

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

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Received: 12 February 2024 / Revised: 29 July 2025 / Accepted: 4 August 2025 / Published online: 18 December 2025 / Associate Editor: Donald McClelland
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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 19th century, several authors have proposed dividing *Orobanche* into different genera on the basis of morphological (Piwowarczyk, 2015; Zare & Dönmez, 2016; Ruraż & 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 *Trionychon* (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. Trionychon*), 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).

Loxanthos Raf., Neogenyton: 3 (1825).

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

Taxon	<i>O. subg. Aphyllon</i>	<i>O. subg. Ceratocalyx</i>	<i>O. subg. Diphelypaea</i>	<i>O. subg. Orobanche</i>	<i>O. subg. Trionychon</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
Orobanche subg. <i>Aphyllon</i> (Mitch.) Domina, subg. nov.	<i>Aphyllon</i> Mitch., Diss. Bot. Zool.: 43 (1769).
<i>Orobanche castiloi</i> (Franc.Gut., Cházaro & Espejo) Domina, comb. nov.	<i>Aphyllon castiloi</i> Franc.Gut., Cházaro & Espejo, Nordic J. Bot. 37(4)-e02124: 5 (2019).
<i>Orobanche chiapensis</i> (Franc.Gut. & L.O.Alvarado) Domina, comb. nov.	<i>Aphyllon chiapense</i> Franc.Gut. & L.O.Alvarado, Bot. Sci. 101: 1177 (2023).
<i>Orobanche collinsii</i> Domina, nom. nov.	<i>Aphyllon spectabile</i> L.T.Collins, Velazco & A.C.Schneid., Syst. Bot. 48: 588 (2023).
<i>Orobanche epigalia</i> (Colwell & A.C.Schneid.) Domina, comb. nov.	<i>Aphyllon epigalium</i> Colwell & A.C.Schneid., Madroño 64(3): 100. (2017).
<i>Orobanche franciscana</i> (Achey) Domina, comb. nov.	<i>Orobanche fasciculata</i> var. <i>franciscana</i> Achey, Bull. Torrey Bot. Club 60: 450 (1933).
<i>Orobanche gypsophila</i> (L.T.Collins) Domina, comb. nov.	<i>Aphyllon gypsophilum</i> L.T.Collins, Syst. Bot. 48: 591 (2023)
<i>Orobanche</i> subg. <i>Diphelypaea</i> Domina, subg. nov.	<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?).
<i>Orobanche coccinea</i> var. <i>boissieri</i> (Reut.) Domina, comb. nov.	<i>Anoplanganthus biebersteinii</i> var. <i>boissieri</i> Reut. in A.P.de Candolle, Prodr. 11: 42 (1847).
<i>Orobanche coccinea</i> var. <i>helenae</i> (Popl. ex Sukaczew) Domina, comb. & stat. nov.	<i>Phelypaea helenae</i> Popl. ex Sukaczew, Dokl. Akad. Nauk S.S.S.R. 1928: 385 (1928).
<i>Orobanche tournefortii</i> (Desf.) Domina, comb. nov.	<i>Phelypaea tournefortii</i> Desf., Ann. Mus. Hist. Nat. 10: 298 (1807).
<i>Orobanche alba</i> var. <i>epithymoides</i> (Duby) Domina, comb. nov.	<i>Orobanche epithymum</i> var. <i>epithymoides</i> Duby, Bot. Gall., ed. 2, 1: 349 (1828).
<i>Orobanche buekii</i> var. <i>mayeri</i> (Suess. & Ronniger) Domina, comb. nov.	<i>Orobanche alsatica</i> var. <i>mayeri</i> Suess. & Ronniger, Beitr. Naturk. Forsch. Oberrheingebiet 7: 123 (1942)
<i>Orobanche caryophyllacea</i> var. <i>clausonis</i> (Pomel) Domina, comb. nov.	<i>Orobanche clausonis</i> Pomel, Nouv. Mat. Fl. Atl. 1: 107 (1874)
<i>Orobanche centaurina</i> var. <i>staehelinae</i> (D. Pav., Michaud, Vêla & J.-M. Tison) Domina, comb. & stat. nov.	<i>Orobanche staehelinae</i> D. Pav., Michaud, Vêla & J.-M. Tison, Phytotaxa 207: 96 (2015).
<i>Orobanche cernua</i> var. <i>grenieri</i> (F.W.Schultz) Domina, comb. & stat. nov.	<i>Orobanche grenieri</i> F.W.Schultz, Flora 28: 739 (1845).
<i>Orobanche elatior</i> var. <i>leptantha</i> (Pomel) Domina, comb. & stat. nov.	<i>Orobanche leptantha</i> Pomel, Nouv. Mat. Fl. Atl. 1: 110 (1874).
<i>Orobanche litorea</i> var. <i>iammonensis</i> (Pujadas & P.Fraga) Domina, comb. & stat. nov.	<i>Orobanche iammonensis</i> A.Pujadas & P.Fraga, Bot. J. Linn. Soc. 158: 723 (2008).
<i>Orobanche minor</i> var. <i>canescens</i> (C.Presl) Domina, comb. & stat. nov.	<i>Orobanche canescens</i> C.Presl in J.S.Presl & C.B.Presl, Delic. Prag.: 72 (1822).
<i>Orobanche reticulata</i> var. <i>agigensis</i> (Rätzel & Uhlich) Domina, comb. & stat. nov.	<i>Orobanche reticulata</i> subsp. <i>agigensis</i> Rätzel & Uhlich, Willdenowia 46: 430 (2016).
<i>Orobanche chionistrael</i> (Rätzel, Hand, Christodoulou & Uhlich) Domina, comb. nov.	<i>Phelipanche chionistrael</i> Rätzel, Hand, Christodoulou & Uhlich, Candollea 76: 78 (2021).
<i>Orobanche gussoneana</i> (Lojac.) Domina, comb. nov.	<i>Phelypaea gussoneana</i> Lojac., Naturalista Sicil. 1: 197 (1882).
<i>Orobanche hajastanica</i> (Piwow., Ó.Sánchez & Moreno Mor.) Domina, comb. nov.	<i>Phelipanche hajastanica</i> Piwow., Ó.Sánchez & Moreno Mor., Ann. Bot. Fenn. 54: 118 (2017).
<i>Orobanche inexpectata</i> var. <i>sinaica</i> (Beck) Domina, comb. nov.	<i>Orobanche mutellii</i> var. <i>sinaica</i> Beck, Biblioth. Bot. 4(19): 97 (1890).
<i>Orobanche lavandulacea</i> var. <i>carlonii</i> Domina, nom. nov. & stat. nov.	<i>Phelipanche lavandulaceoides</i> Carlón, G.Gómez, M.Laínz, Moreno Mor., Ó.Sánchez & Schneew., Doc. Jard. Bot. Atlántico 6: 87 (2008).
<i>Orobanche lavandulacea</i> var. <i>trichocalyx</i> (Webb & Berthel.) Domina, comb. & stat. nov.	<i>Phelypaea trichocalyx</i> Webb & Berthel., Hist. Nat. Iles Canaries 3(2; 3): 154 (1845).
<i>Orobanche pallens</i> (Bunge ex Ledeb.) Domina, comb. nov.	<i>Phelypaea pallens</i> Bunge ex Ledeb., Fl. Ross. 3: 312 (1849).
<i>Orobanche sevanensis</i> (Piwow., Ó.Sánchez & Moreno Mor.) Domina, comb. nov.	<i>Phelipanche sevanensis</i> Piwow., Ó.Sánchez & Moreno Mor., Phytotaxa 292(3): 232 (2017).
<i>Orobanche zangezuri</i> (Piwow., Ó.Sánchez & Moreno Mor.) Domina, comb. nov.	<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	O. subg. <i>Ceratocalyx</i>	O. subg. <i>Diptelypaea</i>	O. subg. <i>Orobanchae</i>	O. subg. <i>Trionychon</i>	Total
Single species	5	0	0	15	14	33
Single genus	7	1	1	27	13	47
Single family	9	0	1	36	7	52
Generalist	3	0	0	10	12	25
Unknown	2	0	0	8	4	14
TOTAL	26	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). *Myzorhiza grayana* (Beck) Rydb., Bull. Torrey Bot. Club 36: 695 (1909). *Myzorhiza 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 carnosus 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). *Myzorhiza comosa* (A.Gray) Holub, Preslia 62: 196 (1990).

Aphyllon violaceum Eastw., Zoe 5: 85 (1900). *Myzorhiza 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 castilola* (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 Mexico (Francisco-Gutiérrez & Alvarado Cárdenas 2023).

Host. Unknown.

6. *Orobanche chilensis* (Phil.) Beck, Biblioth. Bot. 4(19): 82 (1890). *Myzorhiza 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). *Myzorhiza cooperi* (A.Gray) Rydb., Bull. Torrey Bot. Club 36: 695 (1909).

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

Host. Asteraceae (*Ambrosia* spp., *Encelia* spp., *Sidneya* spp.) (Collins & Yatskievych 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 Brandege, 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 & Yatskievych 2015; POWO, 2025).

Host. Asteraceae (Collins & Yatskievych 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 & Yatskievych 2015; Collins et al., 2019; POWO, 2025).

Host. *Sidneya tenuifolia* (A.Gray) E.E.Schill. & Panero, *Viguiera* spp. (Asteraceae) (Collins & Yatskievych 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 & Yatskievych, 2015; Schneider, 2016; Francisco-Gutiérrez et al., 2019; Francisco-Gutiérrez & Alvarado Cárdenas 2023).

Host. Asteraceae (probable hosts according to Collins & Yatskievych 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 Mannagetta, 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., *Anoplangthus 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. *Anoplangthus 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.

Anoplangthus 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). *Anoplangthus 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. *Orobanche 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. *Orobanche 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).

Orobanche L. subg. ***Orobanche***. *Orobanche* subg. *Osproleon* (Wallr.) Pomel in Bull. Soc. Sci. Phys. Algérie 11: 109 (1874). TYPE: *Orobanche 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. *Orobanche 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. *Orobanche alba* var. *alba*.

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

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

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

Orobanche sparsiflora Wallr., Sched. Crit.: 309 (1822).

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

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

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

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

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

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

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

Orobanche saturejae-montanae F.W.Schultz, Bot. Lit.-Blätt. 5: 500 (1830).

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

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

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

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

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

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

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

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

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

- Orobancha ferruginea* K.Koch, Linnaea 17: 291 (1844).
Orobancha alexandri Tineo in G.Gussone, Fl. Sicul. Syn., Add. 2, 2: 845 (1845).
Orobancha annulata Griseb., Spic. Fl. Rumel. 2: 188 (1846).
Orobancha hymenocalyx Reut. in A.P.de Candolle, Prodr. 11: 20 (1847).
Orobancha psilandra K.Koch, Linnaea 22: 668 (1849).
Orobancha epithymum var. *pallescens* Gren. & Godr., Fl. France Corse 2: 632 (1850).
Orobancha epithymum var. *lutescens* Boreau, Fl. Centre France, éd. 3, 2: 341 (1857).
Orobancha hians Steven, Bull. Soc. Imp. Naturalistes Moscou 30(I): 354 (1857).
Orobancha squalida Steven, Bull. Soc. Imp. Naturalistes Moscou 30(I): 354 (1857).
Orobancha epithymoides Heuff., Oesterr. Bot. Z. 8: 28 (1858).
Catodiocrum sparsiflorum Dulac, Fl. Hautes-Pyrénées: 370 (1867).
Orobancha epithymum var. *minor* Čelak., Prodr. Fl. Böhmen: 341 (1871).
Orobancha wiedemannii Boiss., Fl. Orient. 4: 510 (1879).
Orobancha epithymophyta St.-Lag., Ann. Soc. Bot. Lyon 7: 131 (1880).
Orobancha transsilvanica Porcher, Fl. Phan. Naseud.: 73 (1881).
Orobancha thymophya St.-Lag. in A.Cariot, Étude Fl., éd. 8, 2: 648 (1889).
Orobancha alba var. *bidentata* Beck, Biblioth. Bot. 4(19): 211 (1890).
Orobancha alba var. *longibracteata* Beck, Biblioth. Bot. 4(19): 211 (1890). *Orobancha epithymum* var. *longibracteata* (Beck) Rouy in G.Rouy & J.Foucaud, Fl. France 11: 173 (1909).
Orobancha caryophyllacea f. *besseri* Beck Biblioth. Bot. 4(19): 158 (1890).
Orobancha chassia Formánek, Verh. Naturf. Vereins Brünn 35: 178 (1897).
Orobancha psilostemon Novopokr., Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 13: 324 (1950).
Orobancha 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. *Orobancha alba* var. *cuprea* (Boiss. & Balansa ex Boiss.) Uhlich, Kreutz & Rätzel, Phytotaxa 222: 4 (2015).
Orobancha cuprea Boiss. & Balansa ex Boiss., Fl. Orient. 4: 510 (1879). *Orobancha 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. *Orobancha alba* var. *epithymoides* (Duby) Domina, **comb. nov.** *Orobancha epithymum* var. *epithymoides* Duby, Bot. Gall., ed. 2, 1: 349 (1828).
Orobancha epithymum var. *superba* Solms ex Čelak., Sitzungsber. Königl. Böhm. Ges. Wiss. Prag 1864: 110 (1864). *Orobancha alba* var. *superba* (Solms ex Čelak.) Uhlich & Rätzel, Phytotaxa 222: 7 (2015).
Orobancha epithymum var. *major* Čelak., Prodr. Fl. Böhmen: 341 (1871). *Orobancha alba* f. *major* (Čelak.) Soó, Magyar Fl. Veg. 3: 241 (1968). *Orobancha alba* subsp. *major* (Čelak.) Zázvorka, Preslia 72: 88 (2000).
Orobancha 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. *Orobancha alba* var. *raddeana* (Beck) Beck in H.G.A.Engler (ed.), Pflanzenr., IV, 130: 154 (1930). *Orobancha raddeana* Beck, Biblioth. Bot. 4(19): 194 (1890).
Orobancha alba subsp. *xanthostigma* Rätzel & Uhlich, Feddes Rept. 115: 198 (2004).
Orobancha 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. *Orobancha amethystea* Thuill., Fl. Env. Paris, ed. 2: 317 (1799).
Orobancha eryngii Duby, Bot. Gall., ed. 2, 1: 350 (1828). *Orobancha amethystea* f. *eryngii* (Duby) Batt. in J.A.Battandier & L.C.Trabut, Fl. Algérie, Dicot.: 662 (1890).
Orobancha bracteata Viv., Ann. Storia Nat. 4: 235 (1830).
Orobancha eryngii-campestris F.W.Schultz, Bot. Lit.-Blätt. 5: 500 (1830).
Orobancha 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 & Rätzel, Nordic J. Bot. e04155: 4 (2024)

Orobanche amoena f. *dzejveri* Beck, Feddes Rep. 30: 35 (1922). *Orobanche amoena* var. *dzejveri* (Beck) Uhlich & Rätzel, 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. *albastigma* 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-Petersbourg, 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). *Orobancha mauretanica* subsp. *calendulae* (Pomel) Cout., Fl. Portugal: 569 (1913), nom. superfl. *Orobancha artemisiae-campestris* subsp. *calendulae* (Pomel) O.Bolòs, Vigo, Masalles & Ninot, Fl. Man. Països Catalans: 1214 (1990).
- Orobancha mauretanica* Beck, Biblioth. Bot. 4(19): 233 (1890). *Orobancha calendulae* var. *mauretanica* (Beck) Maire in É.Jahandiez & al., Cat. Pl. Maroc 3: 699 (1934).
- Orobancha amethystea* f. *galactitis* Batt. in J.A.Battandier & L.C.Trabut, Fl. Algérie, Dicot.: 662 (1890).
- Orobancha mauretanica* var. *reverchonii* Willk., Suppl. Prodr. Fl. Hispan.: 187 (1893).
- Orobancha mauretanica* subvar. *helichrysi* J.A.Guim., Brotéria 3: 151 (1904). *Orobancha mauretanica* subsp. *helichrysi* (J.A.Guim.) Cout., Fl. Portugal: 570 (1913).
- Orobancha mauretanica* var. *pogonia* J.A.Guim., Brotéria 3: 152 (1904).
- Orobancha mauretanica* var. *welwitschii* J.A.Guim., Brotéria 3: 151 (1904).
- Orobancha mauretanica* subvar. *xeroxantha* J.A.Guim., Brotéria 3: 151 (1904).
- Orobancha 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. *Orobancha 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. *Orobancha camptolepis*** Boiss. & Reut. ex Boiss., Fl. Orient. [Boissier] 4: 515 (1879).
- Orobancha platylepis* Reut. ex Boiss., Fl. Orient. [Boissier] 4: 516 (1879).
- Orobancha cernua* f. *kryptantha* Beck, Biblioth. Bot. 4(19): 143 (1890).
- Orobancha cernua* var. *latebracteata* Beck in H.G.A.Engler (ed.), Pflanzenr., IV, 261(96): 126 (1930).
- Orobancha coriosepala* Solms ex Beck in H.G.A.Engler (ed.), Pflanzenr., IV, 261: 126 (1930), pro syn.
- Orobancha ovata* Blakelock, Kew Bull. 4: 537 (1949 publ. 1950).
- Orobancha gontscharovii* Novopokr. & Nepli, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 13: 316 (1950).
- Orobancha schugnanica* Novopokr., Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 13: 319 (1950).
- Orobancha sideana* Gilli, Feddes Repert. 82: 400 (1971). *Orobancha camptolepis* f. *sideana* (Gilli) Uhlich & Rätzel, Nordic J. Bot. e04155: 8 (2024).
- Orobancha 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. *Orobancha 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. *Orobancha caryophyllacea* var. *caryophyllacea***
- Orobancha major* L., Sp. Pl.: 632 (1753), nom. rej.
- Orobancha vulgaris* Poir. in J.B.A.M.de Lamarck, Encycl. 4: 621 (1798).
- Orobancha fragrans* Raf., Amer. Monthly Mag. & Crit. Rev. 1: 440 (1817).
- Orobancha laevis* Geners. ex Wallr., Orobanches Gen. Diask.: 36 (1825), nom. inval.
- Orobancha galii* Duby, Bot. Gall., ed. 2, 1: 349 (1828).
- Orobancha bipontina* F.W.Schultz, Beitr. Kenntn. Deut. Orobanch.: 7 (1829).
- Orobancha laxiflora* Rchb., Iconogr. Bot. Pl. Crit. 7: 39 (1829).
- Orobancha strobiligena* Rchb., Iconogr. Bot. Pl. Crit. 7: 38 (1829).
- Orobancha galii-molluginis* F.W.Schultz, Bot. Lit.-Blätt. 5: 500 (1830).
- Orobancha incurva* F.W.Schultz, Bot. Lit.-Blätt. 5: 500 (1830).
- Orobancha papyracea* DC. ex F.W.Schultz, Bot. Lit.-Blätt. 5: 500 (1830).
- Orobancha adenostemon* Rchb., Fl. Germ. Excurs. 1: 354 (1831).
- Orobancha torquata* Rchb., Iconogr. Bot. Pl. Crit. 9: 12 (1831).
- Orobancha tubiflora* A.Dietr., Fl. Boruss.: t. 147 (1835).
- Orobancha caryophyllacea* var. *flava* Noulet, Fl. Bass. Sous-Pyrén.: 485 (1837).
- Orobancha citrina* A.Dietr., Fl. Boruss.: t. 441 (1839).
- Orobancha caryophyllacea* var. *citrina* (A.Dietr.) Beck, Biblioth. Bot. 4(19): 151 (1890).
- Orobancha gilva* A.Dietr., Fl. Boruss.: t. 439 (1839).
- Orobancha 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).

Catodiocrum 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).

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

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

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

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

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

Orobancha 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. *Orobancha centaurina* var. *staehelinae* (D. Pav., Michaud, Vêla & J.-M. Tison) Domina, **comb. & stat. nov.** *Orobancha staehelinae* D. Pav., Michaud, Vêla & 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. *Orobancha 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. *Orobancha 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. *Orobancha cernua* var. *australiana* (F.Muell.) Beck in J.M.Black, Fl. S. Austral. 4: 517 (1929). *Orobancha*

australiana F.Muell., Syst. Census Austral. Pl.: 98 (1882). *Orobancha cernua* f. *australiana* (F.Muell.) Beck, Gatt. Orobanch.: 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. *Orobancha cernua* var. *bicolor* (C.A.Mey.) Reut. in A.P.de Candolle, Prodr. 11: 32 (1847). *Orobancha bicolor* C.A.Mey. in C.F.von Ledebour, Fl. Altaic. 2: 458 (1830).

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

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

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

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

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

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

Orobancha 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. *Orobancha cernua* var. *cernua*

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

Orobancha mutila Dumort., Fl. Belg.: 33 (1827).

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Orobancha nikitini Novopokr., Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 12: 287 (1950).

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

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

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

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

Orobancha 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. *Orobancha chironii* Lojac., Contr. Fl. Sicilia: 12 (1878). *Orobancha alsatica* var. *chironii* (Lojac.) Bég. in A.Fiori & al., Fl. Anal. Italia 2: 480 (1902). *Orobancha 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. *Orobancha cicerbitae* (Uhlich & Rätzel) Tzvelev, Novosti Sist. Vyssh. Rast. 46: 210 (2015). *Orobancha 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) Gadnidge and *Senecio propinquus* Schischk. (Asteraceae) (Piwowarczyk et al., 2019, 2023).

52. *Orobancha 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. *Orobancha 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. *Orobancha 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 caerulea 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 Pianta 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. (Dipsacaceae) 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 espinae* 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).

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

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

Orobanch hookeriana Ball, J. Linn. Soc., Bot. 16: 605 (1878). *Orobanch foetida* f. *hookeriana* (Ball) Beck, Biblioth. Bot. 4(19): 204 (1890).

Orobanch foetida f. *comigera* Beck, Biblioth. Bot. 4(19): 204 (1890).

Orobanch haenseleri var. *baetica* Beck, Biblioth. Bot. 4(19): 216 (1890).

Orobanch atropurpurea H.Gay, Rev. Bot. Bull. Mens. 10: 718 (1892), nom. illeg.

Orobanch foetida var. *broteri* Merino, Contr. Fl. Galicia 2: 49 (1897). *Orobanch foetida* subsp. *broteri* (Merino) J.A.Guim., Brotéria 3: 105 (1904).

Orobanch densiflora var. *erythrina* J.A.Guim., Brotéria 3: 143 (1904).

Orobanch foetida var. *iodestigma* J.A.Guim., Brotéria 3: 109 (1904).

Orobanch foetida var. *ochrostigma* J.A.Guim., Brotéria 3: 106 (1904).

Orobanch foetida subvar. *pericalla* J.A.Guim., Brotéria 3: 111 (1904).

Orobanch foetida subvar. *platantha* J.A.Guim., Brotéria 3: 106 (1904).

Orobanch foetida subsp. *lusitanica* Brot. ex Cout., Fl. Portugal: 568 (1913).

Orobanch foetida var. *kabylica* Maire, Bull. Soc. Hist. Nat. Afrique N. 23: 204 (1932).

Orobanch 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. *Orobanch 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. *Orobanch 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). *Orobanch mutellii* 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. *Orobanch gigantea* (Beck) Gontsch., Trudy Bot. Inst. Akad. Nauk S.S.S.R., Ser. 1, Fl. Sist. Vyssh. Rast. 1: 55 (1933). *Orobanch kotschyi* var. *gigantea* Beck, Biblioth. Bot. 4(19): 147 (1890).

Orobanch 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. *Orobanch 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. *Orobanch 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. *Orobanch gracilis* var. *deludens* (Beck) A.Pujadas, Anales Jard. Bot. Madrid 61: 131 (2004). *Orobanch haenseleri* var. *deludens* Beck, Repert. Spec. Nov. Regni Veg. 18: 38 (1922). *Orobanch gracilis* subsp. *deludens* (Beck) A.Pujadas, Lagasalia 26: 247 (2006).

Orobanch tetuanensis Ball, J. Linn. Soc., Bot. 16: 606 (1878). *Orobanch gracilis* f. *tetuanensis* (Ball) Pau, Mem. Real Soc. Esp. Hist. Nat. 12: 370 (1924).

Orobanch 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. *Orobanch gracilis* var. *gracilis*

- Orobanche cruenta* Bertol., Rar. Lig. [Ital.] Pl. 3: 56 (1810). *Catodiacrum 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 sprunerii* F.W.Schultz, Flora 26: 130 (1843).
- Orobanche gracilis* var. *sprunerii* (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, Boccone 21: 229 (2007).
- Orobanche gracilis* f. *psilantha* Beck, Biblioth. Bot. 4(19): 197 (1890).
- Orobanche sprunnerii* 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. *pallascens* Uhlich & Rätzel, Feddes Rept. 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-helici 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 helici 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 inulae* 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* Piow., 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 kotschy* 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 lycoctoni 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).

Orobanchе 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. *Orobanchе 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. *Orobanchе lucorum* A.Braun ex F.W.Schultz, Bot. Lit.-Blätt. 5: 504 (1830).

Orobanchе rubi Vaucher ex Duby, Bot. Gall., ed. 2, 1: 350 (1828), nom. rej. *Orobanchе 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. *Orobanchе lucorum* f. *rubi* (Vaucher ex Duby) Beck, Biblioth. Bot. 4(19): 187 (1890), nom. superfl.

Orobanchе rubi-fruticosi F.W.Schultz, Bot. Lit.-Blätt. 5: 500 (1830).

Orobanchе lucorum var. *berberidis* A.Braun ex W.D.J.Koch in J.C.Röhling, Deutschl. Fl., ed. 3, 4: 458 (1833), nom. inval. *Orobanchе berberidis* Facchini ex Reut. in A.P.de Candolle, Prodr. 11: 23 (1847).

Orobanchе 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. *Orobanchе lutea* Baumg., Enum. Stirp. Transsilv. 2: 215 (1816).

Orobanchе rubens Wallr., Sched. Crit.: 307 (1822).

Orobanchе medicaginis Duby, Bot. Gall., ed. 2, 1: 349 (1828).

Orobanchе medicaginis-sativae F.W.Schultz, Bot. Lit.-Blätt. 5: 500 (1830).

Orobanchе avellanae Pfund, Flora 26: 183 (1843).

Orobanchе subverticillata F.W.Schultz, Flora 26: 128 (1843).

Orobanchе fragrantissima Bertol., Fl. Ital. 6: 436 (1846).

Orobanchе alpigena K.Koch, Linnaea 22: 668 (1849).

Orobanchе rubens var. *pallens* A.Braun ex Solms, Verh. Bot. Vereins Prov. Brandenburg 5: 57 (1863).

Orobanchе medicaginifixa St.-Lag. in A.Cariot, Étude Fl., éd. 8, 2: 649 (1889).

Orobanchе lutea var. *concreta* Beck, Biblioth. Bot. 4(19): 166 (1890).

Orobanchе prosgolica Formánek, Verh. Naturf. Vereins Brünn 33: 158 (1894 publ. 1895).

Orobanchе pruinosa Formánek, Verh. Naturf. Vereins Brünn 33: 139 (1894 publ. 1895), nom. illeg.

Orobanchе cervariae var. *seseli* Petitm., Monde Pl. 6: 48 (1904).

Orobanchе concreta Rouy in G.Rouy & J.Foucaud, Fl. France 11: 166 (1909). *Orobanchе lutea* var. *concreta* (Beck) P.Fourn., Quatre Fl. France: 799 (1937).

Orobanchе linczevskii Novopokr., Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 13: 327 (1950).

Orobanchе армена Tzvelev in V.L.Komarov (ed.), Fl. URSS 23: 686 (1958).

Orobanchе lutea var. *dietrichiana* 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. *Orobanchе megalantha* Harry Sm., Acta Horti Gothob. 8: 131 (1933).

Orobanchе 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. *Orobanchе 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. *Orobanchе 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. *Orobanchе minor* var. *barbata* (Poir.) Cout., Fl. Portugal: 570 (1913). *Orobanchе barbata* Poir. in J.B.A.M.de Lamarck, Encycl. 4: 621 (1798).

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Orobancha 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. *Orobancha minor* var. *maritima* (Pugsley) Rumsey & Jury, Watsonia 17: 444 (1989). *Orobancha maritima* Pugsley, J. Bot. 78: 110 (1940). *Orobancha 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. *Orobancha minor* var. *minor*

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

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

Orobancha apiculata Wallr., Sched. Crit.: 310 (1822).

Orobancha nudiflora Wallr., Sched. Crit.: 310 (1822).

Orobancha arvensis Dumort., Fl. Belg.: 33 (1827).

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

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

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

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

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

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

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

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

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

- Orobanch polymorpha* Schrank ex Steud., Nomencl. Bot., ed. 2, 2: 231 (1841), nom. inval.
- Orobanch minor* var. *flava* Regel in Otto & A.Dietr., Allg. Gartenzeitung 10: 284 (1842).
- Orobanch leucantha* Griseb., Spic. Fl. Rumel. 2: 57 (1844).
- Orobanch crithmi* Bertol., Fl. Ital. 6: 424 (1846).
- Orobanch minor* subsp. *crithmi* (Bertol.) Bonnier & Layens, Tabl. Syn. Pl. Vasc. France: 1244 (1894).
- Orobanch minor* var. *flavescens* Reut. in A.P.de Candolle, Prodr. 11: 22 (1847).
- Orobanch reuteri* F.W.Schultz ex Reut. in A.P.de Candolle, Prodr. 11: 24 (1847), nom. inval.
- Orobanch abyssinica* A.Rich., Tent. Fl. Abyss. 2: 137 (1850).
- Orobanch columbariae* Gren. in J.C.M.Grenier & D.A.Godron, Fl. France Corse 2: 634 (1853).
- Orobanch hians* Boiss. & A.Huet, Exsicc. (Pl. Orient.) 1853: [s.p.] (1853), nom. illeg.
- Orobanch leonuri* Rota, Prosp. Piant. Pav.: 270 (1853).
- Orobanch unicolor* Boreau, Fl. Centre France, éd. 3, 2: 501 (1857). *Orobanch minor* subsp. *unicolor* (Boreau) Rouy in G.Rouy & J.Foucaud, Fl. France 11: 188 (1909).
- Orobanch densiflora* Moris, Fl. Sardoia 3: 249 (1859), nom. illeg.
- Orobanch boissieri* Rchb.f. in H.G.L.Reichenbach, Icon. Fl. Germ. Helv. 20: 118 (1862).
- Orobanch glabra* Gaudin ex Rchb.f. in H.G.L.Reichenbach, Icon. Fl. Germ. Helv. 20: 103 (1862), nom. inval.
- Orobanch livida* Sendtn. ex Rchb.f. in H.G.L.Reichenbach, Icon. Fl. Germ. Helv. 20: 104 (1862).
- Orobanch pumila* Rchb.f. in H.G.L.Reichenbach, Icon. Fl. Germ. Helv. 20: 104 (1862).
- Orobanch pyrrha* Rchb.f. in H.G.L.Reichenbach, Icon. Fl. Germ. Helv. 20: 105 (1862).
- Orobanch ambigua* Pomel, Nouv. Mat. Fl. Atl. 1: 109 (1874), nom. illeg.
- Orobanch minor* subsp. *grenieri* Nyman, Consp. Fl. Eur.: 562 (1881).
- Orobanch hydrocotylei* Colenso, Trans. & Proc. New Zealand Inst. 21: 41 (1888 publ. 1889).
- Orobanch trifolifixa* St.-Lag. in A.Cariot, Étude Fl., éd. 8, 2: 650 (1889).
- Orobanch hadroantha* Beck, Biblioth. Bot. 4(19): 242 (1890).
- Orobanch minor* var. *ambigua* Batt. in J.A.Battandier & L.C.Trabut, Fl. Algérie, Dicot.: 662 (1890).
- Orobanch cathae* Deflers, Bull. Soc. Bot. France 43: 219 (1896).
- Orobanch paralias* Corb., Bull. Soc. Linn. Normandie, sér. 5, 1: 184 (1897). *Orobanch minor* var. *paralias* (Corb.) Rouy in G.Rouy & J.Foucaud, Fl. France 11: 189 (1909).
- Orobanch leucanthemi* H.J.Coste & Soulié, Bull. Soc. Bot. France 44: 62 (1898).
- Orobanch minor* var. *lutea* Tourlet, Bull. Soc. Bot. France 50: 421 (1903). *Orobanch minor* f. *lutea* (Tourlet) Thorogood & Rumsey, Brit. Irish Bot. 2: 228 (2020).
- Orobanch langei* Huter, Porta & Rigo, Oesterr. Bot. Z. 57: 354 (1907).
- Orobanch minor* var. *corsica* Rouy in G.Rouy & J.Foucaud, Fl. France 11: 188 (1909).
- Orobanch minor* var. *occitanica* Rouy in G.Rouy & J.Foucaud, Fl. France 11: 188 (1909).
- Orobanch minor* var. *leucanthemi* (H.J.Coste & Soulié) Rouy in G.Rouy & J.Foucaud, Fl. France 11: 188 (1909).
- Orobanch minor* f. *albans* Beck, Carinthia II 108: 20 (1921).
- Orobanch columbiana* H.St.John & English, Proc. Biol. Soc. Washington 44: 34 (1931).
- Orobanch salisii* Req. ex Coss., Notes Pl. Crit.: 9 (1949).
- Orobanch dhofarensis* M.J.Y.Foley, Edinburgh J. Bot. 55: 230 (1998).
- Orobanch 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. *Orobanch minor* var. *palaestina*** (Reut.) Pau ex Cuatrecasas in Trab. Mus. Ci. Nat. Barcelona 12: 429 (1929). *Orobanch 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. *Orobanch 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. *Orobanch 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 coerulescens* 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. *freynii* 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 chrysanthemi F.W.Schultz ex Reut. in A.P.de Candolle, *Prodr.* 11: 27 (1847).

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

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

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

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

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

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

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

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

Orobancha 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. *Orobancha pycnostachya* var. *pycnostachya*

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Orobancha rapum-genistae subvar. *pycnostachys* 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. *Orobancha 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 Flüggé 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, Conspl. 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. Zametki 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 cistanchoides 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).

Catodiacrum 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 & Rätzl, Nordic J. Bot. e04155: 6 (2024).

Orobanche purpurea var. *iberica* Beck, Biblioth. Bot. 4(19): 126 (1890). *Orobanche iberica* (Beck) Tzvelev, Fl. Azerbaïdzhan 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.Laínz, 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. *Orobanchе 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. *Orobanchе 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. *Orobanchе brassicae* (Novopokr.) Novopokr., Izv. Donsk. Inst. Sel'sk. Kohz. Melior 9: 47 (1929). *Orobanchе mutellii* 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. *Orobanchе bungeana* Beck, Biblioth. Bot. 4(19): 119, 235 (1890). *Phelipanche bungeana* (Beck) Soják, Čas. Nár.Mus., Odd. Přír. 140: 129 (1972).

Orobanchе 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. *Orobanchе 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). *Orobanchе lanuginosa* (C.A.Mey.)

Beck, Trudy Obshch. Estestvoisp. Imp. Kazansk. Univ. 9: 202 (1881). *Phelipanche lanuginosa* (C.A.Mey.) Holub, Preslia 62: 196 (1990).

Orobanchе borealis Turcz. ex Kar. & Kir. in Bull. Soc. Imp. Naturalistes Moscou 14: 722 (1841). *Orobanchе 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).

Orobanchе asiatica Weinm., Bull. Soc. Imp. Naturalistes Moscou 23(1): 512 (1850).

Phelypaea araneosa Reut. ex Boiss., Fl. Orient. 4: 496 (1879), nom. inval.

Orobanchе 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).

Orobanchе peisonis Beck in E.von Halácsy & H.Braun, Nachtr. Fl. Nieder-Oesterr.: 121 (1882).

Orobanchе 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. *Orobanchе camphorosmae* (Carlón, G.Gómez, M.Laínz, Moreno Mor., Ó.Sánchez & Schneew.) A.Pujadas & Triano, Div. Veg. Yeseras Ibér.: 277 (2011). *Phelipanche camphorosmae* Carlón, G.Gómez, M.Laínz, 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. *Orobanchе chionistrael* (Rätzel, Hand, Christodoulou & Uhlich) Domina, **comb. nov.** *Phelipanche chionistrael* 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. *Orobanchе 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 syspirensis K.Koch, Linnaea 22: 662 (1849), pro parte.

Orobancha 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. *Orobancha dalmatica* (Beck) Tzvelev in V.L.Komarov (ed.), Fl. URSS 23: 66 (1958). *Orobancha 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. *Orobancha 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. *Orobancha 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. *Orobancha gussoneana* (Lojac.) Domina, **comb. nov.** *Phelypaea gussoneana* Lojac., Naturalista Sicil. 1: 197 (1882). *Kopsia gussoneana* (Lojac.) Lojac., Naturalista Sicil. 6: 81 (1887). *Orobancha oxyloba* f. *gussoneana* (Lojac.) Beck, Biblioth. Bot. 4(19): 113 (1890). *Orobancha schultzei* f. *gussoneana* (Lojac.) Beck, Biblioth.

Bot. 4(19): 113 (1890). *Kopsia schultzei* 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 schultzeioides M.J.Y.Foley, Bot. Chron. (Patras) 19: 7 (2008). *Orobancha schultzeioides* (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. *Orobancha 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. *Orobancha hedynoidis* (Rätzel, Ristow & Uhlich) Hand, Cypricola 14: 3 (2019). *Phelipanche hedynoidis* 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. *Hedynois rhagadioloides* (L.) F. W. Schmidt (Asteraceae) (Rätzel et al., 2017; Sánchez Pedraja et al., 2017 onward).

143. *Orobancha 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). *Orobancha hohenackeri* (Reut.) Tzvelev, Fl. Azerbaïdzhan 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. *Orobancha 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).

Orobancha 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 mutellii* var. *sinaica* Beck, Biblioth. Bot. 4(19): 97 (1890). *Phelipanche sinaica* (Beck) Rätzl & 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.Laínz, 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 Kazakhsk. 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.Laínz, 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 oxylloba 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).

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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, Severočeskou 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.

Otostegia 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 auranitica 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 syspirensis* 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. *Orobancha zosimii* (M.J.Y.Foley) Domina, Inform. Bot. Ital. 42: 383 (2010). *Orobancha 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

Orobancha biflora Noronha, Verh. Batav. Genootsch. Kunsten 5(4): 21 (1790), nom. nud.

Distribution. Java (POWO, 2025).

Orobancha hirta Noronha, Verh. Batav. Genootsch. Kunsten 5(4): 21 (1790), nom. nud.

Distribution. Java (POWO, 2025).

Orobancha pedunculata Vell., Fl. Flumin.: 258 (1829).

Distribution. SE Brazil (POWO, 2025).

Orobancha petraea Vell., Fl. Flumin.: 257 (1829).

Distribution. SE Brazil (POWO, 2025).

Orobancha sicala Spenn. ex Walp., Repert. Bot. Syst. (Walpers) 3: 463 (1844).

Distribution. Sicily (POWO, 2025).

Orobancha stans Noronha, Verh. Batav. Genootsch. Kunsten 5(4): 21 (1790), nom. nud.

Distribution. Java (POWO, 2025).

Orobancha troztkii Wagner ex Claus, Beitr. Pflanzenk. Russ. Reiches 8: 64 (1851).

Distribution. W Asia (POWO, 2025).

Orobancha viridis Hazsl., Verh. Zool.-Bot. Vereins Wien 2(Abh.): 3 (1852), nom. nud.

Distribution. E Europe (POWO, 2025).

Acknowledgements

Heartfelt thanks are extended to the two anonymous reviewers and to the editor for their generosity and time spent in correcting the first version of this contribution. Werner Greuter (Palermo, Berlin) is thanked for sharing opinions and advice.

Funding

Open access funding provided by Università degli Studi di Palermo within the CRUI-CARE Agreement.

Data Availability

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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