Article

Fl. Medit. 34: 325-336
https://doi.org/10.7320/FlMedit34.325
Version of Record published online on 21 December 2024

Ridha El Mokni

Four new alien lianas for Tunisia and new distributional records of *Anredera cordifolia* (*Basellaceae*), *Ipomoea indica* and *I. purpurea* (*Convolvulaceae*)

Abstract

El Mokni, R.: Four new alien lianas for Tunisia and new distributional records of *Anredera cordifolia* (*Basellaceae*), *Ipomoea indica* and *I. purpurea* (*Convolvulaceae*) — Fl. Medit. 34: 325-336. 2024. — ISSN: 1120-4052 printed, 2240-4538 online.

Aristolochia gigantea (*Aristolochiaceae*), *Distimake dissectus*, *Ipomoea batatas* (*Convolvulaceae*), and *Passiflora caerulea* (*Passifloraceae*) are newly reported from Tunisia and the distribution range of *Anredera cordifolia* (*Basellaceae*), *Ipomoea indica* and *I. purpurea* (*Convolvulaceae*) is extended as a result of botanical surveys during the last two decades. All the species are considered casual to naturalizing aliens and the horticultural trade is the most likely pathway for their introduction. General macromorphological characteristics together with original photographs are provided. Actual distribution, ecological notes (habitat, phenology) as well as the degree of naturalization are reported.

Key words: Floristics, climbing vines, new records, North Africa.

Article history: Received 21 October 2024; received in revised form 2 December 2024; accepted 10 December 2024; published 21 December 2024.

Introduction

Tunisia, despite its restrictive area, is characterised by a high diversity of floristic communities from south to north. The country occupies a specific central-southern Mediterranean geographic position and is therefore under inter- and intra-continental movements of population, together with the development of transport networks between the surrounding countries. During the last decades, the extension of the practice of multiplication and sale of non-native ornamental plants (mainly in the north-west, Tabarka and its surroundings; the centre, Monastir and the north-eastern part, Ariana, Bizerta and Nabeul) make the country a suitable place for an active settlement of many plant species outside their native areas and led to the escape and even the well establishment of several aliens from all over the word, mainly during the last two decades (see e.g. El Mokni & Iamonico 2024; El Mokni & Verloove 2019; El Mokni & Domina 2020; El Mokni & al. 2019, 2022, 2024a, 2024b; El Mokni 2023, 2024).

In the course of floristic surveys throughout the Tunisian territory and as a result of iterate field investigations, four casual alien lianas not previously recorded for the vascular flora of the country were discovered in sub-nitrophilous/ruderal plant communities or as escaped ornamentals in the north-western and central-eastern part of Tunisia. In addition, new distributional records of *Anredera cordifolia* (Ten.) Steenis (*Basellaceae*), *Ipomoea indica* (Burm.) Merr. and *I. purpurea* (L.) Roth (*Convolvulaceae*) in the wild approve to enlarge the range of their distribution as naturalized aliens in Tunisia.

Material and methods

The present work is based on extensive field surveys, analysis of relevant literature with morphological features and distributive areas of different collected material besides examination of specimens for *Distimake dissectus* (Jacq.) A.R.Simões & Staples preserved at LY (sub *Convolvulus dissectus* Jacq.), for *Passiflora caerulea* L., preserved at AV, ANG, CHE, CLF, MHNM, MPU, P, REN and SLA, and for *Aristolochia gigantea* Mart. & Zucc., preserved at MPU and P (herbarium codes follow Thiers (2024) [continuously updated]), and in the personal collection of the author which is deposited in the Herbarium of the Faculty of Pharmacy of Monastir. The degree of naturalization is according to Pyšek & al. (2004). Reported taxa are presented alphabetically in two categories: first records of casual species and new distributional records of lianas that were already known from Tunisia. Each entry includes the currently accepted name of the taxon with one or more synonyms. Authorities of plant names usually follow POWO (2024).

Results

1. New records of casual to naturalizing species

Aristolochia gigantea Mart. & Zucc. **(***Aristolochiaceae***)**
≡ *Howardia gigantea* Klotzsch, = *Aristolochia mariquitensis* Mutis

Morphology – (Fig. 1. A-B). *Aristolochia gigantea* is a liana with one of the largest-flowers in the genus. It is distinguished mainly by its large, zygomorphic, velvety, burgundy with ivory-white veined flowers (Fig. 1. A) that consist of three congenitally united sepals that form a distinctive tube-shaped perianth that expands basally into a hollow trapping chamber (utricle). The fruits are papery capsules, ellipsoid, 8.9–13.6 × 2–2.6 cm, rostrate (Fig. 1. B), containing more than 20 seeds that are dispersed by the wind. A detailed description in provided by Abreu & Giulietti (2016).

Global distribution – *Aristolochia gigantea* is endemic to Brazil, occurring in the northeast (Bahia), Caatinga, southeast (Minas Gerais, Rio de Janeiro and São Paulo) and south (Paraná) regions (Capellari-Junior 1991; Costa & Hime 1981; Nascimento & al. 2010; Abreu & Giulietti 2016). Out of its native range, the plant was reported from North and Central America including Costa Rica, El Salvador, Honduras and Mexico and also from some European countries (sometimes only as cultivated, GBIF 2024a). In Africa, the species was reported only from Kenya, Seychelles, South Africa and Sudan with no

Fig. 1. A-B. *Aristolochia gigantea*, Tabarka, 02.08.2018 & 27.06.2020. C. *Ipomoea batatas*, Monastir, 07.10.2019. D. *Distimake dissectus*, Monastir, 02.07.2024. E. *Anredera cordifolia* with aerial stem tubers indicated by arrows, Tabarka, 01.05.2023. All Photographs by R. El Mokni.

report from North Africa (GBIF 2024a). It is here first reported as a casual alien from Tunisia.

Occurrence and habitat in Tunisia – (Fig. 2). The plant is rather a relic from cultivation. It was recorded only in one locality, climbing on the side of a road in a hedge of a field where many ornamentals were cultivated.

Phenology – In Tunisia, flowering and fruiting from July to January. Elsewhere, mainly in Brazil, it flowers and bears fruits throughout the year (Hipólito & al. 2012).

Specimens examined (new records) – TUNISIA. Jendouba: Tabarka, Houamdeya, 30 September 2015, *El Mokni s.n.* (Herb. El Mokni!); ibidem, 2 August 2018, *El Mokni s.n.* (Herb. El Mokni!); ibidem, 27 June 2020, *El Mokni s.n.* (Herb. El Mokni!); ibidem, 15 October 2021, *El Mokni s.n.* (Herb. El Mokni!); ibidem, 20 July 2024, *El Mokni s.n.* (Herb. El Mokni!).

Distimake dissectus (Jacq.) A.R.Simões & Staples (*Convolvulaceae*, *Merremieae*)

≡ *Convolvulus dissectus* Jacq., ≡ *Ipomoea dissecta* (Jacq.) Pursh, ≡ *Merremia dissecta* (Jacq.) Hallier f., ≡ *Operculina dissecta* (Jacq.) House

Morphology – (Fig. 1. D). An herbaceous climber with long slender, terete, striate stems. The species is characterized by its palmately dissected leaves with 5–9 segments, ovate to suborbicular in outline and its white to pale yellow corolla with dark purple throat. A detailed description (sub *Merremia dissecta*) is available e.g. in Ferreira & Miotto (2013), Al-Hawshabi (2016), Swamy & Venkatesham (2018) and Al-Anbari (2019).

Global distribution – Indigenous to Tropical and Subtropical America (Southern United States, Central America, West Indies, South America to Argentina and Uruguay), the species is cultivated and becoming naturalized in India, Indonesia, Pakistan, Sri Lanka, Thailand, Malaysia, Taiwan and Saudi Arabia as a garden escape (Austin & Ghazanfar 1979; Al-Farhan & Thomas 2001; Mujaffar & al. 2013). It was reported also for Yemen as a casual (Al-Hawshabi 2016) and in Iraq as well-established alien (Al-Anbari 2019). In Africa, the species was reported for several countries (merely cultivated in some) including Algeria, Benin, Cameroun, Congo, Côte d'Ivoire, Ghana, Madagascar and Seychelles, but no report from Tunisia (APD 2024a). This seems to be the first official report, as a casual alien, for the Tunisian non-native flora.

Occurrence and habitat in Tunisia – (Fig. 2). The plant was recorded only in one locality, climbing on a *Washingtonia robusta* H.Wendl. palm tree, in an abandoned field where waste of a nearby nursery was deposited.

Phenology – In Tunisia, flowering and fruiting from June to October. Elsewhere, it flowers and bears fruits all year round, more intensely during the summer, in Brazil (Ferreira & Miotto 2013); from May to December in Yemen (Al-Hawshabi 2016) and from August to January in India (Swamy & Venkatesham 2018).

Specimens examined (new records) – TUNISIA. Monastir: Monastir-city, ruderal plant communities not far away from a nursery of ornamentals, 10 November 2023, *El Mokni s.n.* (Herb. El Mokni!); ibidem, 20 July 2024, *El Mokni s.n.* (Herb. El Mokni!).

Ipomoea batatas (L.) Lam. (*Convolvulaceae*, *Ipomoeeae*)

≡ *Convolvulus batatas* L., ≡ *Solanum batatas* (L.) Aikman

Morphology – (Fig. 1. C). *Ipomoea batatas* is a perennial climbing herb with prostrate to

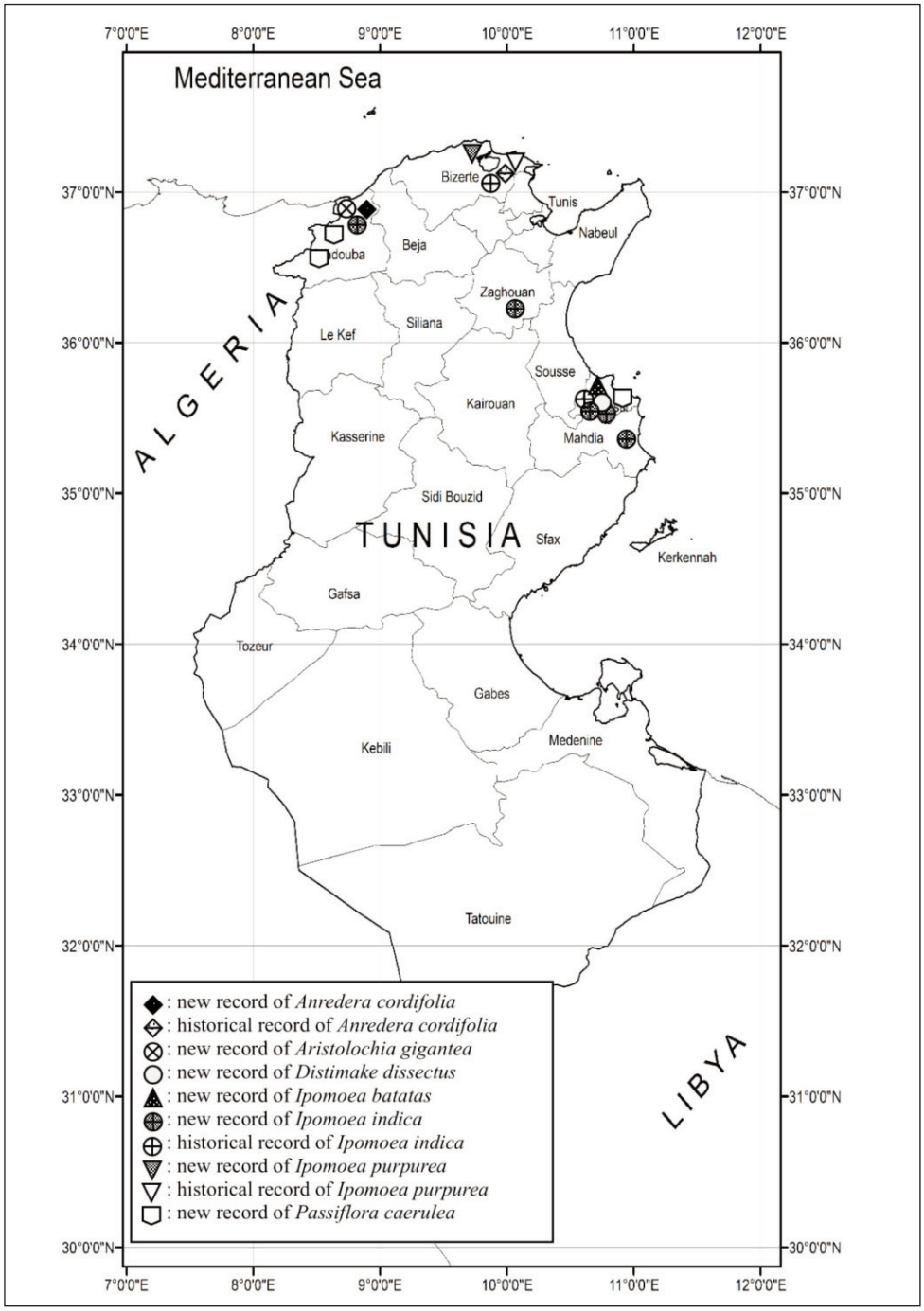

Fig. 2. Actual geographic distribution of *Anredera cordifolia*, *Aristolochia gigantea*, *Distimake dissectus*, *Ipomoea batatas*, *Ipomoea indica*, *Ipomoea purpurea*, and *Passiflora caerulea* in Tunisia.

ascending stems, distinguished mainly by its funnel-shaped completely glabrous corolla, 3–5 cm long. A detailed morphological description was provided in Austin (1978) and Williams & al. (2024).

Global distribution – *Ipomoea batatas* is native from Mexico to Venezuela and Ecuador (POWO 2024a). The plant seems introduced and naturalized in South America, in Europe (mainly Iberian Peninsula and Greece), in Canary Islands, in many countries of the African Continent including all the North African Mediterranean countries except Tunisia (POWO 2024a; Raab-Straube 2018+; APD 2024b). It is here first reported from Tunisia, as a casual alien.

Occurrence and habitat in Tunisia – (Fig. 2). The plant was recorded only in one locality, climbing on a stump of a dead *Ficus microcarpa* L.f. tree along the road.

Phenology – In Tunisia the plant was seen in flowers and fruits in November and December. Elsewhere, flowering starts around May through early September or October; from September to December in India and from April to June in Malta (Mifsud 2022).

Specimen examined (new record) – TUNISIA. Monastir: Monastir-city, within ruderal communities, 7 October 2019, *El Mokni s.n.* (Herb. El Mokni!); ibidem, 1 Decemebr 2024, *El Mokni s.n.* (Herb. El Mokni!).

Passiflora caerulea L. (*Passifloraceae*)

≡ *Granadilla caerulea* (L.) Medik.

Morphology – (Fig. 3 A). *Passiflora caerulea* is a glabrous vine, distinguished mainly by its 5-lobed leaves almost to base, membranous; its solitary, hermaphrodite flowers with sepals and petals 3–4.5 cm long, oblong, white inside; sepals greenish outside and with short dorsal horn towards apex; corona threads about 2 cm long, with base purple, middle white, and apex violet. A detailed morphological description was provided in Webb & al. (1988) and WFO (2024).

Global distribution – *Passiflora caerulea* is a perennial vine native to South America (southern Brazil, Argentina, Paraguay and Uruguay), which has been deliberately introduced as an attractive garden plant in North America, Europe (e.g. Canary Islands, Germany, Great Britain, Ireland, Italy and Spain), Asia and Australia where it has become well established along riverbanks and in hedgerows and waste areas (Weeds of Australia 2012; Invasive Species South Africa 2014). On the African continent, the species was reported only in Kenya and South Africa, with no report from Mediterranean African countries (POWO 2024b; APD 2024c). It is here first reported as a casual alien from Tunisia and continental North Africa.

Occurrence and habitat in Tunisia – (Fig. 2). The plant was recorded in several localities:

First record was from the northwestern part of Tunisia (Jendouba, Ghar-Dimaou, 9.7.2020), many flowering-fruiting individuals in hedgerows;

Second record was in the northwestern part of Tunisia (Jendouba, Ain Draham surroundings, 06.07.2022), one huge blooming-fruiting individual on a riverbank;

Third record was in the northwestern part of Tunisia (Jendouba, Ain Draham-city, 12.6.2023), one flowering individual climbing in roadside from an ancient abandoned building;

Fig. 3. A. *Passiflora caerulea*, Monastir, 9.4.2024. B-C. *Ipomoea indica*, climbing on metallic hedges and creeping on the ground; Mahdia, 16.6.2021. D-F. *Ipomoea purpurea*, Habit with typical leaves and chartaceous, oblong lanceolate sepals covering capsules, Bizerta, 18.11.2018. All Photographs by R. El Mokni.

Fourth locality was in the central eastern part (Monastir, Monastir-city, 9.4.2024), few flowering-fruiting individuals of almost 50-80 cm high in ruderal habitats.

Phenology – In Tunisia, flowering and fruiting from April to October. Elsewhere, it flowers and bears fruits from August to March in South Africa (WFO 2024) and from May to July in China (WFO 2024).

Specimens examined (new records) – TUNISIA: Jendouba, Ghar-Dimaou, 9 July 2020, *El Mokni s.n.* (Herb. El Mokni!); Ain Draham surroundings, 6 July 2022, *El Mokni s.n.* (Herb. El Mokni!); Ain Draham-city, 12 June 2023, *El Mokni s.n.* (Herb. El Mokni!); Monastir, Monastir-city, 9 April 2024, *El Mokni s.n.* (Herb. El Mokni!); ibidem, 4 October 2024, *El Mokni s.n.* (Herb. El Mokni!).

2. New distributional records for lianas already known from Tunisia

Anredera cordifolia (Ten.) Steenis (*Basellaceae*)

≡ *Boussingaultia cordifolia* Ten., = *B. gracilis* Miers

New record – TUNISIA. Jendouba: Tabarka, Ouechteta, 1.5.2023, climbing on hedges of *Opuntia ficus-indica* (L.) Mill., with a lot of aerial stem tubers.

Identification – (Fig. 1 E). *Anredera cordifolia* is a perennial, evergreen, vigorous climbing vine with branched inflorescences consisting of masses of showy, pedicellate, fragrant whitish-yellow flowers. The plant shows usually typical aerial stem tubers (vegetative reproductive structures). A detailed description was provided by Sperling (1987), Eggli (2002) and Eriksson (2007).

Previous national distribution, habitat and actual degree of naturalization – (Fig. 2). Native to the southern and central parts of South America (South Brazil, Paraguay and northern Argentina) (Wagner & al. 1999), the species was known in Tunisia only from Bizerta governorate (Jarzouna and Bizerta-city) in the northeastern part of the country (El Mokni & al. 2019). It is reported here for the second time in Tunisia, where it was recently collected in an abandoned area full of wastes within several cultivated huge individuals of *Opuntia ficus-indica* (L.) Mill., in the northwestern part of the country within Jendouba governorate (Tabarka, Ouechtata). The plant produces a high number of aerial stem tubers that easily detach from the parent plant enhancing its vegetatively spreads in the surroundings. We here propose a new degree of naturalization for this taxon in Tunisia, from casual to naturalized.

Ipomoea indica (Burm.) Merr. (*Convolvulaceae*)

≡ *Convolvulus indicus* Burm.

New records – TUNISIA. Mahdia: Rejiche, 16.06.2021; Hiboun, 30.10.2022; Monastir: Teboulba, 15.10.2020; Bembla, 18.10.2019; Moknine, 14.8.2024; Zaghouan: El Fahs, 6.5.2024 ; Jendouba: Tabarka, 12.12.2024.

Identification – (Fig. 3 B-C). A perennial herb with twining or prostrate stems and entire or 3-lobed leaves, ovate in outline, 5–12 cm long, 3–15 cm wide, cordate at the base, acuminate at the apex, lobes acuminate; corolla blue or mauve-purple, often red-tinged, tube whitish at the base. A detailed morphological description was provided in Williams & al. (2024).

Previous national distribution, habitats and actual degree of naturalization – (Fig. 2). Native to tropical and subtropical America, the species was known from Tunisia only from two localities, one in Bizerta (northeastern part) and the other from Monastir (cen-

tral eastern part, El Mokni 2018a). Additional records are here presented from Monastir governorate (Teboulba, Bembla and Moknine), first records from Mahdia governorate (Rejiche and Hiboun in the central eastern part) and also a first record from Zaghouan governorate (El Fahs, northeastern part) and more recently many localities with well established individuals within Tabarka in the governorate of Jendouba. In all cases, the plant was observed climbing on metallic hedges of buildings and/or creeping on the ground along or near railways and rivers. The status as naturalized in previous reports is here confirmed.

Ipomoea purpurea (L.) Roth (*Convolvulaceae*)
≡ *Convolvulus purpureus* L., ≡ *Pharbitis purpurea* (L.) Voigt
New records – TUNISIA. Bizerta: Jarzouna, 23.10.2001; Nadhour, 18.11.2018.
Identification – (Fig. 3 D-F). An herbaceous twining annual, distinguished from related species mainly by its 3-fid styles (*vs*. 2-fid in *I. tricolor* Cav.) and the length of hairs on leaves which are usually ca. 0.4-0.6 mm long, (*vs*. 1-2 mm long in *I. hederacea* Jacq.) (Grøstad & al. 2002; Verloove 2024).
Previous distribution, habitat and degree of naturalization – (Fig. 2). Native to Tropical and Subtropical America, the species was first seen in Tunisia in the surroundings of Tunis region since 1990 but reported without clear status (Le Floc'h & al. 2010). The first record far from Tunis was in Bizerta (Jarzouna, northeastern part of the country) since 2001 (unpubl. records by the author). In 2018, the plant was seen again in Bizerta (Nadhour) in ruderal places climbing on dried herbs and creeping on rocky soils. We here confirm the status of naturalization for this alien taxon in Tunisia, as given by Raab-Straube (2018+).

Conclusion

All new records here reported are regarded as casual to naturalizing aliens for which the horticultural trade is considered to be the most likely pathway for their introduction. Dissemination is presumably facilitated by the production of seeds and pruning waste that is discharged in ruderal habitats (in the case of the major genera of the *Convolvulaceae* family, the genus *Aristolochia* and the genus *Passiflora*) and by the production of aerial stem tubers in the case of the genus *Anredera*. Regarding the Convolvulaceae family in Tunisia, based on previous recent publications (see e.g. El Mokni 2018a, 2018b; El Mokni & al. 2016, 2024c) and the records here reported, the family is now represented by 6 genera, 31 species and 8 subspecies (with only one species among them endemic to Algeria and Tunisia), 5 tribes (*Convolvuleae*, *Cresseae, Cuscuteae*, *Ipomoeeae* and *Merremieae*) and 2 subfamilies (*Convolvuloideae* and *Cuscutoideae*). The taxa here reported for the first time from Tunisia belong to subfamily *Convolvuloideae*, to two tribes (where *Merremieae* is here its first report), to two genera (where *Distimake* is here its first report) and to four species.

Acknowledgments

The author is very grateful to anonymous reviewers for their comments and suggesting improvements made to the first version of the Manuscript.

References

Abreu, I. S. & Giulietti, A. M. 2016: Flora da Bahia: *Aristolochiaceae*. – Sitientibus série Ciências Biológicas,**16.** https://doi.org/10.13102/scb1059

Al-Anbari, A. K. 2019: A systematic study of the genus *Merremia dissecta* (Jacq.) Hallier f. in Iraq. – Int. J. Adv. in Sci. Eng. Technol. **7(1):** 35-39.

Al-Farhan A., and Thomas J. 2001: *Convolvulaceae* – Pp. 156-218 in: Chaudhary, S. A. (ed.) Flora of the Kingdom of Saudi Arabia illustrated, **2(2).** –Riyadh.

Al-Hawshabi, O. S. 2016: A New Alien Record for the Flora of Yemen: *Merremia dissecta* (Jacq.) Hallier f. (*Convolvulaceae*). – IOSR J. Pharm. Biol. Sci. (IOSR-JPBS) **11(2):** 1-3.

APD 2024a: *Distimake dissectus* (Jacq.) A.R.Simões & Staples. African Plant Database. – https://africanplantdatabase.ch/en/nomen/specie/241149/distimake-dissectus-jacq-a-r-sim-es-staples [accessed 1/12/2024].

— 2024b: *Ipomoea batatas* (L.) Lam. African Plant Database. – https://africanplantdatabase.ch/en/nomen/specie/8752/ipomoea-batatas-l-lam [accessed 15/10/2024].

— 2024c: *Passiflora caerulea* L. African Plant Database. – https://africanplantdatabase.ch/en/nomen/specie/114640/passiflora-caerulea-l [accessed 16/10/2024].

Austin, D. 1978: The *Ipomoea batatas* complex - I. Taxonomy. – Bull. Torrey Bot. Club **105(2):** 114-129.

— & Ghazanfar, S. 1979: *Convolvulaceae*. – Pp. 52-55 in: Nasir, E. & Ali S. I. (eds), Flora of West Pakistan. – http://www.efloras.org/florataxon.aspx?flora_id=5&taxon_id=10216 [accessed 16/10/2024]

Capellari-Junior, L. 1991: Espécies de *Aristolochia* L. (*Aristolochiaceae*) ocorrentes no estado de São Paulo (Species of *Aristolochia* L. (*Aristolochiaceae*) in the State of São Paulo). – Campinas.

Costa, E. L. & Hime, N. C. 1981: Biologia floral de *Aristolochia gigantea* Mart. & Zucc. (*Aristolochiaceae*). – Rodriguésia **56:** 23-32.

Eggli, U. 2002: *Basellaceae* – Pp. 45-46 in: Eggli, U. (ed.). Illustrated handbook of succulent plants, Dicotyledons. – Berlin.

El Mokni, Ra., El Mokni, A-A. & El Mokni, Ri. 2024c: Confirmation of the occurrence of *Ipomoea imperati* (Vahl) Griseb. (*Convolvulaceae*, *Ipomoeeae*) in the coastal dunes of central-eastern Tunisia, the lost piece of the puzzle! – Bot. Complut. **48.**

El Mokni, R. 2018a: *Ipomoea indica* (Burm.) Merr. (*Convolvulaceae*) in: Raab-Straube, E. von & Raus, Th. (ed.) 2018: Euro+Med-Checklist Notulae, 9 [Notulae ad floram euromediterraneam pertinentes No. 38]. – Willdenowia **48:** 195-220. https://doi.org/10.3372/wi.48.48203

— 2018b: *Convolvulus althaeoides* subsp. *tenuissimus* (Sm.) Batt. (*Convolvulaceae*) in: Raab-Straube, E. von & Raus, Th. (ed.) 2018: Euro+Med-Checklist Notulae, 9 [Notulae ad floram euromediterraneam pertinentes No. 38]. – Willdenowia **48:** 195-220. https://doi.org/10.3372/wi.48.48203

— & Domina, G., 2020: Additions to terrestrial flora of Tunisia: occurrence and taxonomic notes. – Check List **16(3):** 553-561. https://doi.org/10.15560/16.3.553

— & Iamonico, D. 2024: The family *Bignoniaceae* in Tunisia, first survey including new floristic records to North Africa with nomenclatural notes. – Hacquetia **23(2):** 221-237. https://doi.org/10.2478/hacq-2024-0001

—, Elaissi, A. & El Aouni, M. H. 2016: *Cuscuta campestris* (*Cuscutaceae*) une holoparasite nouvelle et envahissante pour la flore de Tunisie. – Fl. Medit. **26:** 179-189. 189http://doi.org/10.7320/FlMedit26.179

—, Elaissi, A. & Verloove, F. 2019: New succulents for the Tunisian and North African alien flora. – Haseltonia **26:** 68-77.
— & Verloove, F. 2019: New records, distribution and taxonomic notes for non-native vascular flora of Tunisia – I. *Poaceae*. – Fl. Medit. **29:** 45-53. http://doi.org/10.7320/FlMedit29.045
— 2023: Non-native shrubby species of *Euphorbia* (*Euphorbiaceae*) in Tunisia. – Fl. Medit. **33:** 17-29. https://doi.org/10.7320/FlMedit33.017
— 2024: *Hylotelephium maximum* in Tunisia (*Crassulaceae*, Subfam. *Sempervivoideae*): a new alien for the African succulent flora – Bradleya **42:** 115-119.
—, Elaissi, A. & Verloove, F. 2019: New succulents for the Tunisian and North African alien flora. – Haseltonia **26:** 68-77.
—, Fedorova, A. V., Kushunina, M. & Sukhorukov, A. P. 2024a: Morphological and molecular data confirm the first record of *Dysphania cristata* (*Dysphanieae*, *Chenopodioideae*, *Amaranthaceae*) in the Mediterranean basin. – BioInvasions Rec. **13(1):** 17-26. https://doi.org/10.3391/bir.2024.13.1.03
—, Iamonico, D., Véla, E., Verloove, F. & Domina, G. 2022: New records of Asteraceae for the non-native flora of Tunisia and north Africa with some nomenclatural remarks. – Medit. Bot. **43:** e73688. https://doi.org/10.5209/mbot.73688
—, Verloove, F., Domina, G., & Guiggi, A. 2024b: Further records of opuntioid cacti (*Opuntieae*, *Opuntioideae*, *Cactaceae*) from Tunisia with a key and updated checklist of the species of the genus *Opuntia* in northern Africa. – Bradleya **42:** 58-75.
Eriksson, R. 2007: A synopsis of *Basellaceae*. – Kew Bull. **62:** 297-320.
Ferreira, P. P. A. & Miotto, S. T. S. 2013: O gênero *Merremia* Dennst. ex Endl. (*Convolvulaceae*) na Região Sul do Brasil. – Rodriguésia **64(3):** 635-646.
GBIF 2024a: *Aristolochia gigantea* Mart. & Zucc. Global Biodiversity Information Facility. – https://www.gbif.org/fr/species/3589283 [accessed 16.9.2024]
Grøstad, T., Halvorsen, R. & Elven, R. 2002: Fremmede planter i Norge: praktvindlene *Ipomoea* L. [Alien plants in Norway. The genus *Ipomoea* L.] – Blyttia **60(1):** 15-30.
Hipólito, J., Viana, B. F., Selbach-Schnadelbach, A., Galetto, L. & Kevan, P. G. 2012: Pollination biology and genetic variability of a giant perfumed flower (*Aristolochia gigantea* Mart. & Zucc., *Aristolochiaceae*) visited mainly by small Diptera. – Botany **90:** 815-829.
Invasive Species South Africa, 2014: Plants A-Z: Flora that is invasive in South Africa. South Africa: Invasive Species South Africa. – http://www.invasives.org.za/invasive-plants.html [accessed 18/10/2024].
Le Floc'h, E., Boulos, L. & Véla, E. 2010: Catalogue synonymique commenté de la Flore de Tunisie, ed 2°. – Tunis.
Mifsud, S. 2022: *Ipomoea batatas* - datasheet created on Dec-2007. Retrieved from MaltaWildPlants.com. Published on the Internet at: https://www.maltawildplants.com/CONV/Ipomoea_batatas.php [accessed 18/10/2024]
Mujaffar, S., Shukla, S. K. & Mishra, S. 2013: Some Angiospermic Plants New to Central India. – Sci. Res. Rep. **3(2):** 102-105.
Nascimento, D. S., Cervi, A. C. & Guimarães, O. A. 2010: A família *Aristolochiaceae* Juss. no estado do Paraná, Brasil. – Acta Bot. Brasilica **24(2):** 414-422.
POWO 2024: Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew. – https://powo.science.kew.org/ [accessed 15/10/2024].
— 2024a: *Ipomoea batatas* (L.) Lam. Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew. – https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:1101088-2 [accessed 15/10/2024].

— 2024b: *Passiflora caerulea* L. Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew. – https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:321949-2 [accessed 16/10/2024].

Pyšek, P., Richardson, D. M., Rejmánek, M., Webster, G. L., Williamson, M. & Kirschner, J. 2004: Alien plants in checklist and floras: towards better communication between taxonomists and ecologists. – Taxon **53:** 131-143. https://doi.org/10.2307/4135498

Raab-Straube, E. von 2018+: *Convolvulaceae* in: Euro+Med Plantbase - the information resource for Euro-Mediterranean plant diversity. Published on the Internet at: https://europlusmed.org/cdm_dataportal/taxon/05e4e5bd-ae3d-45de-9702-b65762aa4e11 [accessed 15/10/2024].

Sperling, C. R. 1987: *Systematics of the Basellaceae*. –Ph.D. Thesis, Harvard University, Boston, MA, USA.

Swamy, J. & Venkatesham, E. 2018: Two new additions to the flora of Telangana, India. – Ann. Pl. Sci. **7(1):** 1952-1953. http://dx.doi.org/10.21746/aps.2018.7.1.6

Thiers, B. 2024+: Index Herbariorum: A global directory of public herbaria and associated staff. The New York Botanical Garden, New York. – http://sweetgum.nybg.org/ih/ [accessed 8/9/2024]

Verloove, F. 2024: *Ipomoea purpurea* (L.) Roth (syn.: *Pharbitis purpurea* (Roth) Voigt). On: Manual of the Alien Plants of Belgium. Botanic Garden Meise, Belgium. At: alienplantsbelgium.be. – https://alienplantsbelgium.myspecies.info/taxonomy/term/4040/descriptions [accessed 17/10/2024]

Wagner, W. L., Herbst, D. R. & Sohmer, S. H. 1999: Manual of the flowering plants of Hawaii. – Honolulu.

Webb, C. J., Sykes, W. R. & Garnock-Jones, P. J. 1988: Flora of New Zealand, 4**.**, Naturalised pteridophytes, gymnosperms, dicotyledons. – Christchurch.

Weeds of Australia, 2012: Weeds of Australia, Biosecurity Queensland Edition. – http://keyserver.lucidcentral.org/weeds/data/03030800-0b07-490a-8d04-0605030c0f01/media/Html/search.html?zoom_query= [accessed 17/10/2024]

WFO 2024: *Passiflora caerulea* L. World Flora Online. –https://worldfloraonline.org/taxon/wfo-0000479867;jsessionid=4C2DA8535031D2501787FC8A9BC49543 [accessed 16/10/2024]

Williams, B. D., Francisco, R. C., Mewded, B, Oppong, C. P., Bosomtwi-Ayensu, C, Masinde, C.W., Chukwuma, D. M., Gadisa, D. A., Yeboah, D. D., Ahossou, E. O. D., Rasaminirina, F., Precious, I-O. U., Korir, M. J., Antwi-Boasiako, K. B., Mfodwo, R. A., Musa, M. A. S., Atta-Adjei, P-Jr., Akomatey, P. K., Kumordzie, S, Borosova, R., Tang, C., Asase, A., Ameka, G. & Simões A. R. G. 2024: Advancing knowledge of West African morning glories: a taxonomic revision of *Ipomoea* L. (*Convolvulaceae*) from Ghana. https://doi.org/10.1101/2024.04.02.587553 [preprint accessed 1/12/2024].

Addresses of the author:
Ridha El Mokni,
University of Monastir, Laboratory of Botany, Cryptogamy and Plant Biology, Department of Pharmaceutical Sciences “A”, Faculty of Pharmacy of Monastir, Avenue Avicenna, Monastir-5000, Tunisia. E-mail: ridha.elmokni@fphm.rnu.tn
University of Carthage, IRESA, Laboratory of Forest Ecology, National Research Institute of Rural Engineering, Water and Forests, Ariana-2080, Tunisia. E-mail: ridhaelmokni@yahoo.fr