanche minor* var. *ambigua* Batt. in J.A.Battandier & L.C.Trabut, Fl. Algérie, Dicot.: 662 (1890).
- Orobanche cathae* Deflers, Bull. Soc. Bot. France 43: 219 (1896).
- Orobanche paralias* Corb., Bull. Soc. Linn. Normandie, sér. 5, 1: 184 (1897). *Orobanche minor* var. *paralias* (Corb.) Rouy in G.Rouy & J.Foucaud, Fl. France 11: 189 (1909).
- Orobanche leucanthemi* H.J.Coste & Soulié, Bull. Soc. Bot. France 44: 62 (1898).
- Orobanche minor* var. *lutea* Tourlet, Bull. Soc. Bot. France 50: 421 (1903). *Orobanche minor* f. *lutea* (Tourlet) Thorogood & Rumsey, Brit. Irish Bot. 2: 228 (2020).
- Orobanche langei* Huter, Porta & Rigo, Oesterr. Bot. Z. 57: 354 (1907).
- Orobanche minor* var. *corsica* Rouy in G.Rouy & J.Foucaud, Fl. France 11: 188 (1909).
- Orobanche minor* var. *occitanica* Rouy in G.Rouy & J.Foucaud, Fl. France 11: 188 (1909).
- Orobanche minor* var. *leucanthemi* (H.J.Coste & Soulié) Rouy in G.Rouy & J.Foucaud, Fl. France 11: 188 (1909).
- Orobanche minor* f. *albans* Beck, Carinthia II 108: 20 (1921).
- Orobanche columbiana* H.St.John & English, Proc. Biol. Soc. Washington 44: 34 (1931).
- Orobanche salisii* Req. ex Coss., Notes Pl. Crit.: 9 (1949).
- Orobanche dhofarensis* M.J.Y.Foley, Edinburgh J. Bot. 55: 230 (1998).
- Orobanche minor* var. *heliophila* Thorogood & Rumsey, Brit. Irish Bot. 2: 230 (2020).
- Distribution.** Europe to N Iraq, Macaronesia to Arabian Peninsula, S Tropical Africa, Australia (Beck Mannagetta, 1930; Uhlich et al., 1995; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward, POWO, 2025).
- Host.** Asteraceae, Apiaceae, Dipsacaceae, Fabaceae, and others (Beck Mannagetta, 1930; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward).
- 92f. *Orobanche minor* var. *palaestina*** (Reut.) Pau ex Cuatrecasas in Trab. Mus. Ci. Nat. Barcelona 12: 429 (1929). *Orobanche palaestina* Reut. in A.P.de Candolle, Prodr. 11: 718 (1847).
- Distribution.** S Turkey to Israel (Beck Mannagetta, 1930; Gilli, 1982; Euro+Med, 2006 onward; POWO, 2025).
- Host.** Asteraceae (Beck Mannagetta, 1930; Gilli, 1982; Sánchez Pedraja et al., 2017 onward).
- 92g. *Orobanche minor* var. *pseudoamethystea*** Thorogood & Rumsey, Brit. Irish Bot. 2: 231 (2020).
- Distribution.** N Europe, Britain and Ireland (Thorogood & Rumsey 2021; POWO, 2025).
- Host.** *Eryngium maritimum* L. (Apiaceae) (Thorogood & al. 2009; Thorogood & Rumsey 2021).
- 93. *Orobanche mlokosiewiczii*** Piwow., Ó.Sánchez & Moreno Mor., Phytotaxa 319: 125 (2017).
- Distribution.** W Transcaucasus (Sánchez Pedraja et al., 2017 onward; Piwowarczyk et al., 2019, 2023; POWO, 2025).
- Host.** *Aconitum cymbulatum* (Schmalh.) Lipsky (Ranunculaceae) (Sánchez Pedraja et al., 2017 onward; Piwowarczyk et al., 2019, 2023).

**94. *Orobanche montserratii*** A.Pujadas & D.Gómez, *Anales Jard. Bot. Madrid* 57: 269 (1999 publ. 2000). *Orobanche buekii* subsp. *montserratii* (A.Pujadas & D.Gómez) Rätzel & Uhlich, *Kochia* 18: 224 (2025).

**Distribution.** S France to NE Spain (Pujadas & Gómez García 2000; POWO, 2025).

**Host.** *Laserpitium* spp. and probably also on *Angelica* spp. (Apiaceae) (Pujadas & Gómez García 2000).

**95. *Orobanche mupinensis*** Hu, *Bull. Fan Mem. Inst. Biol., Bot.* 9: 202 (1939).

**Distribution.** China (Sichuan) (Sánchez Pedraja et al., 2016 onward; Zhang & Tzvelev, 2024; POWO, 2025).

**Host.** Unknown.

**96. *Orobanche nepetae*** M. Porto & A. Pujadas, *Acta Bot. Malac.* 48: 94 (2023).

**Distribution.** S Portugal (Sánchez Pedraja et al., 2016 onward; Pujadas Salvà & Porto, 2023).

**Host.** *Nepeta multibracteata* Desf. (Lamiaceae) (Pujadas Salvà & Porto, 2023; Sánchez Pedraja et al., 2017 onward).

**97. *Orobanche ombrochares*** Hance, *J. Linn. Soc., Bot.* 13: 84 (1872). *Orobanche coeruleascens* f. *ombrochares* (Hance) Beck, *Biblioth. Bot.* 4(19): 138 (1890).

**Distribution.** N China (Beck Mannagetta, 1930; Zhang & Tzvelev, 2024; POWO, 2025).

**Host.** Unknown.

**98. *Orobanche owerinii*** (Beck) Beck, *Repert. Spec. Nov. Regni Veg.* 18: 39 (1922). *Orobanche crenata* var. *owerinii* Beck, *Biblioth. Bot.* 4(19): 227 (1890).

*Orobanche owerinii* var. *woronowii* Beck, *Repert. Spec. Nov. Regni Veg.* 18: 39 (1922).

**Distribution.** NE Turkey to NW Iran (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Gilli, 1976, 1982; Sánchez Pedraja et al., 2017 onward; Piwowarczyk et al., 2019, 2023; POWO, 2025).

**Host.** Fabaceae (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Gilli, 1976, 1982; Sánchez Pedraja et al., 2017 onward; Piwowarczyk et al., 2019, 2023).

**99. *Orobanche pancicii*** Beck, *Ann. K. K. Naturhist. Hofmus.* 2: 148 (1887).

*Orobanche pancicii* f. *kerochroa* Beck, *Ann. K. K. Naturhist. Hofmus.* 2: 149 (1887).

*Orobanche pancicii* f. *melanochroa* Beck, *Ann. K. K. Naturhist. Hofmus.* 2: 149 (1887).

*Orobanche pancicii* f. *gymnandra* Stoj. & Jordanov, *God. Sofiisk. Univ. Fiz.-Mat. Fak.* 34: 210 (1937-1938 publ. 1938).

**Distribution.** Austria to Balkan Peninsula (Beck Mannagetta, 1930; Uhlich et al., 1995; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Scabiosa* spp. (Dipsacaceae) (Beck Mannagetta, 1930; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward).

**100. *Orobanche picridis*** F.W.Schultz, *Bot. Lit.-Blätt.* 5: 500 (1830). *Orobanche loricata* var. *picridis* (F.W.Schultz) Bég. in A.Fiori & al., *Fl. Anal. Italia* 2: 483 (1902). *Orobanche artemisiae-campestris* subsp. *picridis* (F.W.Schultz) O.Bolòs, Vigo, Masalles & Ninot, *Fl. Man. Països Catalans*: 1214 (1990).

*Orobanche picridis-hieracioidis* Holandre, *Fl. Moselle*: 322 (after the end of July 1829).

*Orobanche hieracii-pilosellae* F.W.Schultz, *Bot. Lit.-Blätt.* 5: 500 (1830).

*Orobanche pallens* F.W.Schultz, *Flora* 23: 128 (1840).

*Orobanche pallida* F.W.Schultz, *Flora* 23: 128 (1840).

*Orobanche lilacina* F.W.Schultz, *Flora* 26: 129 (1843).

*Orobanche ambigua* Moris, *Diagn. Stirp. Sard.*: 2 (1857).

*Orobanche euglossa* Rchb.f. in H.G.L.Reichenbach, *Icon. Fl. Germ. Helv.* 20: 117 (1862). *Orobanche minor* f. *euglossa* (Rchb.f.) Beck, *Biblioth. Bot.* 4(19): 254 (1890).

*Orobanche alostensis* De Moor ex T.Durand & Donckel., *Bull. Soc. Roy. Bot. Belgique* 12: 397 (1873).

*Orobanche reichardiae* Freyn, *Verh. K. K. Zool.-Bot. Ges. Wien* 27: 392 (1878).

*Orobanche trachystigma* Jess., *Deut. Excurs.-Fl.*: 119 (1879).

*Orobanche picridiphyta* St.-Lag., *Ann. Soc. Bot. Lyon* 7: 131 (1880).

*Orobanche loricata* subsp. *freyinii* Nyman, *Consp. Fl. Eur.*: 561 (1881).

*Orobanche picridophya* St.-Lag. in A.Cariot, *Étude Fl.*, éd. 8, 2: 651 (1889).

*Orobanche picridis* var. *pilosellae* Rouy in G.Rouy & J.Foucaud, *Fl. France* 11: 187 (1909).

**Distribution.** Europe to C Asia and N Iran (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Gilli, 1976; Uhlich et al., 1995; Sánchez Pedraja et al., 2016 onward; Euro+Med, 2006 onward; POWO, 2025).

**Host.** Asteraceae (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Gilli, 1976; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward).

**101. *Orobanche pubescens*** d'Urv., *Mém. Soc. Linn. Paris* 1: 332 (1822). *Orobanche minor* var. *pubescens* (d'Urv.) Meikle, *Fl. Cyprus* 2: 1897 (1985).

*Orobanche arcuata* F.W.Schultz, *Flora* 26: 19 (1843).

*Orobanche versicolor* F.W.Schultz, *Flora* 26: 129 (1843).

*Orobanche fragrans* Griseb., *Spic. Fl. Rumel.* 2: 58 (1844), nom. illeg.

*Orobanche villosiflora* F.W.Schultz, *Flora* 28: 737 (1845).

*Orobanche arachnoidea* F.W.Schultz, *Linnaea* 19: 26 (1846).

*Orobanche vitalbae* Bertol., *Fl. Ital.* 6: 441 (1846).

*Orobanche chrysanthemii* F.W.Schultz ex Reut. in A.P.de Candolle, *Prodr.* 11: 27 (1847).

*Orobanche superficialis* Griseb. ex Reut. in A.P.de Candolle, Prodr. 11: 28 (1847), nom. inval.

*Orobanche villiflora* W.D.J.Koch ex Reut. in A.P.de Candolle, Prodr. 11: 27 (1847), nom. inval.

*Orobanche villosa* F.W.Schultz ex Guss., Enum. Pl. Inarim.: 218 (1855).

*Orobanche pubescens* var. *campuliflora* Lojac., Naturalista Sicil. 2(4): 82 (1883). *Orobanche campuliflora* (Lojac.) Lojac., Fl. Sicul. 2(2): 170 (1904).

*Orobanche versicolor* var. *homochroa* Maire & Weiller, Bull. Soc. Hist. Nat. Afrique N. 30: 296 (1939).

*Orobanche versicolor* var. *macrophyllon* Maire & Weiller, Bull. Soc. Hist. Nat. Afrique N. 30: 296 (1939).

*Orobanche pubescens* f. *luteostigma* Gilli, Feddes Repert. 82: 399 (1971).

**Distribution.** Native from C & E Mediterranean area to Caucasus (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Uhlich et al., 1995; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; POWO, 2025). Naturalized in Hungary (CABI 2025).

**Host.** Apiaceae, Asteraceae, Fabaceae, and Lamiaceae (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward).

**102. *Orobanche pycnostachya*** Hance, J. Linn. Soc., Bot. 13: 84 (1872).

**Distribution.** SE Siberia to China and North Korea (Beck Mannagetta, 1930; Sánchez Pedraja et al., 2016 onward; Zhang & Tzvelev, 2024; POWO, 2025).

**Host.** *Artemisia* spp. (Asteraceae) (Beck Mannagetta, 1930; Sánchez Pedraja et al., 2017 onward).

**102a. *Orobanche pycnostachya* var. *amurensis*** (Beck) Beck in H.G.A.Engler (ed.), Pflanzenr., IV, 261: 118 (1890). *Orobanche pycnostachya* f. *amurensis* Beck, Biblioth. Bot. 4(19): 141 (1890). *Orobanche amurensis* (Beck) Kom., Trudy Imp. S.-Peterburgsk. Bot. Sada 25: 469 (1907).

*Orobanche ussuriensis* Novopokr., Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 12: 274 (1950).

*Orobanche filicicola* Nakai ex Hyun, Y.S.Lim & H.C.Shin, Novon 13: 64 (2003).

**Distribution.** SE Siberia to China and North Korea (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Sánchez Pedraja et al., 2016 onward; Zhang & Tzvelev, 2024; POWO, 2025).

**Host.** *Artemisia* spp. (Asteraceae) (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Sánchez Pedraja et al., 2017 onward; Zhang & Tzvelev, 2024).

**102b. *Orobanche pycnostachya* var. *pycnostachya***

*Orobanche macrolepis* Turcz., Bull. Soc. Imp. Naturalistes Moscou 24(II): 356 (1851).

*Orobanche pycnostachya* f. *albolutea* Beck, Biblioth. Bot. 4(19): 141 (1890).

*Orobanche pycnostachya* var. *zaisanensis* Teryokhin in L.Y.Budantzev, Opred. Zarazikhovykh Fl. SSSR: 37 (1993).

**Distribution.** SE Siberia to China and North Korea (Beck Mannagetta, 1930; Sánchez Pedraja et al., 2016 onward; Zhang & Tzvelev, 2024; POWO, 2025).

**Host.** *Artemisia* spp. (Asteraceae) (Beck Mannagetta, 1930; Sánchez Pedraja et al., 2017 onward; Zhang & Tzvelev, 2024).

**103. *Orobanche rapum-genistae*** Thuill., Fl. Env. Paris, ed. 2: 317 (1799).

*Orobanche pubescens* Gilib., Fl. Lit. Inch. 1: 129 (1782), opus utique oppr.

*Orobanche genistae* Stokes, Bot. Mat. Med. 3: 407 (1812).

*Orobanche rapum* Wallr., Orobanches Gen. Diask.: 31 (1825).

*Orobanche crinita* Benth., Cat. Pl. Pyrénées: 109 (1826), nom. illeg.

*Orobanche cytisi* Duby, Bot. Gall., ed. 2, 1: 349 (1828).

*Orobanche cytisi-scopari* Vaucher ex Duby, Bot. Gall., ed. 2, 1: 349 (1828).

*Orobanche rapum* var. *bracteosa* Reut. in A.P.de Candolle, Prodr. 11: 17 (1847). *Orobanche bracteosa* (Reut.) Nyman, Consp. Fl. Eur.: 551 (1881).

*Orobanche rapum-genistae* var. *bracteosa* Reut. in A.P.de Candolle, Prodr. 11: 17 (1847).

*Orobanche carnea* Guss., Enum. Pl. Inarim.: 246 (1855).

*Orobanche palatina* F.W.Schultz, Arch. Fl. 1: 161 (1855).

*Orobanche rapum* var. *flavescens* Guss., Enum. Pl. Inarim.: 245 (1855).

*Orobanche benthamii* Timb.-Lagr., Mém. Acad. Sci. Toulouse, sér. 7, 6: 643 (1874). *Orobanche rapum* proles *benthamii* (Timb.-Lagr.) Rouy in G.Rouy & J.Foucaud, Fl. France 11: 169 (1909), nom. inval. *Orobanche rapum-genistae* subsp. *benthamii* (Timb.-Lagr.) P.Fourn., Quatre Fl. France: 796 (1937).

*Orobanche sarothamnophyta* St.-Lag., Ann. Soc. Bot. Lyon 7: 131 (1880).

*Orobanche sarothamnophyta* St.-Lag., Cat. Fl. Bass. Rhone: 609 (1883).

*Orobanche insolita* J.A.Guim., Brotéria 3: 91 (1904).

*Orobanche rapum-genistae* subvar. *pycnostaxys* J.A.Guim., Brotéria 3: 89 (1904).

**Distribution.** NW Europe to W & C Mediterranean area, N Africa (Beck Mannagetta, 1930; Uhlich et al., 1995; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Genista* spp. and other woody Fabaceae (Beck Mannagetta, 1930; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward).

**104. *Orobanche reticulata*** Wallr., Orobanches Gen. Diask.: 42 (1825).

**Distribution.** Europe to C Siberia and Turkey, N Africa (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958;

Gilli, 1982; Uhlich et al., 1995; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** mainly on *Carduus* spp., *Cirsium* spp. (Asteraceae), also reported on *Scabiosa* spp. (Dipsacaceae) and *Verbascum* spp. (Scrophulariaceae) (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Gilli, 1982; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward).

**104a. *Orobanche reticulata* var. *agigensis*** (Rätzel & Uhlich) Domina, **comb. & stat. nov.** *Orobanche reticulata* subsp. *agigensis* Rätzel & Uhlich, Willdenowia 46: 430 (2016).

**Distribution.** Turkey to Caucasus (Rätzel et al., 2016; Sánchez Pedraja et al., 2016 onward; Raab-Straube & Raus, 2018; POWO, 2025).

**Host.** Mainly on *Carduus* spp., *Cirsium* spp. (Asteraceae) (Rätzel et al., 2016; Sánchez Pedraja et al., 2017 onward).

**Notes.** It is distinguished from *O. reticulata* var. *reticulata* mainly by the yellow stigma.

**104b. *Orobanche reticulata* var. *pallidiflora*** (Wimm. & Grab.) Beck, Biblioth. Bot. 4(19): 218 (1890). *Orobanche pallidiflora* Wimm. & Grab., Fl. Siles. 2: 233 (1829). *Catodiocrum pallidiflorum* (Wimm. & Grab.) Dulac, Fl. Hautes-Pyrénées: 370 (1867). *Orobanche reticulata* subsp. *pallidiflora* (Wimm. & Grab.) Hayek in G.Hegi, Ill. Fl. Mitt.-Eur. 6: 151 (1914). *Orobanche platystigma* subsp. *pallidiflora* (Wimm. & Grab.) P.Fourn., Quatre Fl. France: 797 (1937), nom. superfl.

**Distribution.** Europe to C Siberia and Turkey (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** Mainly on *Carduus* spp., *Cirsium* spp. (Asteraceae), also reported on *Scabiosa* spp. (Dipsacaceae) and *Verbascum* spp. (Scrophulariaceae) (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Sánchez Pedraja et al., 2017 onward).

**104c. *Orobanche reticulata* var. *reticulata***

*Orobanche platystigma* subsp. *reticulata* (Wallr.) P.Fourn., Quatre Fl. France: 798 (1937), nom. superfl.

*Orobanche elatior* Flügge ex Wallr., Orobanches Gen. Diask.: 42 (1825), nom. inval.

*Orobanche platystigma* Rchb., Iconogr. Bot. Pl. Crit. 7: 31 (1829).

*Orobanche procera* W.D.J.Koch in J.C.Röhling, Deutschl. Fl., ed. 3, 4: 438 (1833). *Orobanche reticulata* subsp. *procera* (W.D.J.Koch) Dostál, Folia Mus. Rerum Nat. Bohemiae Occid., Bot. 21: 12 (1984).

*Orobanche scabiosae* W.D.J.Koch in J.C.Röhling, Deutschl. Fl., ed. 3, 4: 440 (1833). *Orobanche platystigma* var. *scabiosae* (W.D.J.Koch) Rouy in G.Rouy & J.Foucaud, Fl. France 11: 171 (1909).

*Orobanche hyperici* Unger, Einfl. Boden. Verth. Gew.: 321 (1836).

*Orobanche bracteata* Weinm., Bull. Soc. Imp. Naturalistes Moscou 10(II): 65 (1837), nom. illeg.

*Orobanche cruenta* Boiss., Voy. Bot. Espagne 2: 475 (1841), nom. illeg.

*Orobanche weinmannii* Steud., Nomencl. Bot., ed. 2, 2: 231 (1841).

*Orobanche cirsii* Fr., Novit. Fl. Suec. Mant. 3: 58 (1843).

*Orobanche mathenii* F.W.Schultz, Bot. Zeitung (Berlin) 2: 837 (1844).

*Orobanche serotina* Kirschl., Pollichia 3: 14 (1845).

*Orobanche antirrhina* Reut. in A.P.de Candolle, Prodr. 11: 21 (1847).

*Orobanche cardui* Saut., Flora 34: 49 (1851).

*Orobanche sauteri* F.W.Schultz, Flora 34: 49 (1851).

*Orobanche hygrophila* Brügger in O.Sendtner, Veg.-Verh. Südbay.: 836 (1854).

*Orobanche palustris* Brügger, Flora 38: 34 (1855).

*Orobanche cirsii-oleracei* Casp., Schriften Königl. Phys.-Ökon. Ges. Königsberg 2: 46 (1861).

*Orobanche deucalion* Rchb.f. in H.G.L.Reichenbach, Icon. Fl. Germ. Helv. 20: 92 (1862).

*Orobanche carlinoides* Miégev., Bull. Soc. Bot. France 12: 247 (1865).

*Orobanche rhaetica* var. *pallens* Brügger in Jahresber. Naturf. Ges. Graubündens 29: 89 (1886).

*Orobanche cruenta* var. *adusta* Pančić, Elench. Pl. Vasc.: 72 (1875). *Orobanche reticulata* f. *adusta* (Pančić) Beck, Biblioth. Bot. 4(19): 220 (1890).

*Orobanche scabioshaerens* St.-Lag., Ann. Soc. Bot. Lyon 7: 131 (1880).

*Orobanche mathesii* Nyman, Consp. Fl. Eur.: 559 (1881), orth. var.

*Orobanche sambucina* Janka, Természetrzaji Fü. 8: 29 (1884).

*Orobanche rhaetica* Brügger, Jahresber. Naturf. Ges. Graubündens, n.f., 29: 43 (1884-1885 publ. 1886).

*Orobanche scabiosifixa* St.-Lag. in A.Cariot, Étude Fl., éd. 8, 2: 649 (1889).

*Orobanche chrysacanthi* Maire, Bull. Soc. Hist. Nat. Afrique N. 15: 390 (1924).

*Orobanche polychroma* Beck in H.G.A.Engler (ed.), Pflanzenr., IV, 261: 155 (1930), pro syn.

*Orobanche humbertii* Maire, Bull. Soc. Hist. Nat. Afrique N. 27: 252 (1936).

*Orobanche grigorjevii* Novopokr., Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 13: 326 (1950).

**Distribution.** Europe to C Siberia and Turkey, N Africa (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Gilli, 1982; Uhlich et al., 1995; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** Mainly on *Carduus* spp., *Cirsium* spp. (Asteraceae), also reported on *Scabiosa* spp. (Dipsacaceae) and *Verbascum* spp. (Scrophulariaceae) (Beck Mannagetta,

- 1930; Novopokrovskij & Tzvelev, 1958; Gilli, 1982; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward).
- 105. *Orobanche rigens*** Loisel., Fl. Gall.: 384 (1807). *Orobanche rapum-genistae* subsp. *rigens* (Loisel.) Arcang., Comp. Fl. Ital.: 524 (1882). *Orobanche rapum-genistae* subsp. *rigens* (Loisel.) P.Fourn., Quatre Fl. France: 796 (1937), nom. illeg. *Orobanche rapum proles rigens* (Loisel.) Rouy in G.Rouy & J.Foucaud, Fl. France 11: 170 (1909), nom. illeg.
- Orobanche thyrsoides* Moris ex Bertol., Fl. Ital. 6: 428 (1846).
- Orobanche rapum* var. *glabrescens* Gren. & Godr., Fl. France Corse 2: 629 (1850).
- Orobanche rigens* var. *nigricans* Beck, Annuaire Conserv. Jard. Bot. Genève 9: 174 (1905).
- Orobanche rigens* f. *corsica* Beck, Repert. Spec. Nov. Regni Veg. 18: 469 (1922).
- Orobanche rapum-genistae* subsp. *bracteata* P.Fourn., Quatre Fl. France: 796 (1937).
- Distribution.** Corse, Sardinia (Beck Mannagetta, 1930; Uhlich et al., 1995; Domina & Arrigoni, 2007; Sánchez Pedraja et al., 2016 onward; POWO, 2025).
- Host.** *Genista* spp. and other woody Fabaceae (Beck Mannagetta, 1930; Uhlich et al., 1995; Domina & Arrigoni, 2007; Sánchez Pedraja et al., 2017 onward).
- 106. *Orobanche salviae*** F.W.Schultz ex W.D.J.Koch in J.C.Röhling, Deutschl. Fl., ed. 3, 4: 458 (1833).
- Orobanche alpestris* F.W.Schultz, Flora 23: 128 (1840).
- Orobanche sylvatica* F.W.Schultz, Flora 23: 128 (1840).
- Orobanche parviloba* F.W.Schultz, Flora 26: 128 (1843).
- Orobanche neottioides* Saut., Flora 35: 578 (1852).
- Orobanche micrantha* A.Kern., Oesterr. Bot. Z. 24: 235 (1874), nom. illeg.
- Orobanche salvihaerens* St.-Lag., Cat. Fl. Bass. Rhone: 611 (1881).
- Orobanche salvifixa* St.-Lag. in A.Cariot, Étude Fl., éd. 8, 2: 650 (1889).
- Orobanche salviae* var. *pedemontana* Beck, Biblioth. Bot. 4(19): 185 (1890).
- Orobanche salviae* f. *bosniaca* Beck, Repert. Spec. Nov. Regni Veg. 18: 468 (1922).
- Distribution.** Mountains of C & SE Europe (Beck Mannagetta, 1930; Uhlich et al., 1995; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; POWO, 2025).
- Host.** *Salvia* spp. (Lamiaceae) (Beck Mannagetta, 1930; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward).
- 107. *Orobanche sanguinea*** C.Presl in J.S.Presl & C.B.Presl, Delic. Prag.: 71 (1822).
- Orobanche crinita* Viv., Fl. Cors. Prodr.: 11 (1824).
- Orobanche sanguinea* f. *crinita* (Viv.) Beck, Biblioth. Bot. 4(19): 206 (1890). *Orobanche sanguinea* var. *crinita* (Viv.) Bég. in A.Fiori & al., Fl. Anal. Italia 2: 478 (1902). *Orobanche sanguinea proles crinita* (Viv.) Rouy in G.Rouy & J.Foucaud, Fl. France 11: 177 (1909).
- Orobanche loti-cytisoidis* F.W.Schultz, Bot. Lit.-Blätt. 5: 500 (1830).
- Orobanche nebrodensis* Tineo in G.Gussone, Fl. Sicul. Syn. 2: 845 (1845). *Orobanche sanguinea* f. *nebrodensis* (Tineo) Beck, Biblioth. Bot. 4(19): 207 (1890).
- Orobanche bicolor* Salzm. ex Moris, Fl. Sardoia 3: 249 (1859), pro syn.
- Orobanche sanguinea* var. *maritima* Lojac., Naturalista Sicil. 2: 109 (1883).
- Orobanche crinita* var. *straminea* Lojac., Naturalista Sicil. 2: 107 (1883). *Orobanche sanguinea* f. *straminea* (Lojac.) Beck, Biblioth. Bot. 4(19): 207 (1890).
- Orobanche sanguinea* f. *ischiae* Uhlich, Sächs. Florist. Mitt. 1998-1999(5): 112 (1999).
- Distribution.** S Europe to E Aegean Islands, NW Africa (Beck Mannagetta, 1930; Uhlich et al., 1995; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; POWO, 2025).
- Host.** *Lotus* spp. (Fabaceae) (Beck Mannagetta, 1930; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward).
- 108. *Orobanche santolinae*** Loscos & J.Pardo, Ser. Inconf. Pl. Aragon.: 79 (1863). *Orobanche major* subsp. *santolinae* (Loscos & J.Pardo) R.C.V.Douin in G.E.M.Bonnier, Fl. Ill. France 8: 97 (1926). *Orobanche loricata* subsp. *santolinae* (Loscos & J.Pardo) O.Bolòs & Vigo, Collect. Bot. (Barcelona) 14: 99 (1983). *Orobanche artemisiae-campes- tris* subsp. *santolinae* (Loscos & J.Pardo) O.Bolòs, Vigo, Masalles & Ninot, Fl. Man. Països Catalans: 1214 (1990).
- Distribution.** Iberian Peninsula to S France (Beck Mannagetta, 1930; Uhlich et al., 1995; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; POWO, 2025).
- Host.** *Santolina* spp. (Asteraceae) (Beck Mannagetta, 1930; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward).
- 109. *Orobanche schelkovnikovii*** Tzvelev in V.L.Komarov (ed.), Fl. URSS 23: 685 (1958). *Orobanche schelkovnikovii* var. *iranica* Uhlich & Rätzel, Kochia 18: 230 (2025).
- Distribution.** Caucasus and Iran (Novopokrovskij & Tzvelev, 1958; Piwowarczyk et al., 2019; POWO, 2025; Rätzel et al., 2025).
- Host.** *Cirsium* spp. (Asteraceae) (Sánchez Pedraja et al., 2017 onward; Piwowarczyk et al., 2019).
- 110. *Orobanche serbica*** Beck & Petrovič in S.Petrovič, Fl. Agr. Nyss., Add.: 146 (1885).
- Orobanche salviae* subsp. *ozanonis* (F.W.Schultz ex Beck) Nyman, Consp. Fl. Eur.: 560 (1881), nom. inval.
- Orobanche ozanonis* F.W.Schultz ex Beck, Biblioth. Bot. 4(19): 249 (1890).
- Orobanche minor* subsp. *ozanonis* (F.W.Schultz ex Beck) Rouy in G.Rouy & J.Foucaud, Fl. France 11: 189 (1909).

**Distribution.** S France to N Spain, Albania to W Bulgaria (Beck Mannagetta, 1930; Uhlich et al., 1995; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Artemisia* spp. (Asteraceae) (Beck Mannagetta, 1930; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward).

**111. *Orobanche sinensis*** Harry Sm., Acta Horti Gothob. 8: 128 (1933).

**Distribution.** S Qinghai to China (NW Sichuan) (Sánchez Pedraja et al., 2016 onward; Zhang & Tzvelev, 2024; POWO, 2025).

**Host.** *Rhamnus* spp. (KUN0317878).

**111a. *Orobanche sinensis* var. *cyanescens*** (Harry Sm.) Zhi Y.Zhang, Acta Phytotax. Sin. 26: 395 (1988). *Orobanche cyanescens* Harry Sm., Acta Horti Gothob. 8: 130 (1933).

**Distribution.** China (NW Sichuan) (Sánchez Pedraja et al., 2016 onward; Zhang & Tzvelev, 2024; POWO, 2025).

**Host.** Unknown.

**111b. *Orobanche sinensis* var. *sinensis***

**Distribution.** S Qinghai to China (NW Sichuan) (Sánchez Pedraja et al., 2016 onward; Zhang & Tzvelev, 2024; POWO, 2025).

**Host.** *Rhamnus* spp. (KUN0317878).

**112. *Orobanche singarensis*** Beck, Ann. K. K. Naturhist. Hofmus. 27: 407 (1913).

**Distribution.** NW Iraq (Beck Mannagetta, 1930; POWO, 2025).

**Host.** Unknown.

**113. *Orobanche sintenisii*** Beck, Bull. Herb. Boissier, sér. 2, 4: 680 (1904).

**Distribution.** E Turkey to S Transcaucasus (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** Unknown.

**114. *Orobanche solenanthi*** Novopokr. & Pissjauk., Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 12: 284 (1950).

**Distribution.** C Asia (Novopokrovskij & Tzvelev, 1958; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Solenanthus* spp. (Boraginaceae) (Novopokrovskij & Tzvelev, 1958; Sánchez Pedraja et al., 2017 onward).

**115. *Orobanche sordida*** C.A.Mey. in C.F.von Ledebour, Fl. Altaic. 2: 455 (1830).

*Orobanche irtyschensis* Serg., Sist. Zаметki Mater. Gerb. Krylova Tomsk. Gosud. Univ. Kuybysheva 1939(1-2): 4 (1939).

**Distribution.** C Asia to Xinjiang (Sánchez Pedraja et al., 2016 onward; Zhang & Tzvelev, 2024; POWO, 2025).

**Host.** Unknown.

**116. *Orobanche spectabilis*** Reut., Nouv. Mém. Soc. Imp. Naturalistes Moscou 12: 169 (1860).

*Orobanche bucharica* Novopokr., Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 13: 318 (1950).

*Orobanche pachypoda* Butkov, Fl. Uzbekistan. 5: 642 (1961).

**Distribution.** C Asia (Beck Mannagetta, 1930; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Artemisia* spp. (Asteraceae) (Sánchez Pedraja et al., 2017 onward).

**117. *Orobanche stocksii*** Boiss., Fl. Orient. 4: 505 (1879).

*Orobanche cistanchooides* Beck, Denkschr. Kaiserl. Akad. Wiss., Wien. Math.-Naturwiss. Kl. 50: 26 (1885).

**Distribution.** N Iran to W Pakistan (Beck Mannagetta, 1930; Schiman-Czeika, 1964; Gilli, 1976; Jafri, 1976; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Eryngium* spp. (Apiaceae), also reported on *Cousinia actinia* Boiss. (Asteraceae) (Beck Mannagetta, 1930; Schiman-Czeika, 1964; Gilli, 1976; Sánchez Pedraja et al., 2017 onward).

**118. *Orobanche subbaetica*** Triano & A.Pujadas, Acta Bot. Malac. 39: 275 (2014).

**Distribution.** Spain (Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Antirrhinum australe* Rothm. (Scrophulariaceae) (Sánchez Pedraja et al., 2017 onward).

**119. *Orobanche sulphurea*** Gontsch., Trudy Bot. Inst. Akad. Nauk S.S.S.R., Ser. 1, Fl. Sist. Vyssh. Rast. 1: 53 (1933).

**Distribution.** C Asia (Novopokrovskij & Tzvelev, 1958; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Crambe kotschyana* Boiss. (Brassicaceae) (Novopokrovskij & Tzvelev, 1958; Sánchez Pedraja et al., 2017 onward).

**120. *Orobanche teucrii*** Holandre, Fl. Moselle 2: 322 (1829).

*Orobanche atropurpurea* F.W.Schultz, Flora 23: 128 (1840).

*Orobanche atrorubens* F.W.Schultz, Flora 23: 128 (1840).

*Catodiocrum rubidum* Dulac, Fl. Hautes-Pyrénées: 370 (1867).

*Orobanche lazica* Reut. ex Boiss., Fl. Orient. 4: 508 (1879).

*Orobanche marginata* Reut. ex Boiss., Fl. Orient. 4: 508 (1879), pro syn.

*Orobanche teucrionepiphyta* St.-Lag., Ann. Soc. Bot. Lyon 7: 131 (1880).

*Orobanche teucriophya* St.-Lag. in A.Cariot, Étude Fl., éd. 8, 2: 648 (1889).

**Distribution.** Europe (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Uhlich et al., 1995; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Teucrium* spp. (Lamiaceae) (Novopokrovskij & Tzvelev, 1958; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward).

**121. *Orobanche transcaucasica*** Tzvelev in V.L.Komarov (ed.), Fl. URSS 23: 686 (1958).

*Orobanche laxissima* Uhlich & Rätzel, Feddes Repert. 115: 194 (2004).

**Distribution.** Turkey to Caucasus (Novopokrovskij & Tzvelev, 1958; Sánchez Pedraja et al., 2016 onward; Piwowarczyk et al., 2019, 2023; POWO, 2025).

**Host.** Trees and shrubs of Anacardiaceae, Betulaceae, Corylaceae, Fagaceae, Oleaceae, and others (Sánchez Pedraja et al., 2017 onward; Piwowarczyk et al., 2019, 2023).

**Notes.** Although the holotype of *O. transcaucasica* (BAK accession 0-0000063) is partly damaged, the characters of the floral bract, the calyx, and what remains of the corolla correspond to the description and holotype of *O. laxissima* (B, QR code 101037920).

**122. *Orobanche turcica*** G.Zare & Dönmez, Phytotaxa 184: 151 (2014).

**Distribution.** Turkey (Zare & Dönmez, 2014; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Salvia* spp. (Lamiaceae) and *Onosma* spp. (Boraginaceae) (Zare & Dönmez, 2014; Sánchez Pedraja et al., 2017 onward).

**123. *Orobanche variegata*** Wallr., Orobanches Gen. Diask.: 40 (1825). *Catodiacrum variegatum* (Wallr.) Dulac, Fl. Hautes-Pyrénées: 370 (1867). *Orobanche foetida* subsp. *variegata* (Wallr.) Ball, J. Linn. Soc., Bot. 16: 604 (1878). *Orobanche condensata* subsp. *variegata* (Wallr.) Batt. in J.A.Battandier & L.C.Trabut, Fl. Algérie, Dicot.: 660 (1890), nom. superfl.

*Orobanche purpurea* Raf., Caratt. Nuov. Gen.: 80 (1810), nom. illeg.

*Orobanche foetida* var. *lutea* Biv., Stirp. Rar. Sicilia 1: 15 (1813). *Orobanche spartii* var. *lutea* (Biv.) Guss., Fl. Sicul. Prodr. 2: 182 (1828). *Orobanche lutea* (Biv.) Lojac., Naturalista Sicil. 1: 256 (1882), nom. illeg.

*Orobanche rubra* Raf., Chlor. Aetn.: 10 (1813), nom. illeg.

*Orobanche grandiflora* C.Presl, Fl. Sicul. 1: xxxiv (1826).

*Orobanche speciosa* Moris, Stirp. Sard. Elench. 1: 35 (1827), nom. illeg.

*Orobanche condensata* Moris, Stirp. Sard. Elench. 2: 8 (1828).

*Orobanche spartii* Guss., Fl. Sicul. Prodr. 2: 182 (1828). *Orobanche condensata* subsp. *spartii* (Guss.) Batt. in J.A.Battandier & L.C.Trabut, Fl. Algérie, Dicot.: 660 (1890).

*Orobanche spartii* var. *rubra* Guss., Fl. Sicul. Prodr. 2: 182 (1828).

*Orobanche cytisi-laburni* F.W.Schultz, Bot. Lit.-Blätt. 5: 500 (1830).

*Orobanche satyrus* De Not., Prosp. Fl. Ligust.: 35 (1846). *Orobanche variegata* var. *satyrus* (De Not.) Bég. in A.Fiori & al., Fl. Anal. Italia 2: 478 (1902).

*Orobanche strigosa* Salzm. ex Ball, J. Linn. Soc., Bot. 16: 604 (1878).

*Orobanche sicula* Lojac., Naturalista Sicil. 1: 255 (1882), nom. illeg. *Orobanche variegata* var. *sicula* (Lojac.) Maire, Bull. Soc. Hist. Nat. Afrique N. 26: 220 (1935).

*Orobanche condensata* Lojac., Naturalista Sicil. 6: 35 (1887), nom. illeg.

*Orobanche variegata* f. *bonensis* Beck, Biblioth. Bot. 4(19): 202 (1890).

*Orobanche variegata* var. *integrisepala* Maire, Bull. Soc. Sci. Nat. Maroc 21-22: 12 (1929).

*Orobanche variegata* var. *porphyrostigma* Maire, Mém. Soc. Sci. Nat. Maroc 21-22: 12 (1929 publ. 1930).

*Orobanche variegata* var. *nepae* Maire, Bull. Soc. Hist. Nat. Afrique N. 23: 204 (1932).

*Orobanche variegata* var. *pseudosatyrus* Maire, Bull. Soc. Hist. Nat. Afrique N. 29: 441 (1938).

**Distribution.** W & C Mediterranean area (Beck Manna-getta, 1930; Uhlich et al., 1995; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Cytisus* spp. and other woody Fabaceae (Beck Manna-getta, 1930; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward).

**124. *Orobanche yuennanensis*** (Beck) Hand.-Mazz., Symb. Sin. 7: 875 (1936). *Orobanche alsatica* var. *yuennanensis* Beck in H.G.A.Engler (ed.), Pflanzenr., IV, 261: 259 (1930).

**Distribution.** China (SW Sichuan, N Yunnan, W Guizhou) (Zhang & Tzvelev, 2024; POWO, 2025).

**Host.** Lamiaceae (Zhang & Tzvelev, 2024).

**125. *Orobanche zajaciorum*** Piwow., Phytotaxa 201: 215 (2015).

**Distribution.** Caucasus (Sánchez Pedraja et al., 2017 onward; Piwowarczyk et al., 2019, 2023; POWO, 2025).

**Host.** *Scutellaria* spp. (Lamiaceae) (Sánchez Pedraja et al., 2017 onward).

*Orobanche* subg. *Trionychon* (Wallr.) Spach, Hist. Nat. Vég. 9: 262 (1838). TYPE: *Orobanche ramosa* L., Sp. Pl.: 633 (1753).

*Kopsia* Dumort., Comment. Bot.: 16 (1822), nom. rej.

*Chorobanche* C. Presl, Abh. Königl. Böhm. Ges. Wiss., ser. 5, 3: 521 (1845).

*Phelipanche* Pomel, Nouv. Mat. Fl. Atl. 1: 102 (1874).

“*Phelypaea*” auct. non L.

**126. *Orobanche aegyptiaca*** Pers., Syn. Pl. 2: 181 (1806). *Phelypaea aegyptiaca* (Pers.) Dumort., Comment. Bot.: 18 (1822). *Phelipanche aegyptiaca* (Pers.) Pomel, Nouv. Mat. Fl. Atl. 1: 107 (1874). *Kopsia aegyptiaca* (Pers.) Caruel in Fl. Ital. (Parlatore) 6: 358 (1885).

*Orobanche aegyptiaca* var. *lasianthera* Maire, Bull. Soc. Hist. Nat. Afrique N. 20: 31 (1929), nom. inval.

*Orobanche longiflora* Pers., Syn. Pl. 2: 181 (1806). *Kopsia longiflora* (Pers.) Dumort., Comment. Bot.: 18 (1822). *Phelypaea longiflora* (Pers.) C.A.Mey., Verz. Pfl. Casp. Meer.: 104 (1831).

*Orobanche pedunculata* Viv., Pl. Aegypt. Dec.: 22 (1830), nom. illeg.

*Orobanche indica* Buch.-Ham. ex Roxb., Fl. Ind., ed. 1832. 3: 27 (1832), nom. illeg.

*Orobanche delilei* Decne., Ann. Sci. Nat., Bot., sér. 2, 4: 201 (1835). *Phelypaea delilei* (Decne.) Walp., Repert. Bot. Syst. 3: 459 (1844). *Phelypaea aegyptiaca* var. *delilei* (Decne.) Reut. in Candolle, Prodr. 11: 10 (1847).

*Phelypaea indica* G. Don, Gen. Hist. 4: 632 (1838).

*Orobanche ferox* DC., Prodr. 7: 541 (1839).

*Phelypaea pedunculata* Walp., Repert. Bot. Syst. 3: 459 (1844).

*Chorobanche indica* C. Presl in Abh. Königl. Böhm. Ges. Wiss. ser. 5(3): 521 (1845).

*Phelypaea ramosa* var. *grandiflora* Ledeb., Fl. Ross. 3: 313 (1847).

*Phelypaea aleppensis* Reut. ex Boiss., Fl. Orient. 4: 499 (1879), nom. inval.

*Phelypaea serotina* Hausskn. ex Boiss., Fl. Orient. 4: 499 (1879), nom. inval.

*Orobanche aegyptiaca* f. *aemula* Beck, Biblioth. Bot. 4(19): 102 (1890). *Orobanche aegyptiaca* var. *aemula* (Beck) Beck in Engler (ed.), Pflanzenreich, IV, 261: 83 (1930).

*Orobanche fastigiata* Beck, Biblioth. Bot. 4(19): 102 (1890), nom. inval.

*Orobanche haussknechtii* Beck, Biblioth. Bot. 4(19): 103 (1890), nom. inval.

*Orobanche parasitica* Fisch. ex Beck, Biblioth. Bot. 4(19): 101 (1890).

*Phelypaea melongenae* Noë ex Beck, Biblioth. Bot. 4(19): 101 (1890).

*Orobanche pushpitoi* M. R. Almeida, Fl. Maharashtra 3B: 428 (2001).

**Distribution.** Native to SE Europe to C Asia and the Indian subcontinent, N Africa to Sahara (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Jafri, 1976; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; POWO, 2025). Naturalized in North America and east Asia (CABI, 2025)

**Host.** Brassicaceae, Cucurbitaceae, Fabaceae, Malvaceae, Solanaceae, and many others (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Sánchez Pedraja et al., 2017 onward; Zhang & Tzvelev, 2024).

**127. *Orobanche androssovii*** Novopokr., Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 13: 309 (1950). *Phelipanche androssovii* (Novopokr.) Soják, Čas. Nár.Mus., Odd. Přír. 140: 129 (1972).

**Distribution.** S Turkmenistan (Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Sánchez Pedraja et al., (Sánchez 2016) onward; POWO, 2025).

**Host.** *Artemisia* spp. (Asteraceae) (Novopokrovskij & Tzvelev, 1958; Sánchez Pedraja et al., 2017 onward).

**128. *Orobanche arenaria*** Borkh., Neues Mag. Bot. 1: 6 (1794). *Phelypaea arenaria* (Borkh.) Walp., Repert. Bot. Syst. 3: 459 (1844). *Phelipanche arenaria* (Borkh.) Pomel, Nouv. Mat. Fl. Atl. 1: 103 (1874). *Lathraea arenaria* (Borkh.) Cuatrec., Trab. Mus. Ci. Nat. Barcelona 12: 429 (1929).

*Orobanche laevis* L., Sp. Pl.: 632 (1753), nom. utique rej. *Kopsia arenaria* (Borkh.) Dumort., Comment. Bot.: 17 (1822).

*Orobanche comosa* Wallr., Sched. Crit.: 314 (1822).

*Orobanche artemisiae-vulgaris* F.W.Schultz, Bot. Lit.-Blätt. 5: 500 (1830).

*Orobanche borkhausenii* Andr. ex Besser, Flora 15(2 Beibl.): 19 (1832).

*Orobanche robusta* A.Dietr., Fl. Boruss.: t. 151 (1835).

*Orobanche arenaria* f. *robusta* (A.Dietr.) Beck, Biblioth. Bot. 4(19): 130 (1890).

*Phelypaea comosa* G.Don, Gen. Hist. 4: 632 (1838).

*Phelypaea robusta* Walp., Repert. Bot. Syst. 3: 460 (1844).

*Orobanche abortiva* Reut. in A.P.de Candolle, Prodr. 11: 37 (1847).

*Phelipanche atlantica* Pomel, Nouv. Mat. Fl. Atl. 1: 103 (1874). *Phelypaea arenaria* var. *atlantica* (Pomel) Batt. in J.A.Battandier & L.C.Trabut, Fl. Algérie, Dicot.: 656 (1890).

*Orobanche ionantha* A.Kern., Oesterr. Bot. Z. 24: 236 (1874). *Kopsia arenaria* f. *ionantha* (A.Kern.) Bég. in A.Fiori & al., Fl. Anal. Italia 2: 473 (1902).

*Phelypaea obtusiloba* Reut. ex Boiss., Fl. Orient. 4: 496 (1879), nom. inval.

*Kopsia borkhausenii* Caruel in F.Parlatore, Fl. Ital. 6: 355 (1885).

*Orobanche arenaria* f. *sareptana* Beck, Biblioth. Bot. 4(19): 130 (1890). *Phelipanche arenaria* var. *sareptana* (Beck) Uhlich & Rätzel, Nordic J. Bot. e04155: 6 (2024).

*Orobanche purpurea* var. *iberica* Beck, Biblioth. Bot. 4(19): 126 (1890). *Orobanche iberica* (Beck) Tzvelev, Fl. Azerbaïdzhana 7: 566 (1957). *Phelipanche iberica* (Beck) Soják, Čas. Nár.Mus., Odd. Přír. 140: 130 (1972).

*Phelypaea arenaria* var. *euxina* Velen., Fl. Bulg., Suppl. 1: 222 (1898). *Orobanche arenaria* var. *euxina* (Velen.) Delip., Fl. Nar. Republ. Bulgariya 10: 302 (1995).

*Orobanche arenaria* f. *personata* Beck, Feddes Rep. 30: 35 (1922).

*Phelypaea arenaria* f. *ramosa* Merino ex M.Laínez, Broteria, Ci. Nat. 24(51): 125 (1955).

*Phelipanche laevis* (L.) Holub, Preslia 62: 196 (1990).

**Distribution.** Europe to C Asia and W Iran, NW Africa (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Gilli, 1976; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Artemisia* spp. (Asteraceae) (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Gilli, 1976; Sánchez Pedraja et al., 2017 onward).

**129. *Orobancha borissovae*** Novopokr., Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 13: 305 (1950). *Phelipanche borissovae* (Novopokr.) Soják, Čas. Nár.Mus., Odd. Přír. 140: 129 (1972).

**Distribution.** S Turkmenistan (Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Artemisia* spp. (Asteraceae) (Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Sánchez Pedraja et al., 2017 onward).

**130. *Orobancha brachypoda*** Novopokr., Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 13: 303 (1950). *Phelipanche brachypoda* (Novopokr.) Soják, Čas. Nár.Mus., Odd. Přír. 140: 129 (1972).

**Distribution.** C Asia (Novopokrovskij & Tzvelev, 1958; Sánchez Pedraja et al., 2017 onward; POWO, 2025).

**Host.** Unknown.

**131. *Orobancha brassicae*** (Novopokr.) Novopokr., Izv. Donsk. Inst. Sel'sk. Kohz. Melior 9: 47 (1929). *Orobancha mutelii* subsp. *brassicae* Novopokr., Izv. Donsk. Inst. Sel'sk. Kohz. Melior 8: 52 (1928). *Phelipanche brassicae* (Novopokr.) Soják, Čas. Nár.Mus., Odd. Přír. 140: 129 (1972).

**Distribution.** Crimea to SW Russia (Novopokrovskij & Tzvelev, 1958; Uhlich et al., 1995; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; Zhang & Tzvelev, 2024; POWO, 2025).

**Host.** Brassicaceae and rarely on Solanaceae (Novopokrovskij & Tzvelev, 1958; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward; Zhang & Tzvelev, 2024).

**132. *Orobancha bungeana*** Beck, Biblioth. Bot. 4(19): 119, 235 (1890). *Phelipanche bungeana* (Beck) Soják, Čas. Nár.Mus., Odd. Přír. 140: 129 (1972).

*Orobancha eriophora* Bornm. & Gauba, Repert. Spec. Nov. Regni Veg. 51: 220 (1942). *Phelipanche eriophora* (Bornm. & Gauba) Holub, Folia Geobot. Phytotax. 12: 428 (1977).

**Distribution.** C & E Turkey to Caucasus and NW Iran (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Gilli, 1976, 1982; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** Lamiaceae and Asteraceae (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Gilli, 1976, 1982; Sánchez Pedraja et al., 2017 onward).

**133. *Orobancha caesia*** Rchb., Iconogr. Bot. Pl. Crit. 7: 48 (1829). *Phelypaea caesia* (Rchb.) Guss., Fl. Sicul. Syn. 2(1): 138 (1844). *Kopsia caesia* (Rchb.) O.Schwarz, Mitt. Thüring. Bot. Ges. 1: 117 (1949). *Phelipanche caesia* (Rchb.) Soják, Čas. Nár.Mus., Odd. Přír. 140: 129 (1972).

*Phelypaea lanuginosa* C.A.Mey. in C.F.von Ledebour, Fl. Altaic. 2: 460 (1830). *Orobancha lanuginosa* (C.A.Mey.)

Beck, Trudy Obsch. Estestvoisp. Imp. Kazansk. Univ. 9: 202 (1881). *Phelipanche lanuginosa* (C.A.Mey.) Holub, Preslia 62: 196 (1990).

*Orobancha borealis* Turcz. ex Kar. & Kir. in Bull. Soc. Imp. Naturalistes Moscou 14: 722 (1841). *Orobancha caesia* var. *borealis* (Turcz. ex Kar. & Kir.) Beck, Biblioth. Bot. 4(19): 122 (1890). *Phelipanche caesia* var. *borealis* (Turcz. ex Kar. & Kir.) Uhlich, Kochia 10: 79 (2017).

*Orobancha asiatica* Weinm., Bull. Soc. Imp. Naturalistes Moscou 23(I): 512 (1850).

*Phelypaea araneosa* Reut. ex Boiss., Fl. Orient. 4: 496 (1879), nom. inval.

*Orobancha lanuginosa* var. *acuminata* G. Beck in Krylow, Trans. Nat. Soc. Imp. Kazan Univ. 9: 202 (1881). *Phelipanche caesia* var. *acuminata* (Beck) Uhlich & Rätzel, Nordic J. Bot. e04155: 17 (2024).

*Orobancha peisonis* Beck in E.von Halácsy & H.Braun, Nachtr. Fl. Nieder-Oesterr.: 121 (1882).

*Orobancha caesia* f. *tomentosa* Beck, Biblioth. Bot. 19: 122 (1890).

**Distribution.** E & C Europe to Siberia and W Himalaya (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Jafri, 1976; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; Zhang & Tzvelev, 2024; POWO, 2025).

**Host.** *Artemisia* spp. (Asteraceae) (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Sánchez Pedraja et al., 2017 onward; Zhang & Tzvelev, 2024).

**134. *Orobancha camphorosmae*** (Carlón, G.Gómez, M.Laínez, Moreno Mor., Ó.Sánchez & Schneew.) A.Pujadas & Triano, Div. Veg. Yeseras Ibér.: 277 (2011). *Phelipanche camphorosmae* Carlón, G.Gómez, M.Laínez, Moreno Mor., Ó.Sánchez & Schneew., Doc. Jard. Bot. Atlántico 6: 35 (2008).

**Distribution.** France to Spain (Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Camphorosma monspeliaca* L. (Amaranthaceae), also reported on *Kochia prostrata* (L.) Schrad. (Chenopodiaceae) (Sánchez Pedraja et al., 2017 onward).

**135. *Orobancha chionistrae*** (Rätzel, Hand, Christodoulou & Uhlich) Domina, **comb. nov.** *Phelipanche chionistrae* Rätzel, Hand, Christodoulou & Uhlich, Candollea 76: 78 (2021).

**Distribution.** Cyprus (Sánchez Pedraja et al., 2016 onward; Rätzel et al., 2021; POWO, 2025).

**Host.** Mainly on *Alyssum troodi* Boiss. (Brassicaceae) (Sánchez Pedraja et al., 2017 onward; Rätzel et al., 2021).

**136. *Orobancha coelestis*** (Reut.) Boiss. & Reut. ex Beck, Biblioth. Bot. 4(19): 114 (1890). *Phelypaea coelestis* Reut. in A.P.de Candolle, Prodr. 11: 5 (1847). *Kopsia coelestis* (Reut.) Bég. & A.Vacc., Ann. Bot. (Rome) 13: 29 (1914). *Phelipanche coelestis* (Reut.) Soják, Čas. Nár.Mus., Odd. Přír. 140: 130 (1972).

*Phelypaea tricholoba* var. *simplex* Reut. in A.P.de Candolle, Prodr. 11: 10 (1847). *Phelipanche simplex* (Reut.) Piwow., Ó.Sánchez & Moreno Mor., Phytotaxa 292(3): 240 (2017).

*Phelypaea sypsiensis* K.Koch, Linnaea 22: 662 (1849), pro parte.

*Orobanche persica* subsp. *sogdiana* Novopokr., Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 13: 306 (1950).

**Distribution.** Turkey to C Asia and W Pakistan (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Jafri, 1976; Gilli, 1982; Sánchez Pedraja et al., 2016 onward; Zhang & Tzvelev, 2024; POWO, 2025).

**Host.** Asteraceae and Lamiaceae (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Gilli, 1982; Sánchez Pedraja et al., 2017 onward; Zhang & Tzvelev, 2024).

**137. *Orobanche dalmatica*** (Beck) Tzvelev in V.L.Komarov (ed.), Fl. URSS 23: 66 (1958). *Orobanche oxyloba* var. *dalmatica* Beck, Biblioth. Bot. 4(19): 109 (1890). *Phelipanche dalmatica* (Beck) Soják, Čas. Nár.Mus., Odd. Přír. 140: 130 (1972).

**Distribution.** Balkan Peninsula to Aegean Islands (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Uhlich et al., 1995; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** Asteraceae (Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward).

**138. *Orobanche daninii*** Domina & Raimondo, Fl. Medit. 19: 185 (2009). *Phelipanche daninii* (Domina & Raimondo) Domina, Willdenowia 47: 94 (2017).

**Distribution.** Israel to Jordan (Domina & Raimondo, 2009; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Moricandia nitens* (Viv.) E.A.Durand & Baratte (Brassicaceae) (Domina & Raimondo, 2009; Sánchez Pedraja et al., 2017 onward).

**139. *Orobanche gratiosa*** (Webb & Berthel.) Lindling., Abh. Auslandsk., Reihe C, Naturwiss. 21(8): 248 (1926). *Phelypaea gratiosa* Webb & Berthel., Hist. Nat. Iles Canaries 3(2; 3): 153 (1845). *Phelipanche gratiosa* (Webb & Berthel.) Carlón, G.Gómez, M.Laínz, Moreno Mor., Ó.Sánchez & Schneew., Doc. Jard. Bot. Atlántico 6: 66 (2008).

**Distribution.** Canary Islands (Beck Mannagetta, 1930; Uhlich et al., 1995; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** Asteraceae (Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward).

**140. *Orobanche gussoneana*** (Lojac.) Domina, **comb. nov.** *Phelypaea gussoneana* Lojac., Naturalista Sicil. 1: 197 (1882). *Kopsia gussoneana* (Lojac.) Lojac., Naturalista Sicil. 6: 81 (1887). *Orobanche oxyloba* f. *gussoneana* (Lojac.) Beck, Biblioth. Bot. 4(19): 113 (1890). *Orobanche schultzi* f. *gussoneana* (Lojac.) Beck, Biblioth.

Bot. 4(19): 113 (1890). *Kopsia schultzi* var. *gussoneana* (Lojac.) Bég. in A.Fiori & al., Fl. Anal. Italia 2: 473 (1902). *Phelipanche gussoneana* (Lojac.) Domina, Raab-Straube, Rätzel & Uhlich, Willdenowia 48: 209 (2018).

*Phelipanche schultzioides* M.J.Y.Foley, Bot. Chron. (Patras) 19: 7 (2008). *Orobanche schultzioides* (M.J.Y.Foley) Domina, Willdenowia 39: 331 (2010).

**Distribution.** S France, Sicily to Caucasus (Raab-Straube & Raus, 2018; POWO, 2025).

**Host.** Brassicaceae, rarely on other families (Raab-Straube & Raus, 2018).

**141. *Orobanche hajastanica*** (Piwow., Ó.Sánchez & Moreno Mor.) Domina, **comb. nov.** *Phelipanche hajastanica* Piwow., Ó.Sánchez & Moreno Mor., Ann. Bot. Fenn. 54: 118 (2017).

**Distribution.** Transcaucasus (Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Nepeta trautvetteri* Boiss. & Buhse. (Lamiaceae).

**142. *Orobanche hedypnoidis*** (Rätzel, Ristow & Uhlich) Hand, Cypricola 14: 3 (2019). *Phelipanche hedypnoidis* Rätzel, Ristow & Uhlich, Carinthia II 207/127(2): 651 (2017).

**Distribution.** Canary Islands, Mediterranean area (Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; Rätzel et al., 2017; POWO, 2025)

**Host.** *Hedypnois rhagadioloides* (L.) F. W. Schmidt (Asteraceae) (Rätzel et al., 2017; Sánchez Pedraja et al., 2017 onward).

**143. *Orobanche heldreichii*** (Reut.) Beck, Biblioth. Bot. 4(19): 116 (1890). *Phelypaea heldreichii* Reut. in A.P.de Candolle, Prodr. 11: 8 (1847). *Phelipanche heldreichii* (Reut.) Soják, Čas. Nár.Mus., Odd. Přír. 140: 130 (1972).

*Phelypaea hohenackeri* Reut. in A.P.de Candolle, Prodr. 11: 10 (1847). *Orobanche hohenackeri* (Reut.) Tzvelev, Fl. Azerbaïdzhana 7: 571 (1957). *Phelipanche hohenackeri* (Reut.) Soják, Čas. Nár.Mus., Odd. Přír. 140: 130 (1972).

*Phelypaea ramosa* var. *crassipes* Ledeb., Fl. Ross. 3: 313 (1849).

**Distribution.** Turkey to Caucasus (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Gilli, 1982; Uhlich et al., 1995; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Eryngium* spp. (Apiaceae) (Beck Mannagetta, 1930; Gilli, 1982; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward).

**144. *Orobanche hirtiflora*** (Reut.) Burkill, List Fl. Pl. Baluchistan: 57 (1909). *Phelypaea hirtiflora* Reut. in A.P.de Candolle, Prodr. 11: 10 (1847). *Phelipanche hirtiflora* (Reut.) Soják, Čas. Nár.Mus., Odd. Přír. 140: 130 (1972).

*Orobanche astragali* Mouterde, Saussurea 4: 23 (1973). *Phelipanche astragali* (Mouterde) Holub, Preslia 62: 196 (1990).

*Orobanche cohenii* Domina & Danin, Fl. Medit. 24: 63 (2014). *Phelipanche cohenii* (Domina & Danin) Domina, Willdenowia 47: 94 (2017).

**Distribution.** E Mediterranean, Caucasus to W Pakistan (Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Jafri, 1976; Uhlich et al., 1995; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Astragalus* spp. (Fabaceae) (Novopokrovskij & Tzvelev, 1958; Uhlich et al., 1995, Sánchez Pedraja et al., 2017 onward).

**145. *Orobanche hypertomentosa*** M.J.Y. Foley, Edinburgh J. Bot. 55: 232 (1998). *Phelipanche hypertomentosa* (M.J.Y.Foley) M.J.Y.Foley, Edinburgh J. Bot. 64: 210 (2007).

**Distribution.** Arabian Peninsula (Foley, 2004; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Calligonum comosum* L'Hér. (Polygonaceae) (Foley, 2004; Sánchez Pedraja et al., 2017 onward).

**146. *Orobanche inexpectata*** *Phelipanche inexpectata* (Carlón, G. Gómez, M. Laínz, Moreno Mor., Ó. Sánchez & Schneew.) Domina, Greuter, P.Marino & P.Schäf., Pl. Biosystems 147: 765 (2013).

**Distribution.** S & SE France to N & NE Spain, NW Africa, Afghanistan (Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** Asteraceae (Sánchez Pedraja et al., 2017 onward).

**146a. *Orobanche inexpectata* var. *inexpectata*** Carlón, G.Gómez, M.Laínz, Moreno Mor., Ó.Sánchez & Schneew., Doc. Jard. Bot. Atlántico 3: 12 (2005).

*Phelipanche cernua* Pomel, Nouv. Mat. Fl. Atl. 1: 105 (1874).

**Distribution.** S & SE France to N & NE Spain, NW Africa (Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Lactuca* spp. (Asteraceae) (Sánchez Pedraja et al., 2017 onward).

**146b. *Orobanche inexpectata* var. *sinaica*** (Beck) Domina, **comb. nov.** *Orobanche mutelii* var. *sinaica* Beck, Biblioth. Bot. 4(19): 97 (1890). *Phelipanche sinaica* (Beck) Rätzel & Uhlich, Willdenowia 47: 302 (2017). *Phelipanche cernua* subsp. *sinaica* (Beck) Piwow., Ó.Sánchez & Moreno Mor., Phytotaxa 386: 42 (2019).

**Distribution.** E Mediterranean area to Afghanistan (Beck Mannagetta, 1930; Euro+Med, 2006 onward; Raab-Straube & Raus, 2017; POWO 2025).

**Host.** *Lactuca* spp. (Asteraceae) (Raab-Straube & Raus, 2017; Sánchez Pedraja et al., 2017 onward).

**Notes.** This variety has a smaller habit, a more compact inflorescence, and a smaller corolla than *O. inexpectata* var. *inexpectata*.

**147. *Orobanche kelleri*** Novopokr., Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 13: 308 (1950). *Phelipanche kelleri* (Novopokr.) Soják, Čas. Nár.Mus., Odd. Přír. 140: 130 (1972).

**Distribution.** Turkey to Caucasus, Kazakhstan to S Xinjiang (Novopokrovskij & Tzvelev, 1958; Gilli, 1982; Sánchez Pedraja et al., 2016 onward; Raab-Straube & Raus, 2018; Zhang & Tzvelev, 2024; POWO 2025).

**Host.** *Kochia prostrata* (L.) Schrad. (Chenopodiaceae) (Novopokrovskij & Tzvelev, 1958; Gilli, 1982; Raab-Straube & Raus, 2018; Zhang & Tzvelev, 2024).

**148. *Orobanche lainzii*** (Gómez Nav., Roselló, Peris, A.Valdés & Sanchis) Triano & A.Pujadas, Acta Bot. Malac. 37: 224 (2012). *Phelipanche lainzii* Gómez Nav., Roselló, Peris, A.Valdés & Sanchis, Flora Montiber. 50: 17 (2012).

**Distribution.** Spain (Sánchez Pedraja et al., 2016 onward; POWO 2025).

**Host.** *Cleonia lusitanica* (L.) L. (Lamiaceae).

**149. *Orobanche lavandulacea*** Rchb., Iconogr. Bot. Pl. Crit. 7: 48 (1829).

**Distribution.** Canary Islands, Mediterranean area to Iran (Beck Mannagetta, 1930; Schiman-Czeika, 1964; Gilli, 1976; Uhlich et al., 1995; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Bituminaria bituminosa* (L.) C.H.Stirt. (Fabaceae) (Beck Mannagetta, 1930; Schiman-Czeika, 1964; Gilli, 1976; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward).

**149a. *Orobanche lavandulacea* var. *carlonii*** Domina, **nom. nov. & stat. nov.** *Phelipanche lavandulaceoides* Carlón, G.Gómez, M.Laínz, Moreno Mor., Ó.Sánchez & Schneew., Doc. Jard. Bot. Atlántico 6: 87 (2008).

**Distribution.** Spain (Carlón et al., 2008; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Bituminaria bituminosa* (L.) C.H.Stirt. (Fabaceae) (Carlón et al., 2008; Sánchez Pedraja et al., 2017 onward).

**Notes.** Carlón et al. (2008) distinguished this taxon from *O. lavandulacea*, with which it shares the host, by its corolla shape and color and longer calyx teeth. Molecular phylogenetic information of the nuclear ITS region shows some differences (Carlón et al., 2008).

**149b. *Orobanche lavandulacea* var. *lavandulacea*** *Phelypaea lavandulacea* (Rchb.) Reut. in A.P.de Candolle, Prodr. 11: 7 (1847). *Phelipanche lavandulacea* (Rchb.) Pomel, Nouv. Mat. Fl. Atl. 1: 106 (1874). *Kopsia lavandulacea* (Rchb.) Caruel in F.Parlatore, Fl. Ital. 6: 357 (1885). *Lathraea lavandulacea* (Rchb.) Cuatrec., Trab. Mus. Ci. Nat. Barcelona 12: 429 (1929).

*Orobanche fraasii* F.W.Schultz, Flora 26: 127 (1843). *Phelypaea fraasii* (F.W.Schultz) Walp., Repert. Bot. Syst. 3: 460 (1844). *Phelypaea lavandulacea* subsp. *fraasii* (F.W.Schultz) Batt. in J.A.Battandier & L.C.Trabut, Fl. Algérie, Dicot.: 658 (1890).

*Phelypaea lavandulacea* f. *elegans* K.Koch, Linnaea 22: 662 (1849).

*Orobanche morisiana* Nyman, Syll. Fl. Eur., Suppl.: 24 (1865).

*Orobanche lavandulacea* f. *crassipes* Beck, Biblioth. Bot. 4(19): 106 (1890).

*Orobanche lavandulacea* f. *luxuriosa* Beck, Repert. Spec. Nov. Regni Veg. 18: 34 (1922).

**Distribution.** Canary Islands, Mediterranean area to Iran (Beck Mannagetta, 1930; Schiman-Czeika, 1964; Gilli, 1976; Uhlich et al., 1995; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Bituminaria bituminosa* (L.) C.H.Stirt. (Fabaceae) (Beck Mannagetta, 1930; Schiman-Czeika, 1964; Gilli, 1976; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward).

**149c. *Orobanche lavandulacea* var. *trichocalyx*** (Webb & Berthel.) Domina, **comb. & stat. nov.** *Phelypaea trichocalyx* Webb & Berthel., Hist. Nat. Iles Canaries 3(2; 3): 154 (1845). *Orobanche trichocalyx* (Webb & Berthel.) Beck, Biblioth. Bot. 4(19): 107 (1890). *Phelipanche trichocalyx* (Webb & Berthel.) Soják, Čas. Nár.Mus., Odd. Přír. 140: 130 (1972). *Phelipanche lavandulacea* subsp. *trichocalyx* (Webb & Berthel.) Carlón, G.Gómez, M.Laínz, Moreno Mor., Ó.Sánchez & Schneew., Doc. Jard. Bot. Atlántico 6: 83 (2008).

**Distribution.** Canary Islands (Beck Mannagetta, 1930; Carlón et al., 2008; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Bituminaria bituminosa* (L.) C.H.Stirt. (Fabaceae) (Beck Mannagetta, 1930; Carlón et al., 2008; Sánchez Pedraja et al., 2017 onward).

**Notes.** This taxon was distinguished by Carlón et al. (2008) from *O. lavandulacea*, with which it shares the host, by its corolla color, longer calyx teeth and for the hairy anthers.

**150. *Orobanche libanotica*** (Schweinf. ex Boiss.) Beck, Biblioth. Bot. 19: 116 (1890). *Phelypaea libanotica* Schweinf. ex Boiss., Fl. Orient., Suppl.: 357 (1888). *Phelipanche libanotica* (Schweinf. ex Boiss.) Soják, Čas. Nár. Mus., Odd. Přír. 140: 130 (1972).

*Orobanche angustelaciniata* Gilli, Feddes Repert. Spec. Nov. Regni Veg. 63: 326 (1961).

*Phelipanche orientalis* (Beck) Soják, Čas. Nár.Mus., Odd. Přír. 140: 130 (1972).

*Phelipanche angustilaciniata* (Gilli) Holub, Folia Geobot. Phytotax. 12: 428 (1977).

*Orobanche orientalis* Beck, Biblioth. Bot. 4(19) 1: 110 (1890).

*Orobanche coelestis* f. *confinis* Beck, Biblioth. Bot. 4(19): 115 (1890).

*Orobanche schwingenschussii* Gilli, Repert. Spec. Nov. Regni Veg. 46: 46 (1939). *Phelipanche schwingenschussii* (Gilli) Holub, Folia Geobot. Phytotax. 12: 428 (1977).

*Orobanche sogdiana* Novopokr., Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 13: 306 (1950). *Phelipanche sogdiana* (Novopokr.) Soják, Čas. Nár.Mus., Odd. Přír. 140: 130 (1972). *Orobanche orientalis* subsp. *sogdiana* (Novopokr.) Kamelin, Fl. Ushchel. Reki Varzob: 304 (2021).

*Phelipanche pouyanii* Joharchi & Vaezi, Nova Biol. Reperta 7: 462 (2021).

**Distribution.** E Mediterranean area to C Asia and W Himalaya (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Jafri, 1976; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; Raab-Straube & Raus, 2018; POWO, 2025).

**Host.** *Prunus* spp. (Rosaceae) (Novopokrovskij & Tzvelev, 1958; Sánchez Pedraja et al., 2017 onward; Raab-Straube & Raus, 2018).

**Notes.** From the study of the protologue and type material of *Phelipanche pouyanii*, recently described from Iran (Moosavi Parsai et al., 2021), no substantial differences emerge with *O. libanotica*. Moosavi Parsai et al. (2021) present morphological and phylogenetic analyses with some species of *Orobanche* subg. *Trionychon*, but do not include *O. libanotica*.

**151. *Orobanche mongolica*** Beck, Biblioth. Bot. 4(19): 117 (1890). *Phelipanche mongolica* (Beck) Soják, Čas. Nár. Mus., Odd. Přír. 140: 130 (1972).

**Distribution.** N China (Beck Mannagetta, 1930; Sánchez Pedraja et al., 2016 onward; Zhang & Tzvelev, 2024; POWO, 2025).

**Host.** Unknown.

**152. *Orobanche muteliformis*** M.J.Y.Foley, Candollea 59: 241 (2004). *Phelipanche muteliformis* (M.J.Y.Foley) M.J.Y.Foley, Edinburgh J. Bot. 64: 210 (2007).

*Phelipanche umqasrensis* Al-Mayah & Al-Asadi, Global J. Biol. Agric. Health Sci. 5: 107 (2016)

**Distribution.** Saudi Arabia and Iraq (Foley 2004; Sánchez Pedraja et al., 2016 onward; Al-Mayah & Al-Asadi 2016; POWO, 2025).

**Host.** *Rhanterium epapposum* Oliv. (Asteraceae) (Foley 2004; Al-Mayah & Al-Asadi 2016; Sánchez Pedraja et al., 2017 onward).

**Notes.** From the study of the protologues and the type material I have not found substantial differences between *Phelipanche umqasrensis*, recently described from Iraq, and *O. muteliformis*, known from Saudi Arabia; moreover, *Rhanterium epapposum* is reported as host plant for both.

**153. *Orobanche mutelii*** F.W.Schultz in P.A.V.Mutel, Fl. Franç. Herbor. 2: 353 (1835). *Phelypaea mutelii* (F.W.Schultz) Reut. in A.P.de Candolle, Prodr. 11: 8 (1847). *Phelipanche mutelii* (F.W.Schultz) Pomel, Nouv. Mat. Fl. Atl. 1: 106 (1874). *Orobanche ramosa* var. *mutelii* (F.W.Schultz) Boiss., Fl. Orient. 4: 499 (1879). *Phelypaea ramosa* var. *mutelii* (F.W.Schultz) Boiss., Fl. Orient. 4: 499 (1879). *Kopsia ramosa* var. *mutelii* (F.W.Schultz) Caruel in F.Parlatore, Fl. Ital. 6: 359 (1885). *Kopsia ramosa* subsp. *mutelii* (F.W.Schultz) Arcang., Comp. Fl. Ital., ed. 2: 417 (1894). *Kopsia mutelii* (F.W.Schultz) Bég. in A.Fiori & al., Fl. Anal. Italia 2: 471 (1902). *Phelypaea ramosa* subsp. *mutelii* (F.W.Schultz) Rouy, Bull. Soc. Bot. France 55: 549 (1908). *Orobanche*

- ramosa* subsp. *mutelii* (F.W.Schultz) Cout., Fl. Portugal: 566 (1913).
- Orobanche ramosa* Thunb., Prodr. Pl. Cap.: 97 (1800), nom. illeg.
- Orobanche interrupta* Pers., Syn. Pl. 2: 181 (1806).
- Kopsia interrupta* Dumort., Comment. Bot.: 17 (1822).
- Orobanche ramosa* var. *interrupta* (Pers.) Beck, Biblioth. Bot. 4(19): 89 (1890).
- Kopsia aegyptiaca* var. *trinacria* Bég., Fl. Ital. 6: 358 (1844). *Orobanche aegyptiaca* var. *trinacria* (Bég.) Beck, Biblioth. Bot. 4(19): 102 (1890).
- Phelypaea macrantha* K.Koch, Linnaea 17: 290 (1844).
- Phelypaea rufescens* Griseb., Spic. Fl. Rumel. 2: 59 (1844).
- Phelypaea ramosa* var. *brevispicata* Ledeb., Fl. Ross. 3: 313 (1849). *Orobanche ramosa* var. *brevispicata* (Ledeb.) R.A.Graham, Kew Bull. 10: 467 (1955).
- Orobanche rufescens* Nyman, Syll. Fl. Eur.: 133 (1855).
- Phelypaea concolor* Moris, Diagn. Stirp. Sard., Add.: 3 (1857).
- Phelipanche tenuiflora* Pomel, Nouv. Mat. Fl. Atl. 1: 104 (1874). *Phelypaea mutelii* var. *tenuiflora* (Pomel) Batt. in J.A.Battandier & L.C.Trabut, Fl. Algérie, Dicot.: 658 (1890).
- Phelipanche floribunda* Pomel, Nouv. Mat. Fl. Atl. 1: 106 (1874). *Orobanche mutelii* var. *floribunda* (Pomel) Batt. in J.A.Battandier & L.C.Trabut, Fl. Algérie, Dicot.: 658 (1888). *Phelypaea mutelii* var. *floribunda* (Pomel) Batt. in J.A.Battandier & L.C.Trabut, Fl. Algérie, Dicot.: 658 (1890).
- Orobanche mutelii* var. *ramosissima* Lojac., Contr. Fl. Sicilia: 16 (1878).
- Phelypaea panormitana* Lojac., Naturalista Sicil. 1: 174 (1882). *Kopsia panormitana* (Lojac.) Lojac., Naturalista Sicil. 6: 81 (1887). *Orobanche panormitana* (Lojac.) Beck, Biblioth. Bot. 4(19): 97 (1890). *Orobanche mutelii* f. *panormitana* (Lojac.) Beck, Biblioth. Bot. 4(19): 97 (1890). *Kopsia mutelii* var. *panormitana* (Lojac.) Bég. in A.Fiori & al., Fl. Anal. Italia 2: 472 (1902).
- Phelypaea elongata* Lojac., Naturalista Sicil. 2: 133 (1883).
- Orobanche angustiflora* Beck, Biblioth. Bot. 4(19): 96 (1890), nom. inval.
- Orobanche mutelii* var. *angustiflora* Beck, Biblioth. Bot. 4(19): 96 (1890). *Kopsia mutelii* var. *angustifolia* (Beck) Bég. in A.Fiori & al., Fl. Anal. Italia 2: 472 (1902).
- Orobanche mutelii* f. *emarginata* Beck, Biblioth. Bot. 4(19): 98 (1890).
- Orobanche mutelii* var. *interjecta* Beck, Biblioth. Bot. 4(19): 98 (1890).
- Orobanche mutelii* f. *spissa* Beck, Biblioth. Bot. 4(19): 96 (1890).
- Phelypaea fulgida* Pomel ex Batt. in J.A.Battandier & L.C.Trabut, Fl. Algérie, Dicot.: 658 (1890), nom. inval.
- Orobanche aegyptiaca* var. *leiantehra* Maire, Bull. Soc. Hist. Nat. Afrique N. 20: 31 (1929).
- Orobanche ducellieri* Maire, Bull. Soc. Hist. Nat. Afrique N. 23: 203 (1932). *Phelipanche ducellieri* (Maire) Holub, Preslia 62: 196 (1990).
- Phelypaea mauritii* Sennen in É.M.G.Sennen & H.Mauricio, Cat. Fl. Rif Orient.: 87 (1933), nom. nud.
- Distribution.** Canary Islands, Mediterranean area to Afghanistan, Mauritania, Somalia, SW Arabian Peninsula, Australia (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Uhlich et al., 1995; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; POWO, 2025).
- Host.** Asteraceae, rarely on Fabaceae or other families (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward).
- 154. *Orobanche nana*** (Noë ex Rchb. f.) Beck in Biblioth. Bot. 19: 91 (1890). *Orobanche mutelii* var. *nana* (Noë ex Rchb.) Reut. in A.P.de Candolle, Prodr. 11: 9 (1847). *Phelypaea mutelii* var. *nana* (Noë ex Rchb.) Reut. in A.P.de Candolle, Prodr. 11: 9 (1847), nom. superfl. *Phelypaea nana* (Noë ex Rchb.) Rchb.f. in H.G.L.Reichenbach, Icon. Fl. Germ. Helv. 20: 88 (1862). *Phelypaea ramosa* var. *nana* (Noë ex Rchb.) Boiss., Fl. Orient. 4: 499 (1879), nom. superfl. *Kopsia nana* (Noë ex Rchb.) Freyn, Verh. K. K. Zool.-Bot. Ges. Wien 38: 623 (1888). *Phelypaea mutelii* subsp. *nana* (Noë ex Rchb.) Batt. in J.A.Battandier & L.C.Trabut, Fl. Algérie, Dicot.: 658 (1890). *Kopsia ramosa* var. *nana* (Noë ex Rchb.) Bég. in A.Fiori & al., Fl. Anal. Italia 2: 471 (1902), nom. superfl. *Orobanche ramosa* var. *nana* (Noë ex Rchb.) Bég. in A.Fiori & al., Fl. Anal. Italia 2: 471 (1902), nom. superfl. *Phelypaea ramosa* subsp. *nana* (Noë ex Rchb.) Rouy, Bull. Soc. Bot. France 55: 548 (1908). *Orobanche ramosa* subsp. *nana* (Noë ex Rchb.) Rouy in G.Rouy & J.Foucaud, Fl. France 11: 159 (1909). *Phelipanche nana* (Noë ex Rchb.) Soják, Čas. Nár.Mus., Odd. Přír. 140: 130 (1972). *Phelipanche mutelii* var. *nana* (Noë ex Rchb.) Uhlich & Rätzel, Kochia 9: 82 (2015).
- Orobanche ramosa* var. *simplex* Rchb., Fl. Germ. Excurs. 1: 356 (1831). *Phelypaea ramosa* var. *simplex* (Rchb.) Vis., Fl. Dalmat. 2: 180 (1847).
- Orobanche ramosa* var. *lanata* Boiss., Voy. Bot. Espagne 2: 476 (1841).
- Phelipanche pulchra* Pomel, Nouv. Mat. Fl. Atl. 1: 105 (1874).
- Orobanche nana* f. *intercedens* Beck, Biblioth. Bot. 4(19): 92 (1890).
- Orobanche nana* f. *manostachys* Beck, Biblioth. Bot. 4(19): 92 (1890). *Phelipanche mutelii* f. *manostachys* (Beck) Uhlich & Rätzel, Kochia 9: 82 (2015).
- Orobanche nana* var. *inestabilis* J.A.Guim., Brotéria 3: 70 (1904).

*Orobanche ramosa* var. *inaspecta* Menezes, Fl. Madeira: 132 (1914).

*Orobanche nana* subsp. *melitensis* Beck, Repert. Spec. Nov. Regni Veg. 18: 33 (1922). *Phelipanche nana* subsp. *melitensis* (Beck) Soják, Čas. Nár.Mus., Odd. Přír. 140: 130 (1972).

*Phelypaea nana* f. *robusta* Cadevall, Fl. Catalunya 4: 296 (1932).

**Distribution.** Macaronesia, Mediterranean area to Afghanistan (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Uhlich et al., 1995; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** Apiaceae, Asteraceae, Fabaceae, Geraniaceae, Oxalidaceae, and others (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward).

**155. *Orobanche nowackiana*** Markgr., Ber. Deutsch. Bot. Ges. 44: 429 (1926). *Phelipanche nowackiana* (Markgr.) Soják, Čas. Nár.Mus., Odd. Přír. 140: 130 (1972).

*Orobanche rechingeri* Gilli, Oesterr. Bot. Z. 113: 214 (1966). *Phelipanche rechingeri* (Gilli) Holub, Preslia 62: 196 (1990).

*Orobanche caucasica* f. *flava* Gilli, Feddes Repert. 82: 394 (1971).

*Orobanche caucasica* f. *fuscolutea* Gilli, Feddes Repert. 82: 393 (1971).

*Phelipanche tzvelevii* Teryokhin, Novosti Sist. Vyssh. Rast. 33: 207 (2001).

**Distribution.** C Albania to Turkey (Beck Mannagetta, 1930; Gilli, 1982; Uhlich et al., 1995; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Alyssum* spp. (*Brassicaceae*) (Gilli, 1982; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward).

**156. *Orobanche olbiensis*** (Coss.) Nyman, Syll. Fl. Eur.: 133 (1855). *Phelypaea olbiensis* Coss., Notes Pl. Crit.: 8 (1949). *Phelipanche olbiensis* (Coss.) Carlón, G.Gómez, M.Laínez, Moreno Mor., Ó.Sánchez & Schneew., Doc. Jard. Bot. Atlántico 6: 79 (2008).

**Distribution.** SE Spain, Greece to Turkey (Gilli, 1982; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Helichrysum* spp. (*Asteraceae*) (Gilli, 1982; Sánchez Pedraja et al., 2017 onward).

**157. *Orobanche oxyloba*** (Reut.) Beck in L.Koch, Entw.-Gesch. Orob.: 209 (1887). *Phelypaea oxyloba* Reut. in A.P.de Candolle, Prodr. 11: 9 (1847). *Phelipanche oxyloba* (Reut.) Soják, Čas. Nár.Mus., Odd. Přír. 140: 130 (1972). *Phelipanche mutellii* var. *oxyloba* (Reut.) Rätzel & Uhlich, Carinthia II 207/127(2): 649 (2017).

**Distribution.** SE Europe to C Asia and W Pakistan (Schiman-Czeika, 1964; Euro+Med, 2006 onward; POWO, 2025).

**Host.** *Asteraceae* (Beck 1930; Schiman-Czeika, 1964); *Geranium lucidum* L., *Oxalis pes-caprae* L., *Torilis nodosa* (L.) Gaertn. (Rätzel et al., 2017)

**158. *Orobanche pallens*** (Bunge ex Ledeb.) Domina, **comb. nov.** *Phelypaea pallens* Bunge ex Ledeb., Fl. Ross. 3: 312 (1849). *Phelipanche pallens* (Bunge ex Ledeb.) Soják, Čas. Nár.Mus., Odd. Přír. 140: 130 (1972).

*Orobanche uralensis* Beck, Biblioth. Bot. 4(19): 132 (1890). *Phelipanche uralensis* (Beck) Czerep., Vasc. Pl. Russia & Adj. States: 332 (1995).

*Orobanche karatavica* Pavlov, Vestn. Akad. Nauk Kazakhs. S.S.R. 4(73): 94 (1951). *Phelipanche karatavica* (Pavlov) Soják, Čas. Nár.Mus., Odd. Přír. 140: 130 (1972). *Phelipanche pallens* var. *karatavica* (Pavlov) Teryokhin, Opred. Rast. Sred. Azii 10: 51 (1993).

**Distribution.** E Europe to Siberia and Xinjiang (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; Zhang & Tzvelev, 2024; POWO, 2025).

**Host.** *Artemisia* spp. (*Asteraceae*) (Novopokrovskij & Tzvelev, 1958).

**159. *Orobanche penduliflora*** Gilli, Bull. Jard. Bot. Natl. Belg. 44: 186 (1974). *Phelipanche penduliflora* (Gilli) Holub, Folia Geobot. Phytotax. 12: 428 (1977).

**Distribution.** Iran (Gilli, 1974; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Calligonum* spp. (*Poligonaceae*) and *Haloxylon* spp. (*Amaranthaceae*) (Sánchez Pedraja et al., 2017 onward).

**160. *Orobanche perangustata*** M.J.Y.Foley, Candollea 59: 240 (2004). *Phelipanche perangustata* (M.J.Y.Foley) M.J.Y.Foley, Edinburgh J. Bot. 64: 210 (2007).

**Distribution.** Oman (Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Medicago* spp. (*Fabaceae*) and *Flaveria* spp. (*Asteraceae*) (Sánchez Pedraja et al., 2017 onward).

**161. *Orobanche persica*** (Beck) Novopokr., Opred. Rast. Kavk.: 354 (1949). *Orobanche coelestis* f. *persica* Beck, Biblioth. Bot. 4(19): 115 (1890). *Phelipanche persica* (Beck) Piwow., Ó.Sánchez & Moreno Mor., Phytotaxa 292(3): 239 (2017).

**Distribution.** Turkmenistan to Iran (Schiman-Czeika, 1964; Gilli, 1976; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Achillea* spp. (*Asteraceae*) (Schiman-Czeika, 1964; Gilli, 1976; Sánchez Pedraja et al., 2017 onward).

**162. *Orobanche portolicitana*** A.Pujadas & M.B.Crespo, Bot. J. Linn. Soc. 146: 98 (2004). *Phelipanche portolicitana* (A.Pujadas & M.B.Crespo) Carlón, G.Gómez, M.Laínez, Moreno Mor., Ó.Sánchez & Schneew., Doc. Jard. Bot. Atlántico 3: 9 (2005).

*Orobanche mutellii* var. *spissa* Beck, Biblioth. Bot. 4(19): 96 (1890). *Phelypaea ramosa* subsp. *spissa* (Beck) Rouy,

- Bull. Soc. Bot. France 55: 549 (1908). *Phelypaea spissa* (Beck) Rouy in G.Rouy & J.Foucaud, Fl. France 11: 160 (1909). *Phelypaea coelestis* var. *spissa* (Beck) E.A.Durand & Barratte, Fl. Libyc. Prodr.: 182 (1910). *Kopsia mutelii* var. *spissa* (Beck) Bég. & A.Vacc., Sp. Nuov. Rar. Fl. Lib.: 2 (1912).
- Orobanche gypsogena* A.Pujadas & Triano, Div. Veg. Yerasas Ibér.: 274 (2011).
- Distribution.** SW Europe, N Africa (Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; POWO, 2025).
- Host.** *Centaurea* spp. (Asteraceae) (Sánchez Pedraja et al., 2017 onward).
- 163. *Orobanche psila*** C.B.Clarke in J.D.Hooker, Fl. Brit. India 4: 327 (1884). *Phelipanche psila* (C.B.Clarke) Soják, Čas. Nár.Mus., Odd. Přír. 140: 130 (1972).
- Distribution.** Kashmir, W Himalaya (Jafri, 1976; Sánchez Pedraja et al., 2016 onward; POWO, 2025).
- Host.** Unknown.
- 164. *Orobanche pulchella*** (C.A.Mey.) Novopokr., Opred. Rast. Kavk.: 354 (1949). *Phelypaea pulchella* C.A.Mey. in K.E.I.von Eichwald, Pl. Nov. Casp.-Cauc.: 17 (1831). *Phelipanche pulchella* (C.A.Mey.) Soják, Čas. Nár.Mus., Odd. Přír. 140: 130 (1972).
- Phelypaea aegyptiaca* var. *amalicetorum* Reut. in A.P.de Candolle, Prodr. 11: 717 (1847).
- Orobanche caucasica* Beck, Repert. Spec. Nov. Regni Veg. 18: 34 (1922). *Phelipanche caucasica* (Beck) Rätzel & Uhlich, Nordic J. Bot. e04155: 9 (2024)
- Orobanche oxyloba* f. *septemloba* Beck, Repert. Spec. Nov. Regni Veg. 18: 34 (1922). *Orobanche septemloba* (Beck) Tzvelev, Fl. Azerbaïdzhana 7: 568 (1957). *Phelipanche septemloba* (Beck) Soják, Čas. Nár.Mus., Odd. Přír. 140: 130 (1972).
- Orobanche pulchra* Gilli, Repert. Spec. Nov. Regni Veg. 46: 45 (1939).
- Distribution.** Turkey to Iran (Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Gilli, 1976, 1982; Uhlich et al., 1995; Sánchez Pedraja et al., 2016 onward; POWO, 2025).
- Host.** Lamiaceae (Novopokrovskij & Tzvelev, 1958; Schiman-Czeika, 1964; Gilli, 1976, 1982; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward).
- 165. *Orobanche purpurea*** Jacq., Enum. Stirp. Vindob.: 108 (1762). *Phelypaea purpurea* (Jacq.) Asch., Fl. Brandenburg 1: 499 (1864). *Kopsia purpurea* (Jacq.) Bég. in A.Fiori & al., Fl. Anal. Italia 2: 473 (1902). *Phelipanche purpurea* (Jacq.) Soják, Čas. Nár.Mus., Odd. Přír. 140: 130 (1972).
- Orchis abortiva* Leyss., Fl. Halens.: 226 (1761), nom. illeg.
- Orobanche laevis* Lam., Fl. Franç. 2: 327 (1779), sensu auct.
- Orobanche caerulea* Vill., Hist. Pl. Dauphiné 2: 406 (1787). *Kopsia caerulea* (Vill.) Dumort., Comment. Bot.: 17 (1822). *Phelypaea caerulea* (Vill.) C.A.Mey., Verz. Pfl. Casp. Meer.: 104 (1831).
- Orobanche purpurascens* J.F.Gmel., Syst. Nat., ed. 13[bis]: 954 (1792).
- Orobanche caerulea* var. *ramosa* Gray, Nat. Arr. Brit. Pl. 2: 315 (1821 publ. 1822).
- Orobanche caerulea* var. *millefolii* Rchb., Iconogr. Bot. Pl. Crit. 8: 33 (1830). *Orobanche millefolii* Steud., Nomencl. Bot., ed. 2, 2: 231 (1841), nom. inval. *Phelypaea caerulea* var. *millefolii* (Rchb.) Guss., Enum. Pl. Inarim.: 250 (1855). *Phelipanche caerulea* (Vill.) Pomel, Nouv. Mat. Fl. Atl. 1: 103 (1874). *Orobanche purpurea* f. *millefolii* (Rchb.) Beck, Biblioth. Bot. 4(19): 125 (1890). *Phelypaea millefolii* (Rchb.) Corb., Nouv. Fl. Normandie: 442 (1894). *Phelypaea caerulea* proles *millefolii* (Rchb.) Rouy in G.Rouy & J.Foucaud, Fl. France 11: 162 (1909). *Phelipanche purpurea* subsp. *millefolii* (Rchb.) Carlón, G.Gómez, M.Laínez, Moreno Mor., Ó.Sánchez & Schneew., Doc. Jard. Bot. Atlántico 6: 102 (2008).
- Orobanche vagabunda* F.W.Schultz, Bot. Lit.-Blätt. 5: 500 (1830).
- Phelypaea caerulea* var. *ciliaris* Griseb., Spic. Fl. Rumel. 2: 59 (1844).
- Orobanche bohémica* Čelak., Sitzungsber. Königl. Böhm. Ges. Wiss. Prag 1874: 61 (1874). *Orobanche purpurea* var. *bohémica* (Čelak.) Beck, Biblioth. Bot. 4(19): 126 (1890). *Kopsia purpurea* var. *bohémica* (Čelak.) Bég. in A.Fiori & al., Fl. Anal. Italia 2: 473 (1902). *Phelipanche bohémica* (Čelak.) Holub & Zázvorka, Preslia 51: 282 (1979). *Phelipanche purpurea* subsp. *bohémica* (Čelak.) Zázvorka, Preslia 72: 88 (2000). *Orobanche purpurea* subsp. *bohémica* (Čelak.) Kubát, Severoceskou Přír. 33-34: 155 (2002).
- Phelypaea cedreti* Reut. ex Boiss., Fl. Orient. 4: 495 (1879), pro syn.
- Orobanche pareysi* Beck, Oesterr. Bot. Z. 31: 310 (1881). *Phelypaea pareysi* (Beck) Boiss., Fl. Orient., Suppl.: 357 (1888). *Orobanche purpurea* var. *pareysi* (Beck) Beck, Biblioth. Bot. 4(19): 310 (1890).
- Orobanche caerulea* var. *pallidiflora* Bizz., Agg. Fl. Venet., ser. 5, 8: 146 (1882).
- Orobanche purpurea* f. *achroantha* Beck, Biblioth. Bot. 4(19): 125 (1890).
- Orobanche purpurea* var. *hirstua* Beck, Biblioth. Bot. 4(19): 126 (1890). *Phelipanche purpurea* var. *hirsuta* (Beck) Uhlich & Rätzel, Nordic J. Bot. e04155: 19 (2024)
- Orobanche purpurea* var. *iberica* Beck, Biblioth. Bot. 4(19): 126 (1890). *Phelipanche purpurea* var. *iberica* (Beck) Uhlich & Rätzel, Nordic J. Bot. e04155: 19 (2024)
- Orobanche purpurea* var. *spitzelii* Beck, Biblioth. Bot. 4(19): 126 (1890). *Kopsia purpurea* var. *spitzelii* (Beck) Beck in A.Fiori & al., Fl. Anal. Italia 2: 473 (1902).

*Phelypaea millefolii* var. *rheana* Corb., *Nouv. Fl. Normandie*: 442 (1894).

*Orobanche purpurea* var. *ballii* Maire, *Bull. Soc. Sci. Nat. Maroc* 21-22: 12 (1930). *Phelipanche purpurea* subsp. *ballii* (Maire) Carlón, G.Gómez, M.Laínz, Moreno Mor., Ó.Sánchez & Schneew., *Doc. Jard. Bot. Atlántico* 6: 104 (2008). *Orobanche ballii* (Maire) Domina, *Pl. Biosystems* 147: 763 (2013). *Phelipanche ballii* (Maire) Domina, *Willdenowia* 47: 93 (2017).

**Distribution.** Canary Islands, Morocco, Europe to Mediterranean area and W Himalaya (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Jafri, 1976; Uhlich et al., 1995; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Achillea* spp., *Artemisia* spp., and *Tanacetum* spp. (Asteraceae) (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward).

**166. *Orobanche ramosa* L.**, *Sp. Pl.*: 633 (1753). *Kopsia ramosa* (L.) Dumort., *Comment. Bot.*: 16 (1822). *Phelypaea ramosa* (L.) C.A.Mey., *Verz. Pfl. Casp. Meer.*: 104 (1831). *Phelipanche ramosa* (L.) Pomel, *Nouv. Mat. Fl. Atl.* 1: 103 (1874).

*Lathraea phelypaea* sensu Forssk., *Fl. Aegypt.-Arab.*: 111 (1775), non *Lathraea phelypaea* L., *Sp. Pl.*: 606 (1753).

*Orobanche micrantha* Wallr., *Sched. Crit.*: 315 (1822).

*Orobanche ramosa* var. *polyclonos* Wallr., *Orobanches Gen. Diask.*: 64 (1825). *Kopsia ramosa* f. *polyclonos* (Wallr.) Bég. in A.Fiori & al., *Fl. Anal. Italia* 2: 471 (1902).

*Phelypaea ramosa* var. *monoclonos* Wallr., *Orobanches Gen. Diask.*: 64 (1825). *Orobanche monoclonos* (Wallr.) Beck, *Biblioth. Bot.* 4(19): 89 (1890). *Orobanche ramosa* var. *monoclonos* (Wallr.) Delip., *Fl. Nar. Republ. Bulgariya* 10: 295 (1995).

*Orobanche cannabis* Vaucher in J.É.Duby, *Bot. Gall.*, ed. 2, 1: 351 (1828).

*Orobanche cannabios* F.W.Schultz, *Bot. Lit.-Blätt.* 5: 500 (1830).

*Phelypaea emarginata* Reut. in A.P.de Candolle, *Prodr.* 11: 9 (1847).

*Orobanche commutata* Zumagl., *Fl. Pedemont.* 1: 202 (1849).

*Orobanche albiflora* Gren. & Godr., *Fl. France Corse* 2: 628 (1853).

*Phelypaea albiflora* Gren. & Godr., *Fl. France Corse* 2: 628 (1853).

*Phelypaea reuteri* Moris, *Fl. Sardoia* 3: 243 (1859).

*Phelypaea ramosissima* Gennari, *Sp. Fl. Sard.*: 10 (1866).

*Phelypaea aegyptiaca* Hook.f. & Thomson in J.D.Hooker, *Fl. Brit. India* 4: 327 (1884), nom. inval.

*Ostostegia microphylla* Asch. & Schweinf., *Mém. Inst. Égypt.* 2: 122 (1887), nom. illeg.

*Orobanche schweinfurthii* Beck, *Biblioth. Bot.* 4(19): 94 (1890). *Phelipanche schweinfurthii* (Beck) Soják, *Čas. Nár. Mus., Odd. Přír.* 140: 130 (1972). *Orobanche ramosa* var. *schweinfurthii* (Beck) Hadidy in L.Boulos, *Fl. Egypt Checklist*: 138 (1995).

*Orobanche garatiaca* Sardar et Aledhari, *SABRAO J. Breed. Genet.* 56: 1200 (2023).

**Distribution.** Native to Macaronesia, W & C Mediterranean area, NE tropical Africa (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Uhlich et al., 1995; Sánchez Pedraja et al., 2016 onward; POWO, 2025). Naturalized in North America, Chile, southern Africa, central and eastern Asia, Australia (Collins et al., 2019; CABI 2025).

**Host.** Asteraceae, Brassicaceae, Cannabaceae, Solanaceae, and others (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward).

**Notes.** From the study of the protologues and the type material, *O. e garatiaca*, recently described from Iraq, falls within the variability of *O. ramosa* sensu stricto.

**167. *Orobanche resedarum*** (Carlón, G.Gómez, M.Laínz, Moreno Mor., Ó.Sánchez & Schneew.) A.Pujadas & Triano, *Div. Veg. Yeseras Ibér.*: 277 (2011). *Phelipanche resedarum* Carlón, G.Gómez, M.Laínz, Moreno Mor., Ó.Sánchez & Schneew., *Doc. Jard. Bot. Atlántico* 6: 50 (2008).

**Distribution.** Spain (Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Reseda* spp. (Resedaceae) (Sánchez Pedraja et al., 2017 onward).

**168. *Orobanche reuteriana*** (Rchb.f.) M.B.Crespo & A.Pujadas, *Flora Montiber.* 33: 29 (2006). *Phelypaea reuteriana* Rchb.f. in H.G.L.Reichenbach, *Icon. Fl. Germ. Helv.* 20: 117 (1862). *Phelipanche reuteriana* (Rchb.f.) Carlón, G.Gómez, M.Laínz, Moreno Mor., Ó.Sánchez & Schneew., *Doc. Jard. Bot. Atlántico* 3: 27 (2005).

*Orobanche tunetana* Beck, *Biblioth. Bot.* 4(19): 118 (1890). *Orobanche aegyptiaca* subsp. *tunetana* (Beck) Maire, *Bull. Soc. Hist. Nat. Afrique N.* 26: 220 (1935). *Phelipanche tunetana* (Beck) Soják, *Čas. Nár.Mus., Odd. Přír.* 140: 130 (1972).

*Orobanche tunetana* var. *tacassea* Beck, *Biblioth. Bot.* 4(19): 118 (1890). *Orobanche aegyptiaca* var. *tacassea* (Beck) Maire in É.Jahandiez & al., *Cat. Pl. Maroc* 4: 1129 (1941).

*Orobanche aegyptiaca* f. *macrantha* Maire, *Bull. Soc. Hist. Nat. Afrique N.* 26: 220 (1935).

*Orobanche aegyptiaca* var. *lanuginosa* Maire, *Bull. Soc. Hist. Nat. Afrique N.* 26: 220 (1935).

**Distribution.** Spain, NW Africa (Beck Mannagetta, 1930; Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** Boraginaceae, Brassicaceae, Chenopodiaceae, Plantaginaceae, Solanaceae, and others (Beck Mannagetta, 1930; Sánchez Pedraja et al., 2017 onward).

- 169. *Orobanche rosmarina*** Welw. ex Beck, Oesterr. Bot. Z. 70: 243 (1921). *Phelipanche rosmarina* (Welw. ex Beck) Banfi, Galasso & Soldano, Atti Soc. Ital. Sci. Nat. Mus. Civico Storia Nat. Milano 146: 235 (2005). *Phelypaea rosmarini* Welw. ex Nyman, Consp. Fl. Eur.: 557 (1881), nom. inval.
- Orobanche mutelii* var. *stenosiphon* Beck, Biblioth. Bot. 4(19): 96 (1890). *Phelipanche stenosiphon* (Beck) Soják, Čas. Nár.Mus., Odd. Přír. 140: 130 (1972).
- Orobanche mutelii* var. *nigrescens* Beck, Repert. Spec. Nov. Regni Veg. 18: 34 (1922).
- Phelypaea ramosa* var. *lucronensis* Cámara, Revista Real Acad. Ci. Madrid 34(2): 264 (1940).
- Orobanche mariana* A.Pujadas, Acta Bot. Malac. 32: 270 (2007).
- Orobanche pseudorosmarina* A.Pujadas & Muñoz Garm., Acta Bot. Croat. 69(1): 3 (2010). *Phelipanche pseudorosmarina* (A.Pujadas & Muñoz Garm.) Uhlich, Exkursionsfl. Istrien: 16 (2014).
- Orobanche rumseyana* A.Pujadas & P.Fraga, Candollea 67: 66 (2012).
- Orobanche rumseyana* var. *sarda* Piwow. & A.Pujadas, Acta Bot. Gallica 161: 218 (2014).
- Distribution.** W & C Mediterranean area (Beck Mannagetta, 1930; Uhlich et al., 1995; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; POWO, 2025).
- Host.** *Salvia rosmarinus* Spenn. (Lamiaceae) (Beck Mannagetta, 1930; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward;).
- 170. *Orobanche schultzii*** Mutel, Fl. Franç. Herbor. 2: 352 (1835). *Phelypaea schultzii* (Mutel) Walp., Repert. Bot. Syst. 3: 463 (1844). *Phelipanche schultzii* (Mutel) Pomel, Nouv. Mat. Fl. Atl. 1: 107 (1874). *Kopsia schultzii* (Mutel) Bég. in A.Fiori & al., Fl. Anal. Italia 2: 472 (1902).
- Orobanche caerulea* Moris, Stirp. Sard. Elench. 1: 35 (1827), nom. illeg.
- Orobanche stricta* Moris ex Bertol., Fl. Ital. 6: 450 (1846). *Phelypaea stricta* (Moris ex Bertol.) Moris ex Reut. in A.P.de Candolle, Prodr. 11: 7 (1847). *Kopsia stricta* (Moris ex Bertol.) Caruel in F.Parlatore, Fl. Ital. 6: 356 (1885). *Orobanche schultzii* f. *stricta* (Moris ex Bertol.) Beck, Biblioth. Bot. 4(19): 112 (1890). *Kopsia schultzii* var. *stricta* (Moris ex Bertol.) Bég. in A.Fiori & al., Fl. Anal. Italia 2: 472 (1902). *Orobanche schultzii* var. *stricta* (Moris ex Bertol.) Fiori, Nuov. Fl. Italia 2: 380 (1926).
- Phelypaea pyramidalis* Reut. in A.P.de Candolle, Prodr. 11: 7 (1847). *Orobanche schultzii* f. *pyramidalis* (Reut.) Beck, Biblioth. Bot. 4(19): 112 (1890). *Orobanche schultzii* var. *pyramidalis* (Reut.) Beck in H.G.A.Engler (ed.), Pflanzenr., IV, 261: 92 (1930).
- Phelypaea pulchra* Pomel, Nouv. Mat. Fl. Atl. 1: 105 (1874). *Phelypaea mutelii* subsp. *pulchra* (Pomel) Batt. in J.A.Battandier & L.C.Trabut, Fl. Algérie, Dicot.: 658 (1890).
- Phelypaea rufescens* Lojac., Contr. Fl. Sicilia: 4 (1878), nom. illeg.
- Orobanche trichocalyx* f. *lusitanica* J.A.Guim, Brotéria 3: 80 (1904).
- Orobanche schultzii* var. *alexandrina* Beck in H.G.A.Engler (ed.), Pflanzenr., IV, 261: 92 (1930).
- Orobanche aurantica* Mouterde, Fl. Djebel Druze: 182 (1953).
- Phelipanche aedoi* Carlón, G.Gómez, M.Laínez, Moreno Mor., Ó.Sánchez & Schneew., Doc. Jard. Bot. Atlántico 6: 60 (2008).
- Distribution.** Canary Islands, Mediterranean area to NE Afghanistan (Beck Mannagetta, 1930; Schiman-Czeika, 1964; Uhlich et al., 1995; Euro+Med, 2006 onward; Sánchez Pedraja et al., 2016 onward; POWO, 2025).
- Host.** Asteraceae and Apiaceae (Beck Mannagetta, 1930; Schiman-Czeika, 1964; Uhlich et al., 1995; Sánchez Pedraja et al., 2017 onward;).
- 171. *Orobanche serratocalyx*** Beck, Biblioth. Bot. 4(19): 104 (1890). *Phelypaea sypsiensis* K.Koch, Linnaea 22: 662 (1849), pro parte. *Phelipanche serratocalyx* (Beck) Soják, Čas. Nár.Mus., Odd. Přír. 140: 130 (1972). *Phelipanche lavandulacea* var. *serratocalyx* (Beck) Uhlich & Rätzel, Nordic J. Bot. e04155: 20 (2024).
- Distribution.** NE & S Turkey to Caucasus and Lebanon (Beck Mannagetta, 1930; Novopokrovskij & Tzvelev, 1958; Sánchez Pedraja et al., 2016 onward; POWO, 2025).
- Host.** Unknown.
- 172. *Orobanche sevanensis*** (Piwow., Ó.Sánchez & Moreno Mor.) Domina, **comb. nov.** *Phelipanche sevanensis* Piwow., Ó.Sánchez & Moreno Mor., Phytotaxa 292(3): 232 (2017).
- Distribution.** Armenia (Sánchez Pedraja et al., 2016 onward; Piwowarczyk et al., 2019; POWO, 2025).
- Host.** *Heracleum trachyloma* Fisch. & C. A. Mey. (Apiaceae) (Sánchez Pedraja et al., 2017 onward; Piwowarczyk et al., 2019).
- 173. *Orobanche tricholoba*** (Reut.) Domina, Willdenowia 39: 331 (2010). *Phelypaea tricholoba* Reut. in A.P.de Candolle, Prodr. 11: 10 (1847). *Orobanche aegyptiaca* var. *tricholoba* (Reut.) Beck, Biblioth. Bot. 4(19): 103 (1890). *Phelipanche tricholoba* (Reut.) Domina, Willdenowia 47: 94 (2017).
- Distribution.** Iran (Beck Mannagetta, 1930; Schiman-Czeika, 1964; Gilli, 1976; Sánchez Pedraja et al., 2016 onward; POWO, 2025).
- Host.** Lamiaceae and Solanaceae (Beck Mannagetta, 1930; Schiman-Czeika, 1964; Gilli, 1976).
- 174. *Orobanche zangezuri*** (Piwow., Ó.Sánchez & Moreno Mor.) Domina, **comb. nov.** *Phelipanche zangezuri* Piwow., Ó.Sánchez & Moreno Mor., Ann. Bot. Fenn. 55: 17 (2017).
- Distribution.** Armenia (Sánchez Pedraja et al., 2016 onward; POWO, 2025).

**Host.** *Tragopogon pterocarpus* DC. (Asteraceae) (Sánchez Pedraja et al., 2017 onward).

**175. *Orobanche zosimii*** (M.J.Y.Foley) Domina, Inform. Bot. Ital. 42: 383 (2010). *Orobanche hirtiflora* subsp. *zosimii* M.J.Y.Foley, Candollea 58: 94 (2003). *Phelipanche zosimii* (M.J.Y.Foley) M.J.Y.Foley, Edinburgh J. Bot. 64: 210 (2007). *Phelipanche gussoneana* var. *zosimii* (M.J.Y.Foley) Rätzel & Uhlich, Willdenowia 50: 325 (2020).

**Distribution.** Cyprus (POWO, 2025).

**Host.** *Zosima absinthifolia* (Vent.) Link (Apiaceae).

## Unplaced Names

*Orobanche biflora* Noronha, Verh. Batav. Genootsch. Kunsten 5(4): 21 (1790), nom. nud.

**Distribution.** Java (POWO, 2025).

*Orobanche hirta* Noronha, Verh. Batav. Genootsch. Kunsten 5(4): 21 (1790), nom. nud.

**Distribution.** Java (POWO, 2025).

*Orobanche pedunculata* Vell., Fl. Flumin.: 258 (1829).

**Distribution.** SE Brazil (POWO, 2025).

*Orobanche petraea* Vell., Fl. Flumin.: 257 (1829).

**Distribution.** SE Brazil (POWO, 2025).

*Orobanche sicula* Spenn. ex Walp., Repert. Bot. Syst. (Walpers) 3: 463 (1844).

**Distribution.** Sicily (POWO, 2025).

*Orobanche stans* Noronha, Verh. Batav. Genootsch. Kunsten 5(4): 21 (1790), nom. nud.

**Distribution.** Java (POWO, 2025).

*Orobanche trotzkii* Wagner ex Claus, Beitr. Pflanzenk. Russ. Reiches 8: 64 (1851).

**Distribution.** W Asia (POWO, 2025).

*Orobanche viridis* Hazsl., Verh. Zool.-Bot. Vereins Wien 2(Abh.): 3 (1852), nom. nud.

**Distribution.** E Europe (POWO, 2025).

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All data generated or analyzed during this study are included in this published article.

## Declarations

### Competing Interests

The author has no competing interests to declare that are relevant to the content of this article.

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