

Hieracium attenboroughianum (Asteraceae), a new species of hawkweed

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Hieracium attenboroughianum is described from the Brecon Beacons, Wales. It is a member of the *H. britannicum* group in *Hieracium* section *Stelligera* Zahn, related to *H. britannicoides* P. D. Sell but differing in cupped, dark green leaves and sparse, medium simple eglandular hairs and many glandular hairs on the involucre bracts. About 300 plants occur on Old Red Sandstone mountain ledges on Cribyn (V.c. 42). It is named after David Attenborough. It is classified under the IUCN Threat Category 'Endangered'.

Keywords: David Attenborough, endemic, Wales

Introduction

During surveys of *Hieracium* on the central Brecon Beacons, Wales in 2004 with Joe Daggett, Graham Motley and Paul Smith, a small, pretty hawkweed was discovered on mountain ledges of the north-west face of Cribyn. It was first sent to David McCosh who suggested that it was an unnamed species of section *Stelligera* Zahn, and then to Peter Sell who commented it was very similar to *H. britannicoides* P. D. Sell from North Wales. Further field and cultivation studies of both the Cribyn taxon and *H. britannicoides* have confirmed the similarity between the two species and also enabled differences to be highlighted. As the Cribyn plant does not match any known British species (Sell & Murrell, 2006; McCosh & Rich, 2011), it is described as a new species following the format of Sell & Murrell (2006) to allow comparison with related species.

New species

Hieracium attenboroughianum T.C.G. Rich, **sp. nov.**

TYPE: Mountain ledges, Old Red Sandstone, Cribyn, Brecon (v.c. 42), Wales, SO021212, 740 m altitude, T.C.G. Rich, 28 June 2014 (holotype **BM**; isotype **CGE**).

Vernacular name: Attenborough's Hawkweed.

Description. Phyllopodous perennial herb with a branched stock. Stem to 30(–45) cm tall, green, sometimes weakly flushed reddish purple at the base, slender, with sparse, whitish simple eglandular hairs and stellate hairs below, \pm glabrous or with very sparse, very small stellate hairs in the middle, and with numerous stellate hairs and very few simple eglandular

hairs and glandular hairs above. Leaves subglaucous-dark green and more or less glabrous or glabrescent above, paler below with a few white simple eglandular hairs. Basal rosette leaves 4–5(–7) with lamina 3.5–7 \times 2.5–4.5 cm, ovate, cupped with the margins usually up-turned, apex acute and mucronulate or apiculate, margins remotely denticulate towards apex and with a few slightly larger forward-pointing teeth towards base, base cordate to truncate. Cauline leaf 0–1, ovate, acuminate, smaller than basal leaves, or often reduced to 9 \times 2 mm, linear-triangular bract at base of synflorescence branch. Petioles to 4 cm, reddish-purple flushed with numerous long, white simple eglandular hairs, winged near the lamina and at base. Inflorescence furcate-corymbose with up to 4 capitula. Capitula *ca* 30–45 mm in diameter, rounded at base. Involucre bracts porrect in bud, 9–12 \times (1.0–) 1.1–1.4(–1.5) mm, greyish-green with paler margins narrowly linear-lanceolate, acute, with sparse, long simple eglandular hairs which are black at the base and white at the tip, many short to medium glandular hairs with dark bases and yellowish-green tips, and sparse white stellate hairs mainly on the margins and near the base, and a tuft of white stellate hairs at the apex. Ligules mid-yellow, glabrous-tipped. Styles yellow, discolouring with age. Pollen present. Receptacle pits incised-dentate. Seeds 3–4 mm, blackish-brown (Figs. 1 and 2).

Notes. *Hieracium attenboroughianum* is characterised by the subglaucous-dark green, unspotted, remotely denticulate, ovate, acute, cordate leaves which are more or less glabrous above, the 0–1 stem leaf which is often reduced to a bract, the narrowly linear-lanceolate, acute bracts with few simple eglandular hairs, many short glandular hairs and

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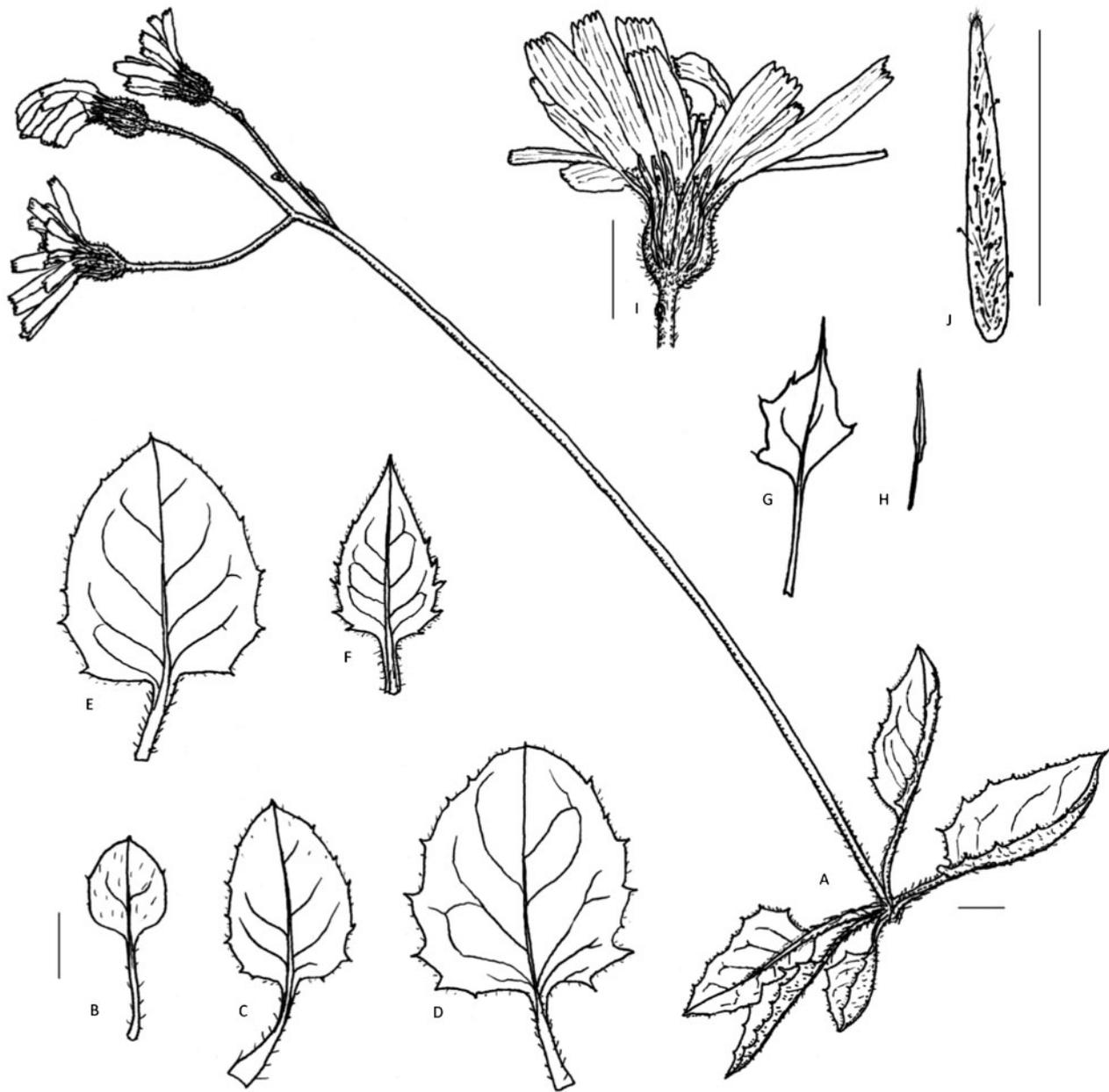


Figure 1 *Hieracium attenboroughianum*. (A) Whole plant. (B–F) Basal rosette leaves from outer (B) to inner (F). (G–H) Stem leaves. (I) Capitulum. (J) Involucral bract. Scale bars=1 cm.

sparse stellate hairs, the glabrous-tipped ligules and the yellow styles.

Hieracium attenboroughianum is a member of *Hieracium* section *Stelligera* Zahn, with a well-developed basal rosette and few or no stem leaves, with rigid simple hairs and medium to large capitula. Within Section *Stelligera*, it is a member of the *H. britannicum* group (Sell & West, 1968; Sell & Murrell, 2006), which are a group of closely related species of calcareous substrates which may have diverged through geographic isolation and minor mutation from a more widespread parent species. It can be separated from these seven related species as below.

Hieracium britannicum F. Hanb., which is endemic to Derbyshire and Staffordshire, differs in having dense stellate hairs and numerous simple hairs on the

involucral bracts (sparse stellate hairs and sparse simple hairs on the involucral bracts in *H. attenboroughianum*).

Hieracium britanniciforme Pugsley differs in having larger capitula 40–50 mm across and large dark spots on the leaves which have many long simple hairs on the upper surface (smaller capitula and unspotted leaves with few or no simple hairs on the upper surface in *H. attenboroughianum*).

Hieracium britannicoides P.D. Sell, which is endemic to North Wales, differs in having flat mid-green or slightly glaucous leaves with many, long simple eglandular hairs on the petioles, and numerous medium simple eglandular hairs and few glandular hairs on the involucral bracts (cupped, dark green leaves and sparse medium simple eglandular hairs



Figure 2 Holotype of *Hieracium attenboroughianum*.

and many glandular hairs on the involucre bracts in *H. attenboroughianum*).

Hieracium naviense J. N. Mills, which is endemic to Derbyshire, differs in having numerous stellate hairs on the involucre bracts and much more deeply toothed leaves, often with teeth on the petioles (sparse stellate hairs on the involucre bracts and remotely denticulate teeth in *H. attenboroughianum*).

Hieracium subbritannicum (Ley) P.D. Sell & C. West, which is restricted to South Wales and Western England (though probably extinct in the latter), differs in having more strongly toothed, lanceolate leaves usually with two large reflexed teeth at the base of the inner rosette leaves and numerous medium simple eglandular hairs on the involucre bracts (remotely denticulate ovate leaves and sparse medium simple eglandular hairs on the involucre bracts in *H. attenboroughianum*).

Hieracium stenolepiforme (Pugsley) P.D. Sell & C. West, which is endemic to Cheddar Gorge in England, has lanceolate leaves and numerous simple hairs on the involucre bracts (ovate leaves and sparse simple hairs on the involucre bracts in *H. attenboroughianum*).

Hieracium vagicola P.D. Sell which is endemic to the English side of the Wye Valley, differs in having dense stellate hairs on the involucre bracts and more deeply toothed leaves (sparse stellate hairs on the involucre bracts and remotely denticulate teeth in *H. attenboroughianum*).



Figure 3 Pictures of *Hieracium attenboroughianum*. (a) Locality on NW side of Cribyn. (b) Habitat on Old Red Sandstone mountain rocks. (c) Plant. (d) Capitulum.

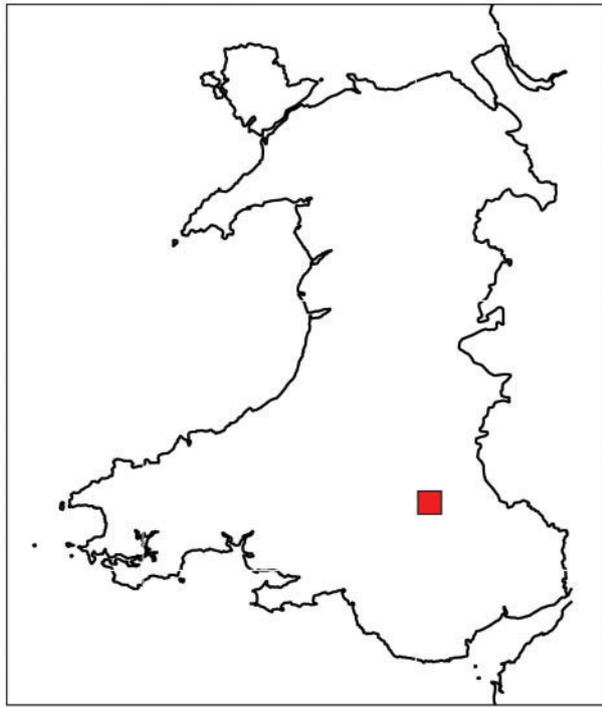


Figure 4 Distribution map of *Hieracium attenboroughianum*.

History. The earliest specimen traced was collected by M. Porter on 1 July 1975 from the Old Red Sandstone on the middle cliffs of Cribyn, SP022213, no. 75/53 (herb. M. Porter). Given its frequency on Cribyn, it is surprising that no other specimens have been found in herbaria.

Etymology. I have named this species in honour of Sir David Frederick Attenborough whose ‘World about us’ series on BBC television inspired me to study ecology when I was 17. I have watched and admired his work ever since, as have many other people, and in naming this hawkweed pay tribute to him for so eloquently educating us about the natural world.

Distribution and ecology. About 300 plants (mostly mature and flowering) occur on Old Red Sandstone rock ledges on the north-west face of Cribyn at an altitude of ca 700–760 m (Figs. 3 and 4). It occurred in grassy cliff vegetation with *Festuca ovina* L., *F.*

vivipara (L.) Sm., *Galium saxatile* L., *Galium sternerii* Ehrend., *Hieracium siluriense* (F. J. Hanb.) P.D. Sell, *Saxifraga hypnoides* L., *S. oppositifolia* L., *Scabiosa columbaria* L., and *Sedum rosea* (L.) Scop. on immature soils derived from the Old Red Sandstone (pH=5.6) or directly rooted in rock crevices.

Most of the plants occurred on ledges out of the reach of sheep. A few vegetative rosettes occurred at the grazed bases of the rocks, but did not appear to flower. Like most other *Hieracium* species, it is likely to be susceptible to grazing.

The main flowering period on Cribyn is end of June to mid-July. In cultivation in Aberdare and Cardiff, it mainly flowers from the end of May for 2–3 weeks with occasional inflorescences produced until September. Seed is set about 3–4 weeks after flowering. It flowers 5–10 days after *H. britannicoides* and *H. britanniciforme* in cultivation.

The main mountain cliffs within a radius of about 2 km were also searched, but no further populations were found. Other *Hieracium* species recorded on the central Brecon Beacons are *H. siluriense* (frequent), *H. cacuminum* (Ley) Ley (occasional), and *H. argenteum* Fr. (rare), from which it can be distinguished by the sharp teeth on the basal rosette leaves and in having 0 or 1 stem leaf.

Conservation status. *Hieracium attenboroughianum* is classified as IUCN Threat Category ‘Endangered’ (IUCN, 2001), due to the small population size restricted to one site. The main threats are overgrazing and rock falls.

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