

# Synopsis of the genus *Tamarix* (Tamaricaceae) in the Iberian Peninsula and Balearic Islands

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**Abstract.** A taxonomic revision of the genus *Tamarix* for the Iberian Peninsula and Balearic Islands is provided, updating the *Flora iberica* account published in 1993. A new dichotomous key for the Iberian and Balearic species is also included. The presence of certain number of species previously cited for the study area (*T. arborea*, *T. canariensis*, *T. dalmatica*, *T. mannifera*, *T. mascatensis*, *T. meyeri*, *T. octandra*, *T. rosea*, and *T. tetragyna*) is discarded or considered doubtful. Seven species are accepted: three of them are native (*T. africana*, *T. boveana*, and *T. gallica*) and one species (*T. parviflora*) was probably introduced over a century ago. Three more species (*T. aphylla*, *T. chinensis*, and *T. ramosissima*) have been introduced more recently. Two of them, *Tamarix chinensis* and *T. ramosissima*, are grouped as *T. gr. ramosissima* due to their high morphological resemblance. A new hybrid between *T. boveana* and *T. gallica* is also described under the name of *Tamarix* × *verae*.

**Resumen.** Se presenta una revisión taxonómica del género *Tamarix* para la Península Ibérica e Islas Baleares, actualizando el tratamiento de *Flora iberica* publicado en 1993. Se incluye también una nueva clave dicotómica para las especies ibéricas y baleares. Se descarta o considera dudosa la presencia de algunas de las especies citadas anteriormente para el área de estudio (*T. arborea*, *T. canariensis*, *T. dalmatica*, *T. mannifera*, *T. mascatensis*, *T. meyeri*, *T. octandra*, *T. rosea* y *T. tetragyna*). Se aceptan siete especies, tres de ellas nativas (*T. africana*, *T. boveana* y *T. gallica*) y una especie, *T. parviflora*, probablemente introducida hace más de un siglo. Otras tres especies (*T. aphylla*, *T. chinensis* y *T. ramosissima*) han sido introducidas más recientemente. Dos de ellas, *Tamarix chinensis* y *T. ramosissima*, son agrupadas como *T. gr. ramosissima* debido a su gran parecido morfológico. Se describe también un nuevo híbrido entre *T. boveana* y *T. gallica* bajo el nombre de *Tamarix* × *verae*.

**Keywords.** *Flora iberica*, hybrid, *Tamarix* × *verae*, taxonomy.

**Palabras clave.** *Flora iberica*, híbrido, *Tamarix* × *verae*, taxonomía.

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## INTRODUCTION

*Tamarix* L. (Tamaricaceae) includes between 60 and 90 species (Baum 1966, 1978; Qaiser 1981; Zohary 1972; Yang & Gaskin 2007), which are naturally distributed in Eurasia and Africa. They tend to inhabit arid, desertic or sub-desertic areas, under Mediterranean, Temperate or Subtropical climates (Zohary 1972). The taxonomy of the genus has repeatedly been considered to be complex by most of the authors who dealt with that group (Bunge 1852; Baum 1966, 1978; Zohary 1972). Most of the characters used for species discrimination are, to certain degree, variable within a species or even in a single specimen, and only the use of a combination of characters allows reliable identifications (Villar & al. 2012). These morphological complications have resulted in the publication of hundreds of names at species and lower ranks, which implies that some of the currently accepted species include many synonyms. As a result, some species have been reported to ter-

ritories where they are actually absent (Villar & al. 2012) or else overlooked for years in territories in which they are pretty common (Villar & al. 2014).

The possibility of interspecific hybridization has also been dealt with in the past (Gorschikova 1949; Baum 1966, 1978). More recently, it has become clear that hybridization occurs (Gaskin & Schaal 2003), that it can happen between species morphologically very distant (Gaskin & Shafroth 2005; Mayonde & al. 2015) and that hybridization processes must have played a key role in the evolution of this genus (Villar & al. 2019). However, up to now, no hybrid has been officially described under the rules of the International Code of Nomenclature for Algae, Fungi and Plants (Turland & al. 2018).

Prior to the publication of *Species plantarum* (Linnaeus 1753), we can find some direct references to *Tamarix* in

the Iberian Peninsula in the works of authors such as Mattioli (1562: 127), Clusius (1576: 106), Dalechamps (1586: 179), Bauhin & Cherler (1650: 350–351) or Linnaeus himself (1737). In the late 19<sup>th</sup> Century, the reference work for the Iberian botany (Willkomm 1880) included only 3 species: *Tamarix gallica* L., *T. anglica* Webb. (currently synonymized to *T. gallica*) and *T. africana* Poir. It did not include *T. hispanica* Boiss. (Boissier 1856), the only species described with material from the Iberian Peninsula to that moment. The early 20<sup>th</sup> Century sought a great increase of new names, all based on the prolific work of Pau, Sennen and their respective collaborators (Pau 1906, 1918, 1922; Pau & Hugué del Villar 1927; Sennen 1928, 1932, 1936). However, none of the names described by the later authors is currently accepted (see Baum 1978; Cirujano 1993; Villar & al. 2021; Villar & Alonso 2016). The following great contribution to the knowledge of the Iberian *Tamarix* was the monograph by Baum (1966), which reached major diffusion under a later version (Baum 1978) including only minor changes. Baum's treatment (1966, 1978) accepted five species for the Iberian Peninsula, with a number of synonyms for each of them: *T. africana* Poir., *T. boveana* Bunge, *T. canariensis* Willd., *T. gallica* L., and *T. parviflora* DC. The four species were considered native, except for *T. parviflora* whose native status remains doubtful. We have not found references of specimens that can be assigned to *T. parviflora* prior to the publication of *T. lucronensis* Sennen & Elías by Sennen (1928). The same number of species was reported in *Flora europaea*, whose *Tamarix* treatment was indeed conducted by Baum (1968). Apart from the inclusion of *T. boveana* and *T. parviflora*, Baum (1978) restricted *T. gallica* to the southwestern side of Europe, and expanded the distribution of *T. canariensis* (previously restricted to the Canary Islands) to northwestern Africa, the Iberian Peninsula, the southern Mediterranean coast of France, Corsica, and Sardinia. These changes were based on morphological aspects that were later found to be inconsistent and thus, on the basis of morphological and phylogenetic information (Villar & al. 2019), the presence of *T. canariensis* in the Iberian Peninsula was discarded, and the species is currently regarded as a Macaronesian endemism.

The next step on the knowledge of the Iberian species of *Tamarix* was taken by Cirujano (1993) in his genus treatment for *Flora iberica*. Cirujano (1993) maintained the five species proposed by Baum (1978) and added four more: *T. ramosissima* Ledeb., and *T. chinensis* Lour., as introduced; *T. mascatensis* Bunge, first reported by De Martis & al. (1985); and *T. dalmatica* Baum. The presence of *T. dalmatica* and *T. mascatensis* in the Iberian Peninsula was later discussed and discarded (Villar & al. 2012; Villar & Alonso 2016). More recently, new names (*T. arborea* (Ehrenb.) Bunge, *T. arborea* var. *subvullutina* Boiss. and *T. meyeri* Boiss.) have been reported in the Iberian Peninsula (Gil & al. 1996; Gargano &

al. 2009; Venturella & al. 2012). Moreover, the last contribution from Gargano & al. (2018) increased the species number up to 14. Therefore, Gargano & al. (2018) included names never mentioned before in the studied territory, such as *T. octandra* Bunge, *T. rosea* Bunge, *T. tetragyna* Ehrenb., and *T. mannifera* Ehrenb. ex Bunge. These recent records will be discussed further below, since they are here considered to be doubtful or mere misidentifications. The last addition to the Iberian *Tamarix* account is *T. aphylla* (L.) H.Karst. (Terrones & al. 2016), which we have been collecting from cultivated specimens in different localities since 2011.

The aim of this study is to synthesize the current knowledge on the genus *Tamarix* and to update the account for the Iberian species. We used both morphological comparisons and available phylogenetic information (Villar & al. 2019). Our approach to the classification of different species does not strictly follow the common reference of Baum (1978), given that we accept a wider plasticity in characters previously considered as highly diagnostic, such as the staminal disk or the presence of papillae on the rachis of the racemes (see Villar & al. 2012, 2019). Therefore, an identification key to the Iberian *Tamarix* species is provided, and a new hybrid between *T. boveana* and *T. gallica* is described as *Tamarix* × *verae*.

## MATERIALS AND METHODS

Since 2009, about 3000 specimens have been studied at several European and American herbaria: ABH, B, BC, G, K, MA, MEX, MO, MPU, P, PR, PRC, and W (codes according to Thiers 2021+), as well as from herbarium loans (BCN, JAEN, UIB, VAL), in order to get a global idea of the genus. Moreover, new collections were made in Morocco, Algeria, Italy, Greece, Montenegro, Albania, Croatia, France and different parts of the Iberian Peninsula; specimens are kept at the herbarium of the University of Alicante (ABH).

The study of specimens was mainly conducted through observation of leaf material and dissection of flowers under a binocular microscope. Racemes or flowers were re-hydrated before study in order to observe all floral parts without destroying them. The identifications were based in the information provided by various monographs (Bunge 1852; Niedenzu 1925; Baum 1978) and local treatments (Cirujano 1993; Salazar & Quesada 2011), as well as in the detailed study of type materials and other herbarium specimens.

The list of studied specimens (Appendix 1) is shortlisted to a selection of Iberian material, type material and collections relevant for being close to type localities or for other reasons. Moreover, some vouchers from species not accepted here as present in the Iberian Peninsula, are also included. Materials already listed in previous publications are not included on the

list but referenced to their respective publication. Morphological descriptions are based on those specimens.

Distribution maps showing the species occurrences by province are provided for all accepted species occurring in the Iberian Peninsula and the Balearic Islands. Those are based on the studied materials and completed with the information in *Flora iberica* (Cirujano 1993). It is likely that the natural distribution of the studied species is not completely covered by the revised herbarium materials and, therefore, some distributions are probably wider than those reflected on the maps.

Accepted species are listed alphabetically. Synonyms follow each accepted species entry, including only those names that have been described on Iberian or Balearic materials or that have been used to name specimens from de Iberian Peninsula.

Taxonomic procedures conform to the International Code of Nomenclature for Algae, Fungi and Plants (Turk & al. 2018). Citations of names follow IPNI (2022+).

## RESULTS

### Key to the Iberian and Balearic species of Tamarix

1. Leaves vaginate (Fig. 1a) ..... *T. aphylla*
  - Leaves scale-like, sometimes auriculate at base but never clasping or embracing the twigs around ..... 2
2. Flowers mostly tetramerous ..... 3
  - Flowers mostly pentamerous ..... 4
  - Racemes 4–5 mm wide; bracts 1–1.8(2) mm, not reaching the calyx tip ..... *T. parviflora*
    - Racemes 7–15 mm wide; bracts 3–8 mm long, reaching the calyx upper level or clearly surpassing it (Fig. 1e) ..... *T. boveana*
4. Blackish branches; racemes 5–8 mm wide, with a short peduncle densely covered by broad scarious bracts (Fig. 1g); petals 2–3 mm; sepals (0.8)1–1.5(2.5) mm long ..... *T. africana*
  - Branches brown to reddish; racemes 3–5 mm wide; petals 1–2 mm; sepals 0.5–1 mm long ..... 5
5. Staminal filaments inserted above the disc lobes, or rising from the disc lobes; petals deciduous, flat or slightly retrorse at maturity ..... *T. gallica*
  - Staminal filaments inserted between the disc lobes; petals persistent and concave, forming a cup shaped flower (Fig. 1i) ..... *T. gr. ramosissima*

### Taxonomic treatment

The examination of the studied specimens has resulted in the shortage from 14 species (Gargano & al. 2018) to only seven of which three are native (*T. africana*, *T. boveana*, and *T. gallica*), one was probably introduced in the late

19<sup>th</sup> or the early 20<sup>th</sup> Century (*T. parviflora*), and three are relatively recent introductions (*T. aphylla*, *T. ramosissima*, and *T. chinensis*).

***Tamarix africana*** Poir., Voy. Barbarie 2: 139 (1789). Type: Algeria. “Côte de barbarie. Poiret” (lectotype designated as “holotype” by Baum (1966: 97): P-LA 00287249!; isolectotype: P 00166702!).

*Tamarix hispanica* Boiss., Diagn. Pl. Orient. ser. 2, 2: 56 (1856). Type: Spain. Jaén. Puerta, Guadalmena, 1849, A. Blanco 340 (lectotype designated by Villar & al. (2021: 285): G 00359317!; isolectotypes: K 000641862 [photo!], P 04957866!).

*Tamarix segobricensis* Pau, Butl. Inst. Catalana Hist. Nat. 18: 160 (1918). Type: Spain. Castellón, Segorbe, May 1918, C. Pau s.n. (lectotype designated by Villar & al. (2021: 287): MA 79030!).

*Tamarix calarantha* Pau, Mem. Mus. Ci. Nat. Barcelona, Ser. Bot. 1: 43 (1922). Type: Spain. Málaga, de Torre del Mar a La Cala, 3 Jun. 1919, E. Gros s.n. (lectotype designated by Villar & al. (2021: 282): MA 78981!; isolectotype: BC 22345 [photo!]).

*Tamarix malacitana* Pau, Mem. Mus. Ci. Nat. Barcelona, Ser. Bot. 1: 43 (1922). Type: Spain. Granada, La Herradura, 29 Apr. 1919, E. Gros s.n. (neotype designated by Villar & al. (2021: 286): BC 22338 [photo!]).

*Tamarix longibracteolata* Sennen, Pl. Espagne 1926 n.º 5735 (1926). Type: Spain. Tarragona, Cambrils, large lit desséché du torrent de Riudoms, 1 Mar., fr. Sennen s.n. (lectotype designated by Villar & al. (2021: 286): MA 79040!; isolectotype: BCN 58969!, G 6990/1338!, G 6990/1339!, MA 79041!, W 1927-20437!).

*Tamarix castellana* Pau & Villar, Brotéria Ser. Bot. 23: 108 (1927). Type: Spain. Madrid, Vaciamadrid, 1911, F. Beltrán s.n. (lectotype designated by Villar & al. (2021: 283): MA 78874!).

*Tamarix castellana* f. *rosea* Pau & Villar, Brotéria Ser. Bot. 23: 109 (1927). Type: Spain. Madrid, Vaciamadrid, 18 Apr. 1926, H. Villar s.n. (holotype: MA 78871!).

*Tamarix viciosoi* Pau & Villar, Broteria Ser. Bot. 23: 109 (1927). Type: Spain. Madrid, Rivas de Jarama, 9 Jun. 1918, C. Vicioso s.n. (lectotype designated by Villar & al. (2021: 289): MA 78880!; isolectotype: MA 78879!).

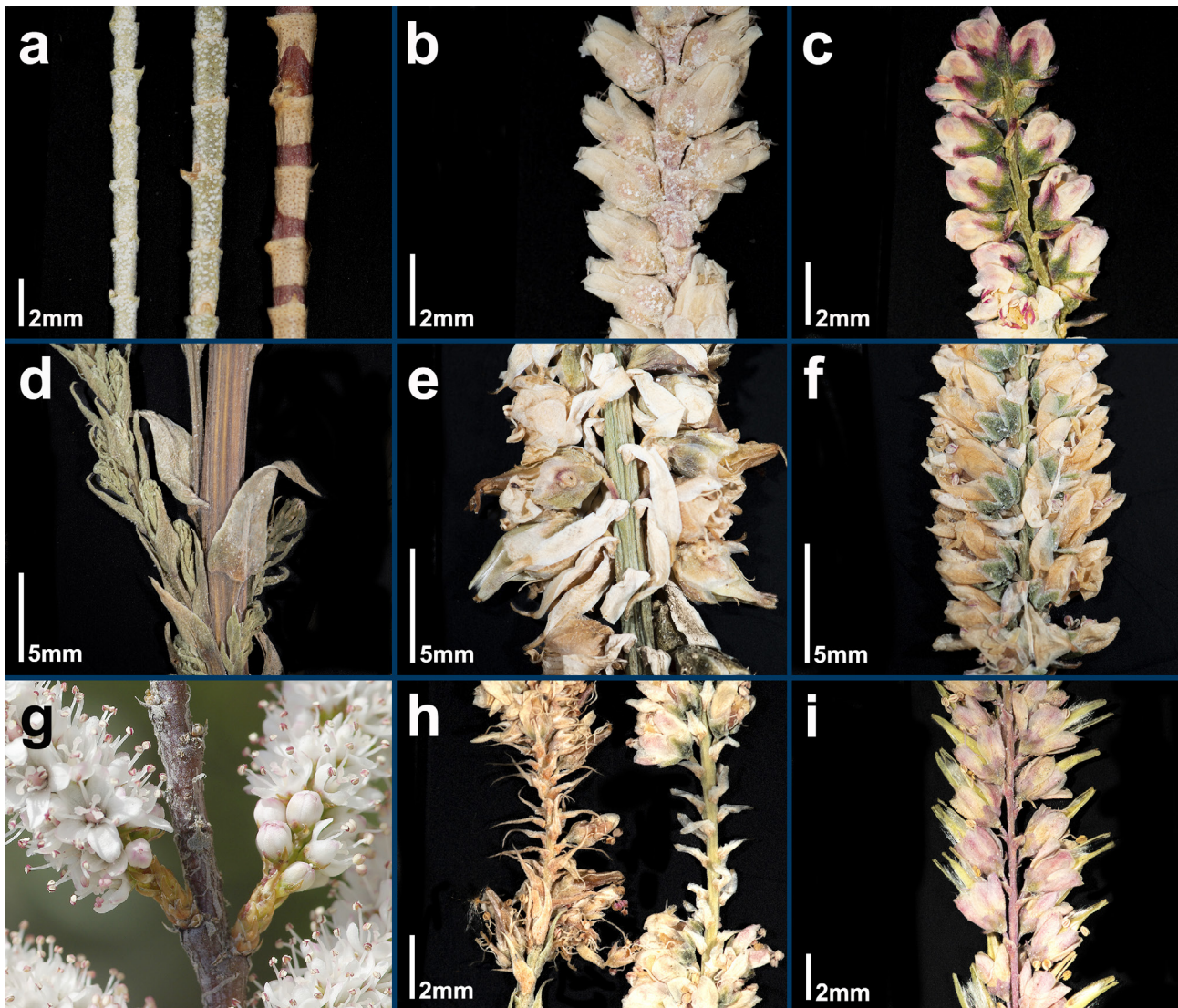
*Tamarix uncinatifolia* Sennen, Ann. Soc. Linn. Lyon sér. 2, 73: 9 (1928). Type: Spain. Tarragona, Cambrils, Torrent de Janer, 8 Apr. 1917, fr. Sennen s.n. (lectotype designated by Villar & al. (2021: 288): MA 78985!; isolectotype: MA 78989!, W 1922-15231!, G 6990/1225!, G 6990/1224!).

*Tamarix celtiberica* Sennen & Elías, Bol. Soc. Ibér. Ci. Nat. 27: 66 (1928). Type: Spain. Logroño, Recajo, Sables de l’Ebre, 10 May 1923, Hno. Elías s.n. [Pl. d’Espagne- F. Sennen 4988] (lectotype designated by Villar & al. (2021: 283): MA 78937!; isolectotypes: BCN 58933!, MA 78936!, G 6990-1226!, G 6990-1227!, W 1926-23534!).

*Tamarix theodori* Sennen, Pl. Espagne 1929, n.º 5945 (1929), in sched. Type: Spain. Tarragona, Cambrils, Pinar de la Llosa, 26 May, fr. Teodoro s.n. (lectotype designated by Villar & al. (2021: 288): MA 78038!; isolectotypes: BCN 58800!, MA 435537!, MA 78039!, W!, G 6990/1346!, G 6990/1348!).

*Tamarix hieronymi* Sennen, Diagn. Nouv. Pl. Espagne & Maroc 1928–35: 148 (1936). Type: Spain. Almería, Sierra de Enix, 3 Jun., Hno. Jerónimo s.n. [[Pl. d’Espagne- F. Sennen 8268] (lectotype designated by Villar & al. (2021: 284): MA 78991!; isolectotypes: G 6990/1335!, BCN 59562!, BCN 58932!, BC 75693 [photo!], VAL 157928-1!, MPU 022218!).

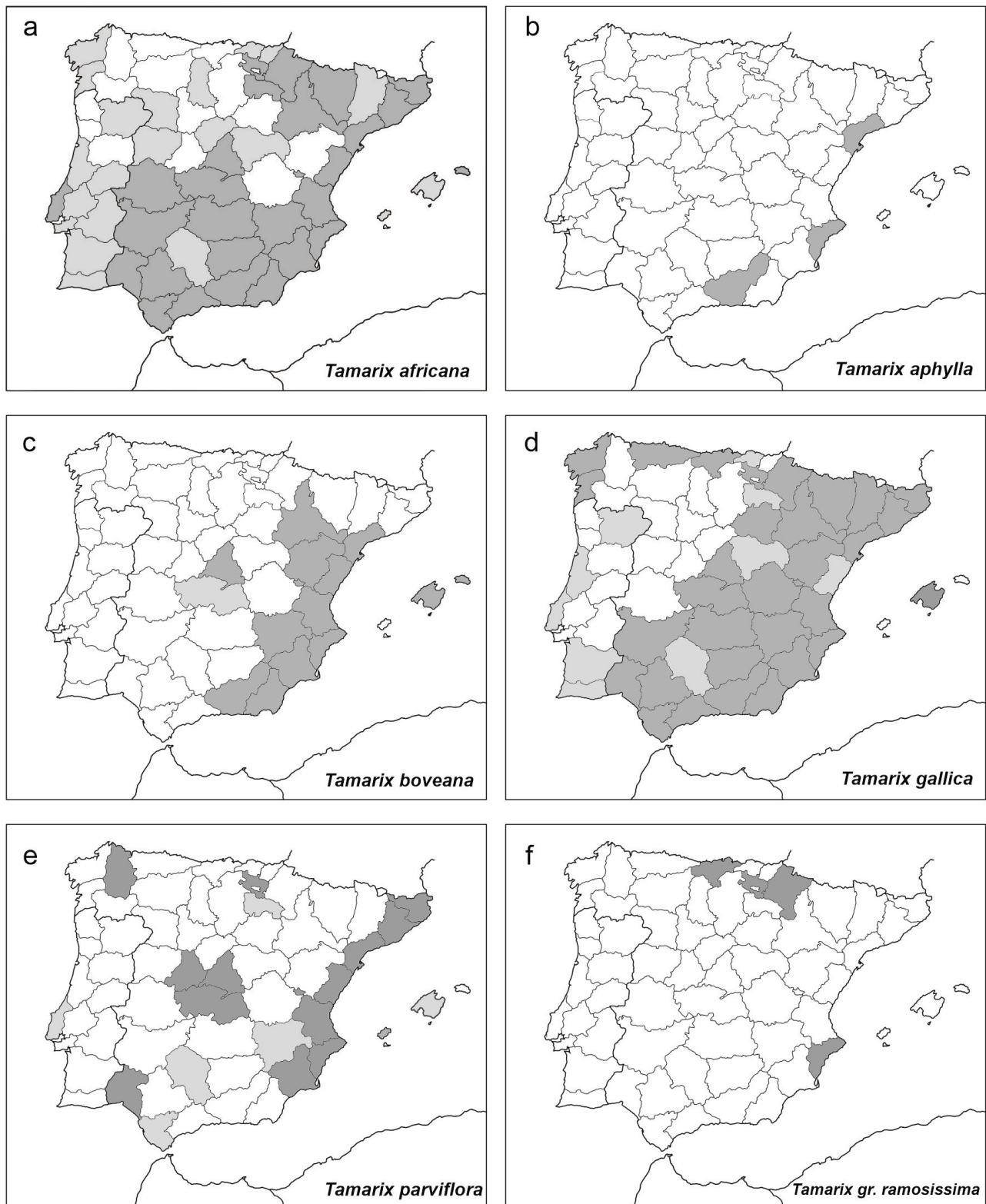
**Description.**—Deciduous shrubs or small trees that lose their leaves in late autumn. Flowering from early spring,



**Fig. 1.** Some diagnostic characters for *Tamarix* taxa: **a**, the vaginate leaves of *T. aphylla*; **b**, raceme of *T. aphylla* with erect petals; **c**, raceme of *T. parviflora* with coloured sepal tips; **d**, the early leaves of *T. boveana*; **e**, raceme of *T. boveana* showing its long and wide leaves; **f**, raceme of *T. africana*; **g**, base of *T. africana* racemes, showing characteristic scarios bracts; **h**, inflorescences of a same *T. gallica* tree showing very different bracts; late summer on the left and spring first bloom on the right; **i**, raceme of *T. ramosissima* showing persistent erect petals while fruits are yet opening [a, Boix (ABH 58645); b, Villar, Martínez and Izquierdo (ABH 58642); c, Terrones and Moreno (ABH 70797); d, e, Villar and Terrones (ABH 69545); f, Villar and Martínez (ABH 59007); h (left), Villar (ABH 59956); h (right), Villar (ABH 59958); i, Martínez-Flores (ABH 58618)].

generally only one bloom per year. New green shoots in late winter or early spring are short and condensed. Leaves 1–3 (4) mm long, ovate-triangular to lanceolate, acute, auriculate with narrow or broad and slightly decurrent base, sometimes embracing more than half the twig circumference. Inflorescence composed of racemes arranged in unbranched spike-like panicles or solitary, intermixed with new green shoots. Usually growing at the top of branches from the previous year. Racemes (15) 25–55 (70) × (4.5) 5.5–7 (8) mm, with a short peduncle < 5(8) mm densely covered by scarios bracts (fig. 1g). Rachis usually papillose. Bracts 1.5–3 (4) mm long, sub-equaling to sli-

ghtly overpassing the calyx, broadly triangular to oblong, sometimes with scarios incurved apex, usually obtuse, with papillose margin, base narrow decurrent to calcarate, sometimes with 2 small decurrent auricles. Pedicels ca. 0.5 mm, shorter than sepals. Sepals 5 (rarely 4, exceptionally 6), broadly ovate to oblong, with an obtuse tip and a narrow hyaline margin entire or finely denticulate; (0.8) 1–1.5 (2.5) mm long, the 2 external ones are slightly larger and can show a prominent central nerve. Petals 5 (rarely 4, exceptionally 6), 2–3 (4) × 0.9–1.5 (2) mm, ovate to elliptic (sometimes oblong with cuneate or unguiculate base when they overpass 3 mm long). Filaments 5 (rarely



**Fig. 2.** Distribution maps of the studied plant material indicating the provinces where they were collected: **a**, *Tamarix africana*; **b**, *Tamarix aphylla*; **c**, *Tamarix boveana*; **d**, *Tamarix gallica*; **e**, *Tamarix parviflora*; **f**, *Tamarix gr. ramosissima*. Provinces in dark grey are based on specimens studied by the authors; those in light grey are based on the distribution provided in *Flora iberica* (Cirujano 1993).

6–8, exceptionally 4), inserted on the top of the disc lobes, (when extra filaments are present, inserted between lobes). Anthers mostly not apiculate. Ovary always with 3 styles. Capsules 4.5–6 mm long.

*Distribution*.—Distributed mainly in the western Mediterranean Basin, extending to western Europe and Macaronesia. eastern and southern parts of the Iberian Peninsula, and Menorca (Balearic Islands). Fig. 2a.

*Notes*.—Specimens in the higher size ranges of inflorescence and floral parts (sometimes also with oblong-cuneate to oblong-unguiculate petals), have been frequently named *Tamarix africana* var. *fluminensis* (Maire) Baum. Some specimens from the Jarama river (Madrid) have been seen to show thinner racemes and secondary blooms resembling those of *T. gallica*, which might be a hint of hybridization between those species. Mediterranean French populations have been seen to show longer pedicels (ca. 1.5 mm), even longer than sepals. Some specimens of *T. africana* were classified in the past as *T. dalmatica* (see Villar & al. 2012 and further comments under the discussion of *T. africana*). A specimen with duplicated corolla and lacking androecium was found near Jaén by professor Carlos Salazar and a voucher is preserved at JAEN.

The specimen identified as *Tamarix mascatensis* (BCN 59562) by Gargano & al. (2018) is an isolectotype of *T. hieronymi*, which is a synonym of *T. africana* (Villar & al. 2021).

*Tamarix aphylla* (L.) H. Karst., Deut. Fl.: 641 (1882). *Thuja aphylla* L., Cent. Pl. 1: 32 (1755). Type: “*Habitat in Aegypto*” (lectotype designated by Burt (in Burt & Lewis 1954): LINN 1136.3 [photo!]).

*Description*.—Perennial tree, sometimes surpassing 10 m high. Flowering in one main bloom from late summer throughout autumn. Leaves (0.75) 1–3 mm, vaginate, completely surrounding the twigs and forming a tube, with a triangular acute apex on one side (Fig. 1a). Inflorescence composed of racemes arranged in unbranched spike-like panicles at the end of green branches. Flowers arranged alternate in two distichous rows that grow spirally along the raceme. Racemes 25–70 × 4.5–5.5 mm, with short ebracteate peduncles or with a peduncle up to 1 cm long, with vaginate bracts. Bracts 1–1.5 (2) mm long, vaginate or, sometimes, amplexicaule at the base of racemes, divaricate below the pedicels, ended in a triangular acute-acuminate apex, not reaching the calyx apex. Pedicels very reduced, resulting in almost sessile flowers. Sepals 5, 1–1.6 × 0.9–1.5 mm, widely ovate to sub-orbicular, with obtuse apex and a small hyaline margin that is entire or sub-entire, the 2 external slightly smaller, concave and, sometimes, slightly keeled. Petals 5, 2–2.5 × 1 (1.4) mm, deciduous, though they can remain trapped between the calyx and the capsule, ovate-elliptical to oblong, concave and erect, forming a cup-shaped corolla (Fig. 1b). Stamens 5, filaments inserted

between the disc lobes or abruptly over the disc lobes, sometimes the disc lobes are not evident and it is difficult to assign the insertion to one of the options mentioned. Anthers slightly apiculate. Ovary with 3 styles. Capsules 3–4 mm opened by 3 valves.

*Distribution*.—Distributed from northwestern Africa to southwestern Asia, and naturalized in the western Mediterranean basin, America and Australia. Scattered from the southern to the eastern parts of the Iberian Peninsula. Fig. 2b.

*Notes*.—In the specimens collected in Spain, we observed a very high proportion of unviable seeds inside each capsule. Unviable seeds were also observed in other species (*Tamarix africana*, *T. boveana*, *T. gallica*, and *T. parviflora*) but not in high proportions. It would be interesting to examine if this happens also in wild populations in the *T. aphylla* original distribution area, which covers a wide area in arid habitats between Morocco and Senegal in the west, and Pakistan and Afghanistan in the east (Baum 1978). Most of the specimens collected and observed are cultivated and only one clearly naturalized has been seen by the authors (ABH 57455, ABH 71893, ABH 74668).

*Tamarix boveana* Bunge, Tent. Gen. Tamar.: 24 (1852). Type: Algeria. Près de la Macta, 30 Apr. 1830, N. Bové s.n. (lectotype designated by Villar & al. (2015: 593): P 00166715!; isolectotypes: B 100165200!, B 100165201!, G!, K 000242695!, K 000614109!, P 00166717!, P 05038533!, W 0031775!).

*Tamarix jimenezii* Pau, Bull. Acad. Int. Géogr. Bot. sér. 3, 16 (206): 75 (1906). Type: Spain. Murcia, Cartagena, Lopollo, 31 May 1903, F. Jiménez Munuera s.n. (lectotype designated by Villar & al. (2021: 285): MA 79004!).

*Description*.—Deciduous to marcescent shrubs or trees usually less than 4 m high, that can develop a lateral branch growth making them wider than higher. Main blooming period starts in late winter and extends to mid spring (depending on the climate); weak secondary blooms may occur through the spring or early summer. Leaves (1) 2–4 (5) mm long, narrowly lanceolate acute. In shoots developing from late summer to early winter, leaves are markedly auriculate and sometimes at the smaller size range. Each year’s new green shoots can also bear large basal and axillary leaves, 5–10 mm long, triangular-lanceolate, with a wide base (Fig. 1d). Inflorescence composed of generally solitary racemes that can appear at almost any part of the tree, intermixed with green shoots, and more frequent towards the tips of last year branches. Racemes (2.5) 40–120 (150) × 7–13 mm, very large, with a peduncle up to 1 cm long, with some long and wide oblong and slightly retrorse bracts, green at the beginning and yellowish-pale when the flowers are mature. Rachis from papillose to almost glabrous. Floral bracts 4–6 (7.5) × 0.5–1 mm, oblong-obtuse, sometimes with scarious incurved apex, base decurrent, divaricate to reflected at fruit stage, with papillose margin and surface, generally reaching or clearly

surpassing the tip of the calyx (Fig. 1e); exceptionally 1–3 extra bracts can be found on the pedicels of basal flowers, these bracts being triangular linear and usually shorter than 2 mm. Pedicels 0.5–1.5 (2) mm, sometimes slightly recurved. Sepals 4 (rarely 5, exceptionally 6), (1.7) 2–3.5 (4) × (1.25) 1.5–2.5 (3) mm, ovate-elliptical, with a hyaline margin that is entire or finely and irregularly denticulate, sometimes eroded, the 2 internal obtuse, the 2 external slightly larger, commonly acute (rarely obtuse) to acuminate; when acuminate, the central nerve is strongly developed and the sepals may appear keeled. Petals 4 (rarely 5), (2.5) 3–4.5 (6) × 1.25–2.5 mm, elliptical-obovate to obovate-unguiculate, reflexed. Filaments 4 (rarely 5, very rarely 6–7), inserted on the top of disc lobes, the lobes short and filament insertion usually progressive, sometimes truncate; sometimes the stigmatic disc is very thin and circular, with no clear lobes, and then the insertion of filaments is progressive. Anthers not apiculate or, sometimes, very slightly apiculate. Ovary with 4 styles, rarely 3. Capsules 5–7 mm.

*Distribution.*—Distributed in northwestern Africa and the southwestern Mediterranean Basin. Southern and eastern Iberian Peninsula, including the Ebro basin, Mallorca, and Menorca (Balearic Islands). Fig. 2c.

*Notes.*—Secondary blooms are weak and occasional in this species. However, it is worth mentioning that they present racemes arranged in panicles and a high number of pentamerous flowers bearing shorter and thinner lanceolate bracts. Racemes in the shorter and longer size ranges are commonly found in a single tree. In some specimens, extra bracts are very close to the calyx, and they adopt the shape of a sepal (Villar & al. 2012). Presence of additional bracts was strongly linked to *T. rosea* Bunge in Baum (1978), although they have been later reported to a certain number of species (Villar & al. 2012). Sepals reaching 3.5–4 mm have not been recorded out of Spain. The presence of *T. dalmatica* in the Iberian Peninsula was already discussed (Villar & al. 2012). That piece of research included detailed study of type materials and specimens from *T. dalmatica* original range, as well as Iberian materials reported as *T. dalmatica*. The results showed great differences between the materials from the Adriatic coast and those collected in Spain. The latter were confused with *T. boveana* and, in a few cases, with *T. africana*. The specimen (BCN 41042) reported as *T. dalmatica* by Gargano & al. (2018) is here classified as *T. boveana*.

*Tamarix meyeri* belongs to a group of mostly tetramerous flowered and large raceme sized species. This group includes *T. tetragyna*, *T. meyeri*, *T. boveana*, *T. brachystachys*, and *T. elongata* (alongside several synonyms). *Tamarix meyeri* was described by Boissier (1849) and years later, the same author (Boissier 1867) regarded it as a variety of *T. tetragyna*. This same criterion was also followed by authors such as Zohary (1972) and Qaiser (1981). Recent

molecular studies (Villar & al. 2019) have provided certain support for a close relation between *T. elongata*, *T. boveana*, and *T. tetragyna*, but *T. brachystachys* and *T. meyeri* could not be included in the analyses. Therefore, a more detailed molecular and morphological study of this group of species and their synonyms would surely provide a basis upon which to make decisions on their taxonomic status. In the meantime, we know that the first and subsequent records of *T. meyeri* in the Iberian Peninsula (Venturella & al. 2012; Gargano & al. 2018) were based on the affirmation that those specimens “are characterized by a tetramerous paralophic disk and, therefore, clearly correspond to *T. meyeri*”. Nevertheless, as explained before, we recognize a considerable degree of variability with respect to the staminal disc. Moreover, the mentioned localities include sites widely known to maintain healthy populations of *T. boveana*, such as Cabo de Gata (Almería) and the Ebro River delta (Tarragona). After examining the specimens from BCN, we consider that material to belong to *T. boveana*.

*Tamarix octandra* has been scarcely reported since its publication (Bunge 1852), from some localities around the Caucasus, northern Iran, the northwestern Caspian shores, Krym, and Turkey (Gorschikova 1949; Schiman-Czeika 1964; Baum 1966, Zieliński 1993). Its identity as a species is well supported by molecular phylogenetic data (Villar & al. 2019). In the Iberian Peninsula and the Balearic Islands, it could only be confused with a *T. boveana* with extra stamens in its flowers. The specimen (BCN 58996) reported as *T. octandra* by Gargano & al. (2018) consists of a loosely branched twig with immature racemes. Not a single opened flower could be found and the racemes, bracts and floral parts were underdeveloped. After opening several flowers buds from three racemes, we found no characters that could lead us to *T. octandra*. Our observations suggest an underdeveloped *T. boveana* individual.

*Tamarix gallica* L., Sp. Pl. 1: 270 (1753). Type: “*Tamarix narbonensis gallica*” Hortus Cliffortianus 111, *Tamarix* 1 (lectotype designated by Baum (1966: 35–36): BM 000558434 [photo!]).

*Tamarix anglica* Webb, J. Bot (Hooker) 3: 430 (1841). Type: “*Tamarix narbonensis*” (lectotype designated by Baum (1966: 35): P-LA 00287245!).

*Tamarix esperanzana* Pau & Villar, Brotéria Ser. Bot. 23: 101 (1927). Type: Spain. Madrid, Aranjuez, 21 May 1897, C. Pau s.n. (lectotype designated by Villar & al. (2021: 284): MA 78910!).

*Tamarix esperanzana* var. *majoriflora* Pau & Villar, Brotéria Ser. Bot. 23: 104 (1927). Type: Spain. Madrid, Ciempozuelos, 18 May 1897, C. Pau s.n. (lectotype designated by Villar & al. (2021: 284): MA 78908!).

*Tamarix matritensis* Pau & Villar, Brotéria Ser. Bot. 23: 105 (1927). Type: Spain. Madrid, Aranjuez ad Laguna de Ontigola, 26 May 1919, C. Vicioso s.n. (lectotype designated by Villar & al. (2021: 286): MA 78890!; isolectotype: BC 22355 [photo!]).

*Tamarix riojana* Sennen & Elías, Bol. Soc. Ibér. Ci. Nat. 27 (3–4): 67 (1928). Type: Spain. Logroño, Alcanale, bords de l’Ebre. 29 Aug.

1921, fr. Elías s.n. (lectotype designated by Villar & al. (2021: 287): MA 78815!; isolectotypes: MA 78915!, G 6990/1281!, G 6990/1280!, G 6990/1279!, W 1922-16790!, SEV 74925, SEV 75449, MPU 022209!, BCN 58968!, BC 75704 [photo!], L 2462526 [photo!]).

*Tamarix brachylepis* Sennen, Butl. Inst. Catalana Hist. Nat. 32: 90 (1932). *Tamarix gallica* var. *brachylepis* Sennen, Butl. Inst. Catalana Hist. Nat. 32: 90 (1932). Type: Spain. Barcelona, Castelldefels, 16 May 1929, fr. Sennen s.n. (lectotype designated by Villar & al. (2021: 282): MA 78916!; isolectotypes: MA 78915!, BCN 58976!, BC 84493 [photo!], G 6990/1295!, P 06618422!, W 1930-12296!).

*Tamarix sireti* Sennen, Butl. Inst. Catalana Hist. Nat. 32(4–6): 110 (1932). Type: Spain. Almería, Cuevas de Vera, berges de l'Almanzora, 14 Jul. 1929, fr. Sennen & Jerónimo s.n. (lectotype designated by Villar & al. (2021: 288): MA 78917!; isolectotypes: BCN 58970!, W 1930-12213!, G 6990/1277!, G 6990/1278!, P 06618791!, RAB 013567!).

**Description.**—Deciduous to marcescent shrubs or trees that lose their leaves in late autumn, 2 to 8 m high. Main bloom starts at mid-late spring in the warmer areas; secondary blooms may take place from early summer and, especially in late summer and early autumn. Leaves 1–2 (3) mm long, very variable in shape, ovate-lanceolate to lanceolate, acute, more or less auriculate, with narrow slightly decurrent base, usually not embracing more than half the twig circumference, more auriculate towards the end of the year. Inflorescence composed of racemes arranged in unbranched spike-like panicles, slightly ramified panicles or, especially in secondary and late blooms, in compound panicles. Sometimes racemes can also grow in fascicles. Racemes (10) 20–55 (100) × 3.5–5 (5.5) mm, with variable peduncles (<2–5 (10) mm). The shorter ones naked, the longer sparsely covered by 4–11 green or scarious broad based, leaf-like bracts. Rachis glabrous or sometimes papillose at first spring bloom, clearly papillose at secondary and late blooms throughout the summer and early autumn. Bracts (0.75) 1–1.75 (2.5) mm long, generally scarious and papillose, at least on the margins of the basal part, from ovate-obtuse with wide base not equaling the calyx top, to narrowly subulate with narrow and slightly decurrent base and commonly overpassing the calyx apex (Fig. 1h). Pedicels usually shorter than 0.5 mm, shorter than sepals, when longer (up to 1 mm), they influence the relative length of bracts in respect to the calyx top level and in relation to sepal length. Sepals 5, 0.6–0.9 × 0.4–0.7 (0.8) mm, ovate to triangular ovate, with the tip generally obtuse, sometimes acute, with a subentire margin, finely serrulate; the 2 external ones can show a marked central nerve and be more acute tipped. Petals 5 (exceptionally 6 or 7), (1) 1.2–1.7 (2) × 0.6–1 (1.2) mm, elliptic, elliptic-obovate or oblong-elliptic, less frequently elliptic ovate. Filaments 5 (rarely 6 to 8), usually arising smoothly from the disc lobes or inserted on top of them. Anthers slightly apiculate. Ovary always with 3 styles. Capsules 2.5–4 mm long.

**Distribution.**—Distributed in western Europe and the western Mediterranean basin. Widespread in the Iberian Peninsula and the Balearic Islands. Fig. 2d.

**Notes.**—Racemes reaching 5.5 mm wide were associated with uncommon elongation of pedicels, while the remaining floral parts conform with typical measures. Moreover, these extra wide racemes are mixed with racemes of normal width within the same tree. Racemes reaching extreme length (10 cm) were observed in one tree (ABH 77211). This tree was visited at different times later, and its racemes showed normal size. Petal shape varies from slightly obovate to slightly ovate in single individuals. Sometimes disc lobes are not prominent and there are cases in which the disk could even be classified as holophytic, according to Baum (1978). Several specimens falling under the morphological description provided in the present study have been classified as *T. canariensis* since the 1970's.

One of the most controversial issues about the identification of *Tamarix* in the Iberian Peninsula has been the distinction between *T. canariensis* and *T. gallica*. Both species are highly similar in morphology. However, *T. canariensis* has not been commonly cited out of the Canary Islands and it was even synonymized to *T. gallica* by early authors such as Webb (1841). Baum's (1966, 1978) interpretation of *T. canariensis* expanded its distribution to Morocco, Algeria, Tunisia, Corsica, Sardinia, France, Spain and Portugal. Thus, the numerous previous records of *T. gallica* in north-western Africa were assigned to *T. canariensis*, whereas the distribution of *T. gallica* was mostly constrained to south-western Europe. A set of characters for each species was provided by Baum (1966), including shape and size of petals, shape of sepals, shape and relative length of bracts and presence or absence of papillae on the rachis of floral racemes. This interpretation was later followed in regional and local floras (Cirujano 1993; Salazar & Quesada 2011; Mateo & Crespo 2014). Nevertheless, the set of characters assigned to each species often overlap when identifying specimens of wild populations, making identification difficult. Indeed, in recent years, we showed that both sets of characters could be found in a single tree across the year or even at the same time. Herbarium sheets coming from single individuals but collected at different times of the year are kept at the ABH. Typically, the set of characters usually related to *T. gallica* was mostly found in the first spring bloom, whilst the characters assigned to *T. canariensis* tended to appear progressively in secondary blooms, being very clear in late-summer and autumn racemes. Based on the phylogenetic data available (Villar & al. 2019), it was demonstrated that individuals of *T. canariensis* from the Canaries were genetically very distant to *T. gallica* (including specimens reported as *T. canariensis* outside the Canaries). Nevertheless, we have not found clear morphological characters to separate these species. Therefore, as it was explained in Villar & al. (2019), in the light of phylogenetic data, we only recognize *T. gallica* for those records of both species made in north-western Continental Africa and south-western Europe. These results are



congruent with Terzoli & al. (2014), who found no genetic differences for Italian *T. canariensis* and *T. gallica*. This would confirm that all those Italian *T. canariensis* specimens were, in fact, *T. gallica*. More recently, Bihaoui & al. (2020), also had great difficulties distinguishing between both species because of the great plasticity in the characters commonly used for identification. Further genetic studies will be needed to determine the true extension of the distribution of *T. canariensis*, which has only been assessed from specimens collected in Tenerife and Gran Canaria.

The presence of *Tamarix mascatensis* was also recently discarded (Villar & Alonso 2016), and neither the specimens nor the previous descriptions provided by De Martis & al. (1985) and Cirujano (1993), matched the characters of the original material from *T. mascatensis*. The specimens studied by Villar & Alonso (2016) were found to belong to *T. gallica*. Most identifications gave high importance to the staminal disc, but obviated a key character already mentioned in the original description (Bunge 1852), such as the strongly amplexicaule leaves, almost vaginate.

*Tamarix arborea* was first cited by Gargano & al. (2009), including both of the varieties recognized by Baum (1966). Probably, the first identification of this species in the Iberian Peninsula dates from a specimen kept in the herbarium of the University of Málaga (MGC 11349). That specimen was collected by López and Nieto in May 1982 and initially classified as *T. gallica*. In 1989, Loi and De Martis identified it as *T. arborea*. That same specimen has recently been re-assigned to *T. gallica* by Soriguer, an identification in which we totally agree. The identity of *T. arborea* is complicated. Having observed type materials and gatherings from the area from which it was described (El Cairo, Egypt), we may say that the most significant difference with *T. gallica* is the shape of the leaves, which tend to embrace more than half the twig circumference. Moreover, there is a clearly close relation of this species with *T. nilotica* (Ehrenb.) Bunge, even reflected in a rather heterogeneous type collection of *T. arborea*, that includes specimens that can be assigned to either species. In fact, Zohary (1972) included *T. arborea* as a synonym of *T. nilotica*, alongside other names such as *T. mannifera* and *T. arabica*. These relations remained unclear in our recent phylogenetic work (Villar & al. 2019), but they were clearly apart from the clade including *T. gallica*. It would be helpful to confirm suspicious cases by using molecular data. Nevertheless, according to our observations of the materials kept at BCN, the high percentage of *T. arborea* identifications in Gargano & al. (2018) is due to misidentifications. After detailed analysis of the BCN specimens classified by Gargano & al. (2018) as *T. arborea*. It is evident that our approaches on *Tamarix* species identification differ greatly. These discrepancies with our colleagues give another insight on the taxonomic challenge presented by this genus. Under our interpretation, all those specimens can be

easily identified as either *T. africana* or *T. gallica*. The only specimen (BCN 58947) reported as *T. arborea* var. *subvellutina* is here assigned to *T. africana*.

*Tamarix mannifera* was reported by Gargano & al. (2018) on three specimens previously identified as *T. canariensis* (BCN 58965, BCN 58966, BCN 58970). One of them (BCN 58970) is, indeed an isolectotype of *T. sireti* Sennen. According to our interpretation, all three specimens represent late blooms of *T. gallica*. Therefore, we cannot give support to the presence of *T. mannifera* in the Iberian Peninsula.

*Tamarix rosea* is a taxon of difficult interpretation. Its description (Bunge 1852) noted some features that probably do not reflect the most common features of a *Tamarix* species, such as heptandrous flowers (bearing almost always 7 stamens) and flowers with 5 or 6 petals. Later, Baum (1966) added a new uncommon character, such as bearing 2 or 3 bracts in, at least, some flowers in each raceme. The type materials, observed at G and especially at P, do not allow to confirm such features, in part, due to the impossibility of examining flowers without greatly damaging the specimens. The specimen kept at G shows, indeed, a morphology that could match with the late bloom of *T. hohenackeri* Bunge, though the state of the specimen does not allow to confirm if the petals are persistent or not, as suggested by Bunge (1852). To add more confusion, Gorschikova (1949) included *T. rosea* as a synonym of *T. octandra*. A synonymization that is difficult to support attending to the type materials available. Another example is the inclusion (Baum 1966) of the specimens belonging to the gathering Balansa 130 (type material for *T. hampeana* var. *smyrnea* Boiss.) into *T. rosea*, even mentioning that it could be a transitional form between *T. hampeana* and *T. rosea*. In our opinion, the specimens of Balansa 130 are clear examples of *T. hampeana* (Villar 2017), despite the extra bracts in some flowers. Lately, *T. rosea* has also been included as a synonym of *T. hohenackeri* in the catalogue of life (Hassler 2020). The specimen (BCN 58989) identified as *T. rosea* by Gargano & al. (2018) shows the typical features of *T. gallica* except for the insertion of the staminal filaments into the disc, which is not clearly assignable to a category. According to our data, the morphology of this specimen must not lead to the recognition of a new species for the Iberian Peninsula, especially if it means the inclusion of such a controversial species as *T. rosea*.

*Tamarix parviflora* DC., Prodr. 3: 97 (1828). Type: Turkey: “Constantinople. 1822. M. Louis Castagne 24” (holotype: G-DC).

*Tamarix lucronensis* Sennen & Elías, Bol. Soc. Ibér. Ci. Nat. 27 (3–4): 67 (1928). Type: Spain. La Rioja, Herrera, 29 May 1923, fr. Elías s.n. (lectotype designated by Villar & al. (2021): 285): MA 78791!; isolectotypes: BCN 59557!, G 6990/1340!, G 6990/1341!, L 101910 [photo!], SEV 92127, MPU 022217!).

*Description.*—Deciduous shrubs or trees usually less than 4 m high. Main bloom from late winter to early-mid spring. Secondary blooms extremely uncommon. Leaves 1–3 mm long, triangular-lanceolate to lanceolate acute, with a narrow decurrent base, sometimes slightly auriculate. Inflorescence composed of generally solitary, sometimes fasciculate racemes that usually appear in last year's branches before the new green shoots start growing, more frequent towards the branch tips. Racemes 20–40 (50) × 4–5 (5.5) mm, with a short peduncle less than 5 mm, with 2 to 5 bracts, leaf like or scarioso and grouped at the base. Rachis usually glabrous. Floral bracts 1–1.8 (2) × 0.5–0.8 mm, triangular-oblong, divaricate, concave, base narrow and decurrent, apex incurved and obtuse, with entire margins or, sometimes, slightly papillose at the base, generally not reaching the tip of the calyx. Pedicels usually shorter than 0.5 mm (rarely reaching 1 mm). Sepals 4, 0.75–1.25 × 0.6–1 mm, with a hyaline entire to irregular margin, sometimes pink-purple coloured towards the tip (Fig. 1c), the outer 2 triangular ovate-acute, sometimes with a marked central nerve, the inner 2 elliptical and obtuse, all conerescent at the pedicel, making it difficult to establish the start of the sepal. Petals 4, (1.6) 1.75–2.25 (2.5) × 0.75–1.2 (1.5) mm, trullate ovate to oblong cuneate or even elliptic-obovate, incurved to retrorse. Filaments 4 (rarely 5), smoothly rising from the top of disc lobes, which sometimes shows a cruciform shape. Anthers generally apiculate. Ovary with 4 (3) styles. Capsules 3.5–5 (5.5) mm.

*Distribution.*—Distributed in the eastern Mediterranean basin, northern Africa and southwestern Asia. Cultivated and naturalized mostly in the coastal areas of the eastern, southern and northern Iberian Peninsula, with some localities in central Spain. Fig. 2e.

*Notes.*—Secondary blooms seem to be rare in this species. However, when happening, flowers can show a variety of rare features such as pentamery or an uncertain number of extra stamens that can greatly difficult a proper identification.

*Tamarix* gr. *ramosissima* Ledeb., Fl. Altaic. 1: 424 (1829).

*Description.*—Deciduous shrubs or trees usually less than 4 m high. Flowering several times from spring to autumn. Leaves 1–3 mm long, ovate-triangular to triangular-lanceolate, acute at the apex, with a narrow and slightly decurrent base, sometimes slightly auriculate. Inflorescence composed of racemes arranged in loosely compound panicles in the apical part of, generally, new branches. Racemes 25–50 (80) × 3.5–5 mm, with a short (2–8 mm) naked peduncle, or bearing a few leaflike bracts. Rachis usually glabrous. Floral bracts 0.75–2 (2.5) mm long, narrowly triangular, lanceolate or subulate, with a narrow and slightly decurrent base with entire margins or, sometimes, slightly papillose-denticulate at its basal third, generally not reach-

ing the tip of the calyx, or slightly surpassing it, though this character strongly depends on pedicel length. Pedicels 0.2–1 (1.5) mm. Sepals 5, 0.6–1 × 0.5–0.75 mm, triangular-ovate, mainly acute though they can sometimes be obtuse at the tip, with a hyaline sub-entire to finely serrulate margin, the two outer ones sometimes showing a marked central nerve. Petals 5, 1–2 × 0.6–1 mm, obovate, elliptic or wide elliptic, rarely elliptic ovate, frequently inequilateral at their upper part, concave and persistent, forming a cup shaped corolla (Fig. 1i). Filaments 5, inserted between the disc lobes. Anthers generally not apiculate. Ovary with 3 styles. Capsules 3–4.2 mm.

*Distribution.*—Native to central and eastern Asia, but widely cultivated and naturalized in many parts of the world. Some localities in northern and southeastern Spain. Fig. 2f.

*Notes.*—Baum (1966) mentioned the specimen K 000341731 as a fragment of the holotype, but his previous discussion on the matter of *Tamarix ramosissima* type material makes clear that some uncertainty remains. Moreover, as it is stated on the Report of the Nomenclature Committee for Vascular Plants 68 (Wilson 2017: 480), the selected specimens can not be clearly linked to Ledebour (1829) protologue, and possible original material at LE was not studied. Therefore, the status of these vouchers could undergo some changes in the future. Iberian specimens identified as either *T. ramosissima* or *T. chinensis* are found in herbaria. Alongside other species (*T. austromongolica* Nakai, *T. smyrnensis* Bunge and *T. hohenackeri*), they share the very characteristic persistent petals. This group would basically match Series *Xeropectalae* Bunge (Bunge 1852). The resemblance of *T. ramosissima* and *T. chinensis* has been widely discussed over the last decades (Baum 1978; Cirujano 1993) and hybrid forms are widely distributed out of their respective native areas (Gaskin & Schaal 2003). The features observed in the type of *T. chinensis* present in the Loureiro herbarium (at P) greatly match with the morphology observed in *T. ramosissima* from collections nearby the original location of the latter. We have taken this with caution, since we have only been able to see a few specimens that would undoubtedly belong to *T. chinensis* and maybe, other regional treatments (Yang & Gaskin 2007) could provide a better understanding of this group. However, in the light of the difficulties sometimes found to classify this kind of specimens under one of the two aforementioned names, we have classified them as *Tamarix* group *ramosissima* (*T. gr. ramosissima*). This decision is also supported by the fact that most of the specimens found (mainly cultivated) seem to match with what nurseries sell as *T. ramosissima* “pink cascade”. We hope further studies on this group will help to clarify the issues regarding the names included upon it.



Fig. 3. Image of the holotype of the hybrid taxon *Tamarix × verae* (ABH 81571).

*Tamarix × verae* J.L.Villar, M.Á.Alonso & M.B.Crespo, **nothosp. nov.** Parentals: *Tamarix boveana* Bunge × *Tamarix gallica* L. Type: Spain. Elche, Clot de Galvany, 30SYH1635, 9 m, 7 Apr. 2022, J.L. Villar T217A (holotype: ABH 81571!). Fig. 3.

**Diagnosis.**—General aspect similar to *Tamarix boveana*, but with clear differences in characters such as the arrangement of racemes, more similar to *T. gallica*, the smaller size of the floral parts and a clear tendency to pentamery. These intermediate features can show similar proportions to *T. africana*, but it can be easily distinguished from the latter by its flexuose bracts, the less condensed green spring shoots, the shape of floral parts and the hypersaline habitats this hybrid shares with both parentals, but not with *T. africana*.

**Eponymy.**—The hybrid's name is dedicated to the first author's daughter, Vera.

**Description.**—Deciduous shrubs or trees, usually less than 4 m high. Blooming in spring. Leaves 1.5–3.5 (9) mm long, ovate-triangular to narrowly lanceolate, with narrow and slightly decurrent base, sometimes slightly auricula-

te. Inflorescence composed of generally solitary racemes, sometimes fasciculate, more frequent towards the tips of branches, new or old, sometimes forming unbranched panicles. Racemes (20) 30–60 (70) × 6–7.5 (9) mm, with a peduncle up to 2–10 mm long, with sparse wide bracts, oblong to triangular, scarious. Rachis of the racemes glabrous or not evidently papillose. Floral bracts 2.7–3.5 (4.5) × 0.6–0.8 mm, oblong-obtuse, wide triangular or subulate, sometimes flexuose in their upper part, base narrow and slightly decurrent, sometimes with a papillose margin, generally reaching or slightly surpassing the tip of the calyx. Pedicels 0.5–1 mm. Sepals 5, but flowers with 4 sepals are frequent (exceptionally 6), 1.2–1.5 (2) × 0.8–1.2 mm, ovate triangular or ovate, with a hyaline margin that is entire or finely and irregularly denticulate, sometimes eroded, the 2–3 internal obtuse, the 2 external sometimes acute. Petals 5 (rarely 4), 2.25–3 × 0.8–1.5 mm, oblong obovate to oblong, rarely trullate ovate, retrorse at maturity. Filaments 5 (rarely 4 or 6), the antesealous inserted on the top of disc lobes, Anthers not apiculate or, sometimes, very slightly apiculate. Ovary with 3 styles, rarely 4. Capsules 3.75–5 mm.

**Notes.**—All specimens of this hybrid were observed in localities where both parent species were present and very close to each other. When tetrasepalous flowers were found, the calyx greatly resembled to that of *T. boveana* at a smaller scale. Many tetrasepalous flowers were found to be pentapetalous and pentandrous. Some pentasepalous flowers showed 2 sepals almost overlapping, needing careful manipulation in order not to classify them as tetrasepalous. Sometimes, the fifth sepal showed a mixed sepal-petal morphology.

## DISCUSSION

Only seven species are recognized in the present work for the Iberian Peninsula and the Balearic Islands. The status of other species reported to those territories is discussed under each of the recognized species in the treatment above. Many of these identifications seem to be derived from an extensive use of Baum's monograph key (Baum 1978), and an excessive reliance on the stability of some characters that, according to our studies, are more variable than previously reported. Over the next paragraphs, some examples of how this could affect the identification of the most common Iberian and Balearic species are provided.

One of the key features used by Baum (1966, 1978) is the shape of the nectariferous disc, which was divided in synlophic, paralophic and hololophic, depending on the insertion of the staminal filaments. This character has lately been regarded to show certain plasticity within the species natural variability (Zohary 1972; Villar & al. 2012). In the mentioned key, the three main Iberian *Tamarix* species are

considered to show a synlophic disc. A strict interpretation of the disc shape, under the three mentioned categories, would mean that *T. gallica* would never be selected if the identifier considered the disc as paralophic. Nevertheless, this could lead to records of *T. mascatensis* or *T. arborea*, whose discs were regarded as paralophic (Baum 1978). Similarly, a standard specimen of *T. boveana* could not be properly identified if someone considered the disc as paralophic. Under this circumstance, such specimen would easily be identified as *T. meyeri* or *T. dalmatica*. Even to get to *T. africana*, anyone will find a last step in which, if the disc is considered paralophic, the final result would be *T. tetragyna*. Therefore, as it can be seen in the species description provided, a less strict interpretation of the disc shape should better represent the real variability of the Iberian and Balearic *Tamarix* species, and would probably result in a lesser number of conflicting identifications.

Another conflicting character is the number of stamens, regarded as haplostemonous, when the number of stamens matches the number of calyx pieces; diplostemonous, when the filaments are double than sepals; and partially diplostemonous, when extra filaments appear in an haplostemonous disc, without reaching numbers double than sepals. Other terms such as triplostemonous and partially triplostemonous do not apply to any of the Iberian or Balearic reported species. None of the species recognized in this article can be reached if the entry of “diplostemonous or partially diplostemonous discs is followed”. This entry would easily lead a *T. africana* with some proportion of extra staminal filaments, to be easily identified as *T. tetragyna*. This derivation has probably happened in the past in other regions. For instance, the description and the figure appearing in De Martis & al. (1984) for Sardinia, seems to be closer to *T. africana* than to *T. tetragyna*. Indeed, it seems that the general conception of *T. tetragyna* that derives from Baum (1978) remarks too much the special features (such as pentamerous flowers and extra stamens), instead of in its most common features (haplostemonous tetramerous flowers) placing it as something similar to a *T. africana* with extra filaments. However, according to our observations, *T. tetragyna* is a very similar species to *T. boveana*. Both species can show some pentamerous flowers, which can be dominant in secondary blooms, but their main blooms consist of large tetramerous flowered racemes. The presence of mostly pentamerous flowers in aestival racemes was well documented by Baum (1966) for *T. tetragyna* but not for *T. boveana*, maybe for the practical lack of specimens showing this feature in the available herbarium materials. A strong relation between the aforementioned species is supported by the phylogenetic data available (Villar & al.; 2019).

In such a complicated genus as *Tamarix*, it would be recommendable to follow the approach of Piirainen & al. (2017), and generate (when not available) regional keys

instead of using a global one. Using a global key in a genus with species showing similar characters but living in distant areas can lead to doubtful records and rare extension of previously expected distribution areas for each species. A more complete phylogeny and access to genomic information could also help confirm or discard identifications out of the expected range of each species.

When collecting *Tamarix* specimens, it would be useful to take the phenology into consideration, trying to gather the specimens during the first bloom of the year, when diagnostic characters tend to be more stable (Baum 1978; Villar & al. 2012). In relation to this, it is necessary to recognize that certain unexpected characters can eventually show up. However, specimens with unexpected characters can normally fit into the variation of one of the local species. If an identification gets to the point of no possible fitting in any of the local species, molecular analyses can be helpful to compare our specimens with the previously available data (Villar & al. 2019).

The taxonomy of Iberian *Tamarix* is still a work in progress, and novelties and changes will come up in the future. It will be especially interesting to pay attention to the study of hybrids, which could likely occur between any of the Iberian species. The three species that are surely native (*T. boveana*, *T. africana*, and *T. gallica*, organized by the beginning of blooming periods), have different phenology that would prevent them from generalized hybridization events. However, the existence of late blooms can favour sporadic events between *T. boveana* and *T. gallica*, as it probably happened with *T. × verae*, and the blooms of *T. africana* and *T. gallica* can slightly overlap in spring. Surely, the rest of present species could be involved in hybridization processes. The occurrence of hybridization has been commented on in different works (Rusanov 1949; Baum 1966; Samadi & al. 2013), and its importance and extension have been recently proven (Gaskin & Schaal; 2003, Gaskin & Shafroth 2005; Mayonde & al. 2015). However, no formal descriptions of hybrids had been undertaken until now.

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## REFERENCES

- Bauhin J. & Cherler, J.H. 1650. *Historia Plantarum Universalis* vol. 1. Ebroduni [Yverdon].
- Baum B.R. 1966. *Monographic Revision of the genus Tamarix*. Final research report for the USDA. Department of Botany. Hebrew University, Jerusalem.
- Baum B.R. 1968. *Tamarix* L. In Tutin T.G., Heywood V.H., Burges N.A., Moore D.M., Valentine D.H., Walters S.M. & Webb D.A. (eds.), *Flora Europaea* 2: 292–294. Cambridge University Press, Cambridge. [Reprint 1990].
- Baum B.R. 1978. *The genus Tamarix*. Israel Academy of Sciences and Humanities, Jerusalem.
- Bihaoui A., Haddioui A. & Hammada S. 2020. Les erreurs d'identification des espèces du genre *Tamarix* L. au Maroc: Clés non uniformes et espèces polymorphes. *Ecologia mediterranea* 46: 49–61.
- Boissier E. 1849. *Diagnoses Plantarum Orientalium Novarum* ser. 1, 2(10): 8–10. M. Ducloux et Cons, Paris.
- Boissier E. 1856. *Diagnoses Plantarum Orientalium Novarum* ser. 2, 3(2): 56–59. B. Herrmann, Leipzig.
- Boissier E. 1867. *Flora Orientalis* 1: 763–779. H. Georg, Genève.
- Bunge A. 1852. *Tentamen Generis Tamaricum Species Accuratus Definiendi*. J.C. Schuenmanni & C. Mattieseni, Dorpati.
- Burt B.L. & Lewis P. 1954. On the Flora of Kuwait: III. *Kew Bulletin* 9: 377–410.
- Cirujano S. 1993. *Tamarix* L. In Castroviejo S., Aedo C., Cirujano S., Lainz M., Monserrat P., Morales R., Muñoz Garmendia F., Navarro C., Paiva J. & Soriano C. (eds.), *Flora iberica* vol. 3: 437–443. Real Jardín Botánico, CSIC, Madrid.
- Clusius C. 1576. *Rariorum aliquot stirpium per hispanias observarum historia*. Christophori Platini, Antwerpen (Amberes), 104–107.
- Dalechamps S.J. 1586. *Historia generalis plantarum*. Pars prima. Leiden.
- De Martis B., Loi M.C. & Polo M.B. 1984. Il genere *Tamarix* L. (Tamaricaceae) in Sardegna. *Webbia* 37: 211–235.
- De Martis B., Loi M.C. & Polo M.B. 1985. *Tamarix mascatensis* Bge. (Tamaricaceae) in Portogallo, nuova per la flora d'Europa. *Boletim da Sociedade Broteriana* 58: 215–217.
- Gargano M.L., Mandracchia G & Venturella G. 2009. *Tamarix arborea* var. *subvelutina* (Tamaricaceae), new from Spain. *Lagascalia* 29: 320–321.
- Gargano M.L., Mandracchia G., Venturella G. & Calvo R. 2018. A revision of *Tamarix* specimens (Tamaricaceae) kept in the BCN herbarium of Barcelona (Spain). *Flora Mediterranea* 28: 393–397.
- Gaskin J.F. & Schaal B. 2003. Hybrid *Tamarix* widespread in U.S. invasion and undetected in native Asian range. *Proceedings of the National Academy of Sciences* 99: 11256–11259.
- Gaskin J.F. & Shafroth P.B. 2005. Hybridization of *T. ramosissima* and *T. chinensis* (saltcedars) with *T. aphylla* (athel) (Tamaricaceae) in the Southwestern USA determined from DNA sequence data. *Madroño* 52: 1–10.
- Gil Ll., Tébar F.J. & Boi M. 1996. Notes florísticas de les illes Balears (VIII). *Bolletí de la Societat d'Història Natural de les Balears* 39: 117–128.
- Gorschkova S.G. 1949. *Tamaricaceae*. In Komarov V.L. (ed.), *Flora URSS* vol. 15: 290–327. Izdatelstvo Akademii Nauk SSSR, Moscow-Leningrad.
- Hassler M. 2020. World Plants: Synonymic Checklists of the Vascular Plants of the World (version Sep 2020). In Roskov Y., Ower G., Orrell T., Nicolson D., Bailly N., Kirk P.M., Bourgoin T., DeWalt R.E., Decock W., van Nieukerken E.J. & Penev L. (eds.), *Species 2000 & ITIS Catalogue of Life, 2020-12-01*. Species 2000: Naturalis, Leiden, the Netherlands. Website: [www.catalogueoflife.org](http://www.catalogueoflife.org) [accessed 1 Sep. 2022].
- IPNI. 2022+. *International Plant Names Index*. The Royal Botanic Gardens, Kew, Harvard University Herbaria & Libraries and Australian National Botanic Gardens. Website: <http://www.ipni.org> [accessed 1 Sep. 2022].
- Ledebour C.F. 1829. *Flora altaica* vol. 1. G. Reimeri, Berlin.
- Linnaeus C. 1737. *Hortus Cliffortianus*. Amstelaedami [Amsterdam].
- Linnaeus C. 1753. *Species plantarum* vol. 1. Laurentii Salvii, Holmiae [Stockholm].
- Mateo G. & Crespo M.B. 2014. *Claves ilustradas para la Flora Valenciana*. [Colección Monografías de Flora Montiberica, nº 6]. Jolube Ed., Jaca.
- Mattioli P.A. 1562. *Comentarii denuo aucti, in libros sex Pedacii Dioscoridis Anzarabei de medica materia*. Gabrieleum Cotarium, Lugduini (Lyon).
- Mayonde S.G., Cron G.V., Gaskin J.F. & Byrne M.J. 2015. Evidence of *Tamarix* hybrids in South Africa, as inferred by nuclear ITS and plastid *trnS-trnG* DNA sequences. *South African Journal of Botany* 96: 122–131.
- Niedenzu F. 1925. Tamaricaceae. In Engler A. & Prantl K. (eds.), *Die natürlichen Pflanzenfamilien* vol. 21: 282–289. W. Engelmann, Berlin.
- Pau C. 1906. Synopsis formarum novarum hispanicarum cum synonymis nonnullis accedentibus. *Bulletin de l'Académie Internationale de Géographie Botanique* 206: 73–77.
- Pau C. 1918. Una ligera visita botánica a Tous. *Butlletí de la Institució Catalana d'Història Natural* 18: 158–161.
- Pau C. 1922. Nueva contribución al estudio de la flora de Granada. *Memòries del Museu de Ciències Naturals de Barcelona. Sèrie Botànica* 1(1): 74.
- Pau C. & Huget del Villar E. 1927. Novae Tamaricis in Hispania centrali. *Broteria* 23: 101–113.
- Piirainen M., Liebisch O. & Kadereit G. 2017. Phylogeny, biogeography, systematics and taxonomy of Salicornioideae (Amaranthaceae/Chenopodiaceae) – A cosmopolitan, highly specialized hydrohalophyte lineage dating back to the Oligocene. *Taxon* 66: 109–132.
- Qaiser M. 1981. The genus *Tamarix* Linn. (Tamaricaceae) in Pakistan. *Pakistan Journal of Botany* 13: 107–158.
- Rusanov F.N. 1949. *Sredniyeziatskie Tamariksi*. Tashkent. [Tamarisks of Central Asia].
- Salazar C. & Quesada J. 2011. *Tamarix* L. In Blanca G., Cabezudo B., Cueto M., Morales Torres C. & Salazar C. (eds.), *Flora vascular de Andalucía Oriental* ed. 2, vol. 2: 590–593. Universities of Almería, Granada, Jaén and Málaga, Granada.
- Samadi N., Ghaffari S.M., Akhiani H. 2013. Meiotic behaviour, karyotype analyses and pollen viability in species of *Tamarix* (Tamaricaceae). *Willdenowia* 43: 195–203.
- Schiman-Czeika H. 1964. Tamaricaceae. In Rechinger K.H. (ed.), *Flora iranica* vol. 4. Akademische Druck, Graz.
- Sennen F. 1928. Plantes d'Espagne, par le Fr. Sennen-Diagnoses et commentaires. *Boletín de la Sociedad Ibérica de Ciencias Naturales* 27: 66–67.
- Sennen F. 1932. Brèves diagnoses des formes nouvelles parues dans nos exsiccata "Plantes d'Espagne-F. Sennen". *Butlletí de la Institució Catalana d'Història Natural* 32: 90.

- Sennen F. 1936. *Diagnoses des nouveautés parues dans les exsiccata Plantes d'Espagne et du Maroc de 1928 a 1935*. Ed. Anglada, Vic.
- Terrones A., Moreno J., Agulló J.C., Villar J.L., Vicente A., Alonso M.Á. & Juan A. 2016. Influence of salinity and storage on germination of *Tamarix* taxa with contrasted ecological requirements. *Journal of Arid Environments* 135: 17–21.
- Terzoli S., Abbruzense G., Beritognolo I., Sabatti M., Valentini R. & Kuzminsky E. 2014. Genetic characterization of a *Tamarix* spp. germoplasm collection in Italy. *Botany* 92: 360–369.
- Thiers B. 2021+. *Index Herbariorum: A global directory of public herbaria and associated staff*. New York Botanical Garden's Virtual Herbarium, New York. Website: <http://sweetgum.nybg.org/science/ih/> [accessed: 1 Sep. 2022].
- Turland N.J., Wiersma J.H., Barrie F.R., Greuter W., Hawksworth D.L., Herendeen P.S., Knapp S., Kusber W.-H., Li D.-Z., Marhold K., May T.W., McNeill J., Monro A.M., Prado J., Price M.J. & Smith G.F. 2018. *International Code of Nomenclature for algae, fungi, and plants (Shenzhen Code) adopted by the Nineteenth International Botanical Congress Shenzhen, China, July 2017*. [Regnum Vegetabile 159]. Koeltz Botanical Books, Glashütten.
- Venturella G., Gargano M.L. & Mandracchia G. 2012. First record of *Tamarix meyeri* (Tamaricaceae) for western Europe. *Plant Biosystems* 146: 484–489.
- Villar J.L. 2017. *Tamarix*. Euro+Med Plantbase. The information resource for Euro-Mediterranean plant diversity. Website: <http://ww2.bgbm.org/EuroPlusMed/PTaxonDetail.asp?NameId=34690&PTRefFk=7500000> [accessed: 1 Sep. 2022]
- Villar J.L. & Alonso M.Á. 2016. *Tamarix mascatensis*. In Raab-Straube E. von & Raus T. (eds.), *Euro+Med Checklist Notulae* 6. *Willdenowia* 46: 423–442.
- Villar J.L., Alonso M.Á., Juan A., Gaskin J. & Crespo M.B. 2019. Out of the Middle East: new phylogenetic insights in the genus *Tamarix* (Tamaricaceae). *Journal of Systematics and Evolution* 57: 488–507.
- Villar J.L., Alonso M.Á. & Crespo M.B. 2021. Remarks on the types of *Tamarix* names (Tamaricaceae) described from the Iberian Peninsula. *Phytotaxa* 484: 281–290.
- Villar J.L., Alonso M.Á., Juan A. & Crespo M.B. 2012. Does *Tamarix dalmatica* (Tamaricaceae) occur in Spain? *Anales del Jardín Botánico de Madrid* 69: 253–258.
- Villar J.L., Alonso M.Á., Juan A. & Crespo M.B. 2015. Remarks on typification of nineteen names in *Tamarix* (Tamaricaceae). *Nordic Journal of Botany* 33: 591–600.
- Villar J.L., Alonso M.Á., Juan A., Gaskin J.F., & Crespo M.B. 2014. Proposal to conserve the name *Tamarix ramosissima* against *T. pentandra* (Tamaricaceae). *Taxon* 63: 1140–1141.
- Webb P.B. 1841. *Tamarix gallica* of Linnaeus. *Journal of Botany* 3: 422–431.
- Willkomm H.M. 1880. Tamariscinae St. Hil. In Willkomm H.M. & Lange J.M.C. (eds.), *Prodromus florae hispanicae* vol. 3: 596–598. Sumtibus E. Schweizerbart, Stuttgartiae.
- Wilson K.L. 2017. Report of the General Committee 17. *Taxon* 66: 478–480.
- Yang Q. & Gaskin J.F. 2007. *Tamarix*. In Zhengyi W. & Raven P.H. (eds.), *Flora of China* 13: 59–65. Science Press, Beijing, & Missouri Botanical Garden Press, St. Louis.
- Zieliński J. 1993. *Tamarix octandra* (Tamaricaceae) a species new to Turkey. *The Karaca Arboretum Magazine* 2: 7–10.
- Zohary M. 1972. *Tamarix* L. In Zohary M. (ed.), *Flora palaestina* vol. 2: 350–362. Israel Academy of Sciences and Humanities, Jerusalem. [Reprint 1987].

**Appendix 1.** Additional selected material of the genus *Tamarix* examined for this revision. Specimens included in Villar & al. (2012), Villar & Alonso (2016), and Villar & al. (2019) are not listed in this appendix.

#### *Tamarix africana* Poir.

SPAIN. **Álava:** Oyón-Oion, embalse de las Cañas, 30TWN493043, 376 m, 23 May 2014, A. Terrones & A. Vicente (ABH 73518); Oyón, Casas blancas, 30TWN4304, 430 m, 1 May 1982, P. Uribe & J.A. Alejandro (MA 326656). **Albacete:** Casas de Lázaro, vía verde entre Balazote y Alcaraz, 30SWH651478, 889 m, 13 May 2012, J.L. Villar & J.C. Agulló (ABH 59296). **Alicante:** Albaterra, hacia la Rambla Salada, 30SXH8133, 230 m, 18 Mar. 2013, J.L. Villar, J.C. Agulló, A. Vicente, J. Quinto & N. Marchant (ABH 68456); Albaterra, Rambla de la Algüeda, 30SXH8432, 140 m, 1 Jun. 1994, M. Vicedo, A. de la Torre & M.Á. Alonso (ABH 9797); Albaterra, Rambla Salada, parte alta, 30SXH8332, 600 m, 17 Apr. 2011, J. Quinto (ABH 67487); Alicante, Plaza de Toros, solar próximo, 30SYH1947, 30 m, 27 Mar. 2011, J.L. Villar & E. Martínez (ABH 59007); Alicante, río de Torremanzanas, 30SYH2061, 110 m, 28 Apr. 1998, E. Camuñas & J.C. Cristóbal (ABH 38561); Alicante, Saladar de Fontcalent, 30SYH1349, 78 m, 22 Apr. 2016, A. Vicente & J.L. Villar (ABH 77210); Alicante, Sierra de San Julián (Serra Grossa), 30SYH24, 4 May 1991, M.A. Martín (ABH 4316); Benidorm, Sierra Helada, 30SYH5671, 15 Mar. 1992, M.B. Crespo, J.L. Solanas & A. de la Torre (ABH 1894); Busot, Sierra de Bonalba, 30SYH26, 25 Mar. 1956, A. Rigual (ABH 22886); Callosa de Ensarriá, nacimiento del río Algar, 30SYH5383, 150, 12 Mar. 1967, A. Rigual (ABH 22883); Callosa d'En Sarriá, Serra de Bèrnia, 30SYH5384, 200 m, 27 Apr. 1991, J.L. Solanas (ABH 14196); Dénia, L'Alberca, 31SBD4305, 5 m, 15 Apr. 1992, A. Barber (ABH 4207); El Campello, desembocadura del río Monnegre, 30SYH2755, 1 m, 22 Apr. 2016, A. Vicente & J.L. Villar (ABH 77217); El Campello, Muchavista, 30SYH2652, 22 Apr. 2016, A. Vicente & J.L. Villar (ABH 77227); El Campello, Río Seco, desembocadura, 30SYH277552, 1 m, 27 Mar. 2011, J.L. Villar & E. Martínez (ABH 59008); Elche, Clot de Galvany, 30SYH1536, 5 m, 9 Mar. 1998, J.C. Cristóbal & J. Ordóñez (ABH 38063); Elda, río Vinalopó, camino al pte., 30SXH9157, 330 m, 10 May 2009, A. Juan (ABH 53940); Jijona, Barranco de Almadén, 30SYH17, 19 May 1959, A. Rigual (ABH 22885); Jijona, Monnegre, Barranco Salinas, presa, 30SYH1663, 275 m, 22 Apr. 1997, J.C. Cristóbal (ABH 33921); La Vila Joiosa, Platja del Torres, 30SYH4466, 2 m, 2 Aug. 2014, R.J. Boix & C. Sebastián (ABH 71896); La Vila Joiosa, riu Amadorío, 30SYH4067, 40 m, 29 May 1993, J.L. Solanas (ABH 11515); La Vila Joiosa, riu Torres, 30SYH4466, 1 m, 29 May 1993, J.L. Solanas (ABH 11513); Monóvar, 30SXH85, 1993, E. Mundejar (ABH 11769); Muchamiel, río Monnegre, 30SYH2157, 105 m, 14 May 2014, J.L. Villar (ABH 72011); Mutxamel, canal barranco en la ctra. de rotondas, 30SYH2054, 75 m, 01abr.2011, J.L. Villar & A. Vicente (ABH 67494); Mutxamel, Tàngel, 30SYH2054, 70 m, 1 Apr. 2011, J.L. Villar & A. Vicente (ABH 72014); Mutxamel, urbanización Valle del Sol, junto a ctra. Monnegre, 30SYH2058, 105 m, 1 Apr. 2011, J.L. Villar & A. Vicente (ABH 67496); Orihuela, Dehesa de Campoamor, río Nacimiento, 30SXG9798, 15 m, 15 Feb. 2011, R.J. Boix, H. Pedayúy & A. Cutillas (ABH 70641);

Orihuela, río Nacimiento (Rambla del Trujillao), 30SXG9598, 45 m, 13 Mar. 2008, P. Rico, M.Á. Alonso & al. (ABH 55137); Orxeta, pantà de l'Amadorio, 30SYH3770, 135 m, 6 Apr. 1991, J.L. Solanas (ABH 14195); Orxeta, pantà de l'Amadorio, 30SYH3868, 130 m, 10 May 2010, A. Vicente & P. Amerigo (ABH 58647); Orxeta, pantà de l'Amadorio, 30SYH3870, 140 m, 25 Apr. 1993, J.L. Solanas (ABH 14198); Orxeta, riu d'Orxeta, 30SYH3871, 150 m, 29 May 1993, J.L. Solanas (ABH 15150); Pinoso, Cerro de la Sal, 30SXH7148, 570 m, 5 May 1997, A. Navarro (ABH 36612); Pinoso, Cerro de la Sal, 30SXH7248, 540 m, 5 Apr. 1997, M.Á. Alonso & M.D. Vargas (ABH 33692); Sant Joan d'Alacant, Barranc de la Capa Muntada, 30SYH2253, 40 m, 12 Apr. 2015, R.J. Boix (ABH 72241); Sant Joan d'Alacant, Río Seco, 30SYH255563, 20 m, 29 Mar. 2011, J.L. Villar, J.C. Agulló & E. Martínez (ABH 57857); Tibi, pantano de Tibi, cola del pantano, 30SYH116651, 405 m, 15 Oct. 2012, J.L. Villar, A. Vicente & J. Moreno (ABH 69536); Tibi, prox., 30SYH06, 15 May 1992, F. Lozano (ABH 1454); Tibi, río Verde, hacia la cola del pantano de Tibi, 30SYH1165, 420 m, 3 May 2007, P. Rico, J.C. Cristóbal, A. Guilló, A. Vicente & J.L. Villar (ABH 51536); Torreveja, paseo marítimo Juan Aparicio, 30SYH042056, 2 m, 21 Mar. 2011, I. Aragoneses & J.L. Villar (ABH 58160); Villajoyosa, río Amadorio, 30SYH46, 16 Apr. 1961, A. Rigual (ABH 22884); Xixona, Monnegre de Dalt, 30SYH142629, 300 m, 1 Apr. 2011, J.L. Villar & A. Vicente (ABH 58654); Xixona, Monnegre, Moli de Capeta, 30SYH1662, 240 m, 20 Mar. 1994, J.C. Cristóbal (ABH 8882); Xixona, riu de la Torre, prox. planta de residuos sólidos urbanos, 30SYH1963, 228 m, 20 Apr. 2011, J.C. Cristóbal & M.Á. Alonso (ABH 71976). **Almería:** Carboneras, la islica, fondo rambla, WF99, 22 Mar. 1989, J. Molero (BCN 58947); Pulpi, Pilar de Jaravia, 30SXG1639, 84 m, 15 May 2012, J.L. Villar, A. Vicente & M.Á. Alonso (ABH 69646); Tabernas, Rambla de Tabernas, 30SWF59, 395 m, 29 Mar. 1997, M.Á. Alonso & J.J. Montoya (ABH 33677); Vera, Salar de los Carros, frente al parque acuático, 30SXG055202, 3 m, 8 May 2010, J.L. Villar & E. Martínez (ABH 55344); Vera, Coto de Vera-Puerto Rey, 30SXG0418, 4 m, 14 May 2012, J.L. Villar, A. Vicente & M.Á. Alonso (ABH 67465). **Badajoz:** Villanueva de la Serena, río Guadiana, en el pte. de la EX351, 30STJ582233, 278 m, 26 May 2014, A. Terrones & J. Moreno (ABH 73508); Villanueva de la Serena, río Zújar, 11 Apr. 1983, J.L. Pérez-Chiscano (BCN 58929); Proximidades de Elechosa, vertiente S del pico Portillo, 39°21'56"N, 5°00'57"W, 390 m, 2 May 1999, C. Aedo (MA 624488). **Barcelona:** Callús, Bages, 17 May 1947, J. Vives (BCN 58982); Santpedor, riera de Bellver, 31TDG0030, 395 m, 12 May 2000, I. Soriano (BCN 58936). **Cáceres:** Vega de San Mateo, ctra. GC-15, Km 20, 28RDR483990, 790 m, 20 Apr. 2011, J.C. Cristóbal & E. Martínez (ABH 69602). **Cádiz:** Chiclana de la Frontera, arroyo Salado, 29SQA596345, 14 m, 29 May 2014, A. Terrones & J. Moreno (ABH 73505); Carretera Algodonales-Olvera, Km 92-93, c. puente sobre el río Alfonso, 30STF9585, 400 m, 8 May 1988, E. Bayón, F. Muñoz-Garmendia & J. Pedrol (MA 437542). **Castellón:** Alcalá de Xivert, Alcossebre, Cap i Corp, riu de les Coves o de Sant Miquel, 31TBE672547, 24 m, 20 Mar. 2014, A. Terrones & J. Moreno (ABH 70793); Almenara, Gola Stany, 30SYK3803, 4 Mar. 1979, S. Castroviejo, P. Coello & A. Regueiro 1280SC (ABH 79910, MA 323260); Burriana, El Clot de la Mare de Déu, 30SYK5214, 6 m, 20 Mar. 2014, A. Terrones & J. Moreno (ABH 70789); Moncófar, El Saladar, 30SYK4307, 1 m, 15 Apr. 2004, M.B. Crespo, M.Á. Alonso, M. Mart. Azorín & E. Camuñas (ABH 50901); Segorbe, rambla seca, May 1918, C. Pau (BCN 58934); Torreblanca, Prat de Cabanes, 14 Jun. 1990, A. Curcó (BCN 58925). **Ciudad Real:** Alcázar de San Juan, al borde de la CM-400, 30SVJ741624, 637 m, 7 Jun. 2012, J.L. Villar, A. Terrones & J. Moreno (ABH 73478); Alhambra, embalse del Puerto de Vallehermoso, 30SVJ8600, 750 m, 8 Jun. 2013, A. Terrones & J. Moreno (ABH 73483); Malagón, río Becea (a mitad de CM4114), 30SVJ164813, 643 m, 9 Jun. 2013, A. Terrones & J. Moreno (ABH 73484); Miguelturra, Peralvillo, embalse del Vicario, 30SVJ2025, 595 m, 9 Jun. 2013, A. Terrones & J. Moreno (ABH 73486); Membrilla, ctra. N430, La Solana-Manzanares, junto a la gasolinera, 30SVJ7312, 677 m, 21 Jun. 2013, A. Terrones & J. Moreno (ABH 73489). **Gerona:** Cap de Creus, el Port de la Selva, 31TEG18, 75 m, 30 May 1982, T. Franquesa (BCN 43324); El Port de Selva, Torrent cala Tamariua, 31TEG18, 31 May 1981, A. Brunet (BCN 43325); La Cellera, Contestins, 9 May 1927 (BCN 58908); Cap de Creus, cala Serena, 31TEG28, 21 Apr. 1984, T. Franquesa (BCN 43375). **Granada:** Alamedilla, Alto del Despeñadero (arroyo del Alcaide), 30SVG8264, 813 m, 17 May 2007, F. Navarro, J. Peñas, A. Juan & M.B. Crespo (ABH 51439); Bátor, 15 May 1971, F. Fernández-Casas (MA 337508). **Huelva:** Almonte, Doñana, fresnera del Coto del Rey, 27 Apr. 1980, M. López & E. Valdés (MA 323242); Coto de Doñana, Laguna del Taraje, 29SQA29, 30 Apr. 1978, S. Castroviejo & E. Valdés-Bermejo (MA 323286); San Juan del Puerto, 17 Apr. 1943, C. Vicioso (MA 323339); Villablanca, arroyo de la Gitana, 29SPB466281, 75 m, 28 May 2014, A. Terrones & J. Moreno (ABH 73497). **Huesca:** Ballobar, hacia Velilla, BG61, 8 Apr. 1995, J. Molero (BCN 58922); Ballobar, hacia Velilla, BG61, 8 Apr. 1991, J. Molero & Saez (BCN 58923); Congost del riu Cajigar, prop de Benabarre, BG96, 800 m, 21 Jun. 1987, M. Perdigo & J. Molero (BCN 58939); Rocafort, rambla de oriols, 30TBG84, 350 m, 1 May 1981, Alamillo, Castroviejo, Fernández-Quirós & Nieto (MA 323303). **Islas Baleares:** Menorca, bora riu salat cap a caballeries, 7 Apr. 1973, J.E. Ferrey (BCN 58937); Menorca, cap fabarix, 30 Apr. 1982, I. Soriano (BCN 58935). **Jaén:** Andújar, Villalba, orillas del río Jándula, 24 Apr. 1941, E. Guinea (MA 323323); Jaén, Polígono empresarial Nuevo Jaén, 30SVG3186, 20 Apr. 2016, C. Salazar (ABH 7120); En el cruce hacia para quesada y Huesa, borde del río Guadiana menor, 30SVG8282, 13 May 1987, S. Castroviejo & S. Cirujano (MA 376168); Linares, varollano, río Guarrizas, 30SVH5221, 300 m, 29 Apr. 1983, C. Fernández (MA 326647, JAEN 83386); Sorihuela del Guadalimar, ermita de Santa Quiteria, 30S9729, 440 m, 30 Apr. 1983, C. Fernández (MA 323393, JAEN 83-407). **Madrid:** Aranjuez, río Jarama, Puente Largo, 30TVK4837, 492 m, 22 Jun. 2013, A. Terrones & J. Moreno (ABH 70440); San Martín de la Vega, río Jarama en el cruce con la M-506 (D20), 30TVK540537, 514 m, 22 Jun. 2013, A. Terrones & J. Moreno (ABH 70110). **Málaga:** Alcaucín, Vélez-Málaga - Alhama de Granada, près de Pte. D. Manuel, 30SUF98, 250 m, 5 Apr. 1985, bord de ruisseau, C. Defferrard CDF-5456 (ABH 65881); Faraján, márgenes del Genal, 8 Apr. 1931, L. Ceballos (MA 323269); Fuengirola, río Alaminos o de las Pasadas, 30SVF506460, 28 m, 30 May 2014, A. Terrones & J. Moreno (ABH 73502); Málaga, río Guadalhorce, desembocadura, 30SUF6959, 2 m, 2 Jun. 2012, J.L. Villar, E. Martínez & A. Ortiz (ABH 67499); Marbella, márgenes del río Verde, 25 Mar. 1915, L. Ceballos & C. Vicioso (MA 323259); Alrededores de Marbella, 24 Mar. 1918, L. Ceballos & C. Vicioso (MA 323310); Marbella, arroyo del Tejar, 24 Mar. 1931, L. Ceballos & C. Vicioso (MA 323248). **Murcia:** Águilas, Rambla de Minglano de Cañarete, 30SXG213438, 109 m, 18 Apr. 2014, J. Moreno & A. Terrones (ABH 70742); Cartagena, Jiménez (MA 323288); La Unión, Pto. de Portman, 30SXG894619, 5 m, 7 May 2010, J.L. Villar & E. Martínez (ABH 55346); Lorca, río Guadalentín, 30SXG145713, 440 m, 1 Apr. 2017, J.L. Villar & E. Martínez (ABH 74728); Moratalla, arroyo de la Puerta, 30SWH9030, 700 m, 28 Apr. 2007, S. Rios & V. Mart. Francés (ABH 51353). **Navarra:** Falces, río Arga, 30TWM996937, 304 m, 23 May 2014, A. Terrones & A. Vicente (ABH 73516). **Tarragona:** Amposta, Delta del Ebro, 31TCF10, 20 May 2012, J.L. Villar, A. Vicente & J.C. Agulló (ABH 69745); Cambrils, passeig marítim, 31TCF3647, 1 m, 18 May 2012, J.L. Villar, A. Vicente & J.C. Agulló (ABH 73526); Cambrils, torrent de Janer, 1928, Hno. Teodoro (BCN 58946); Cambrils, torrents, Apr. 1930, Hno. Teodoro (BCN 58944); Cambrils, bastes lits des torrents, riudoms, Mar. 1918, Hno. Teodoro (BCN 58943); Cambrils, torrent de Janer, 12 Apr. 1928, Hno. Teodoro (BCN 58942, BCN 59551); Cambrils, torrent de Janer, 1928, Hno. Teodoro (BCN 58941); Castellvell del Camp, marge de riera eixuta, 180 m, 15 Apr. 1976, J.N. Ninot (BCN 58940); Delta del Ebro, cerca de l'Aufacada, CF18, 16 May 1983, C. Benedí & J. Molero (BCN 32415); La Figuera, riberal del riu Montsant, 30TCF0966, 250 m, 30 May 2002, I. Soriano (BCN 58938); Priorat, túnel de las Vilellas, 23 Apr. 1972, J. Molero (BCN 46405); Masdenverge, barranc de la ladera de la Foia, 31TBF90, 50 m, 1 May 1999, Forcadell & al. (BCN 148018); Lloà, rambles del riu Siurana, CF16, 27 May 1977, J. Molero & Pujadas (BCN 30696); Terra Alta, Batea, cap alçars, marge del riu Algars, BC65, 26 May 1982, Molero & Rovira (BCN 30697); Móra d'Ebre, cap a les Senies, CF05, 9 May 1984, Molero & Rovira (BCN 30698); Ulldemolins, marge del riu Montsant, 20 May 1973 (BCM46404). **Toledo:** La Puebla de Almoradiel, río Cigüela, 30SVJ8884, 682 m, 7 Jun. 2012, J.L. Villar, A. Terrones & J. Moreno (ABH 73496); Villafranca de los Caballeros, 4 Jun. 1976, S. Cirujano (MA 326659). **Valencia:** Cullera, Cap de Cullera, 30SYJ3914, 4 m, 10 May 2012, J.L. Villar & A. Vicente (ABH 67410); Moncada, bords des rivieres, May 1916, Bonanova (BCN 58930); Quatretonda, Barranc dels Sens, 30SYJ251197, 200 m, 17 May 2011, A. Vicente & J.L. Villar (ABH 58650); Oliva, Les Deveses, riu El Molinell, 30SYJ570083, 5 m, 21 Mar. 2014, A. Terrones & J. Moreno (ABH 70775). **Sevilla:** cerca del aeropuerto, 29SQB64, 10 Mar. 1978, S. Castroviejo & S. Rivas-Martínez & E. Valdés-Bermejo (MA 323252). **Zaragoza:** Caspe, embalse de Mequinenza, 30TYL456709, 129 m, 24 May 2014, A. Terrones & A. Vicente (ABH 73523). **PORTUGAL. Región de Extremadura:** Cascáis, entre Vila e boca do inferno, 11 Mar. 1943, G. Pedro & al. (BCN 58918). Roques a peu de cingle, 28°25'N, 9°0.5W, 2 May 1991, J. Molero & J. Vicens (BCN 30693).

*Tamarix aphylla* (L.) Karst.

SPAIN. **Alicante:** Alicante, Cabo de las Huertas, junto al paseo, 30SYH252481, 2 m, 27 Feb. 2011, J.L. Villar & R.M. García Berenguer (ABH 57455); Alicante, avda. de la Universidad, 30SYH181496, 80 m, 19/02/2011, J.L. Villar & E. Martínez (ABH 57456); Alicante, avda. de la Universidad, 30SYH1844, 80 m, 21 Jun. 2011, J.L. Villar & E. Martínez (ABH 58178); Alicante, avda. de la Universidad, 30SYH1849, 80 m, 1 Sep. 2011, J.L. Villar, E. Martínez & D. Izquierdo (ABH 58634); Alacant, barri de Joan XXIII, IES Las Lomas, 30SYH2050, 90 m, 12 Sep. 2011 R.J. Boix (ABH 58645); Alacant, Cap de l'Horta, Cala de Cantalars - Colonia Holandesa, 30SYH2548, 3 m, 8 Feb. 2015, R.J. Boix & C. Sebastián (ABH 71893); Alicante, Cala Cantalar, 30SYH252481, 2 m, 20 Sep. 2016, J.L. Villar & J.C. Agulló (ABH 74668). **Granada:** Granada, ciudad, mirador en el paseo del Padre Manjón, orilla del río Darro, 30SVG476148, 700, 8 Jan. 2011, J.L. Villar, N. Marchant & E. Martínez (ABH 57458). **Tarragona:** Amposta, Delta del Ebro, 31TCF10, 20 May 2012, J.L. Villar, A. Vicente & J.C. Agulló (ABH 69744).

*Tamarix boveana* Bunge

SPAIN. **Alicante:** Alicante, Cabo de las Huertas, 30SYH24; 22 Apr. 1991 V. Pérez Cervera (ABH 1170); Alacant, Barranc de la Capa Muntada, 30SYH2253, 35 m, 12 Apr. 2015, R.J. Boix (ABH 72051); Alacant, barri de Joan XXIII, IES Las Loma, 30SYH2050, 90 m, 12 Sep. 2011, R.J. Boix (ABH 58646); Alacant, Pla de la Cova, A70, 30SYH1750, 90 m, 1 Apr. 2015, R.J. Boix (ABH 72029); Alacant, Raval de Sant Antoni, 30SYH1947, 30 m, 12 Mar. 2015, R.J. Boix (ABH 71789); Albaterra, hacia la Rambla Salada, 30SXH8133, 230 m, 18 Mar. 2013, J.L. Villar, J.C. Agulló, A. Vicente, J. Quinto & N. Marchant (ABH 68457); Alicante, Agua Amarga, ctra. hacia Santa Pola, 30SYH1640, 8 m, 30 Oct. 2007, P. Rico & J.C. Agulló (ABH 70898); Alicante, Cabo de las Huertas, Cala Cantalar, 30SYH2548, 1 m, 13 Apr. 1997, L. Serra (ABH 33945); Alicante, Cabo de las Huertas, La Calita (Cala de los Judíos), 30SYH2448, 3 m, 10 Mar. 1998, J.C. Cristóbal, P. Prieto & A. Borao (ABH 38226); Alicante, Cabo de las Huertas 30SYH24, 9 May 1993, A.M. Seva Patiño (ABH 11839); Alicante, Cabo de las Huertas, 30SYH253484, 30 m, 27 Mar. 2011, J.L. Villar & E. Martínez (ABH 57860); Alicante, Casa Roca prox. 2 Km al SO del cuartel de Rabasa, 30SYH1648, 70 m, 25 Mar. 1999, E. Camuñas & M.B. Crespo (ABH 41633); Alicante, lagunas de Rabasa y prox., 30SYH1649, 70 m, 8 Apr. 1998, E. Camuñas & M.B. Crespo (ABH 39494); Alicante, Plaza de Toros solar próximo, 30SYH1947, 30 m, 17 Mar. 2013, A. Vicente (ABH 68313); Alicante, Saladar de Fontcalet, 30SYH1250, 85 m, 18 Mar. 1998, J.C. Cristóbal & J.D. González (ABH 38228); Alicante, Saladar de Fontcalet, 30SYH1349, 78 m, 22 Apr. 2016, A. Vicente & J.L. Villar (ABH 77215); Crevillent, El Fondo, El Codo, 30SXH9429, 10 m, 1 Apr. 1999, L. Serra, J. Pérez-Botella & J.L. Echevarría (ABH 46813); Crevillent, embalse de Crevillent, e 30SXH9237, 120 m, 26 Mar. 1994, M. Vicedo (ABH 8629); El Campello, La Coveta Fumá, 30SYH35, 16 Apr. 1993, R. Hernández (ABH 14180); Elche Balsares del Altet 30SYH13, 8 May 1955, A. Rigual (ABH 22887); Elche, pantano de Elche, 30SXH995433, 155 m, 26 Apr. 2012, J.L. Villar & M.Á. Alonso (ABH 69580); Elche, Clot de Galvany, 30SYH1536, 5 m, 9 Mar. 1998, J.C. Cristóbal & J. Ordóñez (ABH 38064); Elche, Clot de Galvany, 30SYH1635, 5 m, 9 Mar. 2008, P. Rico & C. Lastres (ABH 53694); Elche, Clot de Galvany 30SYH1635, 9 m, 13 Mar. 2013, J. Moreno & M.Á. Alonso (ABH 68314); Elche, Clot de Galvany, 30SYH1635, 9 m, 26 Apr. 2012, J.L. Villar (ABH 59959); Elche, ctra. a Santa Pola prox. 'Río Safari Elche', 30SYH104326, 4 m, 27 Mar. 2013, A. Terrones & J.L. Villar (ABH 68292); Elche, El Hondo 30SXH9829, 10 m, 25 Apr. 2013, J.L. Villar, M.Á. Alonso & R. Agulló (ABH 68428); Elche, El Saladar, 30SYH0126, 10 m, 13 Mar. 2000, M.B. Crespo, M. Fabregat, A. Juan & A. Ruiz de León (ABH 44218); Elche, pantano de Elche, 30SXH9943, 136 m, 18 Apr. 2014, J. Moreno & A. Terrones (ABH 70556); Elche, pantano de Elche, 30SXH9943, 155 m, 27 Mar. 2013, J.L. Villar & A. Terrones (ABH 69544); Elche, pantano de Elche, 30SXH995433, 155 m, 26 Apr. 2012, J.L. Villar & M.Á. Alonso (ABH 69578); Elche, Playa del Carabassí, 30SYH1734, 1 m, 8 Mar. 2012, J.L. Villar M.Á. Alonso & A. Vicente (ABH 67407); Elche, Rambla de la Goteta, 30SXH9839, 80 m, 18 Mar. 1997, M.Á. Alonso, A. de la Torre, M. Vicedo & E. Ortega (ABH 33657); Elda, río Vinalopó, 30SXH9158, 350 m, 10 May 2012, A. Juan (ABH 59995); Elx, Clot de Galvany, 30SYH1735, 9 m, 15 May 2010, R.J. Boix (ABH 68431); Jijona, ctra. N340, 30SYH1964, 250 m, 19 May 2011, J.L. Villar & M.Á. Alonso (ABH 58649); Jijona, Monnegre, Barranco Salinas, 30SYH1663, 260 m, 3 May 2007, P. Rico, J.C. Cristóbal, A. Guilló, A. Vicente & J.L. Villar (ABH 51543); Jijona, Pto. de la Carrasqueta, 30SYH106297, 1 m, 21 Mar. 2011, I. Aragoneses & J.L. Villar (ABH 58159); Orihuela, arroyo Grande, 30SXH8511, 100 m, 18 Apr. 2000, M. Fabregat, A. Ruiz de León & A. Juan (ABH 44198); Orihuela, Rambla Salada, 30SXH7934, 335 m, 18 Apr. 2014, J. Pérez-Botella (ABH 73532); Orihuela, Sierra de Pujálvarez, 30SXH80, 270 m, 3 Apr. 1993, L. Serra (ABH 6034); Salinas, Laguna de Salinas 30SXH8365, 475 m, 27 Apr. 2014, J. Moreno (ABH 70800); Salinas, Laguna de Salinas, 30SXH86, 10 May 1990; S. Cirujano & M. Velayos (MA 504096); Sant Joan d'Alacant, Río Seco, a 100 m junto a la autovía del Mediterráneo, 30SYH254568, 20 m, 29 Mar. 2011, J.L. Villar, J.C. Agulló & E. Martínez (ABH 57858); Santa Pola, Salinas de Santa Pola, Torre de Tamarit, 30SYH0829, 1 m, 19 Sep. 2012, J.L. Villar (ABH 59970); Santa Pola, Salinas de Santa Pola, Torre de Tamarit, 30SYH0929, 1 m, 7 Mar. 1998, J.C. Cristóbal, M.A. Ivorra & M. Moreno (ABH 38065); Santa Pola, Salinas de Santa Pola, 30SYH1029, 1 m, 4 Apr. 2014, J.L. Villar & A. Terrones (ABH 70782); Tibi, Estret Roig, junto ctra. de servicio, 30SYH092627, 535 m, 4 May 2009, J.C. Cristóbal (ABH 54301); Torrevieja, Laguna Salada de la Mata ctra. CV-905, 30SYH0011, 30 Mar. 2011, J.C. Agulló (ABH 72013); Vergel, platja Dènia-Oliva, 30SYJ50, 1 m, 08 Apr. 1996, J.C. Cristóbal, A. Barber, I. Guardiola & al. (ABH 32951); Villena, Salero de Requena, 30SXH8080, 493 m, 24 Apr. 2014, J. Moreno, M. Ortiz & L. Mora (ABH 70494); Villena, Salero de Requena, 30SXH8080, 500 m, 9 Apr. 1994, M.Á. Alonso & M.D. Vargas (ABH 10649); Villena, Salero de Requena 30SXH88, 19 Apr. 1960 A. Rigual (ABH 22880); Villena, Prados Galeno, prox. de la acequia del Rey, 27 Apr. 1962, A. Rigual (MA 374056); Xixona, Monnegre de Dalt, 30SYH142629, 300 m, 1 Apr. 2011, J.L. Villar & A. Vicente (ABH 58653). **Albacete:** Hellín, Saladares de Agramón, 30SXH1952, 384 m, 24 Apr. 2014, J. Moreno, M. Ortiz & L. Mora (ABH 70769). **Almería:** Cabo de Gata, 5 Mar. 1921, C. Pau (MA 79006); Almería, Salinas de Cabo de Gata, 30SWF6870, 9 m, 18 Mar. 2013, A. Juan & P. Vila (ABH 68315); Salinas de Cabo de Gata, 30SWF6969, 31 Mar. 1997, M.Á. Alonso & J.J. Montoya (ABH 42504); Cabo de Gata, 30SWF76, 4 Apr. 1985, Farras & al. (BCN 34727); Garrucha, cortijo del Salar prox., 30SXG0316, 5 m, 17 Apr. 2014, J. Moreno & A. Terrones (ABH 70751); Garrucha, Puerto Rey, 30SXG045176, 6 m, 8 May 2010, J.L. Villar & E. Martínez (ABH 55358); Vera, Coto de Vera, Puerto Rey, 30SXG0418, 4 m, 14 May 2012, J.L. Villar A. Vicente & M.Á. Alonso (ABH 67463); Pulpí, Pilar de Jaravía, 30SXG1639, 84 m, 15 May 2012, J.L. Villar A. Vicente & M.Á. Alonso (ABH 69647). **Castellón:** Peñíscola, saladares litorales (actualmente cubiertos de grava), junto a la carretera a Benicarló, BE8073, 7 Apr. 1993, V.J. Arán (MA 523359); Peñíscola, 1908, H. Domingo (MA 323296). **Granada:** Cúllar, Cañada de Castillejas, 30SWG365672, 843 m, 30 May 2014, A. Terrones & J. Moreno (ABH 73503); Cúllar, Saladares del Margen, 30SWG3766, 800 m, 29 Apr. 2007, M.L. Lendínez & F.M. Marchal (ABH 54324); Cúllar, Salado del Margen, 30SWG365672, 840 m, 1 Apr. 2017, J.L. Villar & E. Martínez (ABH 74725). **Islas Baleares:** Menorca, Sant Lluís Isla del Aire, 31SFE1006, 7 Mar. 1997, A. de la Torre & M. Vicedo (ABH 35324); Menorca, Mahón, Es Grau, prox. Albufera, 31SFE0822, 5 m, 26 May 2009, M.B. Crespo & C. Pena Martín (ABH 53939); Menorca, Faro de Favarritx, 7 Apr. 1973, N. Madum (BCN 58996); **Madrid:** Aranjuez, arroyo de las Salinas al sur del Cerro de la Linterna, 30TVK4530, 510 m, 18 Apr. 2014, J.M. Martínez Labarga, D. Meliá, J. Grijalbo, S. Sardinero & al. (ABH 74606); Aranjuez, arroyo de las Salinas, fondo de valle salino, 30TVK4629, 520 m, 29 Apr. 1993, J. González Granados (MA 881826). **Murcia:** Cartagena, Mar Menor, entre Los Urrutias y Los Alcázares, 30SXG8874, 18 Mar. 2013, J.L. Villar & A. Terrones (ABH 68294); Fortuna, Saladar del Ajauque, 30SXH6724, 128 m, 18 Apr. 2014, J. Moreno & A. Terrones (ABH 70735); Fortuna, rambla salada, 30SXH6521, 4 Apr. 1979, A. Molina (MA 212645); Molina de Segura, 30SXH5616, 100 m, 22 Mar. 1999, M.Á. Alonso & J.J. Montoya (ABH 42534); Murcia, solar junto al Ikea, 30SXH6210 85, 22 Apr. 2012, A. Juan (ABH 59996); San Javier, Saladar de El Carmolí, 30SXG8874, 11 m, 21 Jan. 2014, J. Moreno & J.L. Villar (ABH 70433); Santomera, Sierra de Orihuela, 30SXH7018, 110 m, 18 Mar. 2008, R.J. Boix (ABH 70643); Totana, 30SXG3282, 270 m, 13 Jul. 2010, C. Pena Martín (ABH



55930); Totana, Saladar del Guadalentín, 30SXG3986, 160 m, 18 Apr. 2014, J. Moreno & A. Terrones (ABH 70740). **Tarragona:** Amposta, Delta del Ebro, 31TCF10, 20 May 2012, J.L. Villar, A. Vicente & J.C. Agulló (ABH 69783); Deltebre, Baix Ebre, delta del Ebro, Riumar, 31TCF179108, 3 m, 20 Mar. 2016, V.J. Arán & M.J. Tohá (ABH 80856). Delta del Ebro, dunas secundarias fijas, cerca del transbordador a la Isla de Buda, CF11, 9 May 1983, A. Rovira & J. Molero (MA 359893, BCN 32416); Delta del Ebro, Illa de Sant Antoni, CF21C, 16 May 1989, A. Curcó (BCN 41042); El Garxal, prop del Fer, CF11D, 18 Jul. 1989, A. Curcó (BCN 41039); El Garxal, prop del Far, CF11D, 18 Jul. 1989, A. Curcó (BCN 40978); Delta del Ebro, Illa de Buda, CF10B, 20 Apr. 1989, A. Curcó (BCN 41048); El Garxal, prop de Riumar, CF11D, 18 Apr. 1989, A. Curcó (BCN 41049); Delta del Ebro, Illa de Sant Antoni, CF21C, 15 Jun. 1989, A. Curcó (BCN 41050). **Teruel:** Alcañiz, Saladar de Alcañiz, Laguna Grande, 30TYL355479, 341 m, 24 May 2014, A. Terrones & A. Vicente (ABH 73501); Alcañiz, Salada Grande, 30TYL3447, 27 May 1987, S. Cirujano, R. Morales & P. Blanco (MA 504094). **Valencia:** Oliva, Les Deveses, riu El Molinell, 30SYJ570083, 5 m, 21 Mar. 2014, A. Terrones & J. Moreno (ABH 70774). **Zaragoza:** Chiprana, Laguna de Chiprana, 30TYL3669, 136 m, 7 May 2009, J.L. Villar, J.C. Agulló, H. Alvarado & M.Á. Alonso (ABH 54330); Chiprana, Laguna de Salada, 30TYL3669, 1 Jun. 1987, S. Cirujano (MA 540743); Quinto de Ebro, barranco Valdecenicera, 10 Apr. 1989, S. Cirujano, M. Velayos, M.Á. Carrasco (MA 504095); Pedrola, Barranco de Juan Gastón, 30TXM446247, 289 m, 22 May 2014, A. Terrones & A. Vicente (ABH 73525); Pedrola, Barranco del Bayo, 30TXM415266, 297 m, 22 May 2014, A. Terrones & A. Vicente (ABH 73522); Entre Gelsa y Pina de Ebro, a 2 Km de Gelsa, orilla izquierda del Ebro, 30TYL1189, 100–200 m, 1 May 1988, J. Ascaso & J. Pedrol (MA 494941).

#### *Tamarix canariensis* Willd.

SPAIN. **Las Palmas, Isla de Gran Canaria:** San Bartolomé de Tirajana, San Agustín, 28RDR4470, 5 m, 30 Sep. 2007, C. Salazar (ABH 53693); San Bartolomé de Tirajana, Maspalomas, Dunas de Maspalomas, 28RDR4168, 5 m, 13 Apr. 2013, J.L. Villar & E. Martínez (ABH 69597, 69598, 69600); Moya, El Roque, 28RDS437132, 10 m, 12 Apr. 2013, J.L. Villar & E. Martínez (ABH 69601); Mogán, Tasarte, Barranco de Tasarte, 28RDR218840, 77 m, 11 Apr. 2013, J.L. Villar & E. Martínez (ABH 69603); Mogán, Barranco de Veneguera, 28RDR256840, 148 m, 11 Apr. 2013, J.L. Villar & E. Martínez (ABH 69604); Mogán, ctra. GC-605, prox. de la Fuente de la Guirra, 28RDR310877, 557 m, 11 Apr. 2013, J.L. Villar & E. Martínez (ABH 69605); La Aldea de San Nicolás, Playa de La Aldea, 28RDR1997, 3 m, 11 Apr. 2013, J.L. Villar & E. Martínez (ABH 69606, 69607, 69608, 69609, 69644). **Santa Cruz de Tenerife, Isla de Tenerife:** Garachico, 28RCS2739, 3 m, 26 Sep. 2007, M.B. Crespo & M. Mart. Azorín (ABH 53697, 53698, 53699, 53700, 53701, 53702). Güimar, Puertito de Güimar, 28RCS642295, 2 m, 24 Sep. 2007, M.B. Crespo & M. Mart. Azorín (ABH 53703, 53704, 53705, 53706); San Cristóbal de la Laguna, Punta del Hidalgo, 28RCS6961, 1 m, 27 Jul. 2012, M.Á. Alonso, R. Masalles & A. Reyes-Betancort (ABH 68447, 68448, 68449); San Cristóbal de la Laguna, Tejina, 28RCS6758, 100 m, 31 Aug. 2004, J.R. Acebes Ginovés, Exsiccata AHIM - Centuria IX (2004), 892 (ABH 49182).

#### *Tamarix gallica* L.

SPAIN. **Álava:** Laguardia, complejo lagunar de Laguardia, laguna de Calalogoño, 30TWN357099, 569 m, 23 May 2014, A. Terrones & A. Vicente (ABH 73514); Oyón-Oion, embalse de las Cañas, 30TWN493043, 376 m, 23 May 2014, A. Terrones & A. Vicente (ABH 73519). **Albacete:** Albacete, río Júcar, 30SWJ9036, 700 m, 8 Jun. 2012, J.L. Villar, A. Terrones, J. Moreno & M. García-Rivas (ABH 73527); Liétor, embalse del Talave, 30SWH9763, 530 m, 12 Jun. 2012, A. Vicente & A. Pardo (ABH 67417); Hellín, Saladares de Agramón, 30SXH1952, 384 m, 24 Apr. 2014, J. Moreno, M. Ortiz & L. Mora (ABH 70756); Pétrola, Laguna de Pétrola, 30SXH2499, 870 m, 28 May 2003, M.B. Crespo, M.Á. Alonso, A. Juan & J.C. Cristóbal (ABH 47658); Entre el Tobarico y el Peñón, río Taibilla, 30SWH62, 960 m, 29 May 1987, E. Dorda, R. Elvira & A. Izuzquiza (MA 623936); Pétrola, Laguna de Pétrola, 30SXH2499, 870 m, 28 May 2003, J. Vicents (BCN 6189). **Alicante:** Agost, via verde del Maigmo, 30SYH0762, 580 m, 1 May 2011, J.C. Cristóbal & E. González Zamora (ABH 67493); Alacant, barri de Joan XXIII, IES Las Lomas, 30SYH2050, 90 m, 12 Sep. 2011, R.J. Boix (ABH 58644); Alacant, L'Albufereta, 30SYH2349, 10 m, 14 Jun. 2014, R.J. Boix & C. Sebastián (ABH 70933); Alacant, Sierra de San Julián (Serra Grossa), 30SYH2148, 70 m, 3 Dec. 2014, R.J. Boix (ABH 71885); Alacant, La Passió, 30SYH2551, 5 m, 2 May 2015, R.J. Boix (ABH 72237); Alacant, Monte Benacantil, 30SYH2047, 60 m, 29 Apr. 2015, R.J. Boix (ABH 72238); Alacant, Pla de la Vallonga, 30SYH1447, 50 m, 9 Apr. 2015, R.J. Boix (ABH 72240); Alacant, El Rebolledo, Barranc de l'Infern, 30SYH0747, 129 m, 24 Apr. 2014, J. Pérez-Botella (ABH 73530); Alacant, Port d'Alacant, ferrocarril Alacant-Dénia, 30SYH1745, 3 m, 25 Jun. 2015, R.J. Boix (ABH 77234); Albaterra, Rambla Salada, parte alta, 30SXH8332, 600 m, 17 Apr. 2011, J. Quinto (ABH 67487); Albaterra, Rambla Salada, parte alta, 30SXH8332, 600 m, 17 Apr. 2011, J. Quinto (ABH 67485); Albaterra, hacia la Rambla Salada, 30SXH8133, 230 m, 18 Mar. 2013, J.L. Villar, J.C. Agulló, A. Vicente, J. Quinto & N. Marchant (ABH 68458); Alicante, lagunas de Rabasa, 30SYH1649, 70 m, 1 Sep. 1996, E. Camuñas (ABH 19722); Alicante, Fontcalent, Laguna de Fontcalent, prox. Cárcel, 30SYH1347, 80 m, 7 Sep. 1996, E. Camuñas (ABH 19741); Alicante, La Albufereta, 30SYH2349, 15 m, 31 Aug. 1996, E. Camuñas (ABH 19748); Alicante, Barranco de las Ovejas, 30SYH1550, 70 m, 21 Sep. 1996, M.B. Crespo & E. Camuñas (ABH 30063); Alicante, Agua Amarga, Barranco de Agua Amarga, 30SYH1644, 40 m, 16 Oct. 1996, E. Camuñas, M.B. Crespo & A. Juan (ABH 30451); Alicante, lagunas de Rabasa, 30SYH1649, 100 m, 9 Oct. 1996, E. Camuñas & M.B. Crespo (ABH 30712); Alicante, río Monnegre, prox. casas, 30SYH2060, 130 m, 5 May 1997, E. Camuñas & J.C. Cristóbal (ABH 34931); Alicante, La Albufereta, urbanización Bahía de los Pinos, 30SYH2448, 2 m, 7 Sep. 1997, E. Camuñas & M.B. Crespo (ABH 38276); Alicante, Saladar de Fontcalent, 30SYH1150, 100 m, 27 Sep. 1997, E. Camuñas, M.B. Crespo, A. Juan & J.L. Benito (ABH 38594); Alicante, Pla de la Vallonga, 30SYH1347, 60 m, 17 Apr. 1998, E. Camuñas & M.B. Crespo (ABH 38811); Alicante, Barranco del Vergeret, 30SYH2262, 200 m, 12 May 1998, E. Camuñas & F.J. Girona (ABH 38867); Alicante, Rambla del Pepior, 30SYH0856, 180 m, 1 Apr. 1998, E. Camuñas & J.C. Cristóbal (ABH 38949); Alicante, Sierra de los Tajos, prox., 30SYH0957, 210 m, 20 Apr. 1998, E. Camuñas & J.C. Cristóbal (ABH 39058); Alicante, Barranco de Pina, 30SYH0958, 300 m, 1 Apr. 1998, E. Camuñas & J.C. Cristóbal (ABH 39192); Alicante, El Bacarot, escombrera municipal, 30SYH1446, 30 m, 3 Dec. 1997, E. Camuñas & M.B. Crespo (ABH 40196); Alicante, Cabo de las Huertas, Cala Cantalares, arriba, 30SYH253484, 30 m, 3 Jul. 2011, E. Martínez (ABH 58182); Alicante, Playa del Postiguet, 30SYH24, 26 Jun. 2010, F. Mart. Flores (ABH 58619); Alicante, avda. de la Universidad, 30SYH1849, 80 m, 1 Sep. 2011, J.L. Villar, E. Martínez & D. Izquierdo (ABH 58643); Alicante, La Albufereta, 30SYH2349, 15 m, 31 Aug. 1996, E. Camuñas (ABH 19748); Alicante, Barranco de las Ovejas, 30SYH1550, 70 m, 21 Sep. 1996, M.B. Crespo & E. Camuñas (ABH 30063); Alicante, Agua Amarga, Barranco de Agua Amarga, 30SYH1644, 40 m, 16 Oct. 1996, E. Camuñas, M.B. Crespo & A. Juan (ABH 30451); Alicante, lagunas de Rabasa, 30SYH1649, 100 m, 9 Oct. 1996, E. Camuñas & M.B. Crespo (ABH 30712); Alicante, Agua Amarga, Barranco de Agua Amarga, 30SYH1644, 40 m, 13 Oct. 1996, E. Camuñas (ABH 32369); Alicante, río Monnegre, prox. casas, 30SYH2060, 130 m, 5 May 1997, E. Camuñas & J.C. Cristóbal (ABH 34931); Alicante, La Albufereta, urbanización Bahía de los Pinos, 30SYH2448, 2 m, 7 Sep. 1997, E. Camuñas & M.B. Crespo (ABH 38276); Alicante, Saladar de Fontcalent, 30SYH1150, 100 m, 27 Sep. 1997, E. Camuñas, M.B. Crespo, A. Juan & J.L. Benito (ABH 38594); Alicante, Pla de la Vallonga, 30SYH1347, 60 m, 17 Apr. 1998, E. Camuñas & M.B. Crespo (ABH 38811); Alicante, Barranco del Vergeret, 30SYH2262, 200 m, 12 May 1998, E. Camuñas & F.J. Girona (ABH 38867); Alicante, Rambla del Pepior, 30SYH0856, 180 m, 1 Apr. 1998, E. Camuñas & J.C. Cristóbal (ABH 38949); Alicante, Barranco de Pina, 30SYH0958, 300 m, 1 Apr. 1998, E. Camuñas & J.C. Cristóbal (ABH 39192); Alicante, El Bacarot, escombrera municipal, 30SYH1446, 30 m, 3 Dec. 1997, E. Camuñas & M.B. Crespo (ABH 40196); Alicante, Playa del Postiguet, paseo, 30SYH2047, 5 Jun. 2007, P. Rico

(ABH 51551); Alicante, Barranco de las Ovejas, junto al cementerio, bajo la autovía A7, 30SYH151479, 48 m, 26 May 2010, F. Mart. Flores, J.L. Villar & I. Aragoneses (ABH 55447); Alicante, Cabo de las Huertas, Cala Cantalares, arriba, 30SYH253484, 30 m, 3 Jul. 2011, E. Martínez (ABH 58182); Alicante, Playa del Postiguet, 30SYH24, 26 Jun. 2010, F. Mart. Flores (ABH 58619); Alicante, Playa del Postiguet, 30SYH24, 26 Jun. 2010, J.L. Villar (ABH 59006); Alicante, Monte Tossal, 30SYH1948, 70 m, 17 May 2011, E. Martínez (ABH 67491); Alicante, Saladar de Fontcalent, 30SYH1349, 78 m, 22 Apr. 2016, A. Vicente & J.L. Villar (ABH 77211); Benejúzar, 30SXH81, 24 Apr. 1993, E. Camuñas (ABH 6892); Benejúzar, 30SXH81, 24 Apr. 1993, E. Camuñas (ABH 6892); Callosa d'en Sarrià, Serra de Bèrnia, 30SYH5384, 200 m, 27 Apr. 1991, J.L. Solanas (ABH 14196); Crevillente, embalse de Crevillente, 30SXH9237, 120 m, 26 Mar. 1994, M. Vicedo (ABH 8628); Crevillente, El Hondo, 30SXH92, 19 May 1955, A. Rigual (ABH 22881); Crevillente, embalse de Crevillente, 30SXH9237, 120 m, 26 Mar. 1994, M. Vicedo (ABH 8628); Crevillente, El Hondo, 30SXH92, 19 May 1955, A. Rigual (ABH 22881); Dénia, L'Alberca, 31SBD4305, 5 m, 15 Apr. 1992, A. Barber (ABH 4207); El Campello, Barranc d'Aigües, 30SYH3160, 20 m, 12 May 2011, M.B. Crespo, J.L. Villar & al. (ABH 57898); El Campello, desembocadura del río Monnegre, 30SYH2755, 1 m, 22 Apr. 2016, A. Vicente & J.L. Villar (ABH 77216); Elche, pantano de Elche, cola pantano, 30SXH9943, 140 m, 1 Nov. 1992, M.B. Crespo, A. de la Torre & L. Serra (ABH 3387); Elche, Los Arenales del Sol, Carabassí, 30SYH1734, 1 m, 3 Jun. 1997, J.C. Cristóbal (ABH 36885); Elche, El Carabassí, 30SYH1734, 3 m, 25 Nov. 1997, A. Ruiz de León & M.B. Crespo (ABH 38088); Elche, extremo del saladar de Santa Pola, 30SYH0732, 10 m, 30 Oct. 2007, P. Rico & J.L. Villar (ABH 53641); Elche, Saladar de Agua Amarga, 30SYH1639, 3 m, 2 May 2007, J.C. Cristóbal (ABH 53695); Elche, Playa del Pinet, 30SYH079261, 3 m, 29 May 2010, E. Martínez, E. Martínez & M. García (ABH 55434); Elche, Playa del Carabassí, 30SYH174349, 1 m, 26 May 2010, J.L. Villar, I. Aragoneses & F. Mart. Flores (ABH 55443); Elche, pantano de Elche, cola pantano, 30SXH9943, 140 m, 1 Nov. 1992, M.B. Crespo, A. de la Torre & L. Serra (ABH 3387); Elche, pantano de Elche, 30SXH9942, 150 m, 1 Oct. 1992, M.B. Crespo & A. de la Torre (ABH 6499); Elche, Los Arenales del Sol, Carabassí, 30SYH1734, 1 m, 3 Jun. 1997, J.C. Cristóbal (ABH 36885); Elche, Clot de Galvany, 30SYH164355, 9 m, 19 Sep. 2012, J.L. Villar (ABH 59952); Elche, El Hondo, 30SXH9829, 10, 25 Apr. 2013, J.L. Villar, M.Á. Alonso & R. Agulló (ABH 68429); Elche, Azalbares Alto, 30SYH054353, 10 m, 25 Aug. 2013, J.L. Villar, M.Á. Alonso & R. Agulló (ABH 68430); Elche, pantano de Elche, 30SXH9943, 136 m, 18 Apr. 2014, J. Moreno & A. Terrones (ABH 70555); Elda, río Vinalopó, 30SXH9263, 420 m, 6 May 1997, M.Á. Alonso & J.J. Montoya (ABH 40833); Elda, río Vinalopó, camino al pte., 30SXH9157, 330 m, 10 May 2009, A. Juan (ABH 53941); Guardamar del Segura, Playa de Vivers, 30SYH0620, 20 Jun. 2000, A. Ruiz de León (ABH 44046); Guardamar del Segura, Playa del Pinet, 30SYH0725, 5 m, 24 Jun. 2010, F. Mart. Flores & C. Pena Martín (ABH 55495); La Vila Joiosa, riu Torres, 30SYH4466, 1 m, 29 May 1993, J.L. Solanas (ABH 11514); La Vila Joiosa, Platja del Torres, 30SYH4466, 3 m, 2 Aug. 2014, R.J. Boix & C. Sebastián (ABH 71897); Muchamiel, río Monnegre, 30SYH210581, 90 m, 16 Apr. 2011, F. Mart. Flores (ABH 58614); Mutxamel, Bonalva, 30SYH2858, 110 m, 10/01/2011, J.L. Villar & M.Á. Alonso (ABH 67492); Mutxamel, Monnegre, junto a urbanización Riopark, 30SYH2157, 102 m, 1 Apr. 2011, J.L. Villar & A. Vicente (ABH 67521); Mutxamel, Monnegre, junto a urbanización Riopark, 30SYH2157, 102 m, 1 Apr. 2011, J.L. Villar & A. Vicente (ABH 67522); Novelda, río Vinalopó, 30SXH9723, 290 m, 13 May 1997, M.Á. Alonso & J.J. Montoya (ABH 42525); Orihuela, río Segura, 30SXH81, 30 Apr. 1961, A. Rigual (ABH 22882); Orihuela, río Nacimiento (Rambla del Trujillao), 30SXG9598, 45 m, 13 Mar. 2008, P. Rico, M.Á. Alonso & al. (ABH 55138); Orihuela, río Segura, 30SXH81, 30 Apr. 1961, A. Rigual (ABH 22882); Orihuela, Rambla Salada, 30SXH7934, 335 m, 18 Apr. 2014, J. Pérez-Botella (ABH 73531); Orxeta, riu d'Orxeta, 30SYH3871, 150 m, 29 May 1993, J.L. Solanas (ABH 15150); Pego, Marjal de Pego, 30SYJ5307, 40 m, 27 Aug. 1993, L. Fletcher, A. de la Torre, M. Vicedo & al. (ABH 6999); Petrel, Rincón Bello, Barranco de Choli, 30SYH0161, 530 m, 1 Jul. 1993, A. Juan (ABH 11039); Petrel, Rincón Bello, Barranco de Choli, 30SYH0161, 530 m, 1 Jul. 1993, A. Juan (ABH 11039); Petrer, Rambla de Puça, 30SXH9462, 445 m, 5 May 2015, R.J. Boix (ABH 72183); Pinoso, Cerro de la Sal, El Faldar, 30SXH7148, 600 m, 2 Jul. 1997, A. Navarro & M.Á. Alonso (ABH 35332); Salinas, Laguna de Salinas, 30SXH8365, 475 m, 27 Apr. 2014, J. Moreno (ABH 70798); San Miguel de Salinas, barranco, 30SXH90, 15 May 1966, A. Rigual (ABH 21807); San Vicente del Raspeig, avda. de Alicante, en la rotonda de la Colonia Santa Isabel, 30SYH181510, 90 m, 19 Jan. 2011, J.L. Villar & E. Martínez (ABH 57457); Sant Joan d'Alacant, Barranc de la Capa Muntada, 30SYH2253, 40 m, 12 Apr. 2015, R.J. Boix (ABH 72239); Santa Pola, enfrente del saladar, 30SYH1130, 4 m, 30 Oct. 2007, P. Rico, J.L. Villar, A. Vicente, A. Guilló & J.C. Agulló (ABH 53640); Santa Pola, Cabo de Santa Pola, instituto Cimar, jardín de entrada, 30SYH181319, 3 m, 15 Jun. 2010, J.L. Villar & E. Martínez (ABH 55437); Santa Pola, Salinas de Santa Pola, 30SYH1029, 1 m, 4 Apr. 2014, J.L. Villar & A. Terrones (ABH 70784); Sax, 30SXH96, 12 Dec. 1992, C. Calabuig (ABH 7251); Tibi, pantano de Tibi, cola del pantano, 30SYH116651, 405 m, 15 Oct. 2012, J.L. Villar, A. Vicente & J. Moreno (ABH 69540); Torrevieja, Laguna de Torrevieja, 30SXH9807, 1 m, 10 May 1997, L. Serra, J.J. Herrero-Borgoñón & A. Olivares (ABH 34219); Villena, ermita de San Bartolomé, 30SXH8377, 500 m, 3 May 1994, M.Á. Alonso (ABH 8712); Villena, El Campo, 30SXH8283, 506 m, 6 Nov. 2010, I. Aragoneses & E. Mateo (ABH 55931); Villena, Colonia el Morrón, 30SXH839827, 550 m, 17 May 2011, A. Vicente & J.L. Villar (ABH 58651); Xàbia, 31SBC5496, 5 m, 15 Jun. 1992, A. Barber (ABH 2283); Xixona, Monnegre, Molí de Capeta, 30SYH1662, 250 m, 31 Mar. 1996, J.C. Cristóbal & P. Sánchez Jerez (ABH 17053); Xixona, riu de la Torre, prox. planta de residuos sólidos urbanos, 30SYH1963, 228 m, 20 Apr. 2011, J.C. Cristóbal & M.Á. Alonso (ABH 71975); **Almería:** Salinas de Cabo de Gata, 30SWF6969, 31 Mar. 1997, M.Á. Alonso & J.J. Montoya (ABH 42507); Berja, río Chico, 30SVF999709, 76 m, 9 May 2010, J.L. Villar & E. Martínez (ABH 55350); Cabo de Gata, 30SWF76, 4 Apr. 1985, Farràs & al. (BCN 34727, righth fragment); El Ejido, Almerimar (Los Establos), 30SWF152622, 7 m, 9 May 2010, J.L. Villar & E. Martínez (ABH 55347); El Ejido, Guardias Viejas (P.la de Balearma), 30SWF124619, 3 m, 9 May 2010, J.L. Villar & E. Martínez (ABH 55349); El Ejido, castillo de Guardias Viejas, 26 Abr. 1921, Gros (MA 154132); Garrucha, cortijo del Salar, prox., 30SXG0316, 5 m, 17 Apr. 2014, J. Moreno & A. Terrones (ABH 70747); Gádor, 11 Apr. 1921, Gros (BCN 58993); Huercal-Overa, río Almanzora, 14 May 1921, Gros (MA 78964); Níjar, El Alquíjar, prox., 30SWF57, 9 Sep. 1947, Hno. Jerónimo (ABH 15769); Níjar, Cabo de Gata, Playa de los Genoveses, 30SWF7867, 1 m, 15 Apr. 2012, J.L. Villar, A. Vicente & M.Á. Alonso (ABH 68310); Níjar, Sierra de Alhamilla, 30SWF733993, 492 m, 15 May 2012, J.L. Villar, A. Vicente & M.Á. Alonso (ABH 67462); Padules, Barranco del Bosque, 30SWF169956, 895 m, 13 Jun. 2014, M.Á. Alonso, M.B. Crespo, C. Aedo & al. (ABH 71422); Pulpi, Pilar de Jaravia, 30SXG1639, 84 m, 15 May 2012, J.L. Villar, A. Vicente & M.Á. Alonso (ABH 69645); Roquetas de Mar, Salinas de San Rafael, 30SWF3570, 5 m, 31 Mar. 1997, M.Á. Alonso & J.J. Montoya (ABH 33701); Tabernas, Rambla de Tabernas, 30SWF59, 395 m, 29 Mar. 1997, M.Á. Alonso & J.J. Montoya (ABH 33677); Vera, Coto de Vera-Puerto Rey, 30SXG0418, 4 m, 14 May 2012, J.L. Villar, A. Vicente & M.Á. Alonso (ABH 67467); Vera, Villaricos, río Almanzora, 30SXG080238, 13 m, 8 May 2010, J.L. Villar & E. Martínez (ABH 55359); Almería La Cañada, Praie maritime, 28 Jun. 1934, Jerónimo (BCN 58972); Almanzora, aluvions, 28 Jun 1930, Sennen 7396 (BCN 58975, BCN 58967). **Asturias:** Villaviciosa, ría de Villaviciosa, margen occidental, 30TUP0420, 3 m, 16 Jul. 2009, A. Guilló & M. Plaza (ABH 71977); Colunga, bord des revieres maritimes, may-jun 1914, Hno. Jerónimo (BCN 58994, BCN 58999). **Barcelona:** Castelfellers, marges, 16 May 1929, Sennen 7019 (MA 78926, BCN 59550); Martorell, indret sorrent a la vora esquerra del Llobregat, 21 Jul. 1979, I. Soriano (BCN 58980); Olesa de Montserrat, Areny del Molí, 31TDF0798, 20 Sep. 1997, A.M. Hernández Cardona (ABH 74470); Olesa de Montserrat, Areny del Molí, 31TDF0798, 20 Sep. 1997, in plano ripae, A.M. Hernández Cardona (ABH 74470); Orillas del Llobregat, may., Cadevall (MA 78912); Martorell, confluencia entre los ríos Llobregat y Anoya, 31TDF19, 40 m, 6 Jul. 1993, I. Soriano (BCN 58955); Entre Guardiola i el Collet, 31TDG0775, 720 m, 22 Sep. 2001, I. Soriano (BCN 58965); Guardiola, ribera del Llobregat, 31T0607, 720 m, 1 Sep. 2001, P. Aymerich (BCN 58966). **Badajoz:** Villanueva de la Serena, río Guadiana, en el pte. de la EX351, 30STJ582233, 278 m, 26 May 2014, A. Terrones & J. Moreno (ABH 73507). **La Coruña:** Betanzos, ría de Betanzos, 29TNH1506, 4 m, 15 Jul. 2009, A. Guilló & M. Plaza (ABH 71979). **Cádiz:** Chiclana de la Frontera, arroyo Salado, 29SQA596345, 14 m, 29 May 2014, A. Terrones & J. Moreno (ABH 73504); Villamartin, cola del pantano de Bornos, 30STF623813, 119 m, 29 May 2014, A. Terrones & J. Moreno (ABH 73506); El Puerto de Santa María, Laguna Salada del Puerto, 29SQA05, 4 Jun. 1991, S. Cirujano (ABH 79914); Ubrique, rancho del esparragal, 22 May 1929, C. Vicioso (MA 323347); Salinas de San Fernando, 12 Jun. 1920, C. Vicioso (MA 323308). **Ciudad Real:** Alcázar de San Juan, laguna del camino de Villafraña, 30SVJ7762, 633 m, 7 Jun. 2012, J.L. Villar, A. Terrones & J. Moreno (ABH 73476); Alhambra, embalse del

Puerto de Vallehermoso, 30SVJ8600, 750 m, 8 Jun. 2013, A. Terrones & J. Moreno (ABH 73482); Carrión de Calatrava, arroyo de Valdecañas o de Las Motillas, 30SVJ2724, 605 m, 9 Jun. 2013, A. Terrones & J. Moreno (ABH 73488); Daimiel, Tablas de Daimiel, 30SVJ3932, 611 m, 1 May 2007, M.Á. Alonso, M.D. Vargas & al. (ABH 51197); Daimiel, Tablas de Daimiel, arroyo Casablanca, 30SVJ3833, 610 m, 29 May 2012, J.L. Villar & J. Moreno (ABH 73457); Daimiel, Tablas de Daimiel, Isla de la Entradilla, 30SVJ3932, 607 m, 21 May 2012, A. Juan & M.Á. Alonso (ABH 73463); Daimiel, Tablas de Daimiel, Isla de los Asnos, 30SVJ3933, 607 m, 28 May 2012, J.L. Villar & A. Juan (ABH 73467); Fernán Caballero, embalse de Gasset, 30SVJ198325, 644 m, 9 Jun. 2013, A. Terrones & J. Moreno (ABH 73474); Granátula de Calatrava, embalse de la Vega del Jabalón, 30SVH371908, 641 m, 24 Jun. 2011, J.L. Villar (ABH 58183); Herencia, río Cigüela, al cruzar la ctra. CR-P-1341, 30SVJ6850, 624 m, 7 Jun. 2012, J.L. Villar, A. Terrones & J. Moreno (ABH 73475); Miguelturra, Peralvillo, embalse del Vicario, 30SVJ205255, 599 m, 25 Jun. 2011, J.L. Villar (ABH 58179); Montiel, cortijo El Salido, camino secundario a mitad de CR-3129 (entre Carrizosa y Villanueva de los Infantes), 30SVH987965, 812 m, 8 Jun. 2012, A. Terrones & J. Moreno (ABH 73481); Pedro Muñoz, laguna del pueblo, 30SWJ0462, 653 m, 8 Jun. 2012, J.L. Villar, A. Terrones & J. Moreno (ABH 73477); Pozuelo de Calatrava, Laguna del Prado o de Pozuelo de Calatrava, 30SVJ2748, 620 m, 9 Jun. 2013, A. Terrones & J. Moreno (ABH 73485); Socuéllamos, río Záncara, prox. del cruce con la CM-3111, 30SWJ1255, 665 m, 8 Jun. 2012, J.L. Villar, A. Terrones & J. Moreno (ABH 73480); Villarta de San Juan, río Cigüela, entre Arenas de San Juan y Villarta de San Juan, 30SVJ6043, 618 m, 6 Jun. 2012, J.L. Villar, A. Terrones & J. Moreno (ABH 73479). **Cuenca:** La Pesquera, pantano de Contreras, 30SXJ2681, 650 m, 7 Nov. 1995, M.B. Crespo, L. Serra, A. Juan, E. Camuñas & M.J. Nogués (ABH 19420); Mota del Cuervo, Laguna de Navalengua, 30SWJ1458, 670 m, 24 Jun. 1992, M.A. Carrasco, S. Cirujano & M. Velayos (ABH 37958); La Pesquera, pantano de Contreras, 30SXJ2681, 650 m, 7 Nov. 1995, M.B. Crespo, L. Serra, A. Juan, E. Camuñas & M.J. Nogués (ABH 19420). **Islas Baleares:** Mallorca, arenal marítims can pas, 15 Apr. 1949, P. Ferrer (BCN 58989); Formentera, Es Caló, Caló de Sant Agustí, 31SCC7181, 16 May 2009, F. Mart. Flores, C. Pena Martín, A. Quílez & G. Garrigós (ABH 56329); Prat, 27 May 1919, F. Bianor (BCN 58998). **Gerona:** Torroella de Montgrí, L'Estartit, Bassa Frare Ramon, 31TEG1653, 2 m, 17 Sep. 2010, A. Juan, M.Á. Alonso & S. Saura (ABH 56715); Palamós, Platja de Castell, 31TEG13, 3 Aug. 1994, A.M. Hernández Cardona (ABH 74471); Perelada, rive droite de la Muga, 3 Jun. 1921, F. Agustín (MA 78919, BCN 58931); Roses, prop de la Ciutadella, 31TEG17, 10 m, 15 Jul. 1984, T. Franquesa (BCN 43297); Aiguamolls de l'Empordà, 1 May 1980 (BCN 58954); Rosas, marismas, 12 Jun. 1950, Willkomm 4267 (BCN 58973). **Granada:** Alicún de Ortega, 30SVG9362, 700 m, 4 Jun. 2010, A. Juan, J. Peña & J. Fuentes (ABH 56714); Baza, río Baza, 30SWG2751, 840 m, 3 Jun. 2012, J.L. Villar, J.C. Agulló & E. Martínez (ABH 67501); Cuyar ac Baza, 17 Jun. 1921, Gros (MA 78969); Guadix, 11 Jun. 1921, Gros (MA 78962); Guadix, La Solana, A-92N de Guadix a Granada, poco después de cruzar el río Guadix, 30SVG8430, 880 m, 20 Jun. 2007, F. Mart. Flores (ABH 51553); Motril, playa de poniente, zonas húmedas, 30SVF56, 27 Jun. 1982, Molero Mesa (MA 323285); Alrededores del río Fardes, 30SVG8951, 700 m, 26 Apr. 2000, C. Morales & al. (BCN 37839, GDA 44724); Castell de Ferro, 7 May 1974, Esteve & Peinado (BCN 37864). **Huelva:** Almonte, arroyo de Moriana, 29SQB149255, 66 m, 29 May 2014, A. Terrones & J. Moreno (ABH 73499); Almonte, Doñana, frente al palacio, 27 Apr. 1980, M. López & E. Valdés (MA 323270); Villablanca, arroyo de la Gitana, 29SPB466281, 75, 28 May 2014, A. Terrones & J. Moreno (ABH 73498); Doñana, marisma de las Nuevas, rincón del río, 29SQA4289, 31 May 1977, A. Barra, M. Costa & E. Valdés-Bermejo (MA 323243). **Huesca:** Sariñena, Barranco de Moncalver, 30TYM3325, 230 m, 13 Jul. 1997, M.B. Crespo & E. Camuñas (ABH 35778); Sariñena, Barranco de Moncalver, 30TYM3325, 230 m, 13 Jul. 1997, M.B. Crespo & E. Camuñas (ABH 35778); Lalueza, 30TYH23, 240 m, 10 Jun. 1988, Loidi & al. (BCN 58981). **Jaén:** Bélmez, 4 Jul. 1925, Cuatrecasas (MA 323295); Hornos, embalse del Tranco, parque cinegético prox., 30SWH170165, 600 m, 21 Aug. 2010, F. Mart. Flores & A. Quílez (ABH 56328); Cazorra, Salinas de Calderón, 30SVH9002, 21 Jun. 1983, A.M. Hernández Cardona (ABH 74416); Santiago-Pontones, Sierra de Cazorra, Coto Ríos, junto al río Guadalquivir, 30SWH1311, 650 m, 3 Jun. 2011, J.L. Villar, A. Vicente, J.C. Agulló & I. Aragonese (ABH 68451); Úbeda, 17 Jun. 1941, E. Guinea (MA 323321). **Lérida:** Gerri de la Sal, CG590, 590 m, 2 Jun. 2000, J.M. Ninot (BCN 5227); Orillas del Segre, junto a la Granja d'Escarp, 11 May 1945 (BCN 58995, BCN 58971); Biosca, la Segarra, CG5933, 400 m, 4 Jun. 1997, E. Carrillo (BCN 58997). **Madrid:** San Martín de la Vega, río Jarama en el cruce con la M-506 (D20), 30TVK540537, 514 m, 22 Jun. 2013, A. Terrones & J. Moreno (ABH 70111); Alcalá de Henares, río Henares, 30TVK78, 600 m, 5 Jun. 2003, márgenes del río, A. Izuzquiza, P. Jurado & al. (ABH 70176); Aranjuez, río Jarama, Puente Largo, 30TVK4837, 492 m, 22 Jun. 2013, A. Terrones & J. Moreno (ABH 70441); Vega del Jarama, et de Vaciamadrid, 29 Jun. 1931, E. Huguet del Villar (BCN 58991); Vega del Jarama, et de Vaciamadrid, 23 Jun. 1931, E. Huguet del Villar (BCN 58979); Vega del Jarama e puente de Arganda, 29 Jun. 1931, E. Huguet del Villar (BCN 58905, BCN 58974). **Málaga:** Málaga, río Guadalhorce, desembocadura, 30SUF6959, 2 m, 2 Jun. 2012, J.L. Villar, E. Martínez & A. Ortiz (ABH 67497). **Murcia:** Águilas, Playa de Matalentisco, 30SXG2238, 1 m, 19 Sep. 2007, J.C. Cristóbal & E. González Zamora (ABH 51556); Águilas, Rambla de Minglano de Cañarete, 30SXG213438, 109 m, 8 May 2010, J.L. Villar & E. Martínez (ABH 55354); Archena, río Segura, 30SXH4919, 95 m, 21 Apr. 2013, J.C. Cristóbal (ABH 68455); Cartagena, Playa de Gorguier, 30SXG8761, 1 m, 16 Sep. 2007, J.C. Cristóbal & E. González Zamora (ABH 51557); Cartagena, Calblanque, salinas de Rasal, 30SYG0064, 1 Nov. 2009, I. Aragonese & E. Mateo (ABH 54878); Cartagena, Rambla de Albuñón, entre Los Urrutias y Los Alcázares, 30SXG887762, 9 m, 7 May 2010, J.L. Villar & E. Martínez (ABH 55345); Ceutí, 30SXH51, 18 Apr. 1993, B. Badía (ABH 11736); Fortuna, Saladar del Ajauque, 30SXH6724, 128 m, 18 Apr. 2014, J. Moreno & A. Terrones (ABH 70738); La Unión, Pto. de Portman, 30SXG894619, 5 m, 7 May 2010, J.L. Villar & E. Martínez (ABH 55346); Lorca, bords des eaux, 2 May 1923, Hno. Jerónimo (MA 78961); Lorca, río Guadalentín, parte alta, 30SXG0874, 390 m, 17 Jul. 1999, M.Á. Alonso & J.J. Montoya (ABH 42658); Mazarrón, Cañada de Gallego, Playa de las Chapas, 30SXG437552, 4 m, 8 May 2010, J.L. Villar & E. Martínez (ABH 55353); Mazarrón, Puerto de Mazarrón, Bolnuevo, 30SXG502591, 3 m, 8 May 2010, J.L. Villar & E. Martínez (ABH 55396); Santomera, Sierra de Orihuela, 30SXH7116, 60 m, 8 Jun. 1997, P. Espinosa & O. Gálvez (ABH 47618); Ojós, Valle de Ricote, 30SXH4523, 117 m, 22 Apr. 2012, M. García & E. Martínez-Alarcos (ABH 59969); Lorca, borde de les eaux, 2 May 1923, Hno. Jerónimo (BCN 58978). **Navarra:** Falces, río Arga, 30TWM996937, 304, 23 May 2014, A. Terrones & A. Vicente (ABH 73515); Fitero, balneario, Ag. (BCN 58990). **Pontevedra:** Cambados, río Umia, desembocadura, 29TNH1516, 3 m, 14 Jul. 2009, A. Guilló & M. Plaza (ABH 71978). **Soria:** Arcos de Jalón, Jubera, barranco salobre, 30TWL5360, 930 m, 12 Jun. 2015, C. Molina (ABH 80815). **Tarragona:** Amposta, Delta del Ebro, frente a la Isla de Buda, 31TCF1806, 7 May 2009, J.L. Villar, J.C. Agulló, H. Alvarado & M.Á. Alonso (ABH 54331); Amposta, Delta del Ebro, 31TCF10, 20 May 2012, J.L. Villar, A. Vicente & J.C. Agulló (ABH 69748); Batea, ctra. a Batea, 31TBF8837, 18 m, 7 May 2009, M.Á. Alonso, J.L. Villar, J.C. Agulló & H. Alvarado (ABH 71820); Delta del Ebro, Riumar, platja de la bassa de l'Arena, CF11B, 12 May 1989, A. Curcó (BCN 41043, BCN 41044); Delta del Ebro, platja del Aluet, prop del Trabucador, CF10C, 4 May 1989, A. Curcó (BCN 41045, BCN 41046); Delta del Ebro, dunas fijadas en la urbanización Riumar, CF11, 8 May 1983, J. Molero & A. Rovira (BCN 58986); Gandesa, serra de Pàndols, balneari de Fontcalda, BF84, 29 Apr. 1981, J. Molero & A. Rovira (BCN 30700); La Palma de Ebre, cap a Flix, 22 Sep. (BCN 58985); Móra cap a García, CF05, 16 Sep. 1984, J. Molero & A. Rovira (BCN 30701); Masdenverge, Barranc de la Galera, 31TBF91, 40 m, Forcadell, Beltrán & Royo (BCN 14822); L'Ampolla, entre les Olles i el Goleró, CF01B, 14 Jul. 1989, A. Curcó (BCN 41040); El Garxal, prop del Far, CF11D, 18 Jul. 1989, A. Curcó (BCN 40977); Entre Faió i Ribaraja d'Ebre, BF86, 8 Jun. 1983, J. Molero & A. Rovira (BCN 30702); Xerta, BF83, 9 May 1987, J. Molero & A. Rovira (BCN 30703); Ribaraja d'Ebre, DF86, 2 Sep. 1983, J. Molero & A. Rovira (BCN 30700); Villa de Sant Antoni, CF21C, 15 Jun. 1989, A. Curcó (BCN 41047); Illa de Buda, 14 Oct. 1965, M. Perdigo (BCN 58952); **Teruel:** Alcañiz, Saladar de Alcañiz, laguna al N de la Salada de la Jabonera de las Torrazas, 30TYL367480, 352 m, 24 May 2014, A. Terrones & A. Vicente (ABH 73500). **Toledo:** Quero, Laguna de Taray, 30SVJ7275, 655 m, 7 Jun. 2012, J.L. Villar, A. Terrones & J. Moreno (ABH 73493); Villafranca de los Caballeros, río Cigüela, 30SVJ7362, 637 m, 7 Jun. 2012, J.L. Villar, A. Terrones & J. Moreno (ABH 73494); Quero, Laguna del Masegar, 30SVJ7474, 18 Aug. 1982, S. Cirujano & R. Calvo (MA 323256); La Puebla de Almoradiel, río Cigüela, 30SVJ8884, 682 m, 7 Jun. 2012, J.L. Villar, A. Terrones & J. Moreno (ABH 73495); Toledo, Río Tajo, 30SYK11, 25 May 1977, E. Valdes Bermejo, M. Costa, M.C. Prada & P. Blanco (ABH 79920). **Valencia:** Cullera, Cap de Cullera, 30SYJ3905, 2 m, 10 May 2012, J.L. Villar & A. Vicente (ABH 59998); Oliva, Les Deveses, riu El Molinell, 30SYJ570083, 5 m, 21 Mar. 2014, A.

Terrones & J. Moreno (ABH 70778); Piles, YJ51, 30 Jul. 1984, R. Figuerola (MA 326662); Villargordo del Cabriel, Rabo de la Sartén, 30SXJ2979, 700 m, 17 May 2010, J.L. Villar, F. Mart. Flores, C. Pena Martín & M.B. Crespo (ABH 56717); Villargordo del Cabriel, Fuente del Junco, 30SXJ3378, 710 m, 18 May 2010, J.L. Villar, F. Mart. Flores, C. Pena Martín & M.B. Crespo (ABH 56718); Villargordo del Cabriel, Barranco de la Vid, 30SXJ3078, 650 m, 18 May 2010, J.L. Villar, F. Mart. Flores, C. Pena Martín & M.B. Crespo (ABH 56719). **Cantabria**: Suances, 30 May 1951, E. Leroy (BCN 59561). **Sevilla**: Aznalcazar, 17 Apr. 1943, C. Vicioso (MA 323345); Parada, 5 May 1933, C. Vicioso (MA 32334); Lora, 4 May 1943, C. Vicioso (MA 323346). **Zaragoza**: Burgo de Ebro, 200 m, 19 May 1972, J. Vigo & al. (BCN 58983); Chiprana, Laguna de Chiprana, 30TYL3669, 136 m, 7 May 2009, J.L. Villar, J.C. Agulló, H. Alvarado & M.Á. Alonso (ABH 54330); Bujaraloz, 30TYL4498, 300 m, 8 May 2009, M.Á. Alonso, J.L. Villar, J.C. Agulló & H. Alvarado (ABH 55005); Caspe, embalse de Caspe II, 30TYL488568, 226 m, 24 May 2014, A. Terrones & A. Vicente (ABH 73520); Calatayud, pasado Huérmeda, Rambla Ribota, 30TXL168829, 503 m, 22 May 2014, A. Terrones & A. Vicente (ABH 73521); Pedrola, Barranco de Juan Gastón, 30TXM446247, 289 m, 22 May 2014, A. Terrones & A. Vicente (ABH 73524); Chiprana, puente a la salida del pueblo sobre el pantano de Mequinenza, 30TYL47, 118 m, 13 Jun. 2016, R. Morales, M.Á. Alonso & al. (ABH 75668); Coreses, San Pelayo, 30TTM8398, 18 Aug. 1994, A. Penas, L. Herrero, C. Acedo & S. del Río (ABH 72635); Sierra de Alcubierre, subiendo al monte Oscuro, YM02, 560 m, 17 May 1997, J. Molero (BCN 30669); Prope Sastago, YL27, 9 Apr. 1995, Molero & Sáez (BCN 58963).

#### *Tamarix parviflora* DC.

SPAIN. **Álava**: Laguardia, complejo lagunar de Laguardia, laguna de Calalogoño, 30TWN357099, 569 m, 23 May 2014, A. Terrones & A. Vicente (ABH 73513). **Alicante**: Alicante, Playa de San Juan, 30SYH262502, 1 m, 27 Mar. 2011, J.L. Villar & E. Martínez (ABH 57850). Alacant, Pla de la Cova-A70, 30SYH1750, 90 m, 1 Apr. 2015, R.J. Boix (ABH 72030); Alicante, urbanización Pozo de San Antonio, 30SYH1358, 250 m, 12 Apr. 1999, E. Camuñas & M.B. Crespo (ABH 41543); Alicante, Isla de Tabarca, 30SYH2127, 1 m, 1 Apr. 2011, E. Martínez & C. Marco (ABH 58185); Biar, pte. ctra., 30SXH9577, 750 m, 30 Apr. 2007, M.Á. Alonso (ABH 51196); Biar, santuario Mare de Deu de Gracia, 30SXH9578, 760 m, 6 May 2010, J.L. Villar, I. Aragoneses & F. Mart. Flores (ABH 55398); Guardamar del Segura, río Segura, desembocadura, 30SYH063206, 21 Mar. 2011, J.L. Villar & I. Aragoneses (ABH 57855); Orihuela, Cabo Peñas, 30SYH0000, 10 m, 1 Mar. 2011, H. Pedauy, J. Rotter & R.J. Boix (ABH 70642); Torrevieja, Laguna Salada de la Mata, ctra. CV-905, 30SYH0011, 10 m, 30 Mar. 2011, J.C. Agulló (ABH 57859). **Albacete**: Albacete, laguna del Acequión, 30SWJ8420, 690 m, 9 Mar. 2012, M. García & E. Martínez-Alarco (ABH 59997); Albacete, laguna del Acequión, 30SWJ8020, 690 m, 28 May 1986, A. Valdés (MA 478727). **Barcelona**: Barcelona, parc de la Bonanova, 10 Apr. 1927, Sennen 6073 (BCN 59552). **Castellón**: Peñíscola, marjal de Peñíscola, 31TBE797735, 20 Mar. 2014, A. Terrones & J. Moreno (ABH 70797); Vinarós, cala puntal, 31TBE88, 21 Apr. 2005, Royo (BCN 31208). **Gerona**: Cadaqués, Platja de Port Lligat, 31TRG28, 18 Apr. 1982, T. Franquesa (BCN 43431); Figueras, collège hisp no français, 16 Apr. 1922, F. Agustín (BCN 59563). **Huelva**: Almonte, Doñana, bordes de la charca en las proximidades del laboratorio el Bolin, 20 Mar. 1977, S. Castroviejo, M. Costa, S. Rivas-Martínez, E. Valdés-Bermejo (MA 329581); Matalascañas, cultivado, Apr. 1989, S. Cirujano (MA 504091). **Islas Baleares**: Ibiza, Port des Torrents, 1 May 1980, S. Rivas-Martínez, M. Costa & A.M. Regueiro (MA 422592); Mallorca, Porto Cristo, 2 May 1979, J. Dubigneaud (MA 359813). **Lugo**: Monforte, jardín estación ferrocarril, 10 Apr. 1988, C.R. Dacal (MA 547288). **Madrid**: Aranjuez, río Jarama, Puente Largo, 30TVK4837, 492 m, 22 Jun. 2013, A. Terrones & J. Moreno (ABH 70438); Aranjuez, reserva natural el Regajal-Mar de Ontígola, mar de Ontígola, 30TVK489302, 550 m, 16 Apr. 2007, P. Barberá (MA 865732). **Tarragona**: Cambrils, Apr. 1928, Hno. Teodoro (BCN 59553); Cambrils, 23 Apr. 1928, Hno. Teodoro (BCN 59558); Cambrils, May 1929, Hno. Agustín (BCN 59555); Freginals, Montsià, pont del tren, 31TBF80, 100 m, 6 Apr. 2000, Royo (BCN 14819). **Toledo**: Huerta de Valdecárbanos, 650 m, 20 Apr. 1974, A. Segura Zubizarreta 7211 (MA 359812); Lillo, Proximidades de la laguna Albaridosa, 17 May 1991, S. Cirujano & F. Castilla (MA 504093). **Segovia**: Segovia, al pie del Alcázar, cañón del río Clamores, 30TVL0434, 960 m, 27 May 1989, P. Egido & R. García (ABH 45823). **Valencia**: Cullera, Cap de Cullera, 30SYJ3914, 4 m, 10 May 2012, J.L. Villar & A. Vicente (ABH 67411); Valencia, playa del Saler, proximidades del Hotel Sidi Saler, 30SYJ3157, 0 m, 3 Apr. 1988, M. Guzmán, M. Luceño, & P. Vargas (MA 440759).

#### *Tamarix octandra* Bunge

RUSSIA. **Daguestan**: Caspian Sea shore, 2–3 Km to the South from Adji, 25 May 1988, I. Rusanovich (MA 820145). **Kalmykia**: Road to Elista, A.K. Skvorstov (MO 04992086); Yashkul reg. 10 Km E from Yashkul, road Elista-Astrakhan, 54°31'N, 42°38'E, V. Sagalae & I. Rusanovich (MO 05044107).

#### *Tamarix* gr. *ramosissima* Ledeb.

SPAIN. **Álava**: Vitoria, Oyón-Oion, embalse de las Cañas, 30TWN493043, 376 m, 23 May 2014, A. Terrones & A. Vicente (ABH 73517). **Alicante**: Elx, Clot de Galvany, 30SYH1536, 11 Jun. 2007, R.J. Boix (ABH 51616); Alicante, El Sabinar, prox. entrada, 30SYH1258, 260 m, 11 Sep. 2007 A. Guilló, J.C. Cristóbal & P. Rico (ABH 53810); Novelda, rotonda frente a 'Rebeca Sanver', 30SXH9262, 420 m, 28 Jun. 2010, I. Aragoneses (ABH 55558); Alicante, Playa del Postiguet, 30SYH24, 26 Jun. 2010, F. Mart. Flores (ABH 58616); El Campello, La Merced, 30SYH3361, 20 m, 17 Jun. 2014, R.J. Boix & R. Torregrosa (ABH 70934); Alacant, Barranc de les Ovelles, 30SYH1547, 45 m, 14 Apr. 2015, R.J. Boix (ABH 72235). **Navarra**: Viana, 30TWN4704, 390 m, 12 Oct. 1981, P. Uribe & J.A. Alejandre (MA 326655); Viana, 30TWN4804, 390 m, 12 Sep. 1986, J.A. Alejandre (MA 364591). **Santander**: Liencres, 5 Jul. 1974, J. Aldasoro (MA 654134).

#### *Tamarix* × *verae* J.L. Villar, M.Á. Alonso & M.B. Crespo.

SPAIN. **Alicante**: Alicante, Saladar de Fontcalent, 30SYH132494, 78 m, 7 Apr. 2017, J.L. Villar & E. Martínez (ABH 80821); Elche, Pantano de Elche, 30SXH9943, 155 m, 27 Mar. 2013, J.L. Villar & A. Terrones (ABH 69541); Elche, Pantano de Elche, 30SXH9943, 155 m, 27 Mar. 2013, J.L. Villar & A. Terrones (ABH 69542); Elche, Clot de Galvany, 30SYH1635, 9 m, 7 Apr. 2022, J.L. Villar (ABH 81567, ABH 81569, ABH 81570, ABH 81568); Salinas de Santa Pola, 30SYH1029, 1 m, 4 Apr. 2014, J.L. Villar & A. Terrones (ABH 70787); Saladar de Fontcalent, 30SYH132494, 78 m, 22 Apr. 2016, J.L. Villar & A. Vicente (ABH 80820).