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ODONTITES VALENTINUS SP. NOV. (*SCROPHULARIACEAE*): A NEW ENDEMIC TAXON FROM EASTERN SPAIN

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ABSTRACT: A new species, *Odontites valentinus*, is described. It is close to *O. kaliformis*, and grows on saline soils of littoral salt marshes in the eastern territories of Spain. Data are also reported on its ecology and chorology, as well as on its conservation status. **Key words**: *Odontites*, endemics, vascular plants, taxonomy, Valencian Community, Spain.

RESUMEN: Se describe *Odontites valentinus*, nuevo endemismo de los saladares litorales iberolevantinos, que resulta afín a *O. kaliformis*. Se aportan datos sobre su ecología, distribución y situación de sus poblaciones. **Palabras clave**: *Odontites*, endemismo, plantas vasculares, taxonomía, Comunidad Valenciana, España.

INTRODUCTION

Odontites Ludw. is usually accepted to be conformed by six taxa in the Valencian flora (cf. MATEO & CRESPO, 2003).

In the early 1980s, samples of a peculiar red-flowered *Odontites* were collected between Almenara and Sagunto (over 25 km north of Valencia, eastern Spain), which were akin to *O. kaliformis* (Pourr. ex Willd.) Pau [= *O. recordonii* Burnat & Barbey], though they differed notably in morphology and ecology. Those plants looked pale green, with fleshy leaves, and anthers included in the corolla, and occurred on saline, wet soils of salt marshes along the coast of northeastern Valencia and southeastern Castellón provinces. After comparison with the rest of European and North African taxa of *Odontites* (cf. BOLLIGER, 1996), a satisfactory identification was not possible. Further herbarium research allowed us to locate new collections from other similar areas of Alicante province, from where it had been previously reported under different names: *O. luteus* (L.) Clairv. (RIGUAL, 1972: 326) or *O. viscosus* (L.) Clairv. subsp. *australis* (Boiss.) Jahand. & Maire (FABREGAT, 2002; SERRA, 2008).

After analysing the available information, data are shown below to describe those Valencian plants as a new species, which appears to be restricted to saline soils, mostly on the littoral salt marshes of the Valencian Community.

MATERIAL AND METHODS

Authors of plant names cited in the text correspond to those in MATEO &

CRESPO (2003), and are in accordance with BRUMMITT & POWELL (1992) and the IPNI (http://www.ipni.org).

RESULTS AND DISCUSSION

Odontites valentinus M.B. Crespo & Mateo, **sp. nov.**

Holotype: ESP, VALENCIA: Dehesa de la Albufera, [30SYJ35], pastizales húmedos sobre suelos salinos, 9-VI-1983, *I. Mateu* (VAL 110597, ex VAB 83/1384). Fig. 1.

Diagnosis: Species notabilis ex sect. *Odontite* quae ad *O. kaliformem* vere accedit, sed imprimis differt caulibus foliis bracteisque pallide viridibus; foliis carnosis obtusis integerrimis latioribusque, plerumque ovatis vel late oblongo-lanceolatis; antheris inclusis vel rarissime vix subexertis quam galea corollae brevioribus vel eam subaequantibus, nullo modo longe superantibus; stylo 2-4 mm corolla longitudine breviore. Floret extremo aestate, mensibus Septembri et Octobri, raro antea.

Taxonomic remarks: *Odontites valentinus* is close to *O. kaliformis*, a plant widely distributed on the eastern Iberian Peninsula (cf. BOLÒS & VIGO, 1996: 482-483). However, several morphological differences allow easy identification. The former shows a pale green colour in all its vegetative parts, whilst the latter is dull green; leaves are fleshy, usually ovate to widely oblong-lanceolate, entire and obtuse in *O. valentinus*, but they are never fleshy, linear to linear-lanceolate, narrower and acute, sometimes shallowly toothed on margins in *O. kaliformis*; anthers are shorter or a little longer than the corolla in the former, whilst they are long exert in the latter; the style is shorter (2-4 mm long) in the former, but it is considerably longer (4-7 mm) in the latter. An illustration of *O. kaliformis* (ut *O. recordonii*) is shown in Fig. 2 for comparison. Relationships to other red-flowered taxa, such as the group of *O. vernus* (Bellardi) Dumort., are weaker on the basis of the cited features (cf. BOLLIGER, 1996).

Ecology: Saline wet soils of coastal 'marjales' and inland salt marshes, between 0 and 600 m altitude. It grows in open grasslands belonging to *Juncetea maritimi* Br.-Bl. in Br.-Bl., Roussine & Nègre 1952, together with *Juncus maritimus*, *Elymus elongatus*, *Centaurium spicatum*, *Limonium angustebracteatum*, *Artemisia coerulescens*, *Atriplex prostrata*, *Tamarix canariensis*, etc. This ecological behaviour is quite unusual in the Mediterranean taxa of the genus, since most of them are found in open grasslands and scrub, mostly on dry calcareous, sandy or schistose soils, or sometimes on stony slopes, next to pinewoods and diverse oak-forests. Only two European taxa are also halophilous plants: *O. litoralis* (Fr.) Fr., which occurs on wet saline meadows of the Baltic coast (WEBB & CAMARASA, 1972), and *O. vulgaris* Moench subsp. *salinus* (Kotov) Tzvelev, which was found on saline soils in Bulgary (cf. BOLLIGER, 1996). However, they are very different in morphology from *O. valentinus*.

Bioclimatology and biogeography: The new species is found mostly in the Thermomediterranean Dry stage of coastal territories of Castellón and Valencia, though reaches the Mesomediterranean Semiarid stage in the inland areas of northern Alicante. Biogeographically, all those territories belong to the Valencian Subprovince of the Catalan-Provencian-Balearic Province (sensu RIVAS-MARTÍNEZ, 2007), to which *O. valentinus* is to be regarded as endemic.

Distribution: The new species is only known from a few sites of the Mediterranean coast of the Iberian Peninsula, between Almenara (Castellón province) and Xeraco (Valencia province), as well as from a single site in the inland salt marshes next to Villena (Alicante province). However, within the last decades the habitat of *O. valentinus* has endured a strong anthropic pressure, mostly due to changes in the land use (e.g. wetland and salt mar-

shes desiccation and/or destruction for agricultural exploitation or urban transformation). This fact has led most of populations to a critical situation, after which several populations have disappeared. This is the case of La Dehesa de la Albufera (Valencia), were *O. valentinus* was rather common until the early 1960s (cf. RIVAS GODAY & MANSANET, 1959: 517 & Table 16; ut *O. purpurea*), but now is extremely rare or no longer present. A similar situation occurred in Villena, where the single known population was not located in recent times. To date, the coastal 'marjales' in the boundaries of Valencia and Castellón provinces are the only area on which this critically threatened species is still found. All efforts are to be focused to preserve those sites, namely by delimiting microreserves (LAGUNA, 2001) for plant conservation.

Nevertheless, in the southeastern Iberian Peninsula (and particularly in the neighbouring territories of Murcia and Albacete) many saline areas exist in which *O. valentinus* could also occur, and it should be thoroughly searched.

Other studied collections: ESP, ALICANTE: Villena, Salero de Requena [30SXH 79], 7-IX-1960, *A. Rigual* (ABH 23060, MA 372435). **VALENCIA**: Xeraco, marjal, IX-1979, *Mansanet* (VAB 79/498). Ibidem, 27-IX-1983, *Mansanet & Aguilella* (VAL 13100).

REFERENCES

BOLLIGER M. (1996) Monographie der Gattung *Odontites* (*Scrophulariaceae*) sowie der verwandten Gattungen *Macrosyringion, Odontitella, Bornmuellerantha* und *Bartsiella*. *Willdenowia* 26: 37-168.

BOLÒS O. DE & J. VIGO (1996) *Flora dels Països Catalans* 3. Barcino. Barcelona.

BRUMMITT R.K. & C.E. POWELL (1992) *Authors of plants names.* Royal Botanic Gardens, Kew.

FABREGAT M. (2002) *La colección histórica del Dr. Abelardo Rigual en el herbario AB H: revisión nomenclatural y estudio crítico*. [Col·lecció Pius Font i Quer 1]. Institut d' Estudis Ilerdencs. Lleida.

LAGUNA E. (2001) *The micro-reserves as a tool for conservation of threatened plants in Europe*. [Nature and Environment series 121]. Council of Europe Publ. Strasbourg.

MATEO G. & M.B. CRESPO (2003) *Manual para la determinación de la flora valenciana*, 3ª ed. Valencia.

RIGUAL A. (1972) *Flora y vegetación de la provincia de Alicante (el paisaje vegetal alicantino).* Instituto de Estudios Alicantinos. Alicante.

RIVAS GODAY S. & J. MANSANET (1959) Fitosociología de la *Kosteletzkia (Hibiscus) pentacarpa* (L.) Ledb. en los fangales de la Albufera de Valencia. *Anales Inst. Bot. Cavanilles* 16: 511-517.

RIVAS-MARTÍNEZ S. (2007) Mapa de series, geoseries y geopermaseries de vegetación de España [Memoria del mapa de vegetación potencial de España] Parte I. *Itinera Geobot.* 17: 5-435.

SERRA L. (2008) Estudio crítico de la flora vascular de la provincia de Alicante: aspectos nomenclaturales, biogeográficos y de conservación. *Ruizia* 19: 1-1416.

WEBB D.A. & J.M. CAMARASA (1972) *Odontites* Ludwig. In: TUTIN, T.G., V.H. HEYWOOD, N.A. BURGES, D.M. MOORE, D.H. VALENTINE, S.M. WALTERS & D.A. WEBB (eds.), *Flora europaea* 3: 266-269. Cambridge University Press. Cambridge.

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Fig. 1: Holotype of *Odontites valentinus* M.B. Crespo & Mateo.

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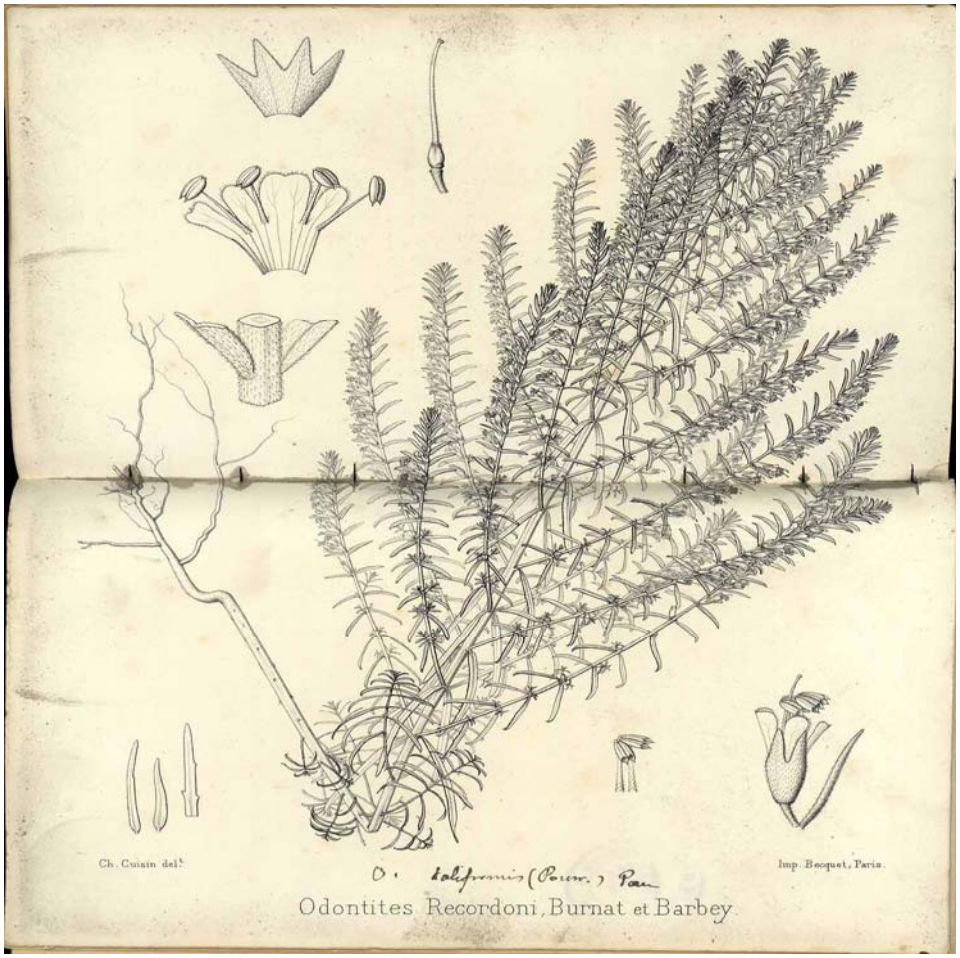

Fig. 2: Original illustration of *Odontites recordonii* Burnat & Barbey on which C. Pau handwrote "*O. kaliformis* (Pourr.) Pau" (from Pau's library, currently at Real Jardín Botánico de Madrid).