

electron microscopic analysis of the scaly pappus of *Cichorium* and the setaceous pappus of the two *Erythroseris* species (Fig. 3A-E, 4F-G), however, makes the morphological transition between both evident. Being composed of the same cell types, taking the same place on the achene and being similarly arranged in two irregular rows (except *C. bottae* and *C. calvum*), the scaly pappus of *Cichorium* can safely be regarded as homologous with the setaceous pappus of *Erythroseris*. This conclusion receives particular support from the fact that the inner and marginal elements of the *Erythroseris* pappus are laterally variously united at their bases. Considering that the lateral extension and reduced length constitute the main differences between the pappus scales and bristles, proximal unification morphologically mediates between bristle and scale shape.

As in *Erythroseris*, the involucre of *Cichorium* is of either 5 or 8 inner involucre bracts, a feature, however, not uncommon in the tribe, and capitula are rather few-flowered (with 5-c. 25 flowers), the receptacle is naked, the flowers are cyanic, the pollen grains are largely similar also with respect to the size of the polar thickenings (compare Kiers 2000: 16, fig. 2.2, Blackmore 1986: 3106, fig. 15-16).

The main differences between *Erythroseris* and *Cichorium* are (1) in the habit: the aerial parts of *Cichorium* are entirely herbaceous, whereas the two species of *Erythroseris* are a basally woody perennials and a shrub respectively; (2) in the involucre: the inner involucre bracts are in their lower half strongly indurate at maturity in *Cichorium*, but remain flexible, herbaceous in *Erythroseris*; (3) in flower colour: bright blue in *Cichorium*, but pale purplish bluish in *Erythroseris*; (4) in the achenes: obovoid or sturdy obcolumnar to sturdy subcylindrical and chiefly basally faintly ribbed (Kiers 2000: 12-14, fig. 2.1a-f) in *Cichorium*, but slender cylindrical and with 5 prominent main ribs in *Erythroseris* (Fig. 3A-B, D-F, 4B); (5) in the pappus: with minute scales and marginal bristle-like scales (see Kiers 2000: 12-15, fig. 2.1a-h; Fig. 4G) in *Cichorium*, but with long inner bristles and minute marginal bristles in *Erythroseris* (Fig. 3A-E).

Taxonomy

Erythroseris N. Kilian & Gemeinholzer, **gen. nov.**

Type: *Erythroseris amabilis* (Balf.f.) N. Kilian & Gemeinholzer

Genus *Cichorio* L. cognatum, a quo habitu fruticoso vel herbaceo caudice lignoso (nec supraterrane omnino herbaceo), floribus pallide lilaceo-caesiis (nec caeruleis), achaeniis gracile cylindricalis costis longitudinalibus quinque costis secundariis lateralibus duobus concomitatis (nec obovatis usque ad crasse subcylindricis et basaliter indistincte costatis), pappo achaeniorum \pm 2-seriato, setis 4-5 mm longis et setulis marginalibus minutis composito (nec squamulis irregularibus minutis et setis marginalibus minutissimis composito vel omnino destituto) differt.

Description. – Low basally woody perennial rosette herb or intricately branched shrublet of up to 0.6 m height. *Leaves* with white-lanose axils, \pm fleshy, obovate to oblanceolate or elliptic in outline, shallowly sinuate-dentate to pinnately lobed, up to c. 10 \times 5 cm, crowded or rosetted at the base of each innovation, scattered and reduced in size along the flowering axes. *Capitula* disposed in a synflorescence terminating the basally rosette-leafy innovations, with 5-c. 25 flowers. *Involucre* narrowly cylindrical, of 5 or 8 inner involucre bracts. *Receptacle* flat to somewhat concave, c. 1-2 mm in diameter, epaleate. *Flowers*, when fresh, with purplish bluish ligule, anther tubes and styles. *Pollen* echinolphate, tricolporate, with medium wide polar thickenings. *Achenes* cylindrical to slightly attenuate from apex to base, 1.7-2.3 mm long, with 5 longitudinal main ribs and each accompanied by a less conspicuous secondary rib on either side (sometimes incompletely so), surface scabrid by antrorse, linear scales with acute and somewhat spreading tip, reddish brown, apex truncate, basis, straight to oblique, with ribs incurved and attachment area central. *Pappus* c. 4-5 mm long, of c. 20-40 fragile, cream to straw-coloured, strong (> 20 cells in diameter) scabrid bristles, marginally with some or almost without additional very short (< 0.5 mm) bristles.

Etymology. – The name *Erythroseris* is composed of the ancient Greek σερις (seris) for lettuce and ερυθρο- (erythro) for red, the latter referring to the reddish hue in the achene and flower col-

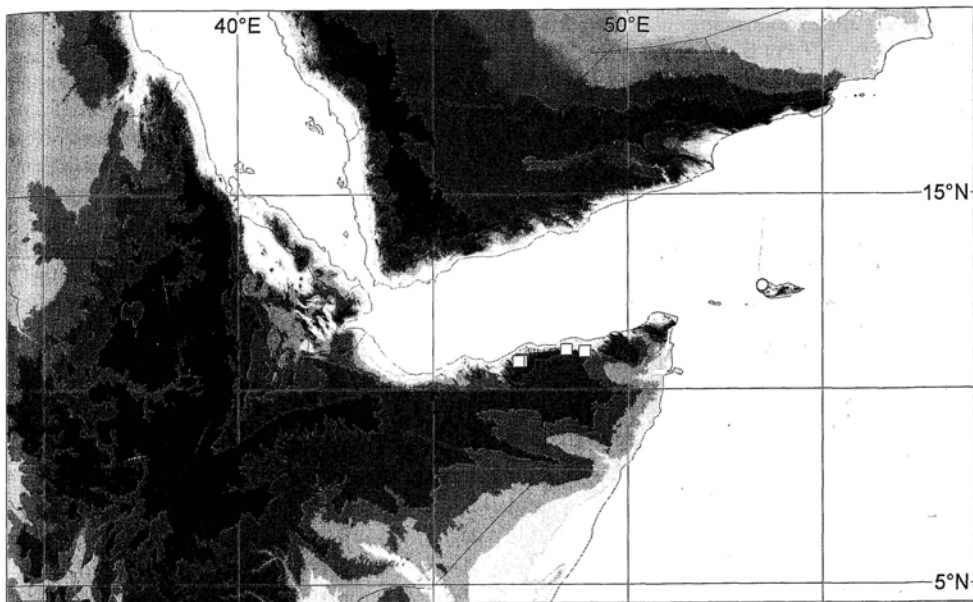


Fig. 5. Distribution of *Erythroseris* – *E. somalensis* (squares) and *E. amabilis* (circle). – Georeferenced map generated with DIVA-GIS (Hijmans & al. 2005) using an adaptation of the SRTM 90 m digital elevation data (CGIAR-CSI 2004).

our of its species and at the same time to the “Erythraean Sea” of the ancient Greeks, which did not only include the Red Sea but also the Indian Ocean, on escarpments to which the genus occurs, and the Arabian Gulf (see, e.g., Huntingford 1980).

Distribution. – The genus comprises two species restricted to localised areas of the sea- and north-facing limestone escarpments in N Somalia and the Yemeni island of Socotra, respectively (Fig. 5).

Key to the species of *Erythroseris*

1. Basally woody perennial rosette herb, with herbaceous synflorescence; involucre with 5 inner involucre bracts, ± greenish, ± glabrous *E. amabilis*
- Small, intricately branched shrub to 0.6 m; involucre with ≥ 8 inner involucre bracts, purplish, pubescent of glandular and simple hairs *E. somalensis*

Erythroseris amabilis (Balf.f.) N. Kilian & Gemeinholzer, **comb. nov.** ≡ *Prenanthes amabilis* Balf.f. in Proc. Roy. Soc. Edinburgh 11: 842. 1882. – Holotype: Yemen, Socotra, on the rocks south-west of Galonsir, at an elevation over 1500ft, 2.-3.1880, I. B. Balfour, Cochleburn & Scott 311 (two sheets K 000251826! & K 000251827!, see <http://www.kew.org/herbcat/getImage.do?imageBarcode=K000251826> and ...=K000251827)

lc. – Fig. 3D-F, 4B-E; Balfour (1888: t. 48 [draw., habit + details]); Miller & al. (2004: 256 [col., habit] as *Prenanthes amabilis*).

Distribution. – The species has only been collected from and is apparently restricted to the upper N-NE facing escarpment, at 500-650 m, of the Ma’alah plateau, W Socotra, where it grows in open ground in the crevices of the limestone (Fig. 4). For its limited area of occupancy it has been classified as Endangered (EN B2 a biii, IUCN 2001) by Miller & al. (2004: 510).