

***Sonchus saudensis* , A New Species of Compositae From Western Saudi Arabia and Northern Yemen**

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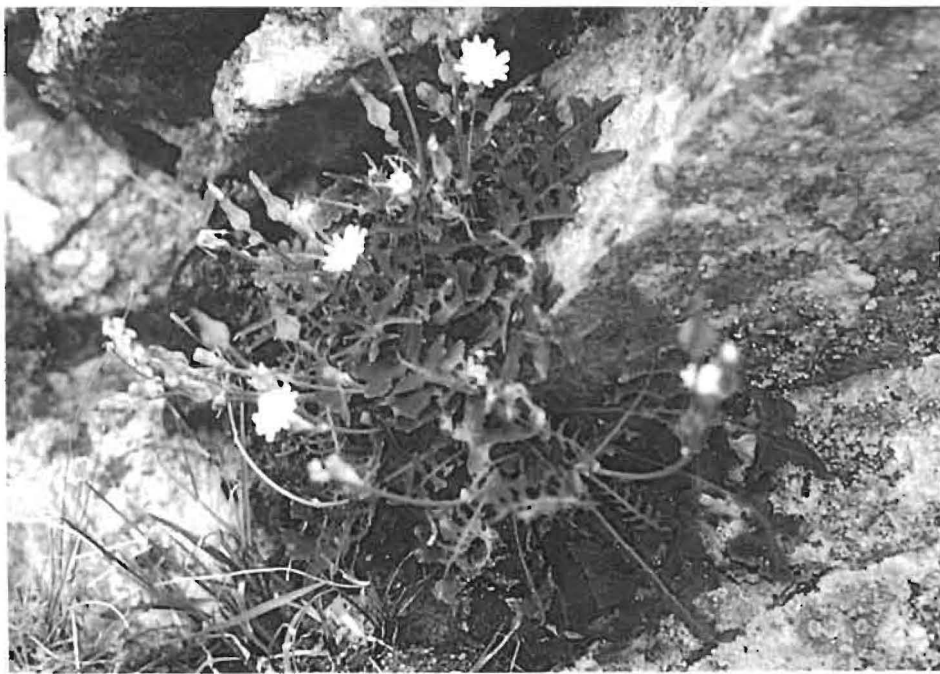
ABSTRACT. *Sonchus saudensis* Boulos, sp. nov. is described from the western highlands of Saudi Arabia, and is also known from the mountains of Northern Yemen. It is most closely related to *S. melanolepis* Fresen. and *S. obtusilobus* R.E. Fries, endemics of the highlands of NE Ethiopia, and represents the only Asiatic element of the African subgenus *Origosonchus* Boulos.

The present paper reports a new species of *Sonchus* L. (subgenus *Origosonchus* Boulos, section *Origosonchus*) collected by the author from the western highlands of Saudi Arabia (Asir Mountains) in May 1980. Specimens of the same species were recently collected by J.R.I. Wood, A. Radcliffe-Smith and others from the mountains of Northern Yemen.

Sonchus saudensis Boulos, sp. nov. inter *S. melanolepidem* Fresen. et *S. obtusilobum* R.E. Fries medius, subgenus *Origosonchus* Boulos. Herba perennis, 5-35 cm alta e basi lignoso exortus, caules perbreves rosulis foliorum dense obtecti. Folia 3-12 × 1-3 cm, glabra, lyrata vel pinnatisecta, lobo apicali angusto instructa. Inflorescentia aphylla, capitulis paucis continens. Pedunculus 0.2-7 cm longus, sub capitulo albotomentosus. Flores flavi, 65-90 in quoque capitulo. Bractee involucales circiter 28 in quoque capitulo, imbricatae, exteriores et intermediae glandulosopilosae. Achaenium 2 × 0.8 mm, brunneolum vel saepe flavidum vel nigrum, compressum obovato-ellipticum, basi attenuatum ad costas rugosum. Pappus 5.5-6 mm longus, persistens.

Holotype

Cliffs near the highway of Al-Taif to Abha, facing Wadi Al-Haddara, 137 km south of Al-Taif, 18 May 1980, *Boulos* 13976, collected by L. Boulos and A.S. Ads. *Holotype* in National Research Centre Herbarium, Dokki, Cairo. *Isotypes* in Faculty of Science Herbarium, King Abdul Aziz University, Jeddah, BM; CAI; E; K.



Perennial herb, 5-35 cm high, branched at the base from a short woody stem; leaves densely rosetted at the base of the branches, leaving almost leafless inflorescences with few heads. Rhizome woody, branched, 3-8 mm diameter. Caudex woody, branched. Stem very short, densely covered by the leaves. Leaves lyrate or pinnatisect with a narrow lobe, 3-12 × 1-3 cm, glabrous, upper surface dark green, lower whitish-green; leaf lobes 3-10 mm diameter, narrow and widely separated to broad and overlapping, margins broadly dentate. Peduncle 0.2-7 cm long, bearing one small bract; long peduncles almost glabrous, becoming white-tomentose below the head; short peduncles white-tomentose. Head 4-6 × 10-13 mm, broader during the anthesis, white-tomentose at the base. Number of flowers 65-90 per head. Involucral bracts imbricate, ± 28 per head, apex obtuse, differentiated into ± 12 external bracts, triangular, 2-6 × 1.5 mm, glandular hairy at the thick mid-rib; ± 8 intermediate bracts, narrowly triangular, 10-12 × 2-2.5 mm, slightly glandular hairy at the mid-rib, margins scarious; ± 8 internal



Sonchus saudensis, habit of the plant and enlarged achene.

bracts, almost rectangular, 10-12 × 2-2.5 mm, entirely scarious. Corolla yellow, ± 10 mm long, ligule ± 4 mm, corolla-tube ± 6 mm, staminal tube ± 2 mm. Achene 2-2.5 × 0.8 mm, brownish, often yellowish or blackish, compressed, obovate-elliptic, attenuated at the base, with ± 5 ribs on each side, wrinkled along the ribs. Pappus 5.5-6 mm long, persistent.

General Distribution

Western Saudi Arabia (Asir Mountains) and Yemen Arab Republic.

Saudi Arabia

Cliffs near the highway of Al-Taif to Abha, facing Wadi Al-Haddara, 137 km south of Al-Taif, 18 May 1980, *Boulos* 13976, collected by L. Boulos and A.S. Ads (Holotype and isotypes). Al-Shafa, 24 km west of Al-Taif, 16 May 1980, *Boulos* 13860, collected by L. Boulos and A.S. Ads, Nat. Res. Centre Herb., Cairo; Fac. Sci. Herb., King Abdul Aziz Univ., Jeddah, BM; CAI; E; K.

Yemen Arab Republic

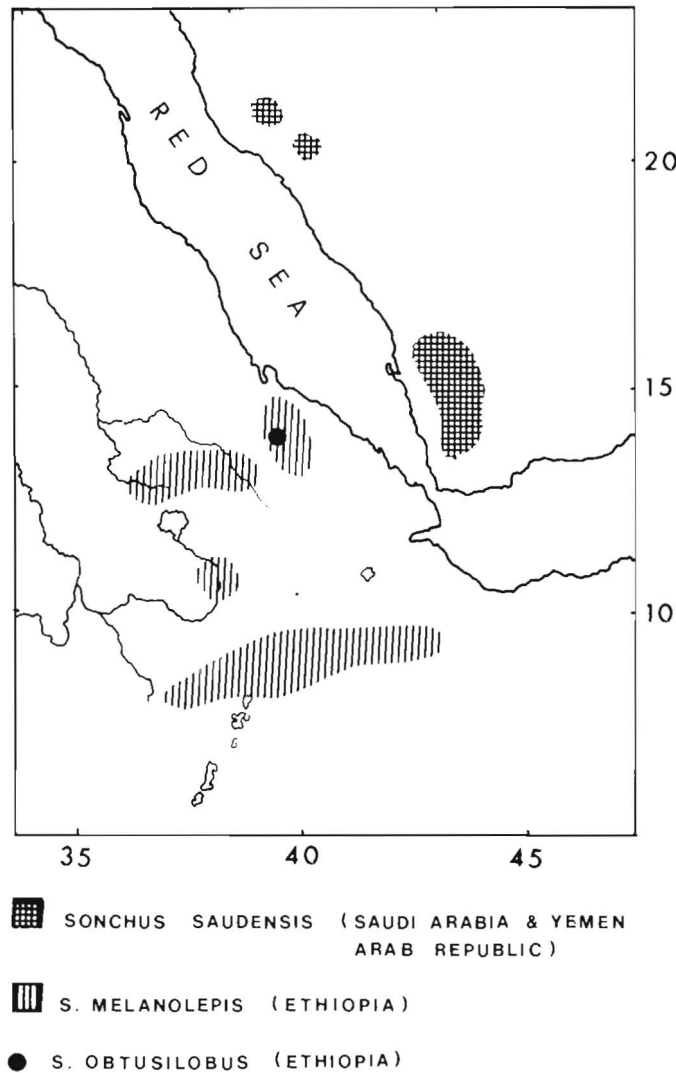
Wadi Bana, near Yarim, 14° 15'N, 44° 20'E, 9 April 1980, *P.S. Hadge* 24 (K!). — Edge of plateau, west of Dhamar, c. 7500 f., September 1977, *B. Acres* 1U/2 (K!). — South of Jebel Ayfu, 2200 m, on stony slopes, 9 August 1977, *A. Radcliffe-Smith* and *S.J. Henchie* 4544B (K!). — South of summit of Jebel Ayfu, 2200 m, in walls, 9 August 1977, *A. Radcliffe-Smith* and *S.J. Henchie* 4543 (K!). — On a terrace wall between Bau-an and Suq As Self, c. 3000 m, 9 June 1978, *J.R.I. Wood* 2404 (K!). — On shaded limestone cliffs in the gully below Shenama, Jebel Miswar, 20 June 1980, c. 2900 m, *J.R.I. Wood* 3316 (K!). — On walls between Siah and Mahzak, Jebel Sabir, Taiz, c. 2800 m, 21 May 1977, *J.R.I. Wood* 1622 (K!). — Jebel Hisn Madnan, Wusab Al Ali, 16 September 1978, 2400 m, *J.R.I. Wood* 2463 (K!). — On a wall near Al Kima, Jebel Bura, c. 1500 m, 21 November 1977, *J.R.I. Wood* 2118 (K!).

Habitat

Sonchus saudensis grows on altitudes ranging between 1500 m and 3000 m. In Saudi Arabia, it is restricted to sheltered rocky fissures receiving adequate amounts of moisture from mist or clouds. In North Yemen, it grows on terrace walls or shaded cliffs. Closely associated species with *Sonchus saudensis* are: *Crassula schimperi* Fisch. et Mey., a small fleshy herb, *Asplenium aethiopicum* (Burm. fil.) Becherer, a fern with conspicuous fronds, and *Campanula edulis* Forssk., decumbent perennial herb with showy blue flowers.

Discussion

The genus *Sonchus* L. comprises 54 species (Boulos 1972) mainly distributed in



Geographical distribution of *Sonchus saudensis*, *S. melanolepis* and *S. obtusilobus*.

the Euro-Siberian, Mediterranean and Xero-Tropical African regions. Three subgenera are recognized within *Sonchus* (Boulos, l.c.) which are restricted to distinct geographical areas. The most striking examples are subgenus *Dendrosonchus* Sch. Bip. ex Boulos (19 species) nearly endemic to the Macaronesian Islands (Tertiary relict), and subgenus *Origosonchus* Boulos (14 species), endemic to Xero-Tropical Africa and Madagascar.

During the last few years, a great deal of floristic exploration was carried out in the mountain ranges of Western Saudi Arabia and North Yemen. As a result, many taxa were discovered which show a narrow floristic connection with those of the Eritreo-Arabian province of East Africa. Findings such as *Acacia negrii* Pichi-Serm., and others, earlier known to be endemic to the highlands of Ethiopia, are good examples to illustrate the previous connection between Africa and Arabia by the Eritreo-Arabian landbridge. Therefore, *Sonchus saudensis*, our new member of subgenus *Origosonchus*, is of more than a pure taxonomic interest. Based on its narrow relationship, or even its intermediate position between *Sonchus melanolepis* Fresen. and *S. obtusilobus* R.E.Fries, two endemics of the Ethiopian highlands (Boulos 1974), it is a further proof of the Eritreo-Arabian land connection and the floristic affinities between Africa and Arabia. Furthermore, *Sonchus saudensis*, obviously a neo-endemic, may provide another example towards the differentiation and evolution of species by geographical isolation.

Acknowledgement

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سونكس سعودنسيس نوع جديد من المركبات في غرب السعودية وشمال اليمن

لظفي بولس

المركز القومي للبحوث، الدقي، القاهرة، جمهورية مصر العربية

تم اكتشاف نوع جديد على العلم، أطلق عليه اسم «سونكس سعودنسيس» من جبال عسير بغرب المملكة العربية السعودية ومن المنطقة الجبلية شمالي الجمهورية العربية اليمنية. وينتمي هذا النوع الجديد إلى تحت الجنس الإفريقي «أوريجوسونكس»، وهو أول نوع يكتشف خارج إفريقيا حيث يعرف الآن من جنوب غرب آسيا. وأقرب الأنواع صلة بالنوع الجديد النوعان: «سونكس ميلانوليس» و«سونكس أوتيزيلوس»، وكلاهما من الأنواع المتوطنة في المنطقة الجبلية شمال شرق إثيوبيا.