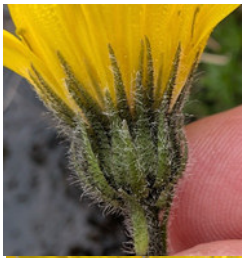


Ben Lawers Hawkweeds Jon Holt



Hieracium pseudanglicum

Bracts acute tip, blackish <13mm
Simple hairs numerous medium
Glandular hairs **numerous unequal**
Stellate hairs none/occ.
Styles dark, ligule tips very short hairs



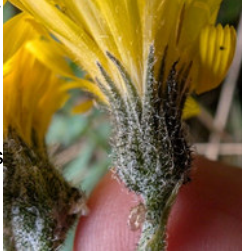
Hieracium laetificum

Bracts narrow, acute tip, blackish <14mm
Simple hairs numerous short/long
Glandulars dense unequal
Stellate few/none
Styles dark, ligule tips num. short hairs



Hieracium sommerfeltii

Bracts sub-acute tip, blackish green <13mm
Simple numerous short/long
Glandular hairs few short
Stellate numerous
Styles discoloured Ligule tips glabrous



Hieracium subhirtum

Bracts sub-acute tip, grey green <10mm
Simple dense short/medium
Glandular hairs few/none
Stellate few/none
Styles yellowish, ligule tips short hairy



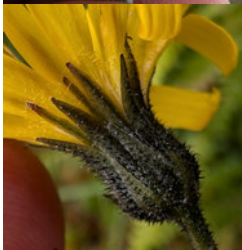
Hieracium nigrifactum

Bracts obtuse tip, blackish green <13mm
Simple none
Glandular hairs dense short/medium
Stellate hairs few/none
Styles dark Ligule tips few short hairs



Hieracium vennicontium

Bracts **broad** obtuse blackish green <13mm
Simple numerous short/medium
Glandulars numerous short/micro
Stellate hairs few
Styles discoloured
Ligule tips glabrous/few short hairs



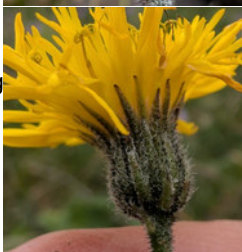
Hieracium cuspidens

Bracts obtuse tip, blackish green <13mm
Simple few/numerous short/medium
Glandular hairs few/numerous short
Stellate numerous
Styles dark, Ligule tips very short hairs



Hieracium cravoniense

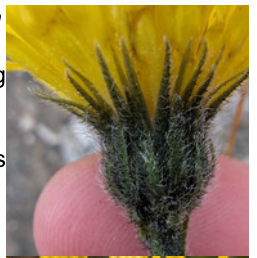
Bracts sub-acute tip, dark green <10mm
Simple hairs dense medium/long
Glandulars occasional/few
Stellate numerous
Styles discoloured, Ligule tips glabrous **stylose**



Capitula of medium sized Hawkweed

Hieracium anglicum

Bracts acute tip, blackish green <13mm
Simple hairs dense long
Glandular hairs few/numerous short
Stellate hairs none/few
Styles dark, ligule tips very short hairs



Hieracium iricum

Bracts sub-acute tip, dark green <13mm
Simple num./dense medium/long
Glandulars numerous short
Stellate hairs occ.
Styles dark, ligule tips very short hairs



Hieracium petrocharis

Bracts sub-acute tip dark green <12mm
Simple numerous short/long
Glandular hairs few short
Stellate numerous
Styles discoloured Ligule tips **hairy**



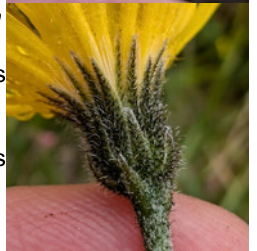
Hieracium dasythrix

Obtuse tip, dark green, <10mm
Simple dense short/long
Glandular hairs few
Stellate numerous
Styles discoloured, ligules tips glabrous



Hieracium pictorum

Bracts obtuse tip, blackish green <13mm
Simple hairs numerous
Glandular hairs numerous micro/short
Stellate hairs numerous
Styles disc., ligule tips glabrous/few hairs



Hieracium lingulatum

Bracts sub-acute tip, blackish green <13mm
Simple numerous medium/long
Glandular hairs numerous micro
Stellate few/none
Styles discoloured
Ligule tips few very short hairs



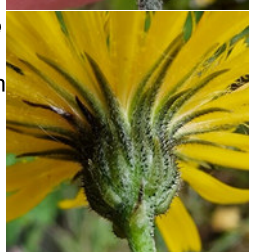
Hieracium orcadense

Bracts obtuse tip, blackish green <11mm
Simple numerous short/medium
Glandular hairs few short
Stellate few on apex and base
Styles discoloured Ligule tips glabrous



Hieracium triviale

Bracts acute tip, grey green <11mm
Simple numerous short-medium
Glandular hairs occasional/few
Stellate numerous
Styles discoloured, ligule tips glabrous



Ben Lawers Hawkweeds

Jon Holt

A Photographic Key to Hawkweeds (*Hieracium*) found in Ben Lawers National Nature Reserve

Situated at the core of the Breadalbane range, the Ben Lawers massif stands as one of Scotland's most celebrated botanical treasures. Rising to 1,214 metres, Ben Lawers is the tenth highest mountain in the Scotland. The south side of the mountain, Ben Ghlas, and the eastern slopes of the Tarmachan ranges are designated a National Nature Reserve. The area's calcareous schist soils, mica-schist rocks, varied topography, and cool, moist climate create ideal conditions for diversity of plant life, including many species found nowhere else in the British Isles.

Ben Lawers is recognised as one of the richest UK sites for arctic-alpine plants, supporting more than 700 species of vascular plant.

Within this unique setting, Ben Lawers NNR is home to over 40 species of hawkweed (*Hieracium*). These are often overlooked by naturalists as they present a considerable identification challenge owing to their subtle morphological differences, intricate taxonomy and a lack of descriptive literature.

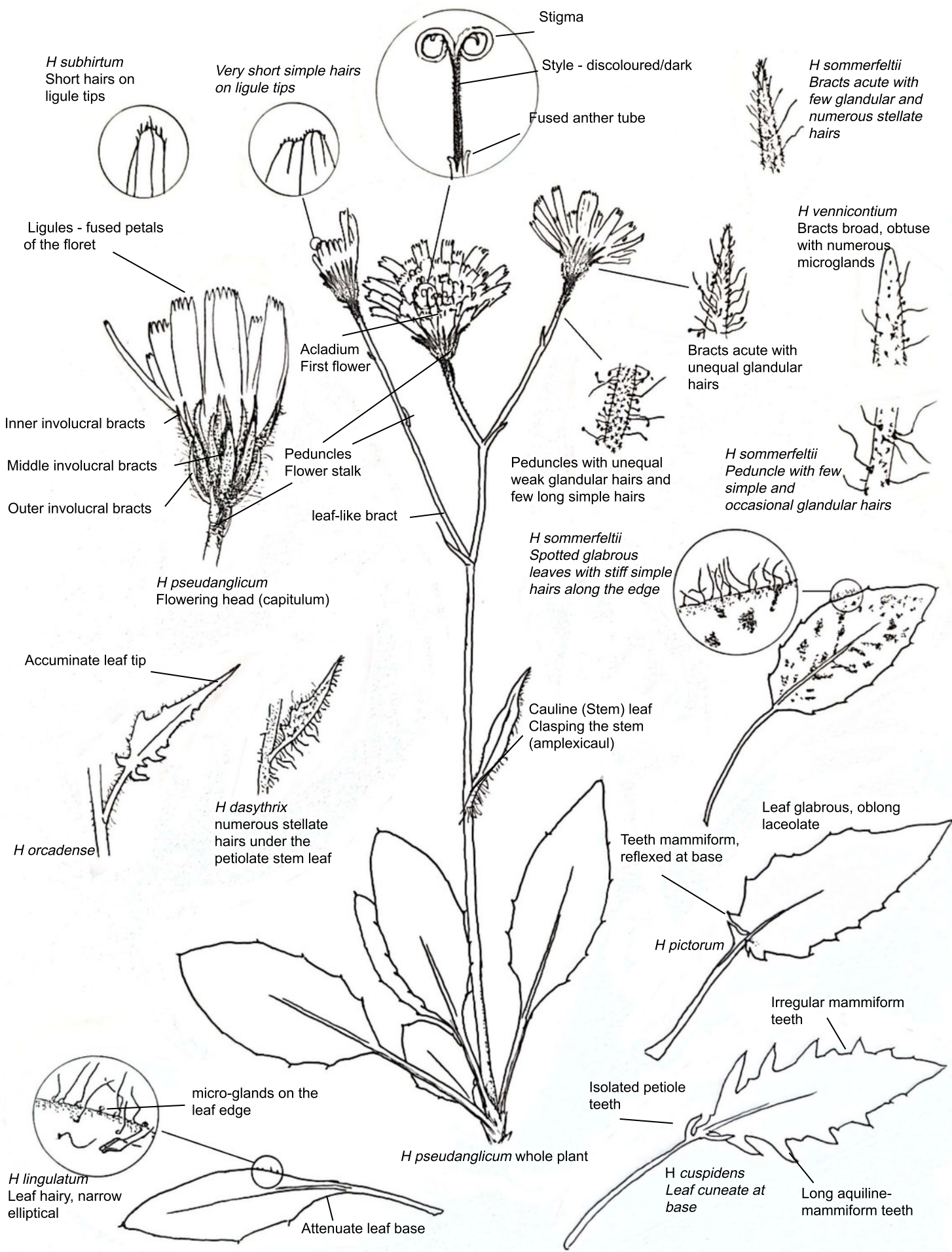
This photographic guide has been prepared to aid botanists identify more common hawkweeds from the nature reserve.

The following pages contain a key, descriptions and photographs of diagnostic characteristics of hawkweed species found within the Reserve.

Ben Lawers National Nature Reserve



Hawkweed characters



The term bracts has been used for involucre bracts (phyllaries), and the term simple hairs for simple eglandular hairs. Abbreviations used are: num.=numerous, occ.=occasional

When confronted with a hawkweed look at the following characters

1. Count the number of stem (cauline) leaves
2. Are there any blotches or spots on the leaves ?
3. What is the shape of the base leaves - ovate, elliptical, oblong ?
4. Are the base leaves toothed or entire, and what is the shape of the teeth ?
5. What is the shape of the leaf at the base - cuneate (wedge shaped), truncate . . . ?
6. Are the upper surfaces of the base leaves hairy ?
7. Are the stem leaves clasping (amplexicaul), is it petiolate or sessile ?
8. Are there stellate hairs on or under the stem leaves (or the base leaves) ?
9. How many flowers (capitula) are there and the length on the stems (peduncles) ? Note if the stalk (peduncle) for the first flower (accladium) is distinctly shorter.
10. Are the styles on a fully opened flower yellow or discoloured ?
11. Do the tips of the ligules on an opening bud have small hairs ? Note how hairy the back of the ligules are for small, large flowered (section *Alpina*) plants.
12. What is the shape of the tips and colour of the inner involucre bracts (phyllaries) ?
13. Measure the length of the involucre bracts from the base of the involucre - are they over 11mm ?
14. What is the density and frequency of the simple, glandular and stellate hairs on the inner involucre bracts (phyllaries)?
15. What is the density and frequency of the simple, glandular and stellate hairs on the peduncle about 2cm below the flower or bud (capitulum) ?

01 Tall plant with many, 4 to 20+, stem (cauline) leaves

02

01 Stem leaves 0-2[3,4]

06

02 Most leaves blotched or spotted



sparsifolium

Hieracium sparsifolium Lindeb. (42), *Tridentata*

Found on grassy banks and streamside lower slopes. Tall plants with small flower heads and many narrow blotched stem leaves.

Leaves: 4-18, narrow, subentire, spotted and blotched leaves. Some shaded plants can be unspotted.
Bracts: <12mm, obtuse(sub) with few to num. short simple, num. short glandular, few stellate hairs.
Peduncle: Few short simple, occ. short glandular, num. stellate.
Small flowers <30mm. Styles **yellow**, ligule tips glabrous.



02 Leaves unblotched

03 Unusually small flowers, num. glandular hairs on peduncles and bract, num. amplexicaul mid stem leaves

Hieracium prenanthoides Vill. (47), *Prenathoidea*

Found on grassy banks and streamside lower slopes. Tall plants with small flower heads clustered on short stalks and many clasping stem leaves.

Leaves: 12-30, oblong, oval, entire, amplexicaul.
Bracts: <11mm, obtuse with occ. short simple, num. unequal glandular, few-num stellate hairs.
Peduncle: occ. short simple, num. unequal glandular, few-num. stellate.
Small flowers <20mm. Styles **dark**, ligule tips hairy.

Crepis paludosa a confusion species has sharp toothed leaves and ridged stems

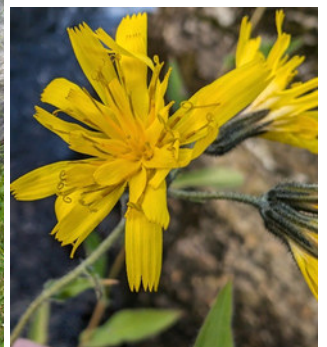
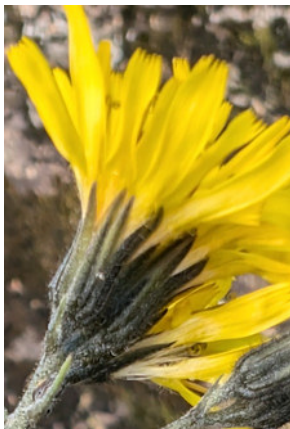


Crepis paludosa



prenanthoides

03



03 Medium-large flowers, semi-amplexicaul middle stem leaves

04

04 Styles yellow

05

04 Styles discoloured to dark



subcrocatum

Hieracium subcrocatum (E.F.Linton) Roffey (21), Foliosa

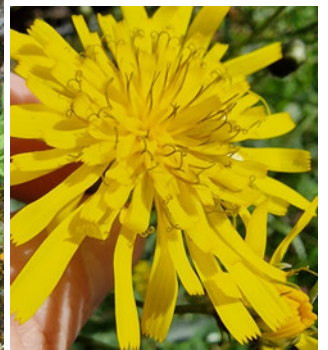
Found on grassy banks and streamside. Tall plants with large flower heads and many ovate leaves down the stem. It can have occasional simple hairs on the bracts although less than *H strictiforme*. The peduncles rarely have occasional simple hairs.

Leaves: Narrow, subentire, spotted and blotched leaves. Some plants lack blotches.

Bracts: <=12mm, obtuse with num. short simple, num. short glandular, few stellate hairs.

Peduncle: Few short simple, occ. short glandular, num. stellate.

Large flowers, styles **discoloured**, ligule tips glabrous.



05 Peduncles with few/num. glandular hairs and bracts blackish-green



melanoglochin

Hieracium melanoglochin (E.F.Linton)P.D.Sell, Foliosa

Found on grassy banks and streamside lower slopes. Tall plants with large flower heads, blackish involucre and many ovate toothed leaves.

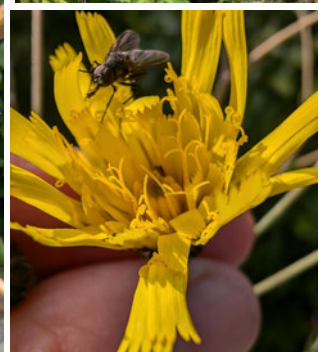
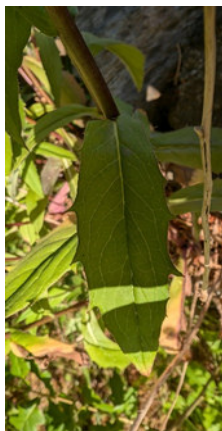
Leaves: Oval, lanceolate with sharp serrate dentate teeth.

Bracts: <=12mm, obtuse with few. short simple, numerous unequal glandular, few/no stellate hairs.

Peduncle: few short simple, numerous glandular, dense stellate hairs.

Medium flowers, **yellow** styles, ligule tips glabrous.

Common along the walls and bridge in the centre of Kilin



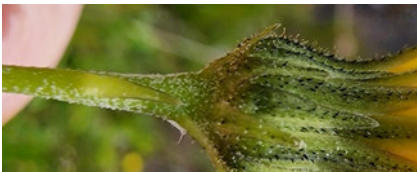
05 Peduncles with no glandular and occ./none simple hairs, leaves ovate and conspicuously veined

H lanceolatifolium (*latobrigorum*) (Zahn) Roffey (22), Foliosa

Found on grassy banks and streamside lower slopes. Tall plants with large flower heads and many narrow ovate leaves. The leaf shape is variable even in a single colony

Leaves: Lanceolate, entire, reticulate-veined, gradually decreasing in size up the stem.
Bracts: <=12mm, obtuse, broad pale margins with occ. short simple, num. short glandular, few/no stellate hairs.
Peduncle: No/occ. short simple, no glandular, num. stellate.
Large flowers, yellow styles, ligule tips glabrous.

The leaves have a distinctive and pronounced net pattern of veins.



lanceolatifolium



06 Small hairy plants with large capitula , high mountain, above 600m

07

06 Medium sized plants with 0-2[3,4] stem leaves and small to medium large flowers

08

07 Bracts with visible glandular hairs, dense long simple hairs, outer leaves oval with aquiline teeth

hanburyi forma
hanburyi

07 Bracts visible glandular hairs, dense long simple hairs, outer leaves oval with aquiline teeth

H. hanburyi* forma *hanburyi Pugsley (75) Alpina

Found on cliff ledges and grass slopes 550m-1060m. Small hairy plants with large flower heads and many slightly glossy mid-green toothed narrow elliptical basal leaves.

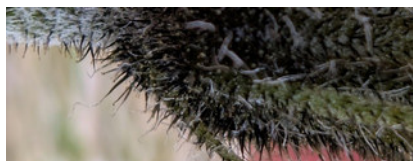
Leaves: Outer broad-elliptical, inner narrow-elliptical, cuneate base, irregular long aquiline teeth, hairy

Peduncles: Occ. long simple, numerous medium/long glandular and dense stellate hairs.

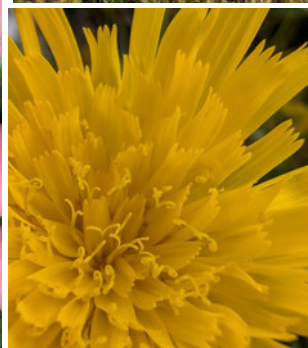
Bracts <=15mm, acute, outer loosely appressed/sub-erect, numerous long simple and num. visible short/medium glandular hairs.

Large flowers, yellowish/slightly **discoloured** styles.

Ligules upturned with no/occ. hair beneath (*H. eximium* is hairy beneath ligules, less glossy leaves)



***hanburyi* forma
*hanburyi***



07 Bracts, sub-erect, long dense, shaggy simple hairs, outer leaves entire, narrow oblong-spatulate

Hieracium holosericeum Bach.f. (107). Alpina

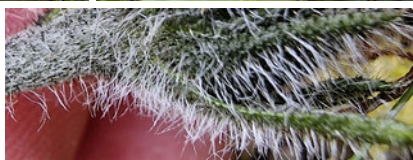
Bare and boulder areas, and grassy mountain summits. Small hairy plants with large flowers and deep-green narrow, glossy leaves and conspicuous dense beard of simple hairs below the involucre.

Leaves: Narrow obovate/spathulate, some small rotund outer, shiny deep green with long hairs toward the edge of the leaf.

Petioles: Numerous med./long simple, dense and twisted at the base of the involucre, and numerous small weak glandular hairs.

Bracts: <=15mm, acute, lax semi-appressed/sub-erect, dense long simple, no visible short weak glandular hairs.

Large flowers, **yellow** styles. Ligules upturned with numerous hairs underneath.



holosericeum



08 Some or all leaves spotted or blotched maybe only faintly

08 Leaves unblotched

.....

.....

09

11

09 Bracts numerous stellate hairs, peduncle no glandular hairs

10

09 Bracts no/occ. stellate hairs, peduncle with numerous glandular hairs (spotted forms)

28

10 Ligule tips and leaves glabrous, peduncle with no /occ. simple hairs

Hieracium sommerfeltii Lindeb. (215), Stelligera

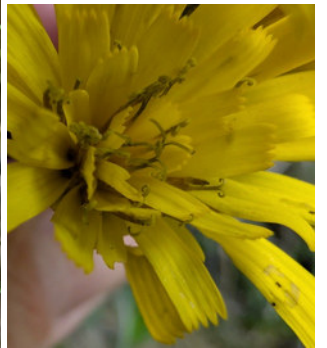
Found amongst rocks and crags on lower slopes. Medium sized plants often with one cauline leaf and spotted base leaves.

Leaves: Ovate, entire, glabrous (shiny) spotted leaves. Leaf edges have stiff bristly hairs and no microglands. Rarely plants lack obvious spots.

Peduncle: No/occ. simple, occ. short glandular, few stellate.

Bracts: <=13mm, acute tips with num. short/long simple, occ. short glandular and num. stellate hairs. Medium sized flowers, discoloured styles, ligule tips glabrous.

Look for spotted glabrous oval leaves and bracts with numerous stellate hairs.



10 Ligules tips hairy, peduncles numerous simple hairs

petrocharis

Hieracium petrocharis (E.F.Linton)W.R.Linton (140), Subalpina

Found on moorland and streamside on lower slopes. Medium sized plants often with one cauline leaf and with faintly spotted base leaves.

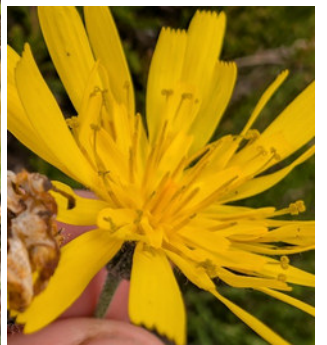
Leaves: Oblong-elliptical, entire, rounded base with long petioles, sometimes slightly hairy, sometimes spotted leaves.

Peduncle: Occ. simple, no/occ. glandular, few stellate.

Bracts: <=12mm, acute tips with few/num. short/long simple, occ. short glandular and num./dense stellate hairs.

Medium sized flowers. Discoloured styles, ligule tips hairy.

Look for dense stellate hairs on the bracts and leaves with long petioles. The emerging ligule tips are hairy



11 Bracts and peduncles with none or occasional/few simple hairs, obtuse tips

12

11 Bracts with numerous simple hairs

13

12 Bracts with no stellate and numerous glandular hairs, leaves hairy

Hieracium nigrifactum P.D.Sell (123), Subalpina

Growing on rocky areas and ledges around the summit. Small to medium sized with one cauline leaf and sub-entire, hairy base leaves. Dark blackish involucre.

Leaves: Elliptical, sub-entire with some mammiform teeth, often asymmetrical, cuneate base, hairy.

Peduncle: no/occ. simple, num. short glandular hairs.

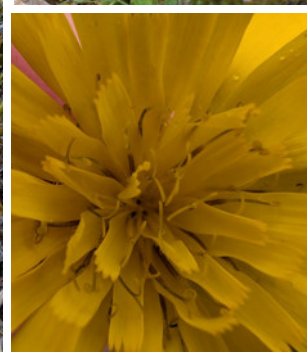
Bracts: $\leq 13\text{mm}$, obtuse with no/occ. simple, numerous/dense glandular, few stellate hairs.

Small flowers, discoloured styles, ligule tips occ. hair.

The best distinction is the numerous short to medium dark glandular hairs on the bracts and peduncle combined with the obtuse bract tips.



nigrifactum



12 Broad dark bracts with few simple and stellate hairs, numerous small/micro glandular, leaves glabrous

Hieracium vennicontium Pugsley (146), Subalpina

Grassy areas and boulders. Medium sized often with a stem leaf. Base leaves are shallow toothed.

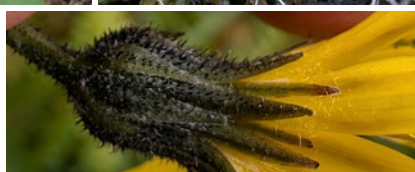
Leaves: Elliptical, shallow dentate/mammiform teeth, asymmetrical cuneate base, glabrous.

Peduncle: No/occ. simple, numerous short glandular hairs.

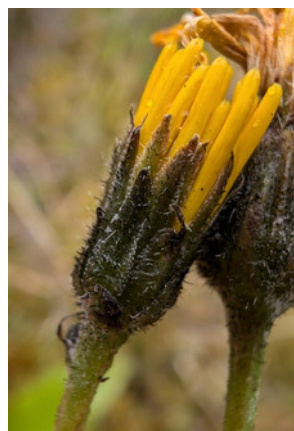
Bracts $\leq 13\text{mm}$, obtuse, dark, numerous simple, numerous small glandular and scattered stellate hairs.

Medium sized flowers, discoloured styles. Ligule tips few hairs.

The bracts are distinctive, black and obtuse and up to 2mm wide



vennicontium



13 Inner bracts with numerous/dense stellate hairs

.....

14

13 Inner bracts with no/few stellate hairs

.....

19

14 Short bracts and peduncles with no/few glandular hairs

.....

15

14 Long bracts and peduncles with numerous glandular hairs

.....

17

15 Stem leaves 0-1

.....

16

15 Stem leaves 2-4

.....

18

16 Bracts obtuse and styles yellow

Hieracium breadalbanense F.Hanb. (338), Hieracium

Growing on grassy and rocky areas. Medium sized often with one cauline leaf and entire, hairy base bright green leaves.

Leaves: Broad elliptical, entire, rounded base, glabrous.

Peduncle: Numerous short/medium simple, no glandular hairs

Bracts: <=11mm, obtuse with dense simple, numerous stellate and occ. short glandular hair.

Medium sized flowers, yellow styles, ligule tips glabrous/occasional hair

One of the few Section Hieracium with almost no glandular hairs on either the bracts or the peduncles

Photos by Finley Hutchinson



breadalbanense



16 Bracts acute and styles discoloured
(unspotted forms)

.....

10

17 Bracts obtuse, leaves with large teeth, peduncle numerous simple hairs

Hieracium cuspidens P.D.Sell & C.West (127), Subalpina

Found on lower slopes and streamside. Medium-large sized plant with medium-large flower heads, a single toothed stem leaf and narrow elliptical base leaves with large irregular aquiline teeth.

Leaves: Narrow elliptical, teeth long aquiline-mammiform, cuneate at base, glabrous.

Peduncle: few simple and num./dense glandular.

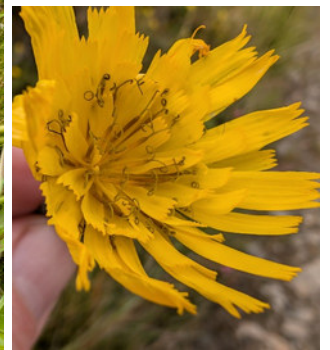
Bracts: $\leq 13\text{mm}$, obtuse with num. short-medium simple, few/num. short glandular, num. stellate hairs.

Medium-large flowers, **discoloured** styles, ligule tips minute hairs.

Hieracium kingshousense has hairy leaves that are rounded/truncate at the base, smaller flowers with bracts $\leq 11\text{mm}$, styles yellowish - see *Hieracium senescens*



cuspidens



17 Bracts acute, leaves entire, rotund, leaf underside with stellate hairs, peduncles no/occ. simple hairs

Hieracium shoobredii E.S.Marshall (173), Cerinthoidea

On rocky ledges and boulders. Medium sized with large flower heads and long acute bracts. base leaves are entire, bluish-green and rotund.

Leaves: broad elliptical, rotund, rounded with a rounded, subtruncate base, glabrous. The leaf undersides have numerous stellate hairs.

Peduncle: numerous short glandular hairs, occ. simple.

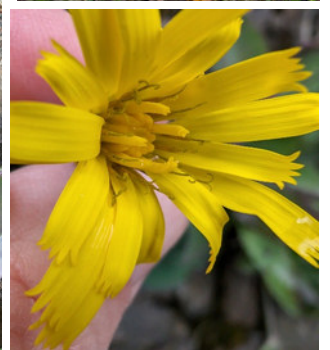
Bracts: $\leq 15\text{mm}$, acute with few simple, num. short glandulars and numerous stellate.

Large flowers, **discoloured** styles and ligule tips short hairs.

Look for stellate hairs on the leaf underside



shoobredii



18 Bracts sub-acute, leaves glabrous, lanceolate, peduncles with no glandular hairs

Hieracium triviale (Norrl.)Norrl. (263), Vulgata

The most numerous hawkweed in lowland Scotland, grassland, roadsides and walls. Medium sized plant with small flower heads. Bracts are pale green edged with stellate hairs making them appear striped. Usually 2+ lanceolate stem leaves and narrow base leaves.

Leaves: Narrow oblong, lanceolate with obtuse mucronate tip, cuneate at base often with some mammiform teeth, glabrous.
Peduncle: straight few/num. simple, no/occ. short glandulars.
Bracts: <=11mm sub-acute with numerous sort/med simple, occasional short glandulars, numerous stellate hairs on the margins.
Small flowers, **discoloured** styles and glabrous ligule tips.
The common form *H triviale* v. *triviale* occasionally can only have a few simple hairs on the bracts.



triviale



18 Ligules stylose, bracts obtuse, leaves hairy, oblong-elliptical, peduncles with occ. glandular hairs

Hieracium cravoniense (F.Hanh.)Roffey (264), Vulgata

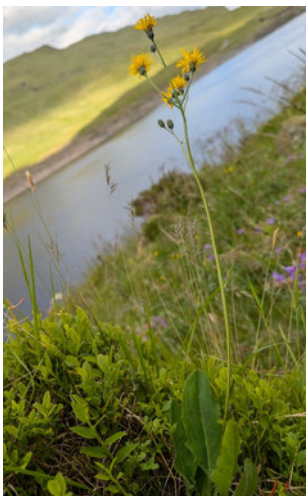
Found on boulders and lowland grassy banks. Medium sized plant with poorly developed ligules. Usually 1+ stem leaf and narrow, serrate toothed base leaves

Leaves: Narrow elliptical, lanceolate, slightly hairy.
Peduncle: numerous simple, occ. glandular hairs.
Bracts <=10mm, narrow obtuse with num./dense med./long simple, occ. short glandular and numerous stellate hairs on the margins.
Small flowers, **discoloured** styles and frequent poorly developed ligules.

The ligules are poorly developed (stylose)



cravoniense



19 Bracts with no/occ. (micro/small) glandular hairs

.....

20

19 Bracts with few/numerous glandular hairs, acute/sub-acute tips

.....

25

20 Bracts acute

21

20 Bracts obtuse

22

21 Long blackish acute bracts with numerous microglands, leaves hairy, narrow, entire with attenuate base

Hieracium lingulatum Bakh.f. (108), Subalpina

Mainly found on stream sides and grassy banks and ledges. Medium sized plant with medium-large flowers and long narrow hairy leaves. Usually 1+ long narrow sessile cauline leaf.

Leaves: narrow elliptical-oblong, entire with cuneate/attenuate base, hairy.

Peduncle: Numerous medium/long simple and few short glandular hairs.

Bracts $\leq 13\text{mm}$, acute, numerous medium/long simple, few/num. weak glandular and no/few stellate hairs.

Medium-large flowers, yellowish/dicoloured styles. A few hairs on ligule tips

Distinctive with its entire, narrow, hairy, leaves



lingulatum



21 Short bracts sub-acute, no glandular hairs, leaves rounded base

Hieracium subhirtum (F.Hanb.)Pugsley (329), Hieracium

Found by streams and rocky ledges. Medium sized plant with bright green, entire, hairy leaves. One stem leaf with a rounded base and acuminate tip.

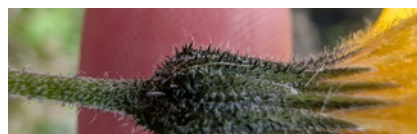
Leaves: Elliptical/ovate subrotund, rounded/truncate base, acute tip, hairy.

Peduncle: Few/num. medium simple, few short glandular.

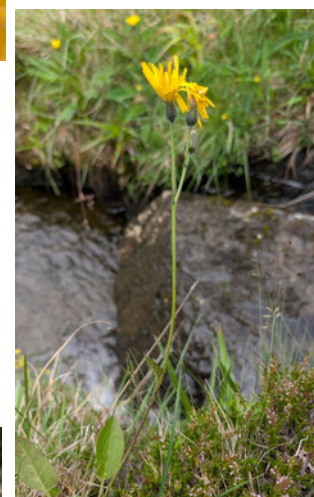
Bracts: $\leq 12\text{mm}$ sub-acute, num. simple, few short glandular and few/numerous stellate hairs.

Flowers small, discoloured styles. Hairy ligule tips.

The styles can be yellowish or discoloured



subhirtum



22 Bracts with occ./few glandulars, no/few simple hairs on the peduncles

23

22 Bracts and peduncles with no glandulars, peduncles numerous simple hairs

24

23 Leaves hairy, ovate short-dentate teeth, stem leaf underside with stellate hairs



dasythrix

Hieracium dasythrix (E.F.Linton) Pugsley (139), Subalpina

Found by streams and open rocky and grass areas. Medium sized plant with medium green, subentire, hairy. Flowers are small/medium, with a small stem leaf that has numerous stellate hairs on the underside.

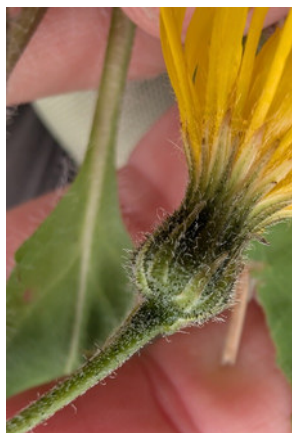
Leaves: Ovate, subentire or shallow sharply toothed with cuneate/rounded base, hairy.

Peduncle occ./few medium/long simple and occ./few short glandular hairs.

Bracts <= 10mm obtuse with pale margins, dense uneven length simple, few short glandular and few numerous stellate hairs.

Flowers small/medium, styles **discoloured** and ligule tips glabrous.

Leaves hairy with neat small sharp toothed leaves.



23 Leaves glabrous, oblong-lanceolate, peduncle with no/occasional simple hairs



pictorum

Hieracium pictorum E.F.Linton (345), Hieracium

Found by streams and open rocky and grass areas. Medium sized plant with bright green, toothed, glabrous leaves. Flowers are small, often with no stem leaf, leaves waxy green with a narrow rounded mucronate tip.

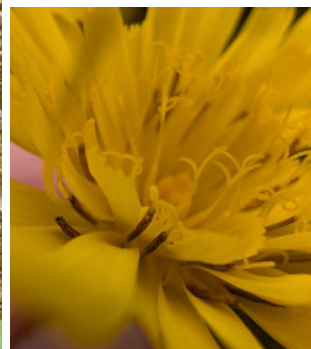
Leaves: Ovate-oblong/lanceolate, dentate with aquiline-mammiform teeth at base, glabrous.

Peduncle: No/occ. simple and occ./few glandular hairs.

Bracts <= 13mm obtuse, num. medium simple, num. short glandular, numerous stellate along edge

Styles **yellowish**/discoloured. Ligules with occ. hairs on the tip

A variable species with waxy green leaves often purple tipped and with dentate bases. teeth can be long and have teeth extend onto the petiole. The flowers are small and the involucre narrow.



24 Short obtuse bracts, ligule tips glabrous

Hieracium orcadense W.R.Linton (325), Hieracium

Found on stream-sides. Medium sized plant toothed, sometimes hairy, pale green leaves. Flowers are medium, 1 toothed stem leaf with attenuate acute apex.

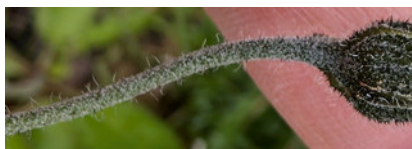
Leaves: Narrow, elliptical, ovate-lanceolate, dentate with mammiform teeth at base, often hairy.

Peduncle: Numerous simple and no/occ. glandular hairs.

Bracts <= 11mm obtuse, numerous medium simple, no/occ. short glandular, num. stellate hairs especially along the edge.

Medium sized flowers, styles **discoloured**. Ligules tips glabrous.

Orkney specimens have more glandular hairs and the leaves are often more elliptical.



orcadense



24 Long dark obtuse bracts, ligule tips with few short hairs

Hieracium callistophyllum F.Hanb. (111) Subalpina

On rocky ledges and stream-side. Medium sized with large flower heads and dark obtuse bracts. base leaves are pale green often flushed purple. 0-1 toothed stem leaf

Leaves: Ovate-elliptical, cunetae/sub-truncate base, teeth mammiform, glabrous/hairy.

Peduncle: occ. short/medium glandular hairs, num. simple hairs.

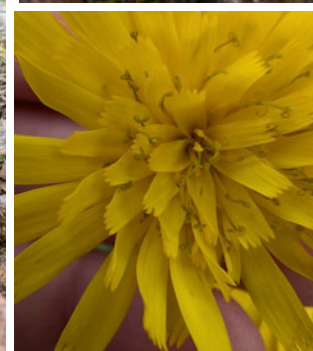
Bracts: <=15mm, obtuse with numerous simple, occ. short glandulars and few stellate.

Large flowers, **discoloured** styles and ligule tips with short hairs.

There are very few species with large regular sharp mammiform teeth. One old record from Fin Glen



callistophyllum



25 Styles discoloured to dark, leaves glaucous green and stem leaf clasping

.....

25 Styles yellow, leaves bright green, stem leaf linear and not clasping

Hieracium senescens Backh.f. (114) Subalpina

On grassy ledges and stream-side. Medium sized plant with medium flowers, bright green leaves and 1-2(3) cauline leaves, the upper ones narrow and bract like.

Leaves: Elliptical-oblong with mammiform teeth, cuneate at base, hairy and long petioles.

Peduncle: Numerous unequal short glandular and numerous short/medium simple hairs.

Bracts: <= 14mm sub-acute, blackish with numerous short/medium simple, numerous unequal short glandular and no/few stellate hairs.

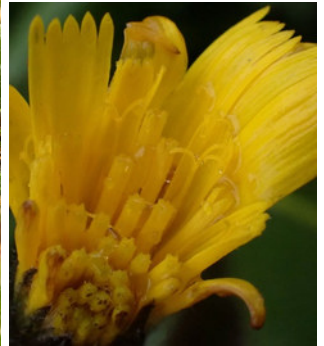
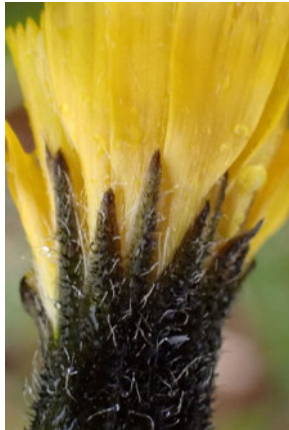
Medium/large flowers. Styles **yellow**, ligules with short hairs on the tip

Has long peduncles.

Photos by Finley Hutchinson



senescens



26 Base leaves toothed, stem leaves toothed

.....

27

26 Base leaves entire/sub-entire

.....

28

27 Stem leaves 0-1, base leaves sub-entire with small mammiform teeth

Hieracium laetificum P.D.Sell & C.West (116), Subalpina

Found on rocky ledges and stream-sides. Medium sized plant with large flowers, mid green leaves and one semi-clasping, acutely pointed cauline leaf.

Leaves: Elliptical-ovate with small sharp mammiform teeth, cuneate at base and glabrous.

Peduncle: Numerous short/medium glandular and occ. simple hairs.

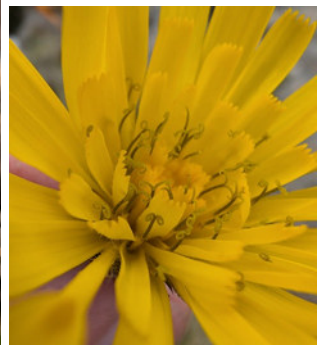
Bracts: <= 14mm acute, blackish with numerous medium/long simple, dense short/medium glandular and few stellate hairs.

Large flowers. Styles **discoloured**, ligules with short hairs on the tip

The leaves are almost glabrous and the stem leaf petiole is slightly clasping



laetificum



27 Stem leaves 1-2, glaucous, base leaves broad elliptical with aquiline-mammiform teeth

Hieracium oxybeles P.D.Sell (163), Cerinthoidea

Found on rocky ledges and stream-sides. Medium sized plant with large flowers, glaucous, bluish green leaves with 1-2 toothed stem leaves

Leaves : Broad elliptical, sharp aquiline-mammiform teeth near the cauline base, rough hairy.

Peduncle: Occ. medium simple and numerous short glandular hairs.

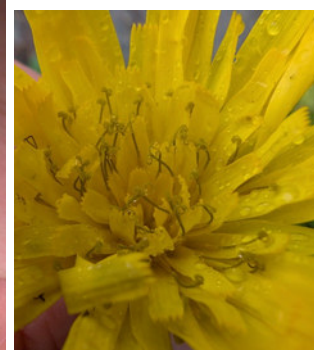
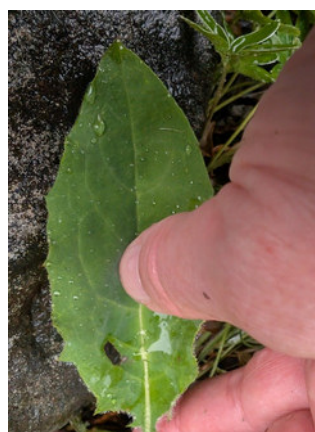
Bracts: <= 15mm acute, num. medium/long simple, num. short glandular and a few stellate hairs.

Large flowers, **discoloured** styles and hairy ligule tips.

Look for the sharp teeth at the bases of the leaves



oxybeles



28 Stem leaves 3-6, strongly glaucous, dense long simple hairs and often a small sharp tooth at base

Hieracium iricum Fr. (157), Cerinthoidea

Found on ledges and streamsides. Medium sized plant with medium sized flowers and bluish green leaves and with 3+ stem leaves.

Leaves: Elliptical with shallow teeth near the cuneate base, hairy.

Peduncle: Long with numerous medium simple and numerous short/medium glandular hairs.

Bracts: <= 13mm, sub-acute linear with dense medium/long simple hairs, numerous short/medium glandular and occ. stellate hairs along margins.

Medium sized flowers, **discoloured** styles and a few hairs on the ligule tips.

Look for multiple cauline leaves have a dense beard of hairs where they join the stem.



iricum



28 Stem leaves 0-1(2)

29 Bracts with dense simple and few short dark glandular hairs, peduncles numerous simple hairs



anglicum

Hieracium anglicum Fr. (164), Cerinthoidea

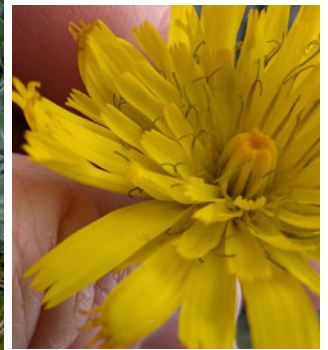
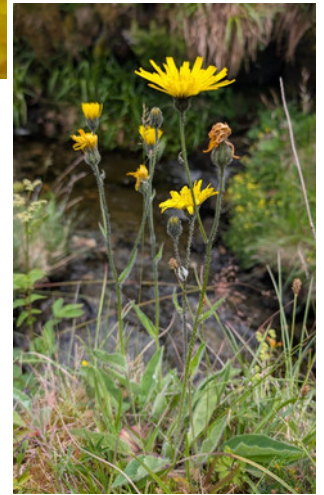
On stream sides and grassy banks and mountain ledges. Medium sized plant with large flowers and broad elliptical bluish-green leaves and usually 1 clasping semi-clasping cauline leaf.

Leaves: Broad elliptical, entire, cuneate base, hairy upperside.

Peduncle: Num. long simple, num. short glandular hairs.

Bracts <=13mm acute, num./dense long simple, few/num. short glandular and no/occ. stellate hairs. Large flowers, discoloured styles and ligule tips with short hairs.

Long peduncles and few visible short glandular hairs on the bracts amongst dense long simple hairs best separates from *H pseudoanglicum*. The leaves are sometimes blotched.



29 Bracts with num. simple and few/num. unequal weak glandular hairs, peduncles unequal glandulars



pseudanglicum

Hieracium pseudoanglicum Pugsley (141), Subalpina

On stream sides and grassy banks and lower mountain ledges. Medium sized plant with large flowers and broad elliptical glaucous green leaves and usually 1 clasping semi-clasping cauline leaf.

Leaves: Elliptical/oblong-elliptical, entire, cuneate/attenuate base, glabrous/hairy upperside.

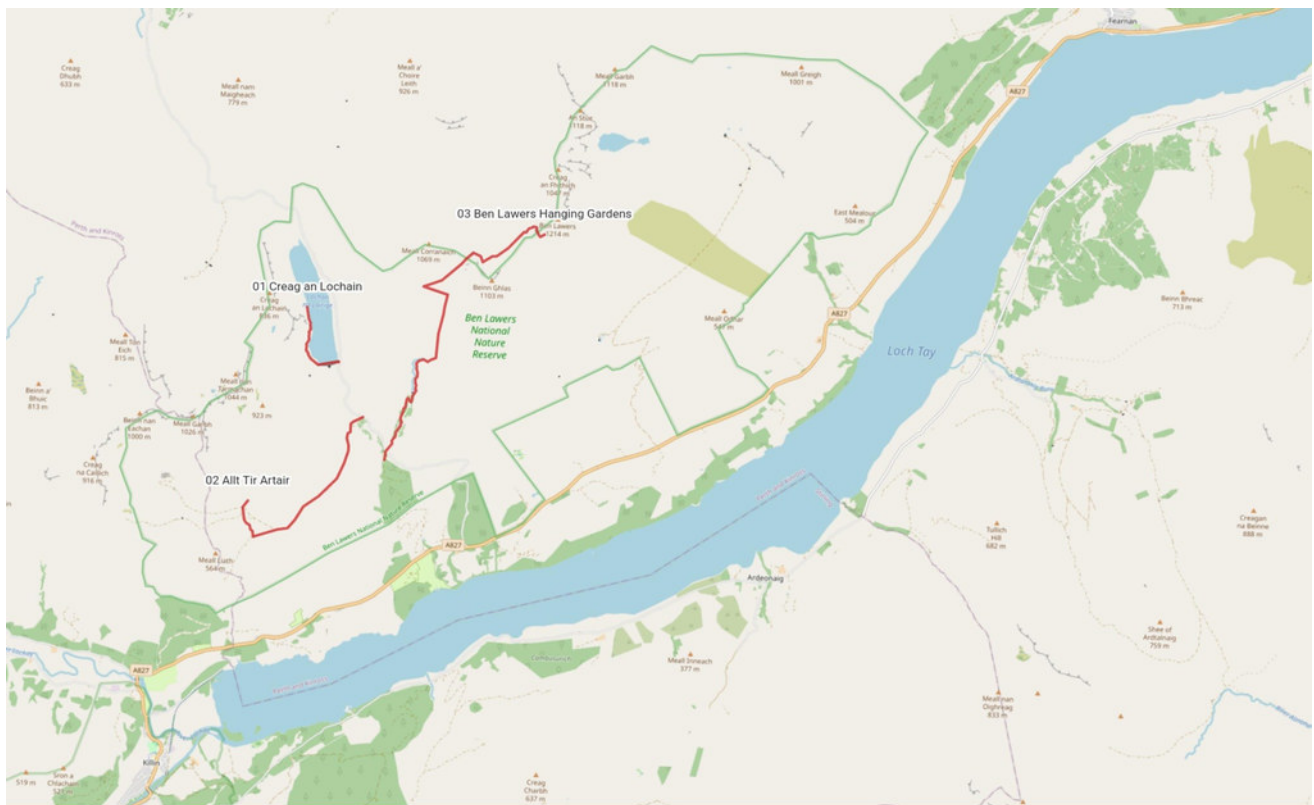
Peduncle: Few/num. medium/long simple, num. unequal glandular hairs.

Bracts <=13mm acute, num. medium simple, num. unequal glandular and no/occ. stellate hairs.

Medium-large flowers, discoloured styles and ligule tips with short hairs.

The glandular hairs on the bracts and peduncle are very unequal with weak longer hairs. The outer peduncles are longer than the acladium stem. Rarely, the leaves can be blotched. One of the most numerous species along the gullies.





© OpenStreetMap

Hawkweed rich walks, shown on the above map:

01 Creag an Lochain

This is a gentle walk following the edge of Lochan na Làirige reservoir. *H pseudanglicum* is the most abundant species growing in the *Nardus* grassland and stream-side. *H sommerfeltii* grows on the lower crags. In the grassland around the dam wall are *H triviale*, *H pictorum* and *H prenanthoides*. Nestled amongst the higher crags look for *H subhirtum* and *H anglicum* and on the lower boulder areas along the reservoir is *H cravoniense*. *H caesiomurorum*, *H lingulatum* and *H subcrocatum* have also been recorded around the reservoir.

02 Allt Tir Artair

The walk to the stream is level and along a track. *H pseudoanglicum*, *H cuspidens* grow along the track and *H pictorum* along the edges of the streams that cross. Look for *H vennicontium* too. When you get to Allt Tir Artair *H pictorum*, *H orcadense* and *H pseudanglicum* are common and look for *H iricum* and *H laetificum* along the stream edge too. *H piligerum*, *H breadalbanense*, *H gracilifolium*, *H kingshousense* and *H senescens* have also been recorded along the stream.

03 Car Park to Ben Lawers 'Hanging Gardens'

This is a long gradual ascent to the flushed grassland where the specialty arctic-alpine species occur. Near the car park and along the lower streams *H pseudanglicum*, *H orcadense* are frequent. A little further up the Burn of Edramucky *H dasythrix* and *H petrocharis* can be found. On the crags at the top of Coire Odhar *H hanburyi* grows and when you reach the Hanging Gardens, Creag Loisgte, *H nigrifactum* is common on the rocky crags around the flushes. Other section Alpina hawkweeds recorded are *H holosericeum* and *H eximium*.

Kilin, Falls of Dochart

On the way to Ben Lawers NNR the River Dochart is an essential stop. The bridge and the roadside walls host *H melanoglochin* and among the river rocks you will find *H subcrocatum*, *H prenanthoides* and *H lanceolatifolium*. Also look for *H strictiforme*, *H reticulatiforme*, *H sparsifolium* and *H dewari*.

The Key

01 Tall plant with many, 4 to 20+, stem (cauline) leaves	02
01 Stem leaves 0-2[3,4]	06
02 Leaves unblotched	03
02 Most leaves blotched or spotted	<i>sparsifolium</i>
03 Unusually small flowers, num. glandular hairs on peduncles and bract, num. amplexicaul mid stem leaves	<i>preanthoides</i>
03 Medium-large flowers, semi-amplexicaul middle stem leaves	04
04 Styles yellow	05
04 Styles discoloured to dark	<i>subcrocatum</i>
05 Peduncles with few/num. glandular hairs and bracts blackish-green	<i>melanoglochin</i>
05 Peduncles with no glandular and occ./none simple hairs, leaves ovate and conspicuously veined	<i>lanceolatifolium</i>
06 Small hairy plants with large capitula , high mountain, above 600m	07
06 Medium sized plants with 0-2[3,4] stem leaves and small to medium large flowers	08
07 Bracts with visible glandular hairs, dense long simple hairs, outer leaves oval with aquiline teeth	<i>hanburyi f. hanburyi</i>
07 Bracts, sub-erect, long dense, shaggy simple hairs, outer leaves entire, narrow oblong-spatulate	<i>holosericeum</i>
08 Some or all leaves spotted or blotched maybe only faintly	09
08 Leaves unblotched	11
09 Bracts numerous stellate hairs, peduncle no glandular hairs	10
09 Bracts no/occ. stellate hairs, peduncle with numerous glandular hairs	28
10 Ligule tips and leaves glabrous, peduncle with no simple hairs	<i>sommerfeltii</i>
10 Ligules tips hairy, peduncles numerous simple hairs	<i>petrocharis</i>
11 Bracts and peduncles with none or occasional/few simple hairs, obtuse tips	12
11 Bracts with numerous simple hairs	13
12 Bracts with no stellate and numerous glandular hairs, leaves hairy	<i>nigrifactum</i>
12 Broad dark bracts with few simple and stellate hairs, numerous small/micro glandular, leaves glabrous	<i>vennicontium</i>
13 Inner bracts with numerous/dense stellate hairs	14
13 Inner bracts with no/few stellate hairs	19
14 Short bracts and peduncles with no/few glandular hairs	15
14 Long bracts and peduncles with numerous glandular hairs	17
15 Stem leaves 0-1	16
15 Stem leaves 2-4	18
16 Bracts obtuse and styles yellow	<i>breadalbanense</i>
16 Bracts acute and styles discoloured (unspotted forms)	10
17 Bracts obtuse, leaves with large teeth, peduncle numerous simple hairs	<i>cuspidens</i>
17 Bracts acute, leaves entire, rotund, leaf underside with stellate hairs, peduncles no/occ. simple hairs	<i>shoolbredii</i>
18 Bracts sub-acute, leaves glabrous, lanceolate, peduncles with no glandular hairs	<i>triviale</i>
18 Ligules stylose, bracts obtuse, leaves hairy, oblong-elliptical, peduncles with occ. glandular hairs	<i>cravoniense</i>
19 Bracts with no/occ. (micro/small) glandular hairs	20
19 Bracts with few/numerous glandular hairs, acute/sub-acute tips	25
20 Bracts acute	21
20 Bracts obtuse	22
21 Long blackish acute bracts with numerous micro-glands, leaves hairy, narrow, entire with attenuate base	<i>lingulatum</i>
21 Short bracts sub-acute, no glandular hairs, leaves rounded base	<i>subhirtum</i>
22 Bracts with occ./few glandulars, no/few simple hairs on the peduncles	23
22 Bracts and peduncles with no glandulars, peduncles numerous simple hairs	24
23 Leaves hairy, ovate short-dentate teeth, stem leaf underside with stellate hairs	<i>dasythrix</i>
23 Leaves glabrous, oblong-lanceolate, peduncle with no/occasional simple hairs	<i>pictorum</i>
24 Short obtuse bracts, ligule tips glabrous	<i>orcadense</i>
24 Long dark obtuse bracts, ligule tips with few short hairs	<i>callistophyllum</i>
25 Styles discoloured to dark, leaves glaucous green and stem leaf clasping	26
25 Styles yellow, leaves bright green, stem leaf linear and not clasping	<i>senescens</i>
26 Base leaves toothed, stem leaves toothed	27
26 Base leaves entire/sub-entire	28
27 Stem leaves 0-1, base leaves sub-entire with small mammiform teeth	<i>laetificum</i>
27 Stem leaves 1-2, glaucous, base leaves broad elliptical with aquiline-mammiform teeth	<i>oxybeles</i>
28 Stem leaves 3-6, strongly glaucous, dense long simple hairs and often a small sharp tooth at base	<i>iricum</i>
28 Stem leaves 0-1(2)	29
29 Bracts with dense simple and few short dark glandular hairs, peduncles numerous simple hairs	<i>anglicum</i>
29 Bracts with num. simple and few/num. unequal weak glandular hairs, peduncles unequal glandulars	<i>pseudanglicum</i>

Quick comparison of Characters [Sell & Murrell's (2006) numbering]

Si. Numerous simple hairs on bracts	Sp. Spotted or blotched leaves
St. Numerous stellate hairs on inner bract edges	Lt. Emerging ligule tips with hairs
Gl. Numerous glandular hairs on bracts	Te. Large teeth on leaves
Ac. Acute tipped inner bracts	s./M./L. Capitula small (30mm) Medium (40mm) Large (50mm)
Ob. Obtuse tipped inner bracts	Hr. Simple hairs on upper surface of base leaves
>13 Bracts up to 13mm or longer	PS. Numerous simple hairs on the peduncles
<11 Bracts 11mm or shorter	PG. Numerous glandular hairs on the peduncles
Dk Dark, discoloured styles	* Stellate hairs on the leaves (cauline or base)
Y_. Yellow styles	

<i>Hieracium petrocharis</i>	[140]	Si.St.____.Ac.____.Dk.Sp.Lt.____.M.____.PS.____.
<i>Hieracium sommerfeltii</i>	[215]	Si.St.____.Ac.____.Dk.Sp.____.____.M.____.____.____.
<i>Hieracium piligerum</i>	[358]	____.St.Gl.Ob.____.Dk.Sp.Lt.____.s.Hr.____.PG.
<i>Hieracium cerinthiforme</i>	[159]	Si.____.____.Ac.>13.Dk.____.Lt.____.L.Hr.PS.PG.
<i>Hieracium iricum</i>	[157]	Si.____.____.Ac.>13.Dk.____.Lt.____.M.Hr.PS.PG.
<i>Hieracium oxybeles</i>	[163]	Si.____.____.Ac.>13.Dk.____.Lt.Te.L.Hr.PS.PG.
<i>Hieracium anglicum</i>	[164]	Si.____.____.Ac.>13.Dk.____.Lt.____.L.Hr.PS.PG.
<i>Hieracium subhirtum</i>	[329]	Si.____.____.Ac.<11.Y_.____.Lt.____.M.Hr.PS.____.
<i>Hieracium orcadense</i>	[325]	Si.____.____.Ob.<11.Dk.____.____.____.M.Hr.PS.____.
<i>Hieracium pictorum</i>	[345]	Si.____.____.Ob.____.Y_.____.____.____.M.____.____.____.
<i>Hieracium dasythrix</i>	[139]	Si.____.____.Ob.<11.Y_.____.____.____.L.Hr.PS.____.*
<i>Hieracium callistophyllum</i>	[111]	Si.____.____.Ob.>13.Y_.____.____.____.L.Hr.PS.____.
<i>Hieracium pseudanglicum</i>	[141]	Si.____.Gl.Ac.____.Dk.____.Lt.____.M.Hr.PS.PG.
<i>Hieracium laetificum</i>	[116]	Si.____.Gl.Ac.>13.Dk.____.Lt.____.L.Hr.PS.PG.
<i>Hieracium lingulatum</i>	[108]	Si.____.Gl.Ac.>13.Y_.____.Lt.____.L.Hr.PS.PG.
<i>Hieracium senescens</i>	[114]	Si.____.Gl.Ac.>13.Y_.____.Lt.____.M.Hr.PS.PG.
<i>Hieracium triviale</i>	[263]	Si.St.____.Ac.<11.Dk.____.____.Te.M.____.PS.____.
<i>Hieracium cravoniense</i>	[264]	Si.St.____.Ob.<11.Dk.____.____.____.s.Hr.PS.____.
<i>Hieracium caesiomurorum</i>	[321]	Si.St.____.Ob.____.Y_.____.Lt.Te.M.____.PS.PG.
<i>Hieracium breadalbanense</i>	[338]	Si.St.____.Ob.<11.Y_.____.____.____.M.Hr.PS.____.
<i>Hieracium shoobredii</i>	[173]	Si.St.Gl.Ac.>13.Dk.____.Lt.____.L.____.____.PG.*
<i>Hieracium cuspidens</i>	[127]	Si.St.Gl.Ob.>13.Dk.____.Lt.Te.M.Hr.PS.PG.
<i>Hieracium kingshousense</i>	[122]	Si.St.Gl.Ob.<11.Y_.____.____.Te.s.Hr.PS.PG.
<i>Hieracium gracilifolium</i>	[124]	____.____.Gl.Ac.____.Dk.____.Lt.Te.s.Hr.PS.PG.
<i>Hieracium nigrifactum</i>	[123]	____.St.Gl.Ob.>13.Dk.____.Lt.____.s.Hr.____.PG.
<i>Hieracium vennicontium</i>	[129]	____.St.Gl.Ob.>13.Dk.____.____.____.M.____.PS.____.

Acknowledgements

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Thanks also to Finley Hutchinson for the use of some of his excellent photos

References

Sell, P. [D.] & Murrell, G. (2006). Flora of Great Britain and Ireland, volume 4. Cambridge University Press, Cambridge.

McCosh, D. J. & Rich, T.C.G. (2018). Atlas of British and Irish Hawkweeds (*Pilosella* Hill and *Hieracium* L.). 2nd edition. Botanical Society of Britain and Ireland. Harpenden.

McCosh, D.J. & Barlow, D. & Burrow, B. & Rich T.C.G. (2020). Three new species of *Hieracium* (Asteraceae) from northern England. *British & Irish Botany* 2(1): 56-63, 2020

Rich, T.C.G. & McCosh, D.J. (2021). Monograph of British and Irish *Hieracium* section *Foliosa* and section *Prenanthoidea*. Botanical Society of Britain and Ireland. London.

Tennant, D. & Rich, T.C.G. (2008). British alpine hawkweeds. Botanical Society of Britain and Ireland. London.



View from the car park toward Ben Ghlais and Ben Lawers