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A NEW SPECIES OF *SENECIO* FROM NAMIBIA

by

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Senecio hermannii B. Nord., sp. nov.

Typus: NORDENSTAM & LUNDGREN 130 (S holo., M iso.).

Herba annua erecta glabra caule brevi. Folia alterna herbacea longe petiolata, lamina cordiformi vel reniformi--subdeltoidea basi truncata vel cordata margine sinuato-dentata. Capitula heterogama radiata laxa paniculata. Involucrum cyathiforme calyculatum, bracteis numerosis lanceolatis aequalibus, calyculi bracteis lanceolatis--subulatis apice atris. Flores radii feminei lutei, tubo sparse glanduloso-puberulo. Flores disci hermaphroditi; corolla lutea basi tubulosa glanduloso-puberula apice dilatata quinquelobata. Antherae ecaudatae. Styli rami lineares apice subconvexi penicillati. Achaenia elliptico-oblonga albo-villosa madefacta mucosa. Pappi setae numerosae serrulatae albae caducae.

An erect branching annual up to 35 cm high (but depauperate specimens sometimes simple and only 5 cm high), glabrous or nearly so. Stem usually short, up to 15 cm long and 0.6 cm thick, when luxuriant somewhat fleshy. Leaves 3--10, petiolate, alternate on the upper part of the stem, in small specimens sometimes subrosulate on a reduced stem. Petiole 0.5--9 cm long, 1--4 mm wide. Leaf-blade cordiform--subdeltooid or rounded-reniform with cordate or truncate base, 1--9 cm long, 1--10 cm wide, flat, herbaceous but somewhat brittle and juicy in luxuriant specimens, shallowly sinuate-dentate with 7--20 mucronate teeth, palmately veined. **P****e****d****u****n****c****l****e****s** one or several, branching, carrying up to 50 flowerheads in a laxly paniculate arrangement, rarely one-headed (in reduced specimens), sparsely bracteolate with small subulate black-tipped bracts. **C****a****p****i****t****u****l****a** heterogamous, radiate, yellow-flowered. **I****n****v****o****l****u****c****r****e** cupshaped, 0.5--1 cm in diam.; involucral bracts 13--21, uniseriate and subequal, lanceolate, acuminate, 5--6 mm long, 0.5--1 mm wide, midveined and slightly keeled, glabrous or minutely and sparsely glandular-puberulous, apically lacerate-puberulous and often faintly black-tipped. Calyculus bracts 7--13, distant,

lanceolate, acuminate, midveined, black in the distal half of at least distinctly black-tipped, apically lacerate-denticulate. Receptacle flat, nude, faintly muricate. Ray-florets 8--11, female. Tube narrowly cylindrical, 2.5--3 mm long, minutely glandular-puberulous with multicellular biseriate columnar hairs. Lamina elliptic-oblong, widest about the middle, 7.5--8.5 mm long and 3--3.5 mm wide, 4-veined, apically rounded and minutely tridentate. Style branches linear, 1--1.5 mm long, obtuse. Achenes and pappus as in disc-florets. Disc-florets ca. 25--50, bisexual. Corolla 4.8--6 mm long, basally tubular for 1.5--2 mm and minutely glandular-puberulous, widening to a narrowly campanulate limb 3.2--3.7 mm long; lobes deltoid-ovate, 0.7--1 mm long, with lateral veins and a median resin duct, apically papillate-scabrid on the outside. Anthers 1.8--2.2 mm long incl. the narrowly ovate obtuse apical appendage; anther base obtuse, ecaudate. Endothelial tissue radial with numerous thickenings on the longitudinal walls (except for a narrow strip of polarized tissue along the dehiscence zone). Filament collar distinctly swollen basally. Style terete on a short stylopodium; style branches linear, 0.8--1.2 mm long, with discrete stigmatic lines, dorsally glabrous, apically subconvex or with a short central surrounded by fairly short sweeping-hairs. Achenes elliptic-oblong, ca. 2 mm long and 0.8 mm wide, densely white-villous with obtuse duplex hairs exuding mucilage when soaked, under the hair coat light brown, slightly compressed, 5--6-veined, apically shortly beaked and crowned with an annulus. Ovary wall crystals heteromorphic, many elongate and prismatic (in outline rectangular to hexagonal), others small and druse-like, almost isodiametric. Pappus bristles numerous, 2.5--4 mm long, finely serrulate, white, caducous.

Nambia (South West Africa), Warmbad Distr.: Ai-Ais, Fish River, E slopes of riverbed, 1974, NORDENSTAM & LUNDGREN 130 (M, S); 5 km E of Ai-Ais, dark rocks, 1974, NORDENSTAM & LUNDGREN 147 (S), NORDENSTAM & LUNDGREN 151 (S); Fish River Canyon, steep upper slopes near Main View Point, 1974, NORDENSTAM & LUNDGREN 207 (K, M, S); Ai-Ais, above the hot spring, 1976, GIESS & MÜLLER 14456 (M).

It is a pleasure to name this new species in honour of Prof. HERMANN MERXMÜLLER, who has contributed pre-eminently to the taxonomy of the Compositae and to the knowledge of the flora of South West Africa.

Senecio hermannii belongs in sect. *Annui* Harv., where it stands out by the almost complete lack of indumentum, the entire leaves on long non-auriculate petioles and the distinct calyx of black-tipped scales. *S. repandus* Thunb. and *S. lessingii* Harv. as well as the purple-rayed *S. giessii* Merxm. all have a larger amount of pubescence, more distinct leaf lobation and at least a tendency to auriculation at the petiole bases.

HARVEY in Flora capensis vol. 1 (1865, p. 356) stated that no specimen of *S. repandus* was preserved in the THUNBERG herbarium. There is an authentic specimen, however (Herb. Thunb. No. 19621), which I have examined and found distinct from the species described here. THUNBERG's specimen has pubescent involucre without a distinct calyculus and it has the characteristic auriculate leaf bases seen in most specimen of *S. repandus*.

A distinct calyculus is present in *S. lessingii* Harv., but its bracts are broader, imbricated and ciliate-margined. This species (typified by Herb. Thunb. No. 19622) further differs by the cuneate leafblade bases and the marked pubescence on stem and peduncle. *S. cardaminifolius* DC. is glabrous like our new species, but has more dissected leaves and smaller flowerheads.

Like many other annuals from desert and semi-desert environments, the new species is extremely variable in the size of the vegetative parts. There is a range from small-leaved single-headed specimens a few cm high to turgid luxuriant individuals with large leaves and numerous capitula (cf. Fig. 1).

S. hermannii is known only from a small area in southern South West Africa, where it has been collected a few times in coarse sand and rock crevices at the Fish River. This is a rarely flowing tributary to the Orange River, and the country is very dry and desolate. Its vegetation is very dependent on the sporadic rainfall and only rarely developed to its full extent. All collections of *S. hermannii* were made in the month of June, i.e. in mid-winter, in recent years with unusual amounts of precipitation.

LEGEND

Fig. 2. *Senecio hermannii* B. Nord. (a--f: NORDENSTAM & LUNDGREN 130; g--h: NORDENSTAM & LUNDGREN 207). - a) Capitulum, b) Ray-floret, c) Disc-floret, d) Corolla of disc-floret, laid out, e) Style-branches from disc-floret, f) Stamens, g) Achene, h) Achene with hair cover removed.



Fig. 1. Gross morphological variation in *Senecio hermannii* B. Nord.: large luxuriant specimen (NORDENSTAM & LUNDGREN 130, holotype) and small depauperate specimen (NORDENSTAM & LUNDGREN 151).

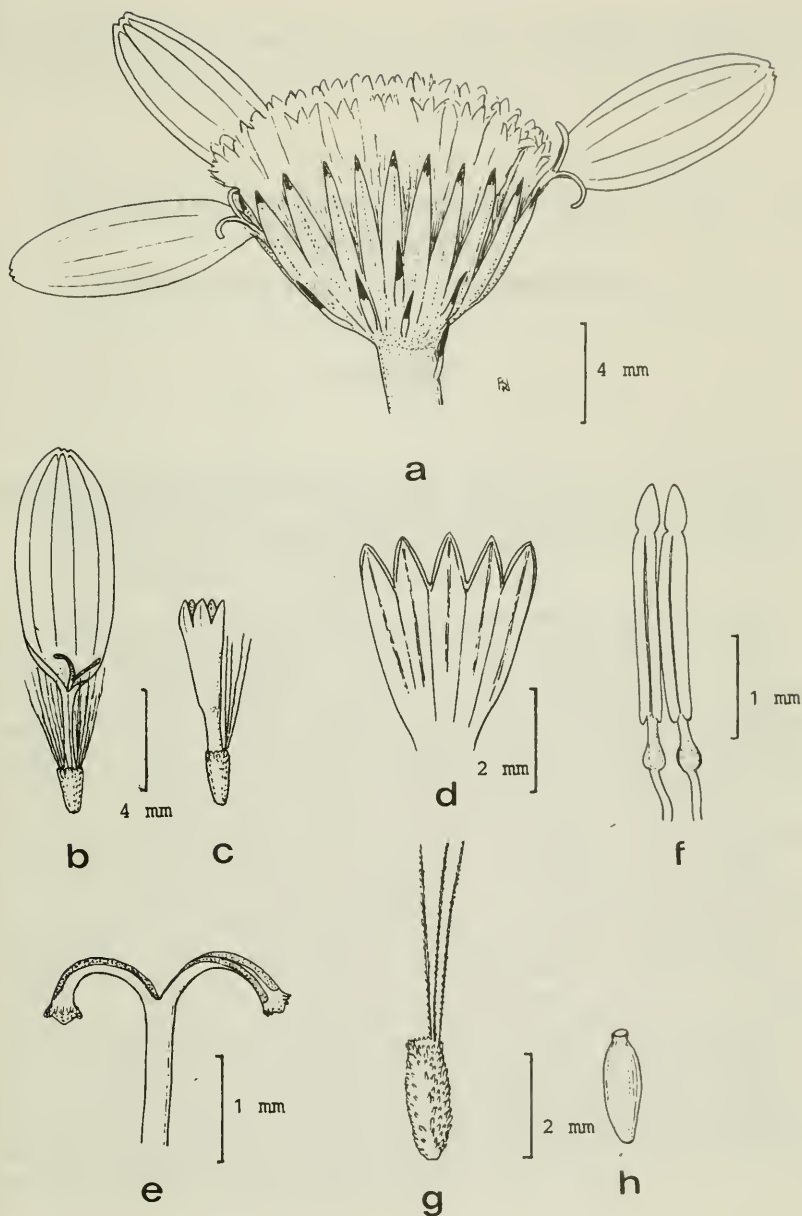


Fig. 2.

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