

Key to species of *Hieracium* sectt. *Hieracium*, *Bifida* and *Vulgata* known from the "Jönköping-region", Sweden.

- A. Involucre densely glandular but completely without simple hairs.
 - B. Median phyllaries without stellate hairs or with only a few towards the base or along the margins.
 - C. Cauline leaves 0–1 (rarely 2); basal leaves commonly cordate, truncate, rounded or cuneate at base; synflorescence often candelabriform. **Group 1**
 - C. Cauline leaves 2 – numerous (sometimes reduced–bracteate in dwarfed plants); basal leaves always attenuate at base; synflorescence either dichotomous or compound with straight and ± erect branches. **10**
 - B. Median phyllaries with conspicuous stellate tomentum that is confined to, or at least concentrated along, the margins.
 - C. Cauline leaves 0–1 (rarely 2); basal leaves commonly cordate, truncate, rounded or cuneate at base; synflorescence often candelabriform. **4**
 - C. Cauline leaves 2 – numerous (sometimes reduced–bracteate in dwarfed plants); basal leaves always attenuate at base; synflorescence either dichotomous or compound with straight and ± erect branches. **11**
 - B. Involucre at least towards the base with conspicuous stellate tomentum.
 - C. Cauline leaves 0–1 (rarely 2); basal leaves commonly cordate, truncate, rounded or cuneate at base; synflorescence often candelabriform. **7**
 - C. Cauline leaves 2 – numerous (sometimes reduced–bracteate in dwarfed plants); basal leaves always attenuate at base; synflorescence either dichotomous or compound with straight and ± erect branches. **12**
- A. Involucre densely glandular with relatively few and inconspicuous (commonly short and dark to above the middle) intermixed simple hairs.
 - B. Median phyllaries without stellate hairs or with only a few towards the base or along the margins.
 - C. Cauline leaves 0–1 (rarely 2); basal leaves commonly cordate, truncate, rounded or cuneate at base; synflorescence often candelabriform. **2**
 - C. Cauline leaves 2 – numerous (sometimes reduced–bracteate in dwarfed plants); basal leaves always attenuate at base; synflorescence either dichotomous or compound with straight and ± erect branches. **13**
 - B. Median phyllaries with conspicuous stellate tomentum that is confined to, or at least concentrated along, the margins.
 - C. Cauline leaves 0–1 (rarely 2); basal leaves commonly cordate, truncate, rounded or cuneate at base; synflorescence often candelabriform. **5**
 - C. Cauline leaves 2 – numerous (sometimes reduced–bracteate in dwarfed plants); basal leaves always attenuate at base; synflorescence either dichotomous or compound with straight and ± erect branches. **14**
 - B. Involucre at least towards the base with conspicuous stellate tomentum.
 - C. Cauline leaves 0–1 (rarely 2); basal leaves commonly cordate, truncate, rounded or cuneate at base; synflorescence often candelabriform. **8**
 - C. Cauline leaves 2 – numerous (sometimes reduced–bracteate in dwarfed plants); basal leaves always attenuate at base; synflorescence either dichotomous or compound with straight and ± erect branches. **15**
- A. Involucre with at least as many simple hairs as glandular ones. Simple hairs translucent at least from the middle.
 - B. Median phyllaries without stellate hairs or with only a few towards the base or along

the margins.

- C. Cauline leaves 0–1 (rarely 2); basal leaves commonly cordate, truncate, rounded or cuneate at base; synflorescence often candelabriform. 3
- C. Cauline leaves 2 – numerous (sometimes reduced–bracteate in dwarfed plants); basal leaves always attenuate at base; synflorescence either dichotomous or compound with straight and ± erect branches. 16
- B. Median phyllaries with conspicuous stellate tomentum that is confined to, or at least concentrated along, the margins.
 - C. Cauline leaves 0–1 (rarely 2); basal leaves commonly cordate, truncate, rounded or cuneate at base; synflorescence often candelabriform. 6
 - C. Cauline leaves 2 – numerous (sometimes reduced–bracteate in dwarfed plants); basal leaves always attenuate at base; synflorescence either dichotomous or compound with straight and ± erect branches. 17
- B. Involucre at least towards the base with conspicuous stellate tomentum.
 - C. Cauline leaves 0–1 (rarely 2); basal leaves commonly cordate, truncate, rounded or cuneate at base; synflorescence often candelabriform. 9
 - C. Cauline leaves 2 – numerous (sometimes reduced–bracteate in dwarfed plants); basal leaves always attenuate at base; synflorescence either dichotomous or compound with straight and ± erect branches. 18

Group 1 – Species of sect. *Hieracium* without simple hairs and almost devoid of stellate tomentum on the involucre.

- 1 – Phyllaries broadly obtuse – truncate; leaves regularly finely serrate. 24 *H. neoserratifrons*
 - Phyllaries acute – subobtuse; leaves ± irregularly dentate. 2
- 2 – Phyllaries acute, with relatively short glandular indumentum, towards base with ± stellate tomentum; cauline leaf ± densely stellate-hairy beneath. 7 *H. patale*
 - Phyllaries subobtuse with long (> 1 mm) glandular indumentum but only along margins with ± few stellate hairs; cauline leaf scarcely stellate-hairy. 11 *H. stenstroemii*

Group 2 – Species of sect. *Hieracium* with dominating glandular indumentum with ± intermixed dark simple hairs but ± devoid of stellate tomentum on the involucre.

- 1 – Leaves narrowly elliptic, > 3.5 times longer than wide. 8 *H. tenebricosum*
 - Leaves broader. 2
- 2 – All leaves subentire or sparsely denticulate; phyllaries acute. 16 *H. caliginosum*
 - At least the inner basal and cauline leaves ± deeply dentate. 3
- 3 – Phyllaries with ± abundant simple hairs and a bushy apical coma; leaves ± regularly serrato-dentate. 6 *H. crassiceps*
 - Phyllaries with few simple hairs and 0 or inconspicuous apical coma; leaves very irregularly dentate – incised. 4
- 4 – Leaves with acute dentation continuing far down on the petiole; phyllaries acute. 14 *H. persimile*
 - Leaves with ± coarse dentation and 0 or few coarse teeth on the uppermost part of

the petiole; phyllaries subobtuse.

12 *H. canipes*

Group 3 – Species of sect. *Bifida* with predominantly pale pilose indumentum but ± devoid of stellate tomentum on the involucre.

– 68 *H. acidolepis*

Group 4 – Species of sect. *Hieracium* and sect. *Bifida* without simple hairs on the involucre but with conspicuous stellate tomentum along the margins of the phyllaries.

- 1 – Peduncles with 0 – few glandular hairs; leaves glabrous above, ± deeply lacinate; styles drying ± pure yellow. 61 *H. lacerifolium*
– Peduncles ± densely glandular; leaves ± hairy above, styles ± discolored. 2
- 2 – Leaves narrowly elliptic, > 3 times longer than wide, attenuate at base, deeply dentate – lacinate with dentation continuing far down on the petiole. 4 *H. anfractifolium*
– Leaves broader. 3
- 3 – Leaves commonly blotched with brownish violet; phyllaries with abundant stellate tomentum forming broad bands along the margins. 22 *H. variicolor*
– Leaves never blotched. 4
- 4 – Leaves broadly ovate – cordate, subentire – ± finely denticulate. 5
– Leaves elliptic – obovate, ± deeply dentate or serrate. 6
- 5 – At least outer basal leaves ± cordate at base; leaves ± denticulate, commonly tinged with bluish-violet beneath. 3 *H. pellucidum*
– All leaves subentire and broadly rounded at base, grass-green on both surfaces. 19 *H. integratum*
- 6 – Phyllaries broadly obtuse; leaves densely and regularly denticulate – serrulate – serrate. 7
– Phyllaries subobtuse – acute; leaves ± irregularly dentate. 8
- 7 – Leaves finely denticulate; styles drying blackish. 21 *H. unctiusculum*
– Leaves ± deeply serrate; styles ± dotted when dry. 23 *H. ciliatiforme*
- 8 – Leaves with dentation continuing down on the petiole. 5 *H. mundulum*
– Petiole without dentation. 9
- 9 – Styles drying black; phyllaries ± without apical coma. 7 *H. patale*
– Styles ± lightly discolored; phyllaries with bushy coma. 13 *H. johanssonii*

Group 5 – Species of sect. *Hieracium* and sect. *Bifida* with dominating glandular indumentum with ± intermixed dark simple hairs and with conspicuous stellate tomentum along the margins of the phyllaries.

- 1 – Leaves ovate – subcircular, broadly rounded – cordate at base. 2

- Leaves elliptic, cuneate – attenuate at base. 6
- 2
 - Ligules ciliate. 3
 - Ligules glabrous. 4
- 3
 - Leaves ± bluish-green, densely and longly subsetose-hairy; phyllaries with few simple hairs; styles yellow – weakly discolored. 17 *H. ciliatiflorum*
 - Leaves dark grass-green, shortly soft-hairy; phyllaries with numerous simple hairs; styles drying blackish. 1 *H. albovittatum*
- 4
 - Leaves deeply and irregularly dentate – bidentate. 25 *H. dentifolium*
 - Leaves ± finely and regularly denticulate – serrato-dentate. 5
- 5
 - Leaves subcircular; phyllaries with numerous simple hairs. 2 *H. orbicans*
 - Leaves broadly ovate – cordate; phyllaries with few simple hairs. 3 *H. pellucidum*
- 6
 - Leaves narrowly elliptic – oblanceolate, > 2.8 times longer than wide, commonly with dentation that continues down the petiole. 7
 - Leaves broader, rarely with dentation that continues onto the petiole. 9
- 7
 - Phyllaries ± broadly obtuse, with broad bands of stellate tomentum along the margins. 4 *H. anfractifolium*
 - Phyllaries acute, with only sparse and narrow lines of stellate tomentum along the margins. 8
- 8
 - Leaves > 3.5 times longer than wide, with 0 – few teeth on the petiole. 8 *H. tenebricosum*
 - Leaves less narrow but usually with dentation that continues far down the petiole. 14 *H. persimile*
- 9
 - Phyllaries with very dense and long (≥ 1.3 mm) indumentum of crowded ± crisped glandular hairs and abundant blackish simple hairs; leaves becoming blotched when sub-exposed. 9 *H. morulum*
 - Phyllaries with less long indumentum, usually with only few simple hairs. 10
- 10
 - Leaves ± shiny and subglabrous above, becoming blotched when sun-exposed. 11
 - Leaves dull, ± evenly hairy, never blotched. 12
- 11
 - Cauline leaf 0–1; ligules usually densely ciliate. 22 *H. variicolor*
 - Cauline leaves 1–3; ligules glabrous. 59 *H. porrigens*
- 12
 - Ligules glabrous. 13
 - Ligules ciliate. 14
- 13
 - Phyllaries acute – subulate; basal leaves acutely dentate ± all around; cauline leaf hardly stellate-hairy beneath. 10 *H. informe*
 - Phyllaries ± obtuse; basal leaves coarsely dentate, mainly towards base; cauline leaf densely stellate-hairy beneath. 15 *H. sparsidens*
- 14
 - Phyllaries with extremely abundant stellate tomentum forming broad whitish bands along margins; leaves yellowish-green. 18 *H. eudaedalum*

- Phyllaries moderately stellate-hairy; leaves ± bluish green. 15
- 15 - Leaves, petioles and lower part of stem with dense, 3–5 mm long subsetose indumentum; styles yellow – weakly discolored; synflorescence almost furcate. 17 *H. ciliatiflorum*
- Vegetative parts with shorter and softer indumentum; styles ± discolored; synflorescence densely compound – candelabriform. 16
- 16 - Phyllaries with ± numerous simple hairs; styles drying blackish. 20 *H. subciliatum*
- Phyllaries with 0–solitary simple hairs; styles ± weakly discolored. 13 *H. johanssonii*

Group 6 – Species of sect. *Hieracium* and sect. *Bifida* with predominantly pale pilose indumentum and with conspicuous aggregations of stellate hairs along the margins of the phyllaries.

- 1 - Peduncles with 0 – few glandular hairs. 2
- Peduncles with ± dense – crowded glandular hairs. 3
- 2 - Leaves short (< 1.8 times longer than wide), broadly ovate – cordate, with regular dimorphous dentation and ± backward-pointing basal lobes. 70 *H. caesiiflorum*
- Leaves longer, triangular–lanceolate, commonly ± irregularly dentate and with ± spreading basal lobes. 71 *H. scandinavium*
- 3 - Leaves usually densely blotched with brownish-purple, glabrous above, the inner basal ones very narrowly elliptic – oblong. 65 *H. maculosum*
- Leaves rarely blotched and if so evenly hairy above, the inner ones not particularly narrow. 4
- 4 - At least some leaves ± hastate at base, coarsely and ± deeply dentate, ± sparsely hairy above. 5
- Leaves rounded–cuneate–attenuate at base, ± acutely and regularly serrato-dentate, densely and evenly hairy above.
- 5 - Simple hairs on phyllaries < 1 mm long; styles weakly discolored. 63 *H. obliquifolium*
- Phyllaries with longer pilose indumentum; styles drying blackish. 6
- 6 - Simple hairs on phyllaries pale/translucent almost from their base; synflorescence densely candelabriform. 31 *H. pycnodon*
- Simple hairs on phyllaries blackish at least towards the middle; synflorescence ± irregularly compound with mainly straight branches. 7
- 7 - Capitula very large with phyllaries 12–13 mm long; petiole without leaflet-like appendages. 69 *H. aquiliceps*
- Capitula small with phyllaries 9–10 mm long; petioles commonly with some stalked leaflet-like appendages. 26 *H. marginellum*
- 8 - Leaves easily becoming blotched with brownish-purple when sun-exposed; phyllaries ± acute with 0 or inconspicuous coma. 30 *H. philanthrax*
- Leaves never blotched; phyllaries ± broadly obtuse with a conspicuous bushy coma. 9

- 9 – Leaves broadly elliptic – subrotund, < 2 times longer than wide, the outermost usually ± cordate at base; phyllaries pale green, broadly obtuse – truncate. 29 *H. oistophyllum*
 – Leaves narrower, triangular – lanceolate, never cordate; phyllaries darker, ± narrowly subobtuse. 28 *H. lanuginosum*

Group 7 – Species of sect. *Hieracium* with involucre without simple hairs but towards base with ± evenly distributed stellate tomentum.
 – 7 *H. patale*

Group 8 – Species of sect. *Bifida* with dominating glandular indumentum with ± intermixed dark simple hairs and at least towards base with ± evenly distributed stellate tomentum.

- 1 – Styles drying black; synflorescence distinctly furcate with very long (> 3 cm), usually ± curved acaudium. 66 *H. prolixum*
 – Styles yellowish – weakly discolored. 2
- 2 – Ligules ciliate. 64 *H. sarcophyllum*
 – Ligules glabrous. 3
- 3 – At least some leaves truncate – sagittate at base. 72 *H. sinuosifrons*
 – All leaves cuneate – attenuate at base. 59 *H. porrigens*

Group 9 – Species of sect. *Hieracium* and sect. *Bifida* with predominantly pale pilose indumentum on the phyllaries and at least towards base with ± evenly distributed stellate tomentum.

- 1 – Peduncles with numerous – dense glandular hairs. 2
 – Peduncles with 0 – solitary glandular hairs. 5
- 2 – Leaves usually densely blotched with brownish-purple, glabrous above, the inner basal ones very narrowly elliptic – oblong. 65 *H. maculosum*
 – Leaves never blotched, ± hairy above, the inner ones not particularly narrow. 3
- 3 – Leaves cordate; peduncles with dense – crowded short glandular hairs. 63 *H. obliquifolium*
 – Leaves ± elliptic, cuneate at base; peduncles with ± sparse indumentum. 4
- 4 – Leaves yellowish-green, densely and evenly hairy above; simple hairs on phyllaries > 1.3 mm long, translucent/pale from below the middle; synflorescence densely subumbellate-candelabriform. 27 *H. expallescens*
 – Leaves dark bluish-green, sparsely and unevenly hairy above; simple hairs on phyllaries shorter, dark at least towards the middle; synflorescence irregularly compound. 62 *H. gracilifrons*
- 5 – Basal leaves ± densely stellate-tomentose beneath. 67 *H. pendulum*
 – Basal leaves estellate. 6

- 6 – At least some basal leaves ± hastate at base. 7
 – All leaves ± (truncate-) cuneate at base. 9
- 7 – Leaves with densely and ± regularly dimorphously dentate. 8
 – Leaves distantly, coarsely and irregularly dentate. 75 *H. stenolepis*
- 8 – Leaves short (< 1.8 times longer than wide), broadly ovate – cordate, with regular
 dimorphous dentation and ± backward-pointing basal lobes. 70 *H. caesiiflorum*
 – Leaves longer, triangular–lanceolate, commonly ± irregularly dentate and with ±
 spreading basal lobes. 71 *H. scandinavium*
- 9 – Phyllaries obtuse – shortly pointed; leaves ± yellowish green, never blotched. 78 *H. ravidum*
 – Phyllaries longly subulate – subfiliform at apex; leaves distinctly glaucous, sometimes
 blotched. 10
- 10 – Usually with at least one fully developed cauline leaf; all leaves cuneate – attenuate at
 base. 73 *H. plumbeum*
 – Cauline leaves rudimentary – bracteate; at least the outer-most basal leaf ± truncate
 – hastate at base. 75 *H. stenolepis*

Group 10 – Species of sect. *Vulgata* without simple hairs and ± devoid of stellate hairs on the involucre.

- 1 – Glandular hairs on the involucre very short (< 0.5 mm) with yellowish – amber
 heads. 41 *H. punctillatum*
 – Glandular hairs longer, dark greenish – black (drying brownish – black). 2
- 2 – Phyllaries broadly obtuse with very dense and long (> 1 mm) glandular
 indumentum. 34 *H. diaphanoides*
 – Phyllaries narrowly subobtuse – acute, with moderately long indumentum. 3
- 3 – Leaves subentire – ± shallowly dentate; styles yellow – weakly discolored. 36 *H. pseudodiaphanum*
 – Leaves towards base usually deeply incised – lacinate; styles drying ± black. 38 *H. barbareifolium*

Group 11 – Species of sect. *Vulgata* without simple hairs but with conspicuous aggregations of stellate hairs along the margins of the phyllaries.

- 1 – Phyllaries broadly obtuse; styles drying blackish; leaves usually blotched with
 brownish-purple. 32 *H. ornatum*
 – Phyllaries ± acute; styles ± pure yellow; leaves never blotched. 35 *H. phrygionium*

Group 12 – Species of sect. *Vulgata* without simple hairs on the involucre but at least towards base with ± evenly distributed stellate tomentum.

- 1 – Glandular hairs on the involucre with golden yellow – amber heads; styles yellowish
 or weakly discolored. 2

- Glandular hairs on the involucre dark – black; styles drying ± dark. 3
- 2 - Phyllaries with ± evenly distributed stellate tomentum throughout; leaves ± hairy above. 40 *H. punctillaticeps*
- Phyllaries with stellate tomentum that is concentrated to their basal half; leaves glabrous above. 52 *H. subsimile*
- 3 - Peduncles densely glandular-hairy; leaves irregularly and coarsely dentate. 33 *H. chlorodes*
- Peduncles with 0 – solitary glandular hairs; leaves with acute and regular dimorphous dentation. 42 *H. albatipes*

Group 13 – Species of sect. *Vulgata* with dominating glandular indumentum with ± intermixed dark simple hairs but ± devoid of glandular hairs.

- 1 - Glandular hairs on the involucre very short (< 0.5 mm) and with golden yellow heads. 41 *H. punctillatum*
- Glandular hairs longer and dark brownish – black. 2
- 2 - Leaves very narrowly elliptic – oblanceolate, distinctly dimorphously dentate; phyllaries broad, obtuse or shortly triangular at apex. 43 *H. anfractum*
- Leaves broader with irregular (± monomorphic) dentation; phyllaries not particularly broad, sharply acute. 3
- 3 - Peduncles with numerous glandular hairs; synflorescence commonly subumbellate. 38 *H. barbareifolium*
- Peduncles with 0 – few glandular hairs; synflorescence irregular. 37 *H. atronitens*

Group 14 – Species of sect. *Vulgata* and sect. *Bifida* with dominating glandular indumentum with ± intermixed dark simple hairs and conspicuous aggregations of stellate hairs along the margins of the phyllaries. Leaves commonly blotched.

- 1 - Leaves densely and evenly hairy above; cauline leaves 2–4. 32 *H. ornatum*
- Leaves subglabrous above; cauline leaves 0–2. 59 *H. porrigens*

Group 15 – Species of sect. *Vulgata* and sect. *Bifida* with dominating glandular indumentum with ± intermixed dark simple hairs and at least towards base with ± evenly distributed stellate tomentum on the phyllaries.

- 1 - Leaves dark ± glaucose-green, becoming blotched when sun-exposed, ± glabrous above; cauline leaves 0–2. 59 *H. porrigens*
- Leaves never glaucose nor blotched, usually sparsely but evenly hairy above; cauline leaves 2–5. 2
- 2 - Phyllaries and peduncles with dense – crowded long (> 1 mm) black glandular hairs; styles drying blackish. 33 *H. chlorodes*
- Phyllaries and (in particular) peduncles with sparser indumentum; glandular hairs

- shorter and with ± yellow – brown heads. 3
- 3 – Phyllaries with stellate tomentum confined to their lower half; leaves subglabrous above, hardly ever virescent below. 52 *H. subsimile*
 – Phyllaries with ± evenly distributed stellate tomentum; leaves ± evenly hairy above, almost always becoming violet with age. 4
- 4 – Phyllaries with golden-yellow glandular hairs but only solitary simple hairs; leaves ± deeply serrate. 40 *H. punctillaticeps*
 – Phyllaries with ± dark brownish glandular hairs and ± numerous simple hairs; leaves mostly subentire. 39 *H. lepidulum*

Group 16 – Species of sect. *Vulgata* with predominantly pale pilose indumentum but ± devoid of stellate tomentum on the involucre.

- 1 – Leaves narrowly linear-oblong, becoming densely blotched with brownish-violet when sun-exposed; peduncles ± without simple or glandular hairs; synflorescence commonly subumbellate. 45 *H. cruentifolium*
 – Leaves broader, lanceolate – oblanceolate, blotched or not; peduncles with sparse – dense simple and/or glandular hairs; synflorescence mostly irregular. 2
- 2 – Phyllaries cuspidate – subulate at apex; styles drying yellowish or weakly discolored; leaves becoming marbled with brownish-violet when sun-exposed. 50 *H. smolandicum*
 – Phyllaries mostly subobtusate; styles ± heavily discoloured – blackish; leaves never blotched or marbled. 3
- 3 – Leaves narrowly oblanceolate with longly decurrent, ± deeply dentate base. 44 *H. pubicuspis*
 – Leaves ± broadly lanceolate – elliptic, with entire, cuneate – attenuate base. 46 *H. neopinnatifidum*

Group 17 – Species of sect. *Vulgata* and sect. *Bifida* with predominantly pale pilose indumentum and conspicuous aggregations of stellate hairs along the margins of the phyllaries.

- 1 – Phyllaries with very abundant stellate tomentum forming broad whitish bands along the margins; leaves broadly ovate – elliptic, ± glabrous above. 60 *H. caesiomurorum*
 – Phyllaries with sparse – moderate stellate tomentum; leaves narrower and/or ± evenly hairy above. 2
- 2 – Phyllaries and peduncles with approximately equally abundant blackish glandular hairs and simple hairs that are pale/translucent from about the middle; leaves glabrous above. 53 *H. acroleucum*
 – Phyllaries with relatively few glandular hairs but dense – crowded long pilose hairs that are pale/translucent almost from the base. 3
- 3 – Leaves ± broadly elliptic, < 2.8 times longer than wide. 57 *H. constringens*
 – Leaves ± narrowly lanceolate – oblong. 4

- 4 – Styles ± pure yellow; ligules glabrous. 55 *H. trichelliceps*
 – Styles drying black; ligules ± ciliate. 54 *H. plicatum*

Group 18 – Species of sect. *Vulgata* and sect. *Bifida* with predominantly pale pilose indumentum and at least towards base with ± evenly distributed stellate tomentum on the phyllaries.

- 1 – Leaves glabrous above, commonly ± glaucous and becoming blotched with brownish-violet when sun-exposed; phyllaries usually with stellate tomentum aggregated towards their base; peduncles with 0 – solitary glandular hairs. 2
 – Leaves ± hairy above, never glaucous or blotched; phyllaries with ± evenly distributed stellate tomentum; peduncles often with ± numerous glandular hairs. 6
- 2 – Leaves narrowly elliptic – oblong, usually only finely denticulate; styles drying blackish; synflorescence densely compound with straight branches and commonly very short (< 1.5 cm) accladium. 39 *H. lepidulum*
 – Leaves usually broader and more deeply dentate; styles yellowish – ± discoloured; synflorescence ± furcate with long branches and long accladium. 3
- 3 – Phyllaries grayish from dense stellate tomentum but with only few simple and ± 0 glandular hairs. 74 *H. ravsiculum*
 – Phyllaries with denser simple and glandular indumentum. 4
- 4 – Phyllaries longely subulate – subfiliform at apex. 73 *H. plumbeum*
 – Phyllaries subobtusate – shortly acute. 5
- 5 – Leaves dark ± glaucous green, almost always blotched with brownish-violet. 76 *H. basifolium*
 – Leaves ± pale yellowish green, never blotched. 78 *H. ravidum*
- 6 – Phyllaries with dense long (> 1.3 mm) simple hairs that are translucent almost from their base but only few and very short glandular hairs. 7
 – Phyllaries with mostly shorter simple hairs that are blackish to about the middle and with ± equally abundant glandular hairs. 11
- 7 – Cauline leaves (3–)4–7, large, broadly rhombic. 49 *H. megavulgatum*
 – Cauline leaves 1–3, lanceolate – elliptic. 8
- 8 – Phyllaries and peduncles with relatively sparse simple hairs; synflorescence distinctly furcate with long branches and long (> 3 cm) accladium. 78 *H. ravidum*
 – Phyllaries and peduncles with dense – crowded simple hairs; synflorescence ± densely compound with short accladium. 9
- 9 – Styles drying black; ligules ± ciliate. 54 *H. plicatum*
 – Styles yellow – weakly discolored; ligules glabrous. 10
- 10 – Slender species with narrow leaves (usually < 15 cm long and 3.7–4.5 times longer than wide); peduncles ± without glandular hairs; phyllaries with up to 1.5–2.0 mm long pilose hairs, very few glandular hairs but a distinct apical coma. 55 *H. trichelliceps*
 – Stout species with large basal leaves (commonly > 15 cm long, 3.3–4.1 times longer

- than wide); phyllaries with up to 1.0–1.3 mm long simple hairs and ± indistinct apical coma. 56 *H. xanthostylum*
- 11 – Phyllaries with relatively short indumentum, the longest simple hairs c. 1 mm long. 12
 – Phyllaries with longer hairs. 14
- 12 – Styles pure yellow – weakly discolored; leaves becoming marbled with brownish-purple when sun-exposed. 50 *H. smolandicum*
 – Styles drying blackish; leaves never blotched or marbled. 13
- 13 – Leaves narrowly oblanceolate with longly decurrent, ± deeply dentate base, hardly ever virescent. 44 *H. pubicuspis*
 – Leaves relatively broadly lanceolate – elliptic with ± entire base, almost always becoming violet with age. 47 *H. almquistianum*
- 14 – Relatively stout species with (3–)4–7 broadly rhombic cauline leaves. 15
 – Relatively slender species with 1–3 lanceolate–elliptic cauline leaves. 16
- 15 – Styles drying black. 48 *H. cunctans*
 – Styles ± discoloured. 49 *H. megavulgatum*
- 16 – Phyllaries with very long (> 1.7 mm) coarse hairs and stellate tomentum that is conspicuously aggregated towards their base. 77 *H. grophosum*
 – Phyllaries with moderately long (1.2–1.5 mm) simple hairs and ± evenly distributed stellate tomentum. 51 *H. triviale*

NB. The following species-descriptions have been automatically translated from my Swedish originals so please accept all errors of syntax and punctuation!

H. sect. Hieracium

1 *H. albovittatum* Dahlst. [*pellucidum* agg.] [Zahn: *H. murorum* grex *proximum*]

Stem-base and petioles: sometimes ± intense violet, with dense, c. 3 mm long indumentum. *Basal leaves*: dark grass-green, sometimes violascent, evenly short-hairy, the outer ones broadly ovate with ± truncate base. *Cauline leaves*: 1–2, broadly ovate, estellate. *Phyllaries*: 10–11 mm, broad, shortly acute, dark green. *Involucral glands*: dense–crowded, short, black. *Involucral hairs*: abundant–dense, short–medium-long, dark to above the middle. *Involucral stellate tomentum*: ± abundant, forming broad but indistinctly defined bands along the margins. With thin but bushy apical coma. *Peduncles*: with dense glands and ± few simple hairs. *Styles*: densely dotted. *Ligules*: sparsely ciliate. *Synflorescence*: compound with moderately squarrose, almost straight branches and often very short accladium. *Distribution*: Scattered throughout southern and Central Sweden. *Cytology*: triploid.

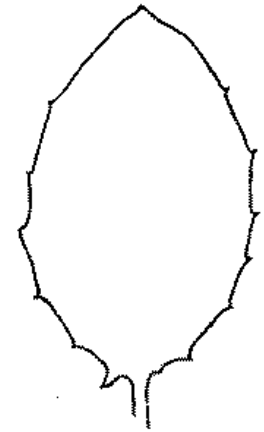


albovittatum

2 *H. orbicans* (Almq. ex Stenstr.) Dahlst. [*pellucidum* agg.] [Zahn: *H. murorum* grex *proximum*]

Stem-base and petioles: often ± violet, with moderately dense

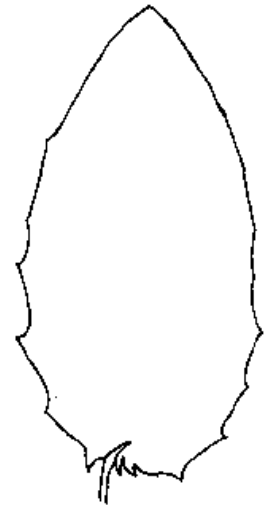
indumentum. *Basal leaves*: green, thin, often violascent, sparsely hairy – ± glabrous, evenly rounded but the outer-most usually with somewhat cordate base. *Cauline leaves*: 1–2, ± cordate – broadly ovate, scarcely stellate-hairy. *Phyllaries*: 10–11 mm, less than medium-broad, narrower–broader obtuse, ± pale olive green. *Involucral glands*: abundant–dense, of varying lengths, partly long, black. *Involucral hairs*: abundant–dense, medium-long, dark – shortly pale-tipped. *Involucral stellate tomentum*: rather sparse – rather abundant along the margins, at least towards apex and base with conspicuous tomentum-lines and with a bushy apical coma. *Peduncles*: with dense glands and sparse simple hairs. *Styles*: dotted. *Ligules*: glabrous or sparsely ciliate. *Synflorescence*: compound with strongly squarrose and arcuate branches and short acladium. *Distribution*: Rather common throughout southern and central Sweden. *Cytology*: tetraploid.



3 *H. pellucidum* Laest. [*pellucidum* agg.] [Zahn: *H. murorum* grex *murorum*]

H. nigroglandulosum Lönnr. – *H. melanolepis* Almq. ex Norrl.

Stem-base and petioles: often intense violet, with ± thin indumentum. *Basal leaves*: subglaucous dark green, in strong sunlight sometimes sparsely blotched, beneath almost always bluish violascent, ± glabrous, the outer-most characteristically rounded with cordate base. In luxurating individuals longer and sometimes with solitary leaflet-like appendages on the petiole. *Cauline leaves*: 0–1, cordate with short evenly tapering apex, not or sparsely stellate-hairy. *Phyllaries*: 8–9 mm, broad, ± broadly obtuse (or shortly and broadly triangular-acute), greenish-black almost without paler margins. *Involucral glands*: densely crowded, of approximately the same length, slightly less than medium-long, coarse, black. *Involucral hairs*: 0–few, short, ± dark throughout. *Involucral stellate tomentum*: rather sparse but conspicuous along the margins. Apical coma dense and bushy. *Peduncles*: with dense glands. *Styles*: ± black. *Ligules*: glabrous or rarely ciliate. *Synflorescence*: densely but irregularly compound with short, strongly squarrose but only weakly arcuate branches and often very short acladium. *Distribution*: Almost throughout Sweden but ± confined to dense herb-rich conifer forests. *Cytology*: tetraploid.



4 *H. anfractifolium* Dahlst. ex Johanss. [*anfractifolium* agg.] [Zahn: *H. murorum* grex *murorum*]

H. anfractiforme Almq. ex Dahlst.

Stem-base and petioles: green with dense, 2–3 mm long indumentum. *Basal leaves*: thick, dark green, sometimes violascent, evenly short-hairy, commonly with deep incision which continues onto the medium-broad petioles. *Cauline leaves*: 0–1, narrowly lanceolate, scarcely stellate-hairy. *Phyllaries*: 9–10 mm, medium-broad, broad at apex, ± broadly obtuse, subglaucous blackish-green–greenish-black. *Involucral glands*: dense–crowded, medium-long but coarse, black. *Involucral hairs*: 0 – few, short, dark. *Involucral stellate tomentum*: abundant – very abundant along the margins, forming broad but often indistinctly defined tomentum-lines, towards apex confluent with the



anfractifolium

decurrent apical coma *Peduncles*: with dense glands *Styles*: black *Ligules*: glabrous or rarely sparsely ciliate. *Synflorescence*: irregularly compound, with moderately squarrose, almost straight branches and medium-long acladium. *Distribution*: Rather common in south-eastern Sweden.

5 *H. mundulum* (Dahlst.) Johanss. & Sam. [*canipes* agg.] [Zahn: *H. murorum* grex *murorum*]

Stem-base and petioles: usually intense violet, with dense and long indumentum. *Basal leaves*: small, grass-green, above almost glabrous, usually with on the petiole decurrent dentation *Cauline leaves*: 1-2, narrowly lanceolate, longly and evenly acute, deeply and ± assymmetrically subulate-laciniate, scarcely stellate-hairy *Phyllaries*: 7-9 mm, medium-broad, subobtuse – shortly acute, blackish brownish-green. *Involucral glands*: densely crowded, short, black *Involucral hairs*: 0 *Involucral stellate tomentum*: rather sparse along the upper margins and with conspicuous and longly decurrent apical coma *Peduncles*: with dense glands *Styles*: dotted *Ligules*: sparsely but longly ciliate *Synflorescence*: compound with strongly squarrose and arcuate branches; acladium short - medium-long *Distribution*: Almost confined to the provinces Småland and Östergötland.

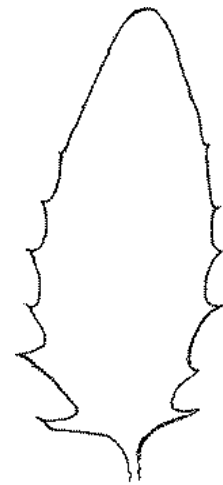


mundulum

6 *H. crassiceps* (Dahlst.) Dahlst. [*patale* agg.] [Zahn: *H. murorum* grex *murorum*]

H. chiridotum Johanss.

Stem-base and petioles: green or ± violascent, with moderately dense indumentum. *Basal leaves*: dark green, sometimes somewhat blotched or violascent, evenly hairy, the outer ones sometimes with shallowly cordate-hastate base. *Cauline leaves*: 0-1, not or sparsely stellate-hairy *Phyllaries*: 12-13 mm, narrow, attenuate subobtuse – ± subulate, blackish-green. *Involucral glands*: dense, medium-long, coarse, black *Involucral hairs*: abundant, long, approximately from the middle pale-tipped *Involucral stellate tomentum*: ± 0 – sparse along the basal margins (or towards the base ± scattered), but always with dense and bushy apical coma *Peduncles*: with dense glands and 0 – few simple hairs *Styles*: densely dotted – black *Ligules*: glabrous – sparsely ciliate *Synflorescence*: thin and almost simple with coarse and straight moderately squarrose branches; acladium medium-long *Distribution*: Scattered in several provinces of southern Sweden.

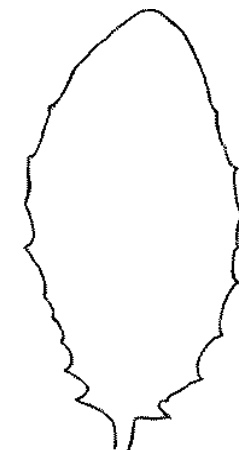


crassiceps

7 *H. patale* Norrl. – [*patale* agg.] [Zahn: *H. murorum* grex *murorum*]

H. munduliforme (Dahlst.) Dahlst.

Stem-base and petioles: with ± dense indumentum. *Basal leaves*: green, evenly hairy. *Cauline leaves*: 1-2, ± stellate-hairy, elliptic – narrowly rhombic, narrowly acute-laciniate. *Phyllaries*: 9-10 mm, rather narrow, mainly shortly acute (the inner-most subulate), blackish green. *Involucral glands*: crowded, slightly less than medium-long, very slender and often ± crisped, brown-black. *Involucral hairs*: 0. *Involucral stellate tomentum*: rather abundant but mainly along the basal margins

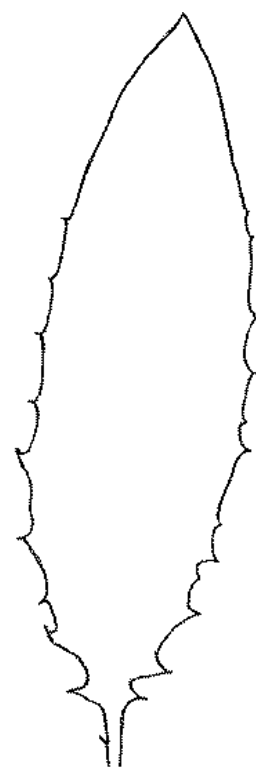


patale

of the phyllaries (sometimes at the base \pm evenly scattered, but above the middle usually \pm 0). Apical coma inconspicuous. *Peduncles*: with dense glands. *Styles*: black. *Ligules*: glabrous or \pm indistinctly ciliate. *Synflorescence*: very densely compound and commonly multi-capitate with strongly squarrose and arcuate branches and short acladium. *Distribution*: Almost throughout Sweden and common in the central provinces. *Cytology*: tetraploid.

8 *H. tenebricosum* (Dahlst. ex Stenstr.) Dahlst. [*Hstiptadenium* agg. ?] [Zahn: *H. murorum* grex *proximum*]

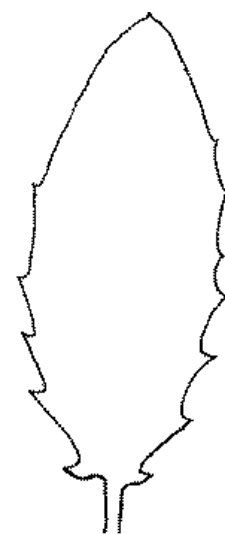
Stem-base and petioles: green, with dense and long indumentum. *Basal leaves*: dark green, very long, evenly and rather longly hairy. *Cauline leaves*: 0–1, sparsely stellate-hairy. *Phyllaries*: 11–12 mm, narrow, shortly acute, brownish blackish-green. *Involucral glands*: dense-crowded, medium-long, black. *Involucral hairs*: abundant, medium-long – long, to or above the middle dark. *Involucral stellate tomentum*: very sparse – sparse, mainly along the basal margins or towards the base \pm evenly scattered. Apical coma small but conspicuous. *Peduncles*: with dense glands and few-sparse simple hairs. *Styles*: black. *Ligules*: \pm densely ciliate. *Synflorescence*: compound with \pm squarrose and arcuate branches and short acladium, often \pm pseudo-umbellate. *Distribution*: Throughout southern Sweden. *Cytology*: tetraploid.



tenebricosum

9 *H. morulum* (Dahlst.) Dahlst. – [? agg.] [Zahn: *H. murorum* grex *murorum*]

Stem-base and petioles: green. *Basal leaves*: grass-green, when sun-exposed sparsely blotched-marbled, densely short-hairy. *Cauline leaves*: 1–2, scarcely stellate-hairy. *Phyllaries*: 9–10 mm, medium-broad, subobtuse – shortly acute, greenish-black-carbon-black. *Involucral glands*: densely crowded, long, crisped, black. *Involucral hairs*: abundant, long, dark. *Involucral stellate tomentum*: rather abundant along the basal margins (sometimes towards the base almost evenly scattered). Apical coma usually rudimentary. *Peduncles*: with crowded glands and solitary-sparse simple hairs. *Styles*: dotted. *Ligules*: glabrous or sparsely and shortly ciliate. *Synflorescence*: candelabriform with very short acladium. *Distribution*: Almost throughout Sweden but rare in many provinces. *Cytology*: triploid.



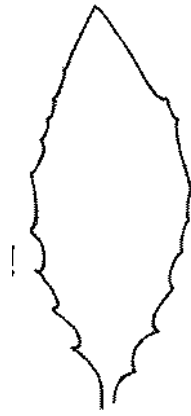
morulum

10 *H. informe* (Stenstr.) Dahlst. [? agg.] [Zahn: *H. sagittatum* grex *sagittatum*]

H. platessifolium Johanss. – 15 *H. sparsidens* ssp. *subcinerellum* Johanss. ex Dahlst. – *H. phaeopsarum* var. *subcultratum* (Dahlst. ex Zahn) Johanss.– *H. multistriatum* Folin – *H. crenulentum* Folin

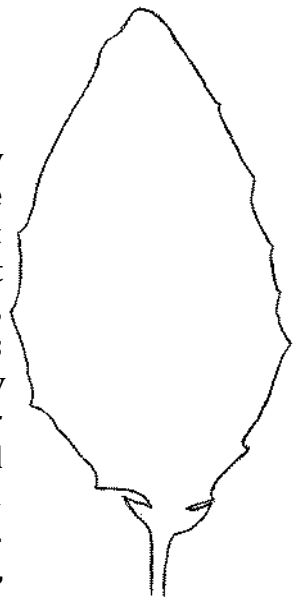
Stem-base and petioles: green or \pm violascent, with moderately dense but long indumentum. *Basal leaves*: pale yellowish-green, sparsely-evenly hairy, most broadly rounded, sometimes broadest above the middle, almost all around densely but relatively shallowly and irregularly dimorphously dentate, in luxurating plants with extremely irregular and sometimes deep incision and sometimes with

on the petiole decurrent dentation. *Cauline leaves*: 1–2, narrowly elliptic, scarcely stellate-hairy. *Phyllaries*: 11–12 mm, narrow, attenuate shortly acute – subulate, olive-brown. *Involucral glands*: dense, medium-long – long, coarse, black. *Involucral hairs*: few – ± abundant, medium-long – long, almost dark throughout with extremely thin pale apex. *Involucral stellate tomentum*: rather abundant – abundant, usually forming conspicuous tomentum-lines along the margins, but at least below the middle ± sparsely scattered. Apical coma conspicuous and decurrent. *Peduncles*: with sparse – ± dense glands and ± few simple hairs. *Styles*: densely dotted. *Ligules*: glabrous. *Synflorescence*: densely compound with short, moderately squarrose and arcuate branches and short acladium. *Distribution*: Almost throughout Sweden but rare in many provinces. *Cytology*: tetraploid.



11 *H. stenstroemii* Dahlst. [? agg.] [Zahn: *H. murorum* grex *murorum*]
H. subincrassans Dahlst. – *H. aethiops* (Dahlst.) Dahlst.

Stem-base and petioles: sometimes intense violet, with ± dense indumentum. *Basal leaves*: large, thin, dark grass-green, sometimes violascent, evenly and rather densely hairy; the outer ones commonly broadly ovate with almost cordate base whereas the inner are more irregularly shaped and may get few on the petiole decurrent dentation. *Cauline leaves*: 1 (–2), broadly elliptic-ovate with somewhat attenuate apex, scarcely stellate-hairy. *Phyllaries*: 10–13 mm, broad, broader–narrower obtuse, greenish-black–bluish-black, the outer ones commonly decurrent on the peduncle. *Involucral glands*: crowded, very coarse, medium-long – long, black or yellowish-brown. *Involucral hairs*: 0. *Involucral stellate tomentum*: ± 0 or sparse along the margins. Apical coma present or absent. *Peduncles*: with crowded glands and often longly decurrent phyllary-like bracts. *Styles*: sparsely–densely dotted. *Ligules*: glabrous. *Synflorescence*: compound with moderately squarrose, almost straight branches and short – medium-long acladium. *Distribution*: Locally common throughout southern and central Sweden.

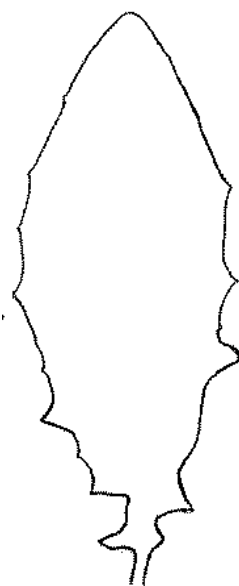


Cytology: tetraploid.

12 *H. canipes* (Almq. ex Stenstr.) Dahlst. – [*canipes* agg.] [Zahn: *H. murorum* grex *murorum*]

H. meticeps (Almq. ex Dahlst.) Dahlst. – *H. murorum* ssp. *fusciceps* Dahlst. ex Zahn

Stem-base and petioles: green or violascent, with moderately dense, c. 3 mm long indumentum. *Basal leaves*: large, yellowish grass-green, rarely violascent, ± sparsely hairy, variable with respect to shape and dentation but towards the base always ± assymmetrically and irregularly dentate, often with some free teeth which continues onto the upper part of the petiole, but hardly ever with leaflet-like appendages below the middle of the petiole. *Cauline leaves*: 1, evenly tapering, not or sparsely stellate-hairy. *Phyllaries*: 11–13 mm, dark green, slightly less than medium-broad, ± attenuately subobtuse, brownish-black–greenish-black, often strikingly varying in length with only few phyllaries of full length; commonly with phyllary-like bracts on the peduncles. Capitula strikingly narrow. *Involucral glands*: dense, medium-long – long, black. *Involucral hairs*: few–abundant (sometimes



only on the primary capitulum), short – medium-long, usually at least from the middle pale-tipped (rarely \pm dark). *Involucral stellate tomentum*: 0 – \pm sparse along the margins (often with broad, indistinctly defined but very sparse bands). Apical coma absent or \pm inconspicuous. *Peduncles*: with \pm dense glands and 0–solitary simple hairs. *Styles*: almost pure yellow – \pm densely dotted. *Ligules*: glabrous. *Synflorescence*: compound with moderately squarrose, \pm straight, often pseudo-umbellate branches and medium-long acladium. *Distribution*: Common throughout southern and central Sweden. *Cytology*: tetraploid.

13 *H. johanssonii* (Dahlst.) Johanss. & Sam. [*canipes* agg.] [Zahn: *H. murorum* grex *murorum*]

Stem-base and petioles: with moderately dense but long indumentum. *Basal leaves*: grass-green, evenly hairy *Cauline leaves*: 1, often longly and narrowly subulate-dentate, scarcely stellate-hairy *Phyllaries*: 10–11 mm, medium-broad, shortly acute, pale olive green *Involucral glands*: dense, medium-long, black *Involucral hairs*: 0 – solitary, short and dark. *Involucral stellate tomentum*: \pm abundant along margins and with conspicuous apical coma; towards the base \pm evenly scattered *Peduncles*: with dense coarse glands *Styles*: sparsely dotted. *Ligules*: \pm ciliate *Synflorescence*: candelabriform with thick branches, acladium medium-long *Distribution*: Very rare, only known from a few sites around Jönköping. *Cytology*: triploid.



johanssonii

14 *H. persimile* (Dahlst.) Dahlst. [*canipes* agg.] [Zahn: *H. murorum* grex *proximum*]

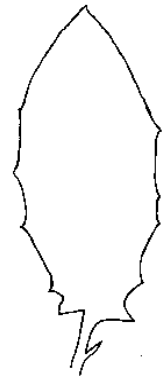
Stem-base and petioles: with moderately dense but long indumentum. *Basal leaves*: grass-green, often violascent, subulate-dentate with acuminate teeth which usually continues longly onto the petiole, evenly hairy. *Cauline leaves*: 1, scarcely stellate-hairy, long lanceolate with very irregular incision. *Phyllaries*: 10–11 mm, medium-broad, shortly acute (the inner almost subulate), dark olive-brown – brownish-black. *Involucral glands*: dense, medium-long, black. *Involucral hairs*: few–sparse, at least medium-long, to above the middle black. *Involucral stellate tomentum*: sparse but conspicuous along the basal margins. Apical coma conspicuous and often decurrent. *Peduncles*: with \pm dense glands and solitary–sparse simple hairs. *Styles*: densely dotted–black. *Ligules*: glabrous. *Synflorescence*: compound with strongly squarrose but usually moderately arcuate branches and shortly–medium-long acladium, sometimes \pm pseudo-umbellate. *Distribution*: Common and widespread in several provinces of southern Sweden. *Cytology*: triploid.



15 *H. sparsidens* Dahlst. [*sparsidens* agg.] [Zahn: *H. murorum* grex *murorum*]

Stem-base and petioles: with very dense and long indumentum; petioles \pm winged. *Basal leaves*: yellowish-green, thick, \pm evenly long-hairy. *Cauline leaves*: 1–2, broadly lanceolate–elliptic, \pm densely stellate-hairy. *Phyllaries*: c. 12 mm, medium-broad with longly and narrowly attenuate \pm obtuse apex, blackish olive green. *Involucral glands*:

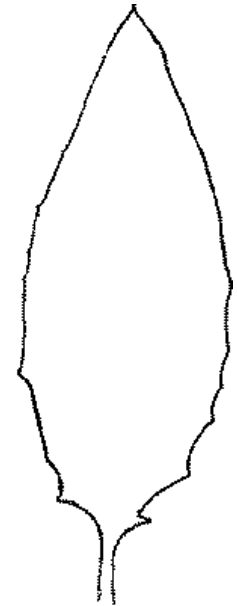
dense-crowded, medium-long – long, coarse, black. *Involucral hairs*: solitary-sparse, medium-long – long, ± dark (rarely 0). *Involucral stellate tomentum*: rather abundant, most dense along the margins but commonly not restricted to those (towards the base often ± evenly scattered); with conspicuous apical coma. *Peduncles*: with dense glands. *Styles*: sparser-denser dotted. *Ligules*: ± glabrous. *Synflorescence*: with almost straight and moderately squarrose branches and mainly medium-long acladium, sometimes pseudo-umbellate. *Distribution*: Rather common in some provinces of southeastern Sweden. *Cytology*: tetraploid.



16 *H. caliginosum* (Dahlst.) Brenner [*sparsidens* agg.] [Zahn: *H. murorum* grex *murorum*]

15 *H. sparsidens* ssp. *limum* Johanss. ex Dahlst.

Stem-base and petioles: green or violascent, with very dense, 3–4 mm long indumentum. *Basal leaves*: thick, dark grass-green, densely short-hairy and with ciliate margins. *Cauline leaves*: 1–2, ovate, ± entire, scarcely stellate-hairy. *Phyllaries*: 11–13 mm, medium-broad, shortly acute – subulate, blackish-green – greenish-black. *Involucral glands*: densely crowded, medium-long, slender and ± crisped, black. *Involucral hairs*: sparse, short – medium-long, almost dark throughout. *Involucral stellate tomentum*: very sparse along the basal margins; apical coma inconspicuous. *Peduncles*: with crowded glands and 0–solitary simple hairs. *Styles*: dotted. *Ligules*: sparsely but longly ciliate. *Synflorescence*: densely compound, ± candelabrifform with coarse, rather strongly squarrose and arcuate branches and short acladium. *Övrigt*: Rather common in some provinces in southeastern-most Sweden. *Cytology*: tetraploid.

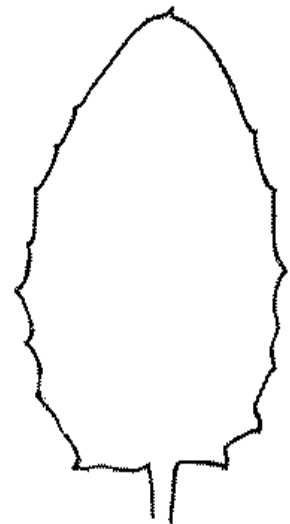


caliginosum

17 *H. ciliatiflorum* Pugsley [*ciliatiflorum* agg.] [Zahn: *H. praecox* grex *cinerascens*]

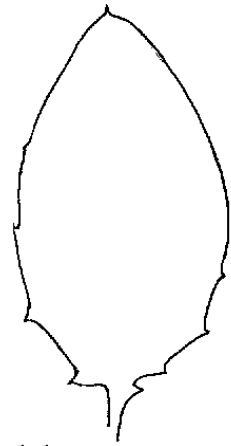
H. ciliatum (Almq.) Dahlst.

Stem-base and petioles: green with very dense, 4–5 mm long indumentum; petiole ± broadly winged. *Basal leaves*: thick, glaucous, thick, densely and longly setose-hairy and with ciliate margins, occasionally with ± cordate base; young leaves and petioles with dense setose indumentum. *Cauline leaves*: 0–1, ± densely stellate-hairy. *Phyllaries*: 11–12 mm, broad, ± broadly obtuse, olive green – greenish-black. *Involucral glands*: crowded, short – medium-long, coarse, yellowish-brown. *Involucral hairs*: sparse-abundant (at least on the primary capitulum), short, thin, to or above the middle dark. *Involucral stellate tomentum*: rather abundant – abundant, indistinctly aggregated along the margins to broad and not well defined bands; apical coma bushy and decurrent. *Peduncles*: with dense-crowded glands and 0–few simple hairs. *Styles*: sparsely dotted – pure yellow. *Ligules*: densely and longly ciliate. *Synflorescence*: irregularly compound with very stout, strongly squarrose but scarcely arcuate branches and medium-long acladium. *Distribution*: Common in several provinces of southern Sweden, prefers dry and warm sites. *Cytology*: triploid.



18 *H. eudaedalum* Stenstr. ex Dahlst. – [*ciliatiflorum* agg.] [Zahn: *H. triangulare* grex *triangulare*]

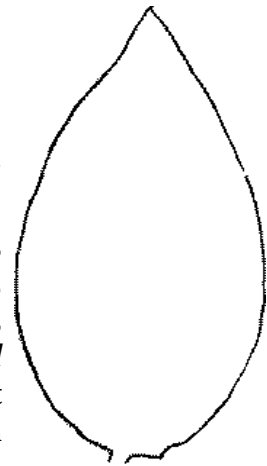
Stem-base and petioles: green with moderately dense, 4–5 mm long indumentum. *Basal leaves*: yellowish green, sometimes violascent, sometimes with on the petiole decurrent free leaf-lobes *Cauline leaves*: 1–2 (–3), ovate, scarcely stellate-hairy *Phyllaries*: 10–11 mm, broad, obtuse, dark brownish-green with broad pale margins. *Involucral glands*: crowded, long, black *Involucral hairs*: solitary – sparse, usually almost dark *Involucral stellate tomentum*: very abundant, at least towards base and apex with broad bands along margins, sometimes ± all over the surface; with very bushy apical coma *Peduncles*: with ± dense glands and 0 – solitary simple hairs *Styles*: densely dotted *Ligules*: sparsely but very longly ciliate *Synflorescence*: moderately candelabriform with ± long acladium *Distribution*: rare but widespread with scattered localities in several south-Swedish provinces.



19 *H. integratum* (Dahlst. ex Stenstr.) Dahlst. [*ciliatiflorum* agg.] [Zahn: *H. murorum* grex *murorum*]

H. murorum var. *integrifolium* Fr.

Stem-base and petioles: often ± intense violet, with dense indumentum. *Basal leaves*: grass-green, densely and ± longly hairy, in luxurating planta sinuose but otherwise entire. *Cauline leaves*: (1–) 2 (–3), ovate–broadly lanceolate with long but evenly tapering apex, ± entire, scarcely stellate-hairy. *Phyllaries*: 10–11 mm, broad, shortly acute, blackish-green. *Involucral glands*: densely crowded, medium-long, coarse, with large brownish-black heads. *Involucral hairs*: 0. *Involucral stellate tomentum*: ± abundant forming conspicuous, somewhat indistinctly defined tomentum-lines along the margins. Apical coma conspicuous and longly decurrent. *Peduncles*: with dense–crowded glands. *Styles*: black. *Ligules*: glabrous, relatively short. *Synflorescence*: very densely compound and often very multi-capitate with strongly squarrose and arcuate, short and often strikingly slender branches and short acladium. *Distribution*: Throughout most of Sweden but common only in some provinces. *Cytology*: triploid.



integratum

20 *H. subciliatum* (Dahlst.) Dahlst. [*ciliatiflorum* agg.] [Zahn: *H. murorum* grex *murorum*]

Stem-base and petioles: with moderately dense indumentum. *Basal leaves*: thin, pale subglaucous green, sparsely hairy, rather variabla in shape, the outer ones usually broad and sinuose-dentate while the inner are more long and at least in luxurating planta acutely but irregularly dentate *Cauline leaves*: 0–1, scarcely stellate-hairy, often narrowly subulate-dentate *Phyllaries*: 9–10 mm, subobtuse, blackish-green. *Involucral glands*: dense, medium-long, yellowish-brown – black *Involucral hairs*: few–abundant, very short, dark *Involucral stellate tomentum*: sparse along the margins but with very dense and longly decurrent apical coma *Peduncles*: dense glands and 0– ± few simple hairs *Styles*: ± densely dotted – blackish *Ligules*: densely and longly ciliate *Synflorescence*: densely pseudo-umbellate, ± candelabriform,



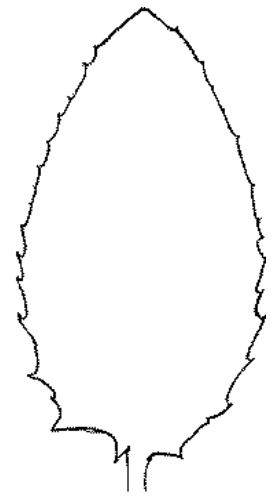
subciliatum

accladium very short. *Distribution*: Restricted to the south-Swedish highlands around Jönköping.

21 *H. unctiusculum* (Johanss.) Johanss. & Sam. [*ciliatiflorum* agg.] [Zahn: *H. sagittatum* grex *sagittatum*]

19 *H. integratum* var. *decorosum* Dahlst.

Stem-base and petioles: green or ± violascent, with dense and long indumentum; petiole ± broadly winged. *Basal leaves*: yellowish-brownish green, densely long-hairy. *Cauline leaves*: 1, broadly ovate, scarcely stellate-hairy *Phyllaries*: 9–10 mm, broad, ± broadly obtuse, dark greenish-brown – blackish-green with broad pale margins. *Involucral glands*: densely crowded, medium-long – long, coarse, brown – black *Involucral hairs*: 0 *Involucral stellate tomentum*: rather abundant, mainly in the basal part along the margins; with conspicuous bushy apical coma *Peduncles*: with extremely densely crowded glands *Styles*: ± black *Ligules*: glabrous or shortly ciliate *Synflorescence*: compound with strongly squarrose but scarcely arcuate branches; accladium very short *Distribution*: A rare species with scattered sites in southern Sweden.



unctiusculum

22 *H. variicolor* (Dahlst. ex Stenstr.) Dahlst. [*ciliatiflorum* agg.] [Zahn: *H. murorum* grex *murorum*]

H. psepharoides G.E. Haglund – *H. silvaticum* ssp. *bifurcatum* C.G. Westerl.

Stem-base and petioles: green or ± brownish-violet tinted, with very dense and long indumentum; petiole ± broadly winged. *Basal leaves*: dark green, commonly blotched, above shiny and towards the middle glabrous but towards margins ± densely long-hairy. *Cauline leaves*: 0–1, narrowly lanceolate, not or sparsely stellate-hairy *Phyllaries*: 10–12 mm, broad, ± broadly obtuse – shortly acute, dark olive-brown. *Involucral glands*: dense-crowded mainly medium-long, coarse, brownish-black *Involucral hairs*: 0 – solitary *Involucral stellate tomentum*: abundant along the margins, in particular towards apices with dense tomentum-lines and with bushy and decurrent apical coma *Peduncles*: with dense-crowded glands *Styles*: sparsely – densely dotted (rarely black) *Ligules*: usually (but not always) densely and longly ciliate *Synflorescence*: almost furcate with coarse, strongly squarrose but usually scarcely arcuate branches and medium-long accladium *Distribution*: Scattered throughout southern Sweden.



Cytology: tetraploid.

23 *H. ciliatiforme* Dahlst. [*neoserratifrons* agg.] [Zahn: *H. murorum* grex *murorum*]

Stem-base and petioles: with very dense and long indumentum. *Basal leaves*: yellowish-brownish green, densely hairy *Cauline leaves*: 1, ± stellate-hairy, subulate-dentate *Phyllaries*: 11 mm, broad, ± broadly obtuse, greenish-black. *Involucral glands*: crowded, medium-long, brown *Involucral hairs*: 0 *Involucral stellate tomentum*: rather abundant along margins; apical coma thin but bushy *Peduncles*: dense glands *Styles*: dotted *Ligules*: conspicuously ciliate *Synflorescence*: compound

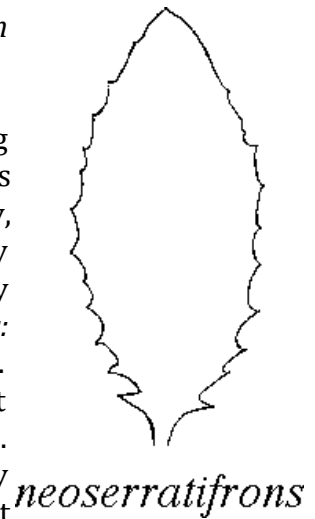


with strongly squarrose and arcuate branches and short acladium
Distribution: Very rare, only known from a few sites around Jönköping
and not re-found in recent years.

24 *H. neoserratifrons* T. Tyler [*neoserratifrons* agg.] [Zahn: *H. murorum*
grex *murorum*]

H. serratifrons Almq. ex Dahlst.

Stem-base and petioles: green or violascent, with dense and long
indumentum. *Basal leaves:* thick, dark grass-green, sometimes
violascent, sparsely hairy. *Cauline leaves:* 1, scarcely stellate-hairy,
narrowly ovate-lanceolate with somewhat attenuate apex, regularly
serrate-triangular-dentate. *Phyllaries:* 10–11 mm, broad, mostly
broadly obtuse, dark greenish-black – shiny black. *Involucral glands:*
crowded, medium-long – long, very coarse, black. *Involucral hairs:* 0.
Involucral stellate tomentum: ± 0 but with conspicuous bushy but
scarcely decurrent apical coma. *Peduncles:* with dense–crowded glands.
Styles: sparsely dotted. *Ligules:* glabrous or rarely densely and longly
ciliate. *Synflorescence:* with coarse, ± squarrose but almost straight
branches and medium-long acladium. *Distribution:* Scattered in several
provinces of southeastern Sweden. *Cytology:* tetraploid.



25 *H. dentifolium* (C.G.W. Westerl.) Johanss. & Sam. [*marginellum* agg.]
[Zahn: *H. murorum* grex *murorum*]

H. duplidens (Dahlst.) Dahlst. ex Johanss.

Stem-base and petioles: green with moderately dense, 3–4 mm long
indumentum. *Basal leaves:* dark grass-green, sparsely–evenly hairy.
Cauline leaves: 1, ± lanceolate-linear, scarcely stellate-hairy *Phyllaries:*
11–12 mm, slightly less than medium-broad, with narrowly attenuate
± shortly acute apex, blackish-green *Involucral glands:* densely
crowded, slender, mainly medium-long, ± yellowish-brown *Involucral*
hairs: solitary–few, medium-long, from the middle pale-tipped
Involucral stellate tomentum: rather abundant along the margins, in
particular towards the apex aggregated to conspicuous tomentum-
lines and confluent with a bushy and longly decurrent apical coma
Peduncles: with crowded glands and 0–few simple hairs *Styles:* ±
densely dotted – black. *Ligules:* glabrous *Synflorescence:* compound with
moderately squarrose and arcuate branches, often pseudo-umbellate,
and medium-long–longly acladium. *Distribution:* Scattered in several
provinces in southern-most Sweden. *Cytology:* tetraploid.



26 *H. marginellum* (Dahlst. ex Stenstr.) Dahlst. [*marginellum* agg.]
[Zahn: *H. sagittatum* grex *sagittatum*]

H. sagittatum ssp. *striatulum* Dahlst.

Stem-base and petioles: green, with thin indumentum. *Basal leaves:*
green, sometimes violascent, sparsely hairy, often with petiolate leaflet-
like appendages on the petioles, rather variable in shape but always
densely and irregularly, shallower or deeper coarse-dentate and
usually undulate–wrinkled. *Cauline leaves:* 0–1, cordate–ovate with
longly and narrowly attenuate apex, sparsely stellate-hairy. *Phyllaries:*

9–10 mm, slightly less than medium-broad, shortly acute, olive-brown. *Involucral glands*: abundant–dense, medium-long, black. *Involucral hairs*: abundant–dense, ± long, approximately from the middle pale-tipped. *Involucral stellate tomentum*: rather sparse – abundant along the margins and with very bushy decurrent apical coma. *Peduncles*: with abundant–dense glands and few–abundant simple hairs. *Styles*: ± densely dotted – black. *Ligules*: glabrous. *Synflorescence*: sparsely compound with scarcely squarrose and ± straight branches, sometimes pseudo-umbellate, and medium-long acladium. *Distribution*: Common in several provinces of southern and central Sweden. *Cytology*: tetraploid.



27 *H. expallescens* (Dahlst.) Dahlst. ex Johanss. [*lanuginosum* agg.] [Zahn: *H. sagittatum* grex *sagittatum*]

Stem-base and petioles: blekgröna, with ± dense, 3–4 mm long indumentum. *Basal leaves*: yellowish-green, rarely violascent, densely hairy. *Cauline leaves*: 1, ± densely stellate-hairy. *Phyllaries*: 10–11 mm, medium-broad, shortly acute, ± pale olive green – greenish-brown. *Involucral glands*: abundant, short, black. *Involucral hairs*: dense, long, from below the middle pale/translucent. *Involucral stellate tomentum*: rather abundant – abundant, almost evenly scattered although somewhat denser towards the margins. *Peduncles*: with ± sparse simple hairs and glands. *Styles*: dotted. *Ligules*: glabrous or longly and densely ciliate [?]. *Synflorescence*: dense pseudo-umbellate with strongly arcuate branches and short acladium. *Distribution*: Rare and restricted to the south-Swedish highlands around Jönköping. *Cytology*: tetraploid.



28 *H. lanuginosum* (Lönnr. ex Dahlst.) Johanss. [*lanuginosum* agg.] [Zahn: *H. sagittatum* grex *sagittatum*]

H. lanugineum Brenner nom. superfl. – *H. sagittatum* ssp. *loennrothianum* Zahn nom. superfl.

Stem-base and petioles: green with very dense and long indumentum. *Basal leaves*: grass-green, rarely violascent, densely long-hairy. *Cauline leaves*: 1–2, lanceolate, scarcely stellate-hairy. *Phyllaries*: 10–11 mm, medium-broad, ± subobtusely, dark olive-brown. *Involucral glands*: abundant–dense, short, black. *Involucral hairs*: dense, long – very long, approximately from the middle grayish, somewhat crisped. *Involucral stellate tomentum*: abundant, at least above the middle with conspicuous tomentum-lines along the margins and sometimes towards the base ± sparsely but evenly scattered. With bushy apical coma. *Peduncles*: with very dense glands and simple hairs. *Styles*: densely dotted – black. *Ligules*: shortly but densely ciliate. *Synflorescence*: densely candelabriform with short, strongly squarrose and arcuate branches and short acladium. *Distribution*: Scattered throughout southern Sweden. *Cytology*: tetraploid.

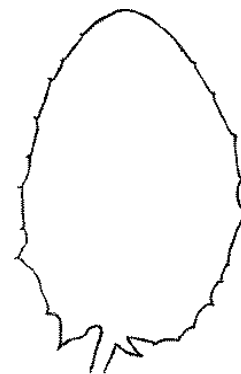


29 *H. oistophyllum* Pugsley [*lanuginosum* agg.] [Zahn: *H. sagittatum* grex *sagittatum*]

H. sagittatum (Lindeb.) Norrl. – *H. murorum* var. *incanum* Lindeb.

Stem-base and petioles: green or violascent, with very dense and long

indumentum; petiole \pm winged. *Basal leaves*: yellowish-green, densely long-hairy and with ciliate margins. *Cauline leaves*: 1–2, densely long-hairy but scarcely stellate-hairy, broadly ovate–cordate, irregularly and patently subulate-dentate. *Phyllaries*: 9–10 mm, broad, broadly obtuse, \pm pale yellowish- or brownish green. *Involucral glands*: sparse–abundant, very short, brown–black. *Involucral hairs*: dense–crowded, medium-long–long, translucent almost from the base, crisped. *Involucral stellate tomentum*: rather abundant – abundant along the margins. Apical coma very dense and bushy. *Peduncles*: with dense short glands and simple hairs. *Styles*: dark–black. *Ligules*: usually \pm densely ciliate. *Synflorescence*: densely compound with \pm horizontally squarrose, strongly arcuate branches and usually very short acladium. *Distribution*: Scattered throughout southern and central Sweden. *Cytology*: triploid.



oistophyllum

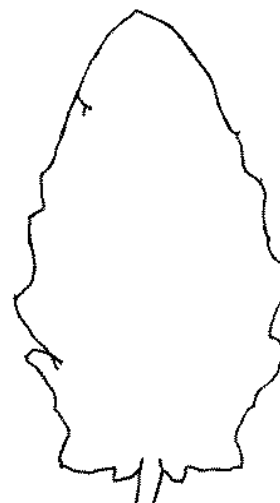
30 *H. philanthrax* (Stenstr.) Dahlst. [*lanuginosum* agg.] [Zahn: *H. sagittatum* grex *sagittatum*]

Stem-base and petioles: often \pm violet, with dense indumentum. *Basal leaves*: yellowish-green, when sun-exposed blotched, densely brownish soft-hairy and with ciliate margins, sometimes broadest above the middle and sometimes with on the petiole decurrent dentation. *Cauline leaves*: 1–2, \pm lanceolate or \pm broadly triangular, often with very coarse and assymmetrically positioned basal lobes, not stellate-hairy. *Phyllaries*: 10–11 mm, slightly less than medium-broad – narrow, attenuately subobtuse – shortly acute, olive green – dark brownish-green. *Involucral glands*: crowded, short, black. *Involucral hairs*: dense–crowded, long, from below the middle pale-tipped, \pm crisped. *Involucral stellate tomentum*: sparse – rather abundant along the margins (sometimes only towards the base and there sometimes \pm scattered). Apical coma 0 or inconspicuous. *Peduncles*: with crowded short glands and \pm sparse simple hairs. *Styles*: densely dotted – black. *Ligules*: glabrous or longly ciliate. *Synflorescence*: densely compound with almost horizontal, strongly arcuate branches and short acladium. *Distribution*: Almost throughout Sweden, common in the central provinces, rare towards the south. *Cytology*: triploid.



31 *H. pycnodon* (Dahlst.) Dahlst. [*lanuginosum* agg.] [Zahn: *H. sagittatum* grex *sagittatum*]

Stem-base and petioles: intense violet, with dense and long indumentum. *Basal leaves*: yellowish-green, undulate – plicate, in outline rather variabla but always broadly and \pm coarsly dentate and at least the outer ones with \pm shallowly cordate base. *Cauline leaves*: 1, scarcely stellate-hairy. *Phyllaries*: 8–10 mm, broad, subobtuse, blackish green with broad pale margins. *Involucral glands*: few – abundant, short, brownish. *Involucral hairs*: dense, medium-long–long, almost from the base pale-tipped. *Involucral stellate tomentum*: abundant along the margins, in particular towards the apex and there confluent with a bushy apical coma. *Peduncles*: with dense glands and simple hairs. *Styles*: densely dotted – black. *Ligules*: glabrous or sparsely ciliate. *Synflorescence*: densely compound, with strikingly stout, strongly



squarrose and arcuate branches; acladium short – medium-long.
Distribution: Rare and scattered in the southernmost provinces of Sweden.

Hieracium* sect. *Vulgata

32 *H. ornatum* (Dahlst.) Dahlst. [*ornatum* agg.] [Zahn: 34 *H. diaphanoides*]

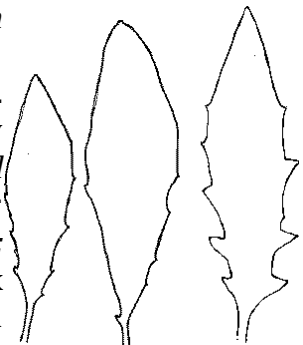
Stem-base and petioles: with very dense and long indumentum. *Basal leaves:* usually ± sparsely blotched, densely and longly hairy, ± densely and regularly serrate. *Cauline leaves:* 2–4, long apart, scarcely stellate-hairy. *Phyllaries:* c. 11 mm, very broad, obtuse, greenish-black. *Involucral glands:* crowded, medium-long, very coarse, ± brownish. *Involucral hairs:* 0–solitary. *Involucral stellate tomentum:* rather abundant – abundant along the margins, at least towards apex and base with conspicuous but indistinctly defined tomentum-lines. With bushy apical coma. *Peduncles:* with dense glands. *Styles:* dotted – ± black. *Synflorescence:* compound with moderately squarrose and arcuate branches and short – medium-long acladium. *Distribution:* Scattered and mostly rare but found almost throughout Sweden. *Cytology:* tetraploid.



ornatum

33 *H. chlorodes* (Dahlst.) Dahlst. [*diaphanoides* agg.] [Zahn: *H. vulgatum* grex *anfractum*]

Stem-base and petioles: – *Basal leaves:* dark grass-green, evenly hairy. *Cauline leaves:* 2–3, ± stellate-hairy. *Phyllaries:* 9–10 mm, broad, broadly obtuse. *Involucral glands:* dense–crowded, long, slender, black. *Involucral hairs:* 0 – solitary, short, dark. *Involucral stellate tomentum:* rather sparse, evenly scattered; with ± conspicuous apical coma. *Peduncles:* with ± abundant – dense glands. *Styles:* densely dotted – black. *Synflorescence:* with straight scarcely squarrose branches; acladium medium-long – long. *Distribution:* Scattered localities in southernmost Sweden. A yet not well understood or defined species.

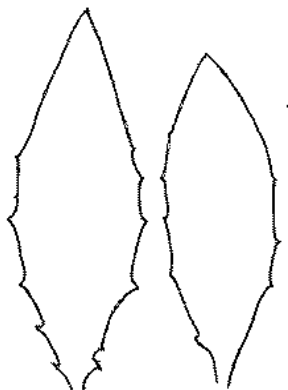


chlorodes

34 *H. diaphanoides* Lindeb. [*diaphanoides* agg.] [Zahn: 34 *H. diaphanoides*]

H. tenebrosum Norrl. – *H. pellocranum* Johanss.

Stem-base and petioles: green with very dense, 3–5 mm long indumentum. *Basal leaves:* dark green, rarely violascent, densely short-hairy, often oblanceolate with on the petiole longly and narrowly decurrent base and in luxurating plants usually with on the petiole decurrent coarse teeth. *Cauline leaves:* 2–5, lanceolate, towards the base coarsely lacinate but with long entire apex, ± stellate-hairy, often almost sessile and pseudo-amplexicaul. *Phyllaries:* 10–11 mm, broad, evenly tapering, broadly obtuse–truncate, greenish-black. *Involucral glands:* densely crowded, of varying lengths, in part very long (often c. 1.5 mm) and often ± crisped, dark brown – ± black. *Involucral hairs:* 0, or rarely few – sparse, long, dark throughout. *Involucral stellate tomentum:*



± 0 or very sparse along the outer margins of the outer phyllaries. With thin but bushy apical coma. *Peduncles*: with crowded glands and occasionally solitary – few dark simple hairs. *Styles*: ± densely dotted. *Synflorescence*: moderately compound with moderately squarrose, weakly arcuate branches and longly overtopping side-branches and usually medium-long but variable acladium *Distribution*: One of the most common species, distributed almost throughout Sweden. *Cytology*: tetraploid

35 *H. phrygionium* Johanss. [*acidodontum* agg.] [Zahn: 34 *H. diaphanoides*]

Stem-base and petioles: – *Basal leaves*: green, sometimes violascent, sparsely hairy *Cauline leaves*: 2–3, estellate *Phyllaries*: c. 11 mm, medium-broad, subobtuse – ± acute *Involucral glands*: crowded, long, black *Involucral hairs*: 0 *Involucral stellate tomentum*: rather abundant, along margins, at least towards the apex with conspicuous tomentum-lines *Peduncles*: with ± dense glands *Styles*: ± pure yellow *Synflorescence*: with straight scarcely squarrose branches; acladium ± short *Distribution*: A rare and locally distributed species in the provinces Småland and Västergötland that has not been refound in recent years.

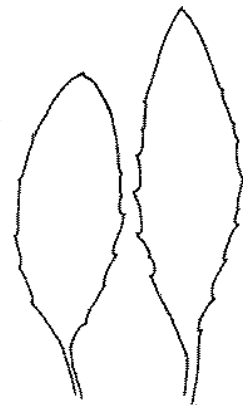


phrygionium

36 *H. pseudodiaphanum* (Dahlst.) Johanss. [*pseudodiaphanum* agg.] [Zahn: *H. vulgatum* grex *anfractum*]

H. murorum ssp. *nigroglanduliferum* C.G. Westerl.

Stem-base and petioles: intense violet. *Basal leaves*: dark green, almost never violascent, evenly short-hairy. *Cauline leaves*: 2–3, densely stellate-hairy. *Phyllaries*: 9–10 mm, medium-broad, attenuate, ± subobtuse, greenish-black. *Involucral glands*: dense-crowded, short – almost medium-long, slender, black. *Involucral hairs*: 0–few, short, dark. *Involucral stellate tomentum*: 0 or very sparse along the margins. Apical coma ± conspicuous. *Peduncles*: with dense glands. *Styles*: pure yellow – ± sparsely dotted. *Synflorescence*: with straight scarcely squarrose branches and medium-long acladium. *Distribution*: Common and fairly widely distributed in southern Sweden. *Cytology*: triploid.

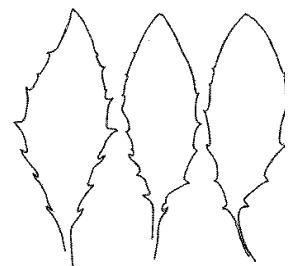


pseudodiaphanum

37 *H. atronitens* (Dahlst.) Dahlst. [*atronitens* agg.] [Zahn: *H. vulgatum* grex *anfractum*]

H. subampliatum (Dahlst.) Dahlst. – *H. lampocranum* Johanss. & Sam.

Stem-base and petioles: intense violet with thin, c. 2 mm long indumentum. *Basal leaves*: grass-green, the outer ones usually tinted violet, sparsely–evenly hairy, the outer ones usually obtuse and almost entire while the inner are ± oblanceolate and more deeply dentate. *Cauline leaves*: 2–4, usually small but ± deeply dentate, scarcely stellate-hairy. *Phyllaries*: 9–11 mm, medium-broad, evenly tapering towards a short but very sharp apex, shiny greenish-black. *Involucral glands*: ± abundant, short – medium-long, very slender and small-capitate, brown–black (sometimes only few). *Involucral hairs*: 0–sparse (usually solitary), ± short, dark to above the middle. *Involucral stellate*



atronitens

tomentum: ± 0 or sparse scattered at the base and sometimes which an extremely narrow line along the margins. *Peduncles*: glabrous or with ± solitary glands. *Styles*: carbon-black. *Synflorescence*: moderately compound with straight scarcely squarrose branches and short-medium-long acladium. *Distribution*: Common in some provinces of southern Sweden but with relatively restricted range. *Cytology*: triploid.

38 *H. barbareifolium* (Lönnr. ex Dahlst.) Johanss. [*atronitens* agg.] [Zahn: *H. vulgatum* grex *anfractum*]

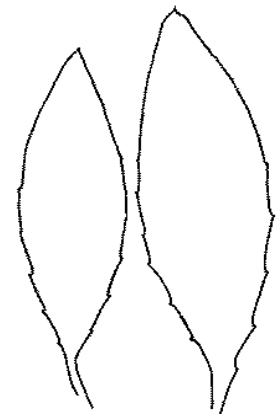
Stem-base and petioles: often ± intense violet, with very dense, c. 2 mm long indumentum *Basal leaves*: yellowish-brownish green, evenly hairy, the outer ones usually oblanceolate with ± broadly obtuse apex and on the petiole longly decurrent, deeply laciniate base. *Cauline leaves*: 2-4, with or without stellate-hairs, often ± dimorphously laciniate *Phyllaries*: 9-11 mm, ± narrowly attenuate, shortly acute, dark green - blackish-green. *Involucral glands*: moderately dense, at least medium-long but slender, ± pale brown *Involucral hairs*: 0 - few, short and dark *Involucral stellate tomentum*: very sparse towards the base *Peduncles*: with abundant-dense glands *Styles*: ± dark - black *Synflorescence*: irregularly compound with short and straight, scarcely squarrose branches, often completely or partly pseudo-umbellate; acladium short-medium-long. *Distribution*: Scattered in the southeastern-most provinces of Sweden. *Cytology*: triploid.



barbareifolium

39 *H. lepidulum* (Stenstr.) Dahlst. [*atronitens* agg.] [Zahn: *H. vulgatum* grex *irriguum*]

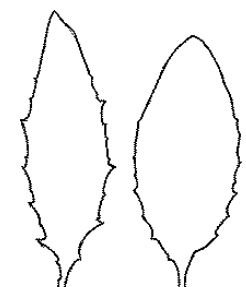
Stem-base and petioles: - *Basal leaves*: green, at least the outer ones intense reddish-violet (in particular towards the apex) and usually almost entire, ± obtuse (the outer ones even. emarginate), sparsely-evenly short-hairy. *Cauline leaves*: 2-4, somewhat stellate-hairy. *Phyllaries*: 9-10 mm, broad, broader-narrower obtuse (the outer ones usually broadly obtuse while the inner-most may be ± acute), brownish-green. *Involucral glands*: ± dense, mainly medium-long, tiny-headed, brownish-yellow. *Involucral hairs*: solitary-sparse, short, from the middle pale-tipped. *Involucral stellate tomentum*: rather sparse, ± evenly scattered. *Peduncles*: glabrous or with solitary glands. *Styles*: sparsely dotted - pure yellow. *Synflorescence*: irregular with long and straight scarcely squarrose branches and often long acladium; often pseudo-umbellate. *Distribution*: Common in several provinces of southern and central Sweden, in particular in the eastern provinces. *Cytology*: triploid.



40 *H. punctillaticeps* Johanss. [*atronitens* agg.] [Zahn: *H. vulgatum* grex *irriguum*]

H. irriguum ssp. *frondosum* Lönnr. ex Dahlst.

Stem-base and petioles: green or ± violascent. *Basal leaves*: yellowish-brownish green, the outer ones commonly dark bluish-violascent, sparsely hairy *Cauline leaves*: 3-5, widely spaced, estellate *Phyllaries*: 9-10 mm, broad, ± broadly obtuse, brownish-green



punctillaticeps

Involucral glands: dense, mainly very short, golden-yellow *Involucral hairs*: 0 – solitary, short, ± dark. *Involucral stellate tomentum*: rather sparse but conspicuous and evenly scattered *Peduncles*: with sparse–dense glands *Styles*: almost pure yellow – ± dotted *Synflorescence*: irregularly compound with straight squarrose branches; often with numerous short branches and short acladium. *Distribution*: Scattered throughout most of southern Sweden. *Cytology*: triploid.

41 *H. punctillatum* (Almq. ex Dahlst.) Johanss. [*atronitens* agg.] [Zahn: *H. vulgatum* grex *lachenalii*]

Stem-base and petioles: – *Basal leaves*: grass-green, sometimes violascent, sparsely hairy *Cauline leaves*: 3–4, somewhat stellate-hairy, ± deeply, patently and sometimes dimorphously dentate. *Phyllaries*: 8–9 mm, broad, ± broadly obtuse, dark brownish-green *Involucral glands*: densely crowded, of varying lengths but predominantly short, pale yellow *Involucral hairs*: 0 – solitary, very short *Involucral stellate tomentum*: ± 0 or sparse along the basal the margins. *Peduncles*: with abundant glands and few – sparse simple hairs *Styles*: pure yellow – ± densely dotted *Synflorescence*: ± with straight scarcely squarrose branches; acladium ± short *Distribution*: Scattered ± throughout southern Sweden. *Cytology*: triploid.



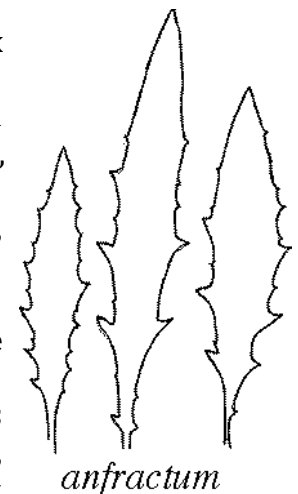
42 *H. albatipes* (Dahlst.) Dahlst. ex Johanss. [*anfractum* agg.] [Zahn: *H. vulgatum* grex *irriguum*]

Stem-base and petioles: green, with ± thin, c. 2 mm long indumentum. *Basal leaves*: grass-green, sparsely hairy. *Cauline leaves*: 3–5, usually ± stellate-hairy. *Phyllaries*: 8–10 mm, medium-broad, narrower–broader obtuse, dark green – greenish-black. *Involucral glands*: dense, mainly medium-long, ± brown. *Involucral hairs*: 0. *Involucral stellate tomentum*: sparse – rather abundant, ± scattered; with a rudimentary apical coma. *Peduncles*: with solitary glands. *Styles*: dark – black. *Synflorescence*: densely compound with straight, short, scarcely squarrose branches and very short acladium. *Distribution*: Almost restricted to the province of Småland, but locally fairly common.



43 *H. anfractum* (Fr.) Fr. [*anfractum* agg.] [Zahn: *H. vulgatum* grex *anfractum*]

Stem-base and petioles: green or close to the base ± intense violet, with very dense, c. 2 mm long indumentum. *Basal leaves*: yellowish-green, often violascent, evenly hairy *Cauline leaves*: 2–3, not or sparsely stellate-hairy *Phyllaries*: strikingly few and loosely arranged, 9–10 mm, broad, obtuse or shortly but sharply acute, greenish-black – brownish-black. *Involucral glands*: ± abundant, short–medium-long, brown – black *Involucral hairs*: solitary – sparse, short–medium-long, from the middle pale-tipped *Involucral stellate tomentum*: ± 0 or below the middle sparsely scattered. *Peduncles*: ± glabrous or with solitary glands *Styles*: black *Synflorescence*: irregularly compound, with long, straight, scarcely squarrose, often partly pseudo-umbellate branches and ± long



acladium. *Distribution*: Rather common in southwestern-most Sweden but with quite restricted range. *Cytology*: triploid.

44 *H. pubicuspis* Johanss. [*anfractum* agg.] [Zahn: -]

H. violascens var. *badioviolaceum* Johanss. ex Dahlst.

Stem-base and petioles: - *Basal leaves*: grass-green, sparsely hairy, oblanceolate, very gradually tapering towards the ± winged petiole.

Cauline leaves: 3-5, estellate, deeply and densely acute-laciniate, broadest above the middle and very longly and narrowly decurrent at base

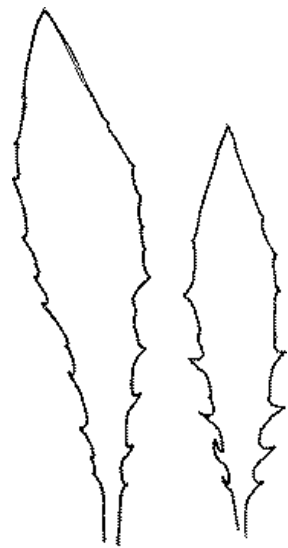
Phyllaries: c. 11 mm, medium-broad with ± longly attenuate apex, the outer ones and sometimes also the intermediate obtuse but at least the inner attenuately acute - subulate, blackish-green; the outer ones

± loosely arranged *Involucral glands*: abundant, short, ± yellow *Involucral hairs*: abundant - ± dense, very short - medium-long, from the middle

pale-tipped *Involucral stellate tomentum*: ± sparse, scattered or aggregated along the basal margins *Peduncles*: with few - sparse glands and simple hairs (usually mainly simple hairs). *Styles*: ± densely

dotted - black. *Synflorescence*: with long straight branches, often pseudo-umbellate; acladium short - medium-long *Distribution*:

Restricted to the Jönköping-region but locally fairly common.



pubicuspis

45 *H. cruentifolium* Dahlst. & Lüb. [*cruentifolium* agg.] [Zahn: *H. vulgatum* grex *irriguum*]

H. vulgatum Fr. nom. ambig. (ICBN Art. 57).

Stem-base and petioles: intense violet with thin, c. 2 mm long indumentum. *Basal leaves*: yellowish-brownish green, usually densely blotched and violascent with age, almost glabrous. *Cauline leaves*: 2-4, ±

densely stellate-hairy *Phyllaries*: c. 11 mm, narrow, with longly attenuate but usually ± obtuse apex, dark olive green. *Involucral glands*: ± dense, medium-long, black *Involucral hairs*: ± dense, medium-long, from the middle

pale-tipped *Involucral stellate tomentum*: ± 0 - sparsely scattered, but with a rudimentary apical coma. *Peduncles*: ± glabrous *Styles*: densely dotted - black *Synflorescence*: dense, usually pseudo-umbellate with straight, scarcely squarrose branches and

medium-long acladium. *Distribution*: Very common in southernmost Sweden but rapidly disappearing towards the north. *Cytology*: triploid.



cruentifolium

46 *H. neopinnatifidum* Pugsley [*neopinnatifidum* agg.] [Zahn: *H. vulgatum* grex *lachenalii*]

H. pinnatifidum (Lönnr. ex Dahlst.) Dahlst.

Stem-base and petioles: with very dense and long indumentum. *Basal leaves*: yellowish-brownish green - grass-green, the outer ones usually violascent, ± densely and evenly long-hairy. *Cauline leaves*: 2-5, ±

densely stellate-hairy *Phyllaries*: 9-10 mm, medium-broad with longly attenuate, subacute apex, blackish-green. *Involucral glands*: ± dense, very short, black *Involucral hairs*: dense-crowded, medium-long, usually from the middle

pale-tipped. *Involucral stellate tomentum*: ± 0, or below the middle sparsely scattered. *Peduncles*: with abundant - dense simple hairs and 0, or rarely sparse, glands *Styles*: ± dotted



(usually \pm sparsely, sometimes almost pure yellow). *Synflorescence*: with straight branches and medium-long acladium. *Distribution*: very common in southern-most Sweden, gradually decreasing towards central Sweden. *Cytology*: triploid.

47 *H. almquistianum* (Zahn) Johanss. [*vulgatum* agg.] [Zahn: *H. vulgatum* grex *irriguum*]

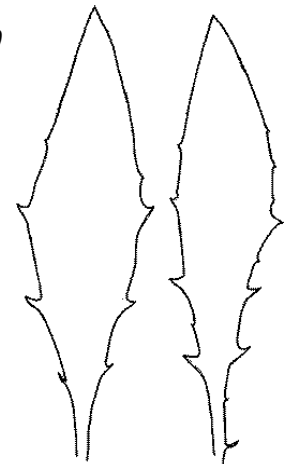
H. murorum ssp. *violascens* Almq. ex Dahlst.

Stem-base and petioles: intense violet, with moderately dense, c. 2 mm long indumentum; petiole usually very short. *Basal leaves*: dark grass-green, the outer ones almost always reddish-violet, \pm sparsely hairy. *Cauline leaves*: 2–3, large, widely spaced, sometimes somewhat stellate-hairy *Phyllaries*: 9–10 mm, with somewhat attenuate, subobtusate apex, dark green – blackish-green. *Involucral glands*: abundant – dense, mainly short, \pm brown *Involucral hairs*: abundant, short, from the middle pale-tipped *Involucral stellate tomentum*: \pm sparse – rather abundant, scattered all over the surface but most dense towards the basal margins *Peduncles*: with abundant simple hairs and/or glands (usually mainly glands) *Styles*: black *Synflorescence*: compound with straight scarcely squarrose branches and short acladium. *Distribution*: Restricted to southern-most Sweden but locally common *Cytology*: triploid.



48 *H. cunctans* (Johanss. ex Dahlst.) Johanss. [*vulgatum* agg.] [Zahn: 50 *H. smolandicum* grex *smolandicum*]

Stem-base and petioles: intense violet with dense, 2–3 mm long indumentum. *Basal leaves*: green, evenly hairy *Cauline leaves*: 2–4, estellate *Phyllaries*: 10 mm, broad, evenly tapering, \pm broadly obtuse, dark green. *Involucral glands*: \pm abundant, short, black or yellowish-brown *Involucral hairs*: dense, long, approximately from the middle pale-tipped *Involucral stellate tomentum*: rather sparse, most abundant but not restricted to the basal margins *Peduncles*: with \pm dense simple hairs and few glands *Styles*: carbon-black *Synflorescence*: with straight scarcely squarrose branches; acladium medium-long *Distribution*: Rare, with scattered sites in the southern-most provinces. A yet not fully understood species.

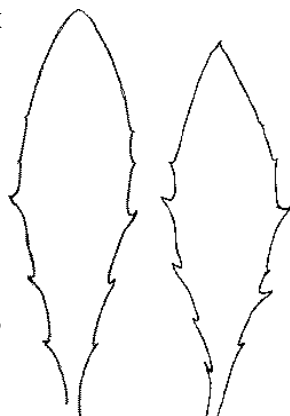


cunctans

49 *H. megavulgatum* T. Tyler [*vulgatum* agg.] [Zahn: *H. levigatum* grex *triviale*]

H. subvulgatiforme Schljakov – *H. vulgatiforme* (Dahlst.) Brenner.

Stem-base and petioles: green, with very dense and long indumentum. *Basal leaves*: green, the outer ones sometimes violascent, evenly and often densely hairy. *Cauline leaves*: 4–7, \pm densely stellate-hairy, characteristically rhombic with widely spaced, \pm long, forward-curved subulate teeth. *Phyllaries*: 11–12 mm, broad, broader-narrower obtuse, olive green. *Involucral glands*: abundant–dense, very short, yellowish-brown–black. *Involucral hairs*: dense, medium-long–long, longly pale-tipped. *Involucral stellate tomentum*: sparse–rather abundant, evenly scattered. *Peduncles*: glabrous or with \pm abundant



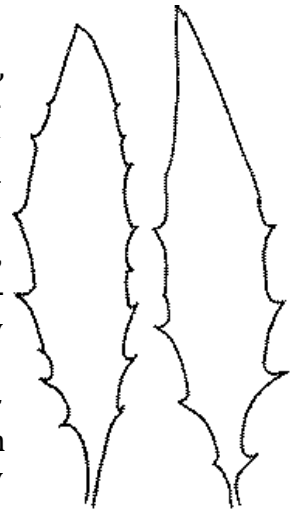
megavulgatum

simple hairs. *Styles*: dotted. *Synflorescence*: with straight branches and medium-long acladium. *Distribution*: Scattered in most provinces of southern and central Sweden, mainly in coastal districts. *Cytology*: tetraploid.

50 *H. smolandicum* (Almq. ex Dahlst.) Dahlst. [*vulgatum* agg.] [Zahn: 50 *H. smolandicum* grex *smolandicum*]

H. rigidum var. *crinita* Lönnr.

Stem-base and petioles: – *Basal leaves*: yellowish-green – grass-green, the outer ones often violascent, densely blotched – marbled when sun-exposed, sparsely hairy. *Cauline leaves*: 3–7, sparsely stellate-hairy. *Phyllaries*: 10–12 mm, very narrow, longly attenuate, shortly acute – subulate, the outer ones loosely arranged and decurrent on the peduncle, blackish-green. *Involucral glands*: abundant – ± dense, short, ± yellowish brown. *Involucral hairs*: dense, slightly less than medium-long, from the middle pale-tipped. *Involucral stellate tomentum*: sparsely scattered; with a rudimentary apical coma. *Peduncles*: with sparse – ± dense glands and simple hairs (usually mainly simple hairs). *Styles*: sparsely dotted – pure yellow. *Synflorescence*: deeply branched with long, straight, scarcely squarrose branches and medium-long-longly acladium. *Distribution*: Restricted to the south-Swedish highlands but locally fairly common. *Cytology*: triploid.

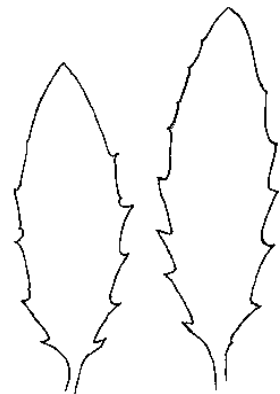


smolandicum

51 *H. triviale* (Norrl.) Norrl. [*vulgatum* agg.] [Zahn: *H. lachenalii* grex *triviale*]

H. vulgatum auct. Scand.

Stem-base and petioles: – *Basal leaves*: green, the outer ones usually violascent, ± evenly hairy. *Cauline leaves*: 2–3, ± stellate-hairy. *Phyllaries*: 9–10 mm, rather broad but with narrowly attenuate ± shortly acute apex, olive green. *Involucral glands*: abundant–dense, short–medium-long, black. *Involucral hairs*: dense, long, at least from the middle pale-tipped. *Involucral stellate tomentum*: ± abundant, scattered over the whole surface or sometimes more abundant towards the margins but never with distinct tomentum-lines. Apical coma small but often ± conspicuous. *Peduncles*: with ± sparse simple hairs and solitary–sparse glands or sometimes only sparse simple hairs (in slender plants occasionally ± glabrous). *Styles*: densely dotted. *Synflorescence*: with straight scarcely squarrose branches and medium-long-long acladium. *Distribution*: By far the most common species in southern-most Sweden, gradually decreasing towards the north. *Cytology*: triploid.



52 *H. subsimile* Norrl. [*resupinatum* agg.] [Zahn: *H. levigatum* grex *triviale*]

H. reclinatum (Almq. ex Dahlst.) Johanss.

Stem-base and petioles: sometimes ± intense violet. *Basal leaves*: numerous, green, but rarely violascent, ± glabrous. *Cauline leaves*: 3–5, all or the upper often small and sessile or rudimentary/bract-like, ± sparsely stellate-hairy. *Phyllaries*: 8–9 mm, narrow, shortly acute, the outer ones loosely arranged and decurrent on the petiole, pale olive

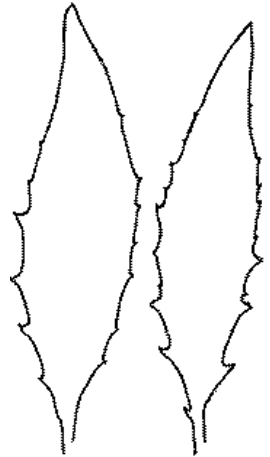


green. *Involucral glands*: abundant–dense, slender, mainly very short, ± pale yellowish-brown. *Involucral hairs*: 0–few, short, from the middle pale-tipped. *Involucral stellate tomentum*: scattered mainly towards the base, rather sparse – ± abundant. With a conspicuous apical coma. *Peduncles*: with few–sparse glands. *Styles*: almost pure yellow (rarely darker). *Synflorescence*: irregular with straight branches. Acladium often long. *Distribution*: Throughout southern and central Sweden, common in some provinces. *Cytology*: triploid.

53 *H. acroleucum* (Stenstr.) Dahlst. [*acroleucum* agg.] [Zahn: *H. levigatum* grex *acroleucum*]

H. striaticeps (Dahlst. ex Stenstr.) Dahlst

Stem-base and petioles: usually intense violet, with thin, c. 2 mm long indumentum. *Basal leaves*: green, almost glabrous above, very rarely violascent. *Cauline leaves*: 3–5, estellate. *Phyllaries*: c. 9 mm, rather narrow, evenly tapering, subobtusate, the outer ones ± loosely arranged, blackish-green. *Involucral glands*: abundant–dense (rarely fewer), short, yellowish-brown – ± black. *Involucral hairs*: abundant–dense, short–medium-long, to or above the middle dark. *Involucral stellate tomentum*: rather abundant along the margins, at least in apical half with conspicuous tomentum-lines. Apical coma inconspicuous. *Peduncles*: with dense short glands and simple hairs in somewhat variable proportions. *Styles*: sparsely–densely dotted. *Synflorescence*: irregularly compound with long, straight, scarcely squarrose branches and often ± long acladium. *Distribution*: Throughout southern and central Sweden, common in some provinces. *Cytology*: triploid.



54 *H. plicatum* Lindeb. [*plicatum* agg.] [Zahn: *H. subramosum*]

H. plicatiforme (Dahlst.) Dahlst. ex Johanss. & Sam. – *H. kuusamoënsis* Vain. – *H. formicarium* Th.Fr. ex Elfstr.

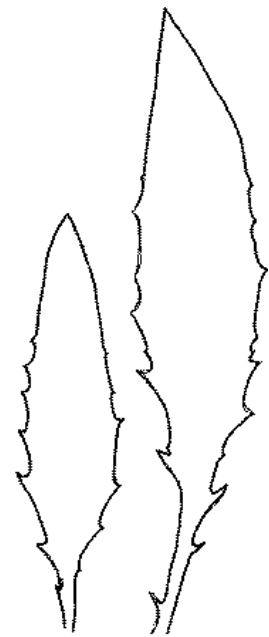
Stem-base and petioles: green, with dense and long indumentum. *Basal leaves*: green, densely and ± longly hairy, irregularly but usually shallowly triangular-dentate. *Cauline leaves*: 1–3, not or sparsely stellate-hairy, very coarsely and irregularly dentate and often ± undulate–plicate. *Phyllaries*: 9–10 mm, medium-broad, mainly shortly acute, ± pale green, the outer ones ± loosely arranged. *Involucral glands*: few–sparse, very short, black or yellowish-brown (± concealed by the pilose hairs). *Involucral hairs*: densely crowded, long – very long, translucent almost from their base, ± crisped. *Involucral stellate tomentum*: sparse–rather abundant along the margins (at least below the middle), towards the base sometimes ± evenly scattered. With conspicuous decurrent apical coma. *Peduncles*: with ± dense simple hairs and 0 – ± sparse short glands. *Styles*: ± black. *Ligules*: ± ciliate. *Synflorescence*: with straight scarcely squarrose branches. Acladium usually very shortly or rudimentary. *Distribution*: Almost throughout Sweden, common in some provinces but very unevenly distributed. *Cytology*: triploid.



55 *H. tricheliceps* Johanss. [*plicatum* agg.] [Zahn: *H. subramosum*]

H. trichellum (Dahlst.) Johanss. & Sam. – *H. ferrimontanum* (Johanss.) Johanss. – *H. subramosum* ssp. *emmeles* Omang sensu Dahlst. – *H. ampliceps* (Stenstr.) Johanss. – *H. celsum* Johanss. & Sam.

Stem-base and petioles: sometimes ± intense violet, with dense and long indumentum. *Basal leaves*: 3,7–4,5 ggr times longer than broad, green, very rarely violascent, evenly and ± densely hairy, densely and very irregularly acute-dentate, often with on the petiole decurrent narrowly subulate teeth. *Cauline leaves*: 1–3, ± stellate-hairy. *Phyllaries*: 9–10 mm, medium-broad, subobtuse–shortly acute, the outer ones ± loosely arranged, pale green – lemon-green. *Involucral glands*: few – ± sparse (sometimes almost 0), very short, ± yellowish-brown – black. *Involucral hairs*: crowded, long – very long, from near the base pale, ± crisped. *Involucral stellate tomentum*: sparse – rather abundant along the margins and/or towards the base ± evenly scattered; with a ± thin but bushy and conspicuous decurrent apical coma. *Peduncles*: with ± abundant simple hairs but 0–few glands. *Styles*: pure yellow – sparsely dotted. *Ligules*: strikingly short, glabrous. *Synflorescence*: irregular with straight scarcely squarrose branches and short–medium-long acladium. *Distribution*: Scattered in several provinces in south Sweden, mostly in the western provinces. *Cytology*: triploid.



tricheliceps

56 *H. xanthostylum* (Dahlst.) Dahlst. ex Johanss. & Sam. [*plicatum* agg.] [Zahn: *H. subramosum*]

Stem-base and petioles: with dense and long indumentum. *Basal leaves*: 3,3–4,1 ggr times longer than broad, green, evenly hairy, usually strikingly large (often > 15 cm long) and short-petiolated, rather sparsely and coarsely dentate–laciniate, sometimes with on the petiole decurrent dentation. *Cauline leaves*: 1–2, sparsely stellate-hairy. *Phyllaries*: 10–11 mm, rather narrow, ± acute, blackish-green. *Involucral glands*: sparse–abundant (but ± concealed by the simple hairs), very short, ± yellowish-brown–black. *Involucral hairs*: crowded, medium-long–long, from near the base pale, ± crisped. *Involucral stellate tomentum*: sparsely scattered or indistinctly aggregated along the margins. Apical coma usually inconspicuous. *Peduncles*: with ± abundant – dense glands and simple hairs. *Styles*: sparsely dotted. *Ligules*: glabrous. *Synflorescence*: irregular with straight, scarcely squarrose branches and short–medium-long acladium. *Distribution*: Throughout most of southern and central Sweden, but most common in the western provinces. *Cytology*: triploid.



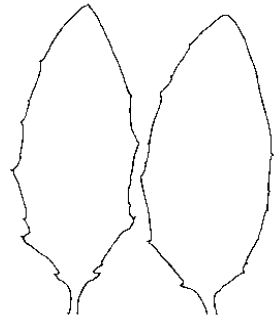
xanthostylum

57 *H. constringens* Norrl. [*constringens* agg.] [Zahn: *H. subramosum*]

H. orarium ssp. *constrictum* Norrl. – *H. subramosum* ssp. *semiconstringens* Dahlst. ex Zahn – *H. subramosum* ssp. *praetextum* Dahlst. ex Zahn – *H. gravastellum* (Dahlst.) Omang

Stem-base and petioles: green or close to the base ± dark violet with dense, 2–3 mm long indumentum. *Basal leaves*: green, often very large, almost never violascent, ± sparsely hairy, sometimes with free leaf-lobes on the petioles. *Cauline leaves*: usually 1 and positioned close to the stem-base, often somewhat undulate–plicate along margin and

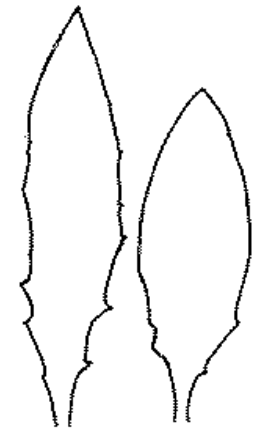
with very irregularly patent teeth, not or sparsely stellate-hairy. *Phyllaries*: 10–11 mm, broad, subobtusate or shortly acute, blackish olive-green. Capitula with very broad \pm truncate (flat) base. *Involucral glands*: abundant–dense, very short, black. *Involucral hairs*: densely crowded (at least on the primary capitulum), long – very long, from near the base pale, conspicuously denticulate. *Involucral stellate tomentum*: rather abundant, mainly along the margins and at least towards the base with dense tomentum-lines. With bushy apical coma. *Peduncles*: with sparse–dense simple hairs and few–abundant glands. *Styles*: dark–carbon-black. *Ligules*: strikingly long (25–30 mm), glabrous or \pm sparsely ciliate. *Synflorescence*: moderately compound and often deeply branched with long and straight, scarcely squarrose branches. Acladium often very short but in some regions generally longer). *Distribution*: Very common in central Sweden, decreasing towards the south and far-north. *Cytology*: tetraploid.



58 *H. lepidotum* (Stenstr.) Dahlst. [*lepidotum* agg.] [Zahn: *H. angustatum* grex *angustatum*]

H. ericetorum (Fr.) Dahlst. – *H. caligans* Johanss. – *H. caligatum* (Dahlst.) Dahlst.

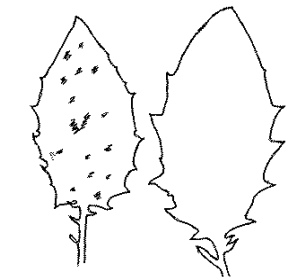
Stem-base and petioles: intense violet. *Basal leaves*: subglaucous dark green, the outer ones often violascent, thick, \pm glabrous. *Cauline leaves*: 1–3, \pm densely stellate-hairy or glabrous. *Phyllaries*: 11–12 mm, from rather broad base very longly attenuate, at apex subulate or very narrowly subobtusate, the outer ones loosely arranged, blackish-green – greenish-black. *Involucral glands*: few–sparse, short, yellowish-brown – black. *Involucral hairs*: dense, long, from below the middle pale-tipped. *Involucral stellate tomentum*: rather sparse – \pm abundant, \pm evenly scattered. Apical coma at least on the outer phyllaries \pm conspicuous. *Peduncles*: glabrous or with few glands and/or simple hairs. *Styles*: \pm black. *Ligules*: glabrous or shortly ciliate. *Synflorescence*: with somewhat squarrose but straight branches and often short acladium. *Distribution*: Common in the provinces along the Swedish west-coast, decreasing towards the east. *Cytology*: triploid.



Hieracium* sect. *Bifida

59 *H. porrigens* (Almq. ex Malme) Dahlst. – [*porrigens* agg.] [Zahn: *H. caesium* grex *porrigens*]

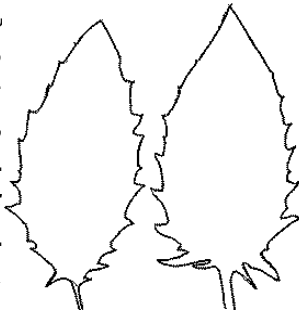
Stem-base and petioles: intense violet. *Basal leaves*: subglaucous green, often violascent and when sun-exposed blotched, \pm glabrous – sparsely hairy. *Cauline leaves*: 0–2, estellate. *Phyllaries*: 11–13 mm, at least medium-broad, narrower–broader obtuse, blackish olive green. *Involucral glands*: \pm dense, medium-long, coarse, black. *Involucral hairs*: solitary and short (on the mainland) or \pm abundant and medium-long (on Gotland), coarse, \pm dark. *Involucral stellate tomentum*: rather abundant – very abundant, unevenly distributed, sometimes with broad tomentum-lines along the basal the margins and sometimes with \pm conspicuous tomentum-lines throughout the margins, but often \pm evenly scattered or \pm restricted to the basal half; apical coma



conspicuous *Peduncles*: with abundant–dense glands and 0 – few simple hairs *Styles*: sparsely – ± densely dotted (usually pale) *Ligules*: strikingly long (25–35 mm) in large capitula, glabrous or shortly ciliate. *Synflorescence*: ± dichotomously and deeply branched with long, straight, scarcely squarrose branches and usually long acladium. *Distribution*: Almost throughout southern Sweden but common only in calcareous districts. *Cytology*: tetraploid.

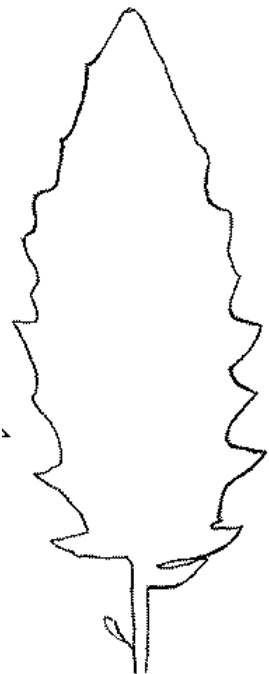
60 *H. caesiomurorum* Lindeb. [? agg.] [Zahn: *H. caesium* grex *caesiomurorum*]

Stem-base and petioles: intense violet, with dense, 2–3 mm long indumentum. *Basal leaves*: green, rarely violascent, ± glabrous, sometimes with on the petiole decurrent teeth. *Cauline leaves*: 1–2, broadly ovate with longly attenuate apex, often deeply subulate-laciniate, scarcely stellate-hairy. *Phyllaries*: 9–10 mm, relatively broad, broad at apex, somewhat obtuse, dark green – blackish-green. *Involucral glands*: abundant–dense, short, ± black. *Involucral hairs*: abundant–dense, short–medium-long, to or above the middle dark. *Involucral stellate tomentum*: very abundant, forming extremely broad and densely felted bands along the margins, at apex confluent with a conspicuous decurrent apical coma. *Peduncles*: with dense glands and ± abundant simple hairs. *Styles*: densely dotted – black. *Ligules*: glabrous. *Synflorescence*: compound with straight scarcely squarrose branches and short–medium-long acladium. *Distribution*: Almost throughout Sweden and common in many provinces in the south. *Cytology*: tetraploid.



61 *H. lacerifolium* (Almq. ex Stenstr.) Dahlst. [*lacerifolium* agg.] [Zahn: *H. triangulare* grex *lacerifolium*]

Stem-base and petioles: intense violet, with thin indumentum. *Basal leaves*: green, ± glabrous, in outline extremely variabe but always deeply, often dimorphously dentate–laciniate, almost always with on the petiole longly decurrent narrow leaf-lobes or petiolate leaflet-like appendages. *Cauline leaves*: 1, broadly lanceolate with somewhat attenuate apex, scarcely stellate-hairy. *Phyllaries*: 11–12 mm, broad, subobtuse–shortly acute, rather pale olive green. *Involucral glands*: dense, medium-long, coarse, yellow – yellowish-brown. *Involucral hairs*: 0. *Involucral stellate tomentum*: rather abundant – very abundant. Along the margins with broad but indistinctly defined and sometimes interrupted tomentum-lines. In addition with greyish-tomentose base and a very dense and bushy apical coma. *Peduncles*: glabrous or with sparse glands. *Styles*: ± pure yellow. *Ligules*: glabrous. *Synflorescence*: ± dichotomous with stout, ± straight, scarcely squarrose branches and long acladium. *Distribution*: Rather common throughout most of southern and central Sweden. *Cytology*: tetraploid.



62 *H. gracilifrons* Johanss. [*sarcophyllum* agg.] [Zahn: *H. sagittatum* grex *sagittatum*]

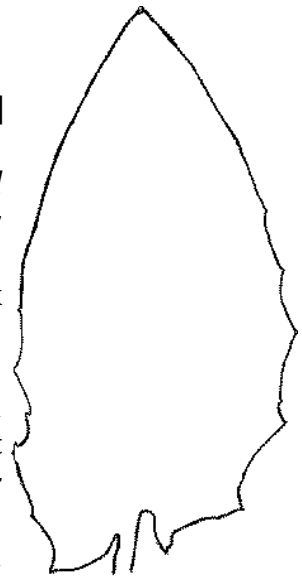
64 *H. sarcophyllum* ssp. *gracilipes* Johanss. ex Dahlst. – *H. sagittatum* ssp. *subunctiusculum* Dahlst.

Stem-base and petioles: intense violet, with thin indumentum. *Basal leaves*: subglaucous dark green, when sun-exposed blotched, usually violascent, above ± sparsely hairy but along the margins setose-hairy *Cauline leaves*: 1–2, cordate, ± entire, scarcely stellate-hairy *Phyllaries*: c. 11 mm, attenuate but mainly subobtuse (the inner-most subulate), bluish-black. *Involucral glands*: dense, short – medium-long, ± coarse, black *Involucral hairs*: abundant–dense, short – medium-long, mainly pale-tipped from the middle *Involucral stellate tomentum*: rather abundant, towards the base ± scattered but above aggregated along the margins. With bushy and longly decurrent apical coma *Peduncles*: with sparse glands and few simple hairs *Styles*: dotted *Ligules*: glabrous *Synflorescence*: with weakly arcuate, moderately squarrose branches and short accladium. *Distribution*: Very rare, only known from a few sites in the northern parts of the province of Småland. *Cytology*: tetraploid.



63 *H. obliquifolium* (Dahlst.) Dahlst. ex Johanss. – [*sarcophyllum* agg.] [Zahn: *H. sagittatum* grex *sagittatum*]

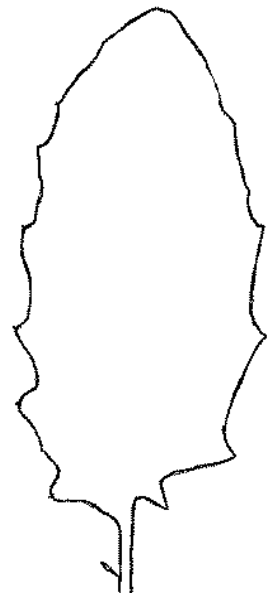
Stem-base and petioles: with moderately dense indumentum. *Basal leaves*: yellowish green, evenly but very shortly hairy *Cauline leaves*: 0–1, scarcely stellate-hairy *Phyllaries*: 9–10 mm, medium-broad, subobtuse, olive green. *Involucral glands*: dense, very short, black *Involucral hairs*: abundant – dense, short, from the middle pale-tipped *Involucral stellate tomentum*: rather abundant, towards the base ± evenly scattered but also as bands along the upper margins. With bushy and decurrent apical coma *Peduncles*: with very dense short glands and solitary – sparse simple hairs *Styles*: ± pale dotted *Ligules*: glabrous *Blomställningstyp*: almost furcate with long and coarse, often strongly squarrose and arcuate branches and very long accladium *Distribution*: Restricted to the mountain-slopes on the eastern side of lake Vättern.



obliquifolium

64 *H. sarcophyllum* (Stenstr) Dahlst. [*sarcophyllum* agg.] [Zahn: *H. sagittatum* grex *sagittatum*]

Stem-base and petioles: intense violet, with thin but long indumentum. *Basal leaves*: thick, glaucous, above glabrous, sometimes blotched and beneath often tinted bluish-violet, in outline very variable but either ± entire, sharply denticulate or ± deeply sinuose. *Cauline leaves*: 0–1, sparsely–densely stellate-hairy. *Phyllaries*: 11–12 mm, medium-broad, subobtuse – shortly acute, paler–darker olive green, the outer ones often loosely arranged and decurrent on the petiole. *Involucral glands*: dense, short and slender, yellowish-brown–black. *Involucral hairs*: sparse–dense, ± short, to or above the middle dark. *Involucral stellate tomentum*: rather sparse – abundant, mainly towards the base ± evenly scattered or rarely aggregated along the basal margins. With a bushy but scarcely decurrent apical coma. *Peduncles*: with dense–crowded short glands and solitary–sparse simple hairs. *Styles*:

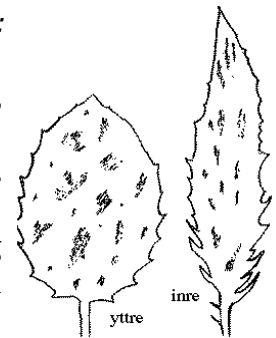


almost pure yellow. *Ligules*: shortly but densely ciliate. *Synflorescence*: ± furcate with long, stout, ± straight, scarcely squarrose branches and stout, medium-long acladium. *Distribution*: Common in the lowlands of southern-central Sweden but with relatively restricted distribution.

Cytology: tetraploid.

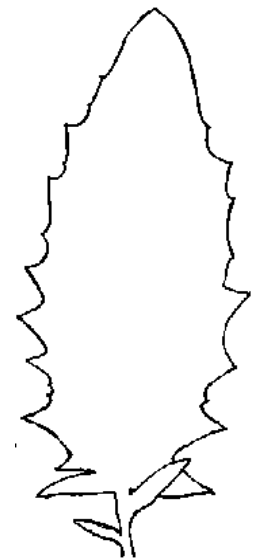
65 *H. maculosum* (Dahlst. ex Stenstr.) Dahlst. [*maculosum* agg.] [Zahn: *H. bifidum* grex *subcaesium*]

Stem-base and petioles: intense violet, with ± thin indumentum. *Basal leaves*: dark green, often violascent, usually densely blotched, above ± glabrous, in particular the inner ones very narrow and often broadest above the middle. *Cauline leaves*: 0–1, scarcely stellate-hairy. *Phyllaries*: 9–10 mm, narrow, subulate, the outer ones ± loosely arranged, ± pale yellowish olive green. *Involucral glands*: sparse–dense, very short, yellowish-brown. *Involucral hairs*: abundant–dense, short–medium-long, from below the middle pale-tipped, thin and often crisped. *Involucral stellate tomentum*: at least towards the base rather abundant – abundant, scattered towards the base in addition to ± sparse along the upper margins. Apical coma ± conspicuous. *Peduncles*: with sparse–abundant glands and simple hairs. *Styles*: sparsely dotted – blackish. *Ligules*: strikingly short, ± densely and longly ciliate. *Synflorescence*: densely candelabriform with ± strongly squarrose and arcuate, very slender branches and usually short acladium. *Distribution*: Almost throughout Sweden but common only in some provinces in the south. *Cytology*: triploid.



66 *H. prolixum* Norrl. [*maculosum* agg.] [Zahn: *H. bifidum* grex *subcaesium*]

Stem-base and petioles: green or ± violascent, almost glabrous. *Basal leaves*: subglaucous dark green, often violascent, ± glabrous, sometimes with free leaf-lobes, in outline very variable, sometimes only shallowly triangular-dentate but commonly deeply acute-lacinate, often wrinkled–plicate. *Cauline leaves*: 0–1, scarcely stellate-hairy. *Phyllaries*: 10–11 mm, narrow, ± shortly acute – subulate, dark brownish-green – blackish-green. *Involucral glands*: dense, short, brown–black. *Involucral hairs*: sparse–abundant, short–medium-long, dark – shortly pale-tipped. *Involucral stellate tomentum*: towards the base abundant scattered, often almost felted, but above the middle rapidly decreasing. Apical coma small but usually conspicuous. *Peduncles*: with ± few glands and 0–solitary simple hairs. *Styles*: black. *Ligules*: glabrous. *Synflorescence*: ± furcate with coarse, very long, moderately squarrose and often ± arcuate branches and characteristic flexuose central axis. Acladium long and usually directed sideways. *Distribution*: Almost throughout Sweden but common only in lowland areas. *Cytology*: triploid.

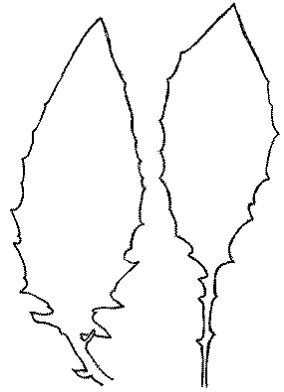


67 *H. pendulum* (Dahlst.) Dahlst. [*pendulum* agg.] [Zahn: *H. bifidum* grex *subcaesium*]

H. laceratum (Norrl. ex Hamb.) Norrl.

Stem-base and petioles: often intense violet, glabrous or with thin indumentum. *Basal leaves*: pale grass-green – pale subglaucous green, rarely blotched, in outline rather variable but commonly narrowly oblanceolate with narrow petioles with longly decurrent dentation, glabrous – sparsely hairy above but ± densely stellate-hairy beneath. *Cauline leaves*: 0–1, densely and almost felted stellate-hairy. *Phyllaries*: 8–9 mm, narrow, subobtusely–shortly acute, grayish olive-brown. *Involucral glands*: few–sparse, very short, black. *Involucral hairs*: abundant–dense, mainly short, dark or from the middle pale-tipped. *Involucral stellate tomentum*: mainly below the middle rather abundant – abundant scattered. Apical coma thin but bushy and decurrent. *Peduncles*: glabrous or with solitary glands and simple hairs. *Styles*: ± densely dotted. *Ligules*: glabrous. *Synflorescence*: compound with strongly squarrose, arcuate and usually strikingly slender and waek branches (sometimes almost pendulous) and short acladium. *Distribution*: Almost throughout Sweden but rare in most provinces.

Cytology: triploid.



68 *H. acidolepis* T. Tyler [*scandinavorum* agg.] [Zahn: *H. bifidum* grex *bifidum*]

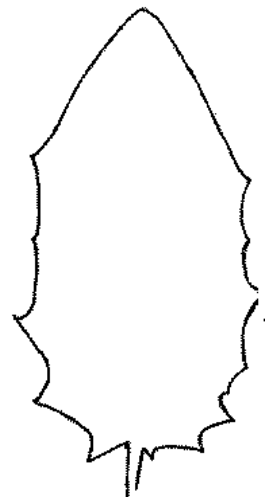
H. acidotum auct.

Stem-base and petioles: green or violet with thin, c. 2 mm long indumentum. *Basal leaves*: glaucous, ± glabrous, sometimes with on the petiole decurrent leaf-lobes. *Cauline leaves*: 0(–1), scarcely stellate-hairy. *Phyllaries*: 10–11 mm, narrow, attenuately subulate, at the apex almost filiform, yellowish-green. *Involucral glands*: sparse, ± short, black. *Involucral hairs*: ± dense, medium-long, from near the base translucent. *Involucral stellate tomentum*: sparse along the basal margins (usually as a conspicuous but very narrow line); apical coma inconspicuous. *Peduncles*: with sparse–abundant glands and solitary–sparse simple hairs. *Styles*: densely dotted. *Ligules*: glabrous. *Synflorescence*: moderately compound or ± dichotomous with straight, scarcely squarrose branches and medium-long acladium. *Distribution*: Rather common in several provinces of south-eastern Sweden. *Cytology*: triploid.



69 *H. aquiliceps* (Dahlst.) Dahlst. ex. Johanss. [*scandinavorum* agg.] [Zahn: *H. murorum* grex *proximum*]

Stem-base and petioles: often ± intense violet, with thin, c. 2 mm long indumentum. *Basal leaves*: yellowish dark green, usually violascent, sparsely short-hairy, *Cauline leaves*: 0–1, ± stellate-hairy. *Phyllaries*: 12–13 mm, medium-broad, subobtusely – shortly acute, brownish blackish-green. *Involucral glands*: dense, short, black. *Involucral hairs*: abundant – dense, medium-long, to or above the middle dark. *Involucral stellate tomentum*: rather sparse along the basal margins; apical coma conspicuous. *Peduncles*: with sparse – abundant simple hairs and glands. *Styles*: dark – black. *Ligules*: glabrous.

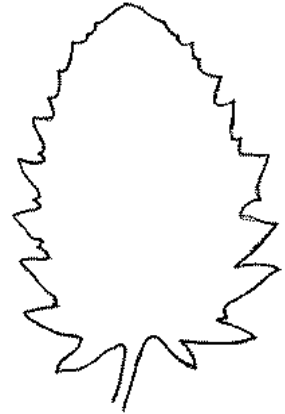


Blomställningstyp: ± dichotomous with rather long, weakly arcuate, scarcely squarrose, often pseudo-umbellate branches and ± longly acladium. *Distribution*: Very rare and restricted to the south-Swedish highlands; not refound in recent years.

70 *H. caesiiflorum* Almq. ex. Norrl. [*scandinavium* agg.] [Zahn: *H. bifidum* grex *bifidum*]

H. caesiiceps Brenner

Stem-base and petioles: green or sometimes ± intense violet, with ± thin, 2–3 mm long indumentum. *Basal leaves*: subglaucous green, thick, ± glabrous. *Cauline leaves*: 0–1, scarcely stellate-hairy, narrowly but very deeply and densely lacinate and often with longly caudate apex. *Phyllaries*: 9–11 mm, medium-broad, subobtuse–shortly acute (but the outer ones often truncate), dark greenish-brown. *Involucral glands*: solitary–sparse, short, black. *Involucral hairs*: abundant, usually short and crisped, pale from near the base. *Involucral stellate tomentum*: abundant – very abundant, mainly towards the base scattered but sometimes ± felted almost all over the surface. Apical coma inconspicuous except for on the outermost phyllaries. *Peduncles*: with ± sparse simple hairs and 0–solitary glands. *Styles*: sparsely dotted – almost pure yellow (rarely darker). *Ligules*: glabrous. *Synflorescence*: dichotomous, deeply branched with long ± squarrose but almost straight branches and usually long acladium (but populationer with rudimentary acladium and ± joined capitula do exist). *Distribution*: Almost throughout Sweden but nowhere common. *Cytology*: triploid.



71 *H. scandinavium* (Zahn) Prain [*scandinavium* agg.] [Zahn: *H. bifidum* grex *bifidum*]

H. silvaticum (L) 's. str.' auct. Scand.

Stem-base and petioles: green or violascent, with thin indumentum. *Basal leaves*: pale subglaucous green, rarely sparsely blotched when sun exposed, often violascent, glabrous or the outer ones shortly hairy, in outline rather plastic. *Cauline leaves*: 0–1, scarcely stellate-hairy, often irregularly pinnatisect and with ± attenuate and falcate apex. *Phyllaries*: 10–12 mm, narrow, ± subulate, ± pale olive green. *Involucral glands*: few–abundant, very short, usually brown. *Involucral hairs*: dense, medium-long, from below the middle pale-tipped, often somewhat crisped. *Involucral stellate tomentum*: rather abundant – very abundant, ± unevenly scattered, usually most abundant although not restricted to the margins above but usually at least towards the base ± evenly scattered. Apical coma conspicuous. *Peduncles*: with 0–solitary glands and sparse–dense simple hairs. *Styles*: ± densely dotted. *Ligules*: glabrous. *Synflorescence*: with ± long, thin, rather strongly squarrose and arcuate branches and short–medium-long acladium. *Distribution*: Common throughout most of southern Sweden. *Cytology*: triploid.



72 *H. sinuosifrons* (Dahlst.) Dahlst. [*scandinavium* agg.] [Zahn: *H. bifidum* grex *bifidum*]

Stem-base and petioles: intense violet, with thin indumentum. *Basal*

leaves: pale subglaucous green, usually violascent, sometimes sparsely blotched when sun-exposed, undulate-plicate, ± glabrous, the outer ones usually obtusely coarse-dentate while the inner are densely acute-laciniate. *Cauline leaves*: 0-1, ± stellate-hairy, usually deeply subulate-laciniate – pinnatisect and with ± attenuate falcate apex. *Phyllaries*: 9-11 mm, medium-broad, narrowly subobtusate (but the inner-most sometimes subulate), dark brownish-green. *Involucral glands*: abundant, short, yellowish-brown – black. *Involucral hairs*: abundant-dense, short, almost dark – shortly pale-tipped. *Involucral stellate tomentum*: rather sparse, mainly towards the base ± unevenly scattered. *Peduncles*: with sparse-abundant glands and solitary-sparse simple hairs. *Styles*: pure yellow – ± sparsely dotted. *Ligules*: glabrous. *Synflorescence*: ± dichotomous with moderately squarrose branches and medium-long-long acladium. *Distribution*: Scattered in the eastern provinces of southern and central Sweden. *Cytology*: triploid.



73 *H. plumbeum* Blytt & Fr. [*stenolepis* agg.] [Zahn: *H. caesium* grex *caesium*]

H. caesium auct. (sensu Dahlst. & Johanss.) – *H. bifidum* Fr. p.p. – *H. angulare* Fr.

Stem-base and petioles: intense violet. *Basal leaves*: subglaucous dark green – glaucous, when sun-exposed blotched, sometimes tinted bluish-brownish-violet, somewhat succulent, glabrous. *Cauline leaves*: 1-2, ± stellate-hairy. *Phyllaries*: 12-14 mm, ± evenly tapering, at least the inner with very long and narrow subulate-filiform glabrous apex, usually bluish-black. *Involucral glands*: 0-few, short, black. *Involucral hairs*: abundant-dense, long – very long, coarse, longly pale-tipped, ± crisped. *Involucral stellate tomentum*: towards the base rather abundant – abundant scattered but above the middle ± 0. Apical coma absent. *Peduncles*: ± glabrous or with few simple hairs. *Styles*: almost pure yellow – sparsely dotted. *Ligules*: glabrous. *Synflorescence*: dichotomous with straight, scarcely squarrose branches and long acladium. *Distribution*: Almost throughout Sweden but common only in areas with exposed calcareous or ultra-basic bedrock. *Cytology*: tetraploid.



74 *H. ravusculum* (Dahlst.) Dahlst. [*stenolepis* agg.] [Zahn: *H. caesium* grex *caesium*]

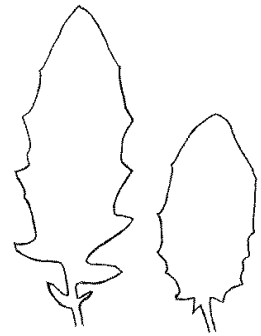
Stem-base and petioles: intense violet. *Basal leaves*: ± subglaucous green, the outer ones usually violascent, sometimes blotched, sparsely hairy. *Cauline leaves*: 1-2, ± stellate-hairy. *Phyllaries*: 11-12 mm, medium-broad, mainly subobtusate but the inner-most commonly subulate, olive-brown. *Involucral glands*: 0. *Involucral hairs*: sparse-abundant, long, translucent almost from their base, crisped. *Involucral stellate tomentum*: very abundant scattered, at least towards the base densely grey-felted. *Peduncles*: glabrous. *Styles*: densely dotted. *Synflorescence*: dichotomous with scarcely squarrose or arcuate branches; acladium very long. *Distribution*: Rare but scattered in southeastern-most Sweden.



75 *H. stenolepis* Lindeb. [*stenolepis* agg.] [Zahn: *H. bifidum* grex *bifidum*]

H. [sp. non indic.] ssp. *laetiflorum* Norrl.

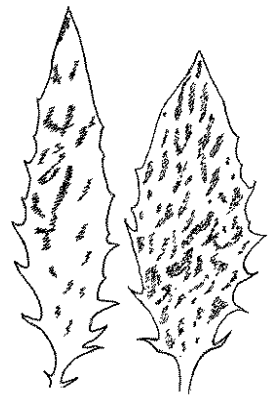
Stem-base and petioles: intense violet, glabrous or with sparse long simple hairs. *Basal leaves*: succulent, glaucous, often violascent, sometimes blotched when sun-exposed, glabrous, in outline rather variable but most often sparsely but deeply obtuse-laciniate. *Cauline leaves*: 0–1, ± stellate-hairy. *Phyllaries*: 11–13 mm, very narrow, extremely longly and narrowly attenuate, at apex subulate – filiform, towards the base blackish-green but above the middle usually very pale and almost yellowish while the extreme apex is tinted bluish-black. *Involucral glands*: few–sparse, very short, black. *Involucral hairs*: abundant, long, from near the base translucent. *Involucral stellate tomentum*: at least below the middle abundant scattered. Apical coma absent. *Peduncles*: with few simple hairs and 0–solitary glands. *Styles*: sparsely dotted – ± pure yellow. *Ligules*: glabrous. *Synflorescence*: dichotomous with straight, scarcely squarrose branches and medium-long acladium. *Distribution*: Almost throughout the country but restricted to areas with exposed bedrock. *Cytology*: triploid.



76 *H. basifolium* (Fr. ex Stenstr.) Dahlst. [*ravidum* agg.] [Zahn: *H. caesium* grex *caesium*]

H. laciniifolium Brenner – *H. cruentatum* Lübeck ex Stenstr. – *H. caesium* (Fr.) Fr. comb. superfl. et ambig.

Stem-base and petioles: usually ± intense violet, with dense – very dense, 2–3 mm long indumentum. *Basal leaves*: somewhat succulent, subglaucous green, commonly ± densely blotched (lacking only in deep shade), sometimes with on the petiole decurrent incision, above ± glabrous – sparsely hairy but along the margins ± densely long-ciliate. *Cauline leaves*: 1–2, estellate. *Phyllaries*: 10–12 mm, medium-broad, evenly tapering, usually shortly acute but sometimes ± broadly obtuse, dark olive green. *Involucral glands*: sparse–abundant, short, black. *Involucral hairs*: dense, medium-long–long, from near the base pale. *Involucral stellate tomentum*: usually rather abundant, unevenly scattered, sometimes with conspicuous tomentum-lines along the basal margins but more often with ± evenly felted base. Usually with a ± conspicuous and decurrent apical coma. *Peduncles*: with sparse–dense simple hairs and few–sparse glands (rarely glabrous). *Styles*: ± densely dotted. *Ligules*: glabrous. *Synflorescence*: moderately compound with straight, scarcely squarrose branches and medium-long acladium. *Distribution*: Almost throughout Sweden except for the Alpine areas and common in many provinces. *Cytology*: Tetraploids dominates, but there appears to be a triploid form as well.



77 *H. grophosum* (Dahlst. & Johanss.) Johanss. [*ravidum* agg.] [Zahn: *H. caesium* grex ?]

Stem-base and petioles: green or ± violascent. *Basal leaves*: dark grass-green, the outer ones often violascent, ± evenly hairy. *Cauline leaves*: 1–2, sparsely stellate-hairy. *Phyllaries*: c. 12 mm, broad, at least the inner ones shortly acute, dark brownish-green. *Involucral glands*: ±



dense, short, yellowish-brown-black. *Involucral hairs*: abundant-dense, very long, approximately from the middle pale-tipped. *Involucral stellate tomentum*: rather abundant - abundant, \pm scattered although most abundant towards the base. *Peduncles*: with abundant simple hairs and glands. *Styles*: densely dotted - black. *Ligules*: glabrous. *Synflorescence*: moderately compound with weakly arcuate branches and short akladium, sometimes pseudo-umbellate. *Distribution*: Rare with a few scattered sites in different provinces of southern Sweden.

78 *H. ravidum* Brenner [*ravidum* agg.] [Zahn: *H. caesium* grex *caesium*] *H. galbanum* (Dahlst.) Dahlst. - *H. eviridatum* (Johanss.) Johanss. - *H. alboviride* Brenner - *H. angulatum* Brenner - *H. conforme* Brenner - *H. nylanderianum* Brenner - *H. pachyphyllum* Brenner - *H. villiceps* Brenner - *H. galbanum* f. *virens* Dahlst.

Stem-base and petioles: - *Basal leaves*: yellowish-brownish green or yellowish grass-green, sometimes violascent, above \pm glabrous but beneath and along margins relatively densely soft-hairy. *Cauline leaves*: 1-3, usually small-rudimentary, often \pm sparsely stellate-hairy. *Phyllaries*: 11-13 mm, \pm broad, the intermediate usually \pm broadly obtuse but the inner ones sometimes \pm acute, yellowish-green - olive green. *Involucral glands*: solitary-abundant, short, black. *Involucral hairs*: \pm dense, medium-long-long, coarse, at least from the middle pale-tipped. *Involucral stellate tomentum*: rather abundant - very abundant. \pm scattered, mainly towards the base or all over the surface, sometimes \pm aggregated along the margins. Outer and intermediate phyllaries often with \pm conspicuous apical coma. *Peduncles*: with sparse simple hairs and 0-few glands. *Styles*: usually sparsely dotted - pure yellow (rarely darker). *Synflorescence*: dichotomous, with straight stout branches and usually very long akladium. *Distribution*: Almost throughout Sweden but common only on the Baltic islands. *Cytology*: tetraploid.

