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# *Datura wrightii (Solanaceae), a neglected xenophyte, new to Spain*

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**ABSTRACT**: *Datura wrightii* Regel, native in the southwestern United States and Mexico, has recently been found in Fraga (prov. Huesca). It is closely related with *Datura innoxia* [i]Miller and apparently widely confused with it in southern Europe. The present paper shortly focuses on distinguishing features of both species.
Keywords: *Datura innoxia* Miller, *Datura wrightii* Regel, naturalized plants.

**RESUMEN**: *Datura wrightii* Regel, es una especie nativa del sudoeste de los Estados Unidos y México, que ha sido recientemente encontrada en Fraga (prov. de Huesca). Está estrechamente relacionada con *Datura innoxia* Miller con la que aparentemente es confundida en el sur de Europa. En el presente trabajo hacemos hincapié en los caracteres diferenciales entre ambas especies.
Palabras clave: *Datura innoxia* Miller, *Datura wrightii* Regel, plantas naturalizadas.

## INTRODUCTION

The genus *Datura* is quite popular in horticulture. Shaw (2000) gives six species for Europe (*Datura ceratocaula* Ortega, *D. ferox* L., *D. innoxia* Miller, *D. metel* L., *D. quercifolia* Humboldt & *al*. and *D. stramonium* L.). Out of these, the weedy *Datura stramonium* and *D. innoxia* are by far the commonest in cultivation. Both easily escape and have become naturalized or even invasive in many parts of southern Europe, including Spain (see for instance Sanz Elorza & *al*. (2004).

In September 2007 a collection of presumed *Datura innoxia* was made along the river Cinca near Fraga (prov. Huesca). After a concise study of literature and comparison in several herbaria this collection proved to belong to *Datura wrightii* Regel (fig. 1), another New World species, closely related to and widely confused with *D. innoxia*. The diacritic features of both species are here presented and the currently known records of *Datura wrightii* in its secondary distribution range (with emphasis on southern Europe) enumerated.

## RESULTS

*Datura wrightii* Regel, *Gartenflora* 8, 1859: 193-194 (+ plate 260)
*D. innoxia* Miller subsp. *quinquecuspidata* (Torrey) Barclay
*D. innoxia* p.p. auct. eur. non Miller
*D. meteloides* auct. non Dunal
*D. metel* auct. non L.

HUESCA: Fraga, right bank of Río Cinca close to the city center, few specimens, 13.09.2007, *F. Verloove* 6999 (priv. herb. F. Verloove).

*Datura wrightii* is native in the southwestern United States and Mexico. It much resembles *Datura innoxia* in general habit and is best distinguished on the basis of stem indumentum. In the following couplet both are easily separated (fig. 2):

| | |
|---|---|
| 1. | Stem indumentum dense, of very short appressed or retrorse eglandular hairs (occasionally intermixed with some longer erect glandular hairs). Stigma usually well exceeding anthers. Seeds with a single marginal furrow. Corolla 14-26 cm long ***D. wrightii*** |
| | Stem indumentum dense, of long erect multicellular glandular hairs. Stigma well below anthers. Seeds with several marginal furrows. Corolla 12-16 cm long. ***D. innoxia*** |

Stem indumentum is conspicuously different in both species. The short, incurved and eglandular hairs of *Datura wrightii* render it with a downy appearance, especially on new growth. Plants may even look like if they were virtually glabrous. This contrasts with the very distinct long erect glandular hairs of *Datura innoxia* (see also Haegi, 1976; Clement, 1998; Allred, 2004; Melzer, 2005; Lambinon 2006).

*Datura wrightii* is surprisingly omitted by Shaw (2000) in his overview of *Datura* in cultivation. The species was originally described by Regel in a horticultural journal (Gartenflora)

[i] Quite often wrongly quoted as "*inoxia*".

but subsequently apparently neglected or taxonomically and nomenclaturally confused with *Datura innoxia*. As a matter of fact, with its larger corolla *Datura wrightii* doubtlessly has more ornamental value than *D. innoxia*.

Outside its original distribution range *Datura wrightii* does not seem to have become widely distributed throughout the world, although confusion with *D. innoxia* still lingers on. In Australia it is grown as an ornamental and locally escapes but only few populations have become truly naturalized (Haegi, 1976). More recent are the occurrences of *Datura wrightii* in Europe. It is known, at least, since 1979 from Corsica (Lambinon, 2006). All revised herbarium specimens of "*Datura innoxia*" in fact turned out to belong to *D. wrightii*. In continental southern France (dep. Vaucluse, Bouches-du-Rhône, Var,…) *Datura wrightii* is the most frequent and possibly even the only species present (Lambinon, *l.c.*). Several records of *Datura wrightii* also came to light from various areas in Austria (Melzer, 2005). Populations of "*Datura innoxia*" from several other European countries are badly in need of revision.

In Spain *Datura wrightii* is here reported for the first time but it is doubtlessly more widely distributed and simply neglected up to present. Sanz (2006) provides numerous records of "*Datura innoxia*" from the very same area as our *D. wrightii* record (Albalate de Cinca, Alcolea de Cinca, Monzón, Santalecina, Torrente de Cinca, Pueyo de Santa Cruz). However, his accompanying photograph perfectly depicts the short, downy indumentum of *Datura wrightii*. Elsewhere in Spain, "*Datura innoxia*" is particularly well distributed in the eastern coastal areas; it is considered to be an invasive exotic (Sanz & *al.*, 2004). The species depicted by these authors is, again, *Datura wrightii*! "True" *Datura innoxia* surely is present in Spain as well; voucher specimens have been seen from Altea (prov. Alicante), Los Christianos and San Juan (both Tenerife, Canary Islands) (revision of the herbarium of the National Botanic Garden of Belgium – BR).

## CONCLUSIONS

Recent field studies and a partial herbarium revision have proved the presence of two closely related species of *Datura* in Spain, *D. innoxia* and *D. wrightii*. Although insufficiently known both are likely to be widely naturalized. A revision of herbarium specimens in the Spanish herbaria as well as sampling of newly detected populations of "*Datura innoxia*" will probably increase our knowledge about their current distribution and ecology.

Since "*Datura innoxia*" is considered as an invasive exotic in Spain (Sanz & *al*. 2004), assessing the exact identity of individual populations of *Datura* spec. seems to be appropriate. It is unclear so far whether or not *Datura wrightii* exhibits the same invasive behaviour as has been attributed to *D. innoxia*.

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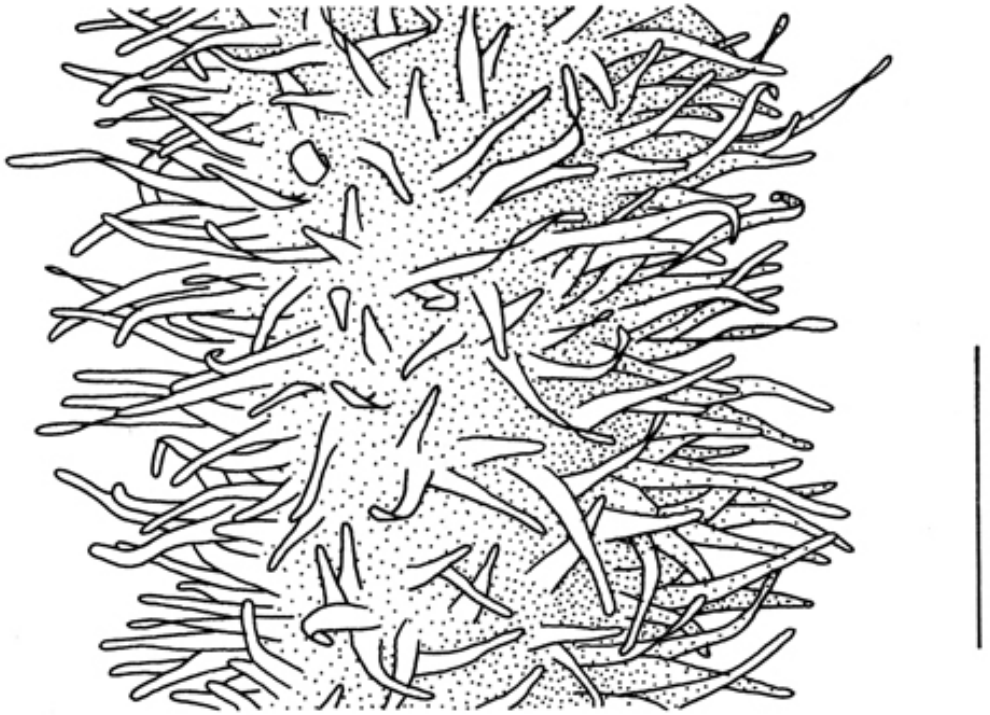
Fig. 1. *Datura wrightii.*

Fig. 2.: Stem indumentum of *Datura innoxia* and *D. wrightii.* Iconography by Sven Bellanger.

*Datura innoxia*



*Datura wrightii*