

Fig. 2.—*Scolymus hispanicus* subsp. *hispanicus* var. *aggregatus*: a, basal leaf; b, habit; c, capitulum; d, central achene.

*Ecology.* The same as *S. hispanicus* var. *aggregatus*.

*Distribution.* South of Mediterranean Region: Only in the North coast of Algeria and Morocco (Appendix 1.2a<sub>3</sub>).

**2b. *Scolymus hispanicus* subsp. *occidentalis* F.M. Vázquez, subsp. nov.**

*Holotypus:* HSIA (1796)!, single specimen divided in two fragments. Spain: Badajoz, Monesterio, 29SQC04, 15-VI-1991, F. Espárrago & F.M. Vázquez.

*Diagnosis.* Subspeciei *S. hispanicus* subsp. *hispanicus* valde similis, a qua imprimis capitulis fere semper solitariis atque achaeniorum centralium pappo squamis duobus aut tribus instructo differt.

*Description.* Annual to biennial up to 160 cm. Stems shortly branched, glabrous, scabrous to slightly pubescent. Basal leaves (4)6-14(25) cm, pinnatifid, glabrous to pubescent, with spiny margins; spines up to

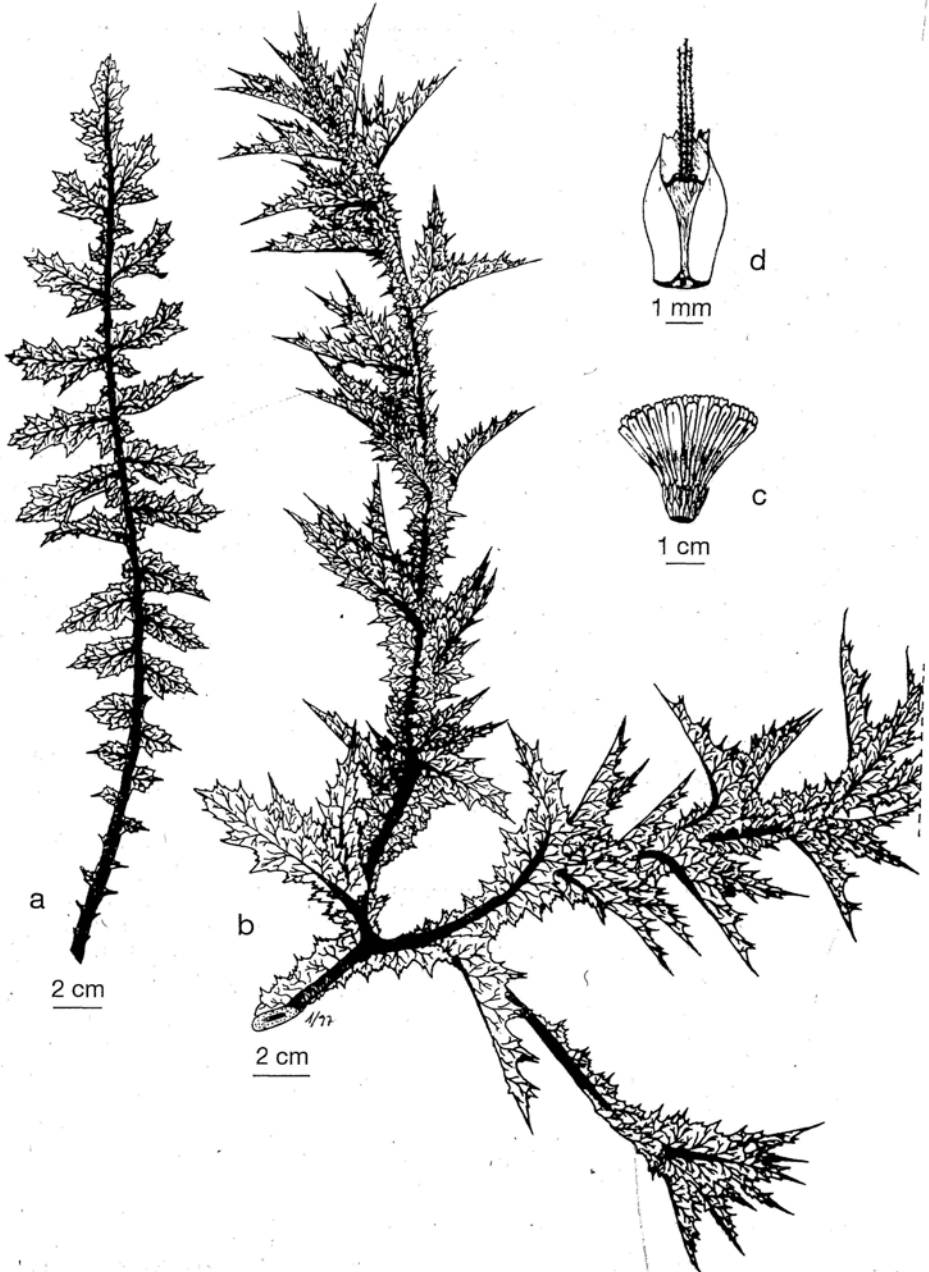


Fig. 3.—*Scolymus hispanicus* subsp. *hispanicus* var. *aurantiacus*: a, basal leaf; b, habit; c, capitulum; d, central achene.

2,3 mm. Capitula solitary, in a spike-like paniculate inflorescence with an elongate appearance. Receptacle (5)7-11(15) mm in diameter. Ligules (14)16-20(25) mm, yellow. Achenes (4)4.5-5.5(6.5) mm. Some central pappus with two bristles, another with three. Flowering April to November (Fig. 4).

*Observations.* This taxon had been recognised previously by some pre-Linnaean authors such as DODOENS (1583) who refers to two variants of the *Carduus Chrysanthemus*: a) *Carduus Chrysanthemus* [= *S. hispanicus* subsp. *occidentalis*] and b) *Cardui Chrysanthemi Alterum* [= *S. hispanicus* subsp. *hispanicus*]. Also CLUSIO (1601) recognised this taxon under *Scolymus Theophrasti*: a) *S. Theophrasti Hispanicus* [= *S. hispanicus* subsp. *occidentalis*] and b) *S. Theophrasti Narbonensis* [= *S. hispanicus* subsp. *hispanicus*]. Later authors such as LAMARK (1779) made also the distinction between the two taxa, and one of the taxa by CLUSIO (1601) [*S. Theophrasti Narbonensis*] is a synonym of *S. congestus* Lam. While authors like BAUHIN (1623), TOURNEFORT (1700) and LINNEO (1753) united the two taxa under *Scolymus Theophrasti* Bauh. or *S. hispanicus*.

*Ecology.* The subspecies *S. hispanicus* subsp. *occidentalis* lives from near sea level to an altitude of 1400 m. This subspecies supports strong frost and thermic contrasts, and grows on soils from compact to loose, with basic pH, of clayey to muddy texture. They are wasteland plants, growing in the margins of highways and roads, associated with species like *Notobasis syriaca* (L.) Cass., *Mercurialis tomentosa* L., *Carduus bourgeanus* Boiss. & Reut.; *Sylibum marianum* (L.) Gaertn., etc.

*Distribution.* Distributed by the Western half of the Mediterranean basin. *South of Mediterranean Region:* Algeria, Morocco, Tunisia. *North of Mediterranean:* France, Italy, Portugal, Spain. *East of Mediterranean:* Israel, Lebanon, Syria. *Mediterranean Islands:* Balearic Islands, Sardinia. *Macaonesia:* Canary Islands (Appendix 1.2b).

3. *Scolymus grandiflorus* Desf., Fl. Atl. 2: 240, Tab. 218 (1799)  
= *Myscolus megacephalus* Cass., Dict. Sci. Nat. 34: 84 (1825), nom. illeg.

*Ind. loc.:* "In arvis incultis vulgatissima."

*Typus:* P-DESF. (s.n.)!, central specimen. Herbar de la FLORE ATLANTIQUE donné au Museum par M. DESFONTAINES N° / *Scolymus grandiflorus*. Designated here.

*Isotypus:* G (s.n.)!

*Description.* Annual or biennial up to 75 cm. Stems with uninterrupted spiny-dentate wings, pubescent to glabrous, sometimes scabrous. Basal leaves (8)10-16(24) cm, ovate to oblong, pinnatifid, spiny-dentate. Capitula terminalis, sometimes axillary, with 2-3 involucre leaves per capitulum, in a spike-like paniculate inflorescence with an elongate appearance. Involucre leaves (7)9-15(19) mm, ovate to lanceolate, sometimes obtuse, pubescent to scabrous, spiny-dentate, with scarious margin. Receptacle (10)13-18(21) mm in diameter. Ligules (20)25-37(44) mm, yellow to orange. Achenes 3.5-5.5(6.5) mm. Pappus of three to seven bristles in central achenes, otherwise three to five. Flowering May to July.

*Morphology.* In the Algeria populations of *S. grandiflorus* Desf. it is possible to find specimens with the bracts of the involucre very pubescent and with short appendices, but this variation isn't considered worthy of taxonomic recognition in this paper.

*Ecology.* This species usually lives in coastal areas, on sandy soils. It is a wasteland plant, that cohabits with *Carduus* spp., *Carthamus* spp., *Onopordum* spp., etc.

*Distribution.* *S. grandiflorus* Desf. has a wide distribution in the Mediterranean basin. However, it is more frequent to find this species in the Northwest of Africa coasts and in Sicily. In the rest of its area of distribution it appears forming small populations without continuity. Moreover, the absence of this species in the east of the Iberian Peninsula and Balearic Island and in the south of the Balkan Peninsula is note worthy. *South of Mediterranean Region:* Algeria, Libya, Morocco, Tunisia. *North of Mediterranean:* France, Italy, Turkey. *East of Mediterranean:* Lebanon. *Mediterranean Islands:* Malta, Sardinia, Sicilia (Appendix 1.3).

#### ACKNOWLEDGEMENTS

We thank Dr. R. Cabezas de Herrera for correcting the original diagnosis into Latin, Dr. G. López,

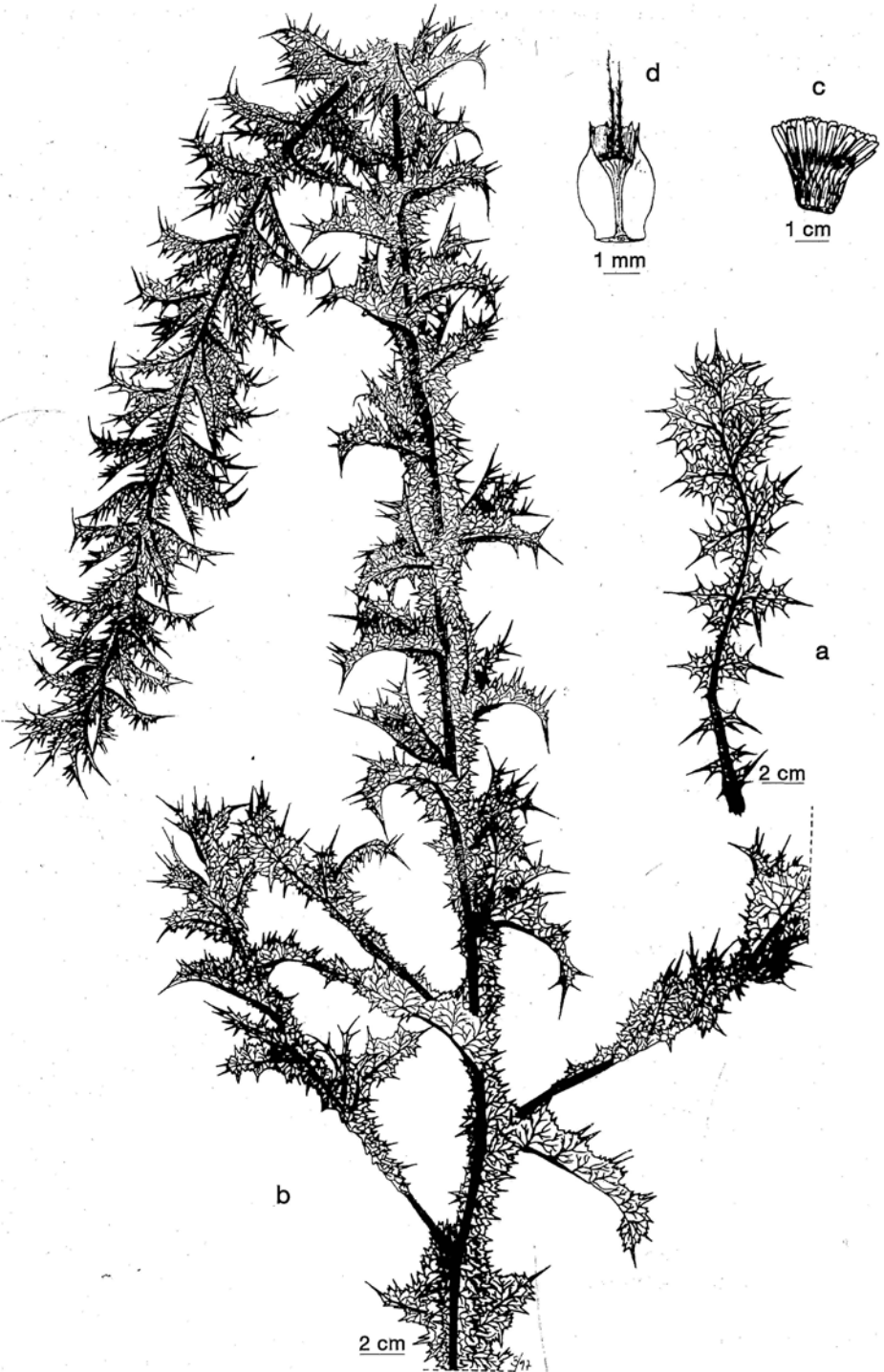


Fig. 4.—*Scolymus hispanicus* subsp. *occidentalis*: a, basal leaf; b, habit; c, capitulum; d, central achene.