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A Revision of the South African Genus *Hermas* (Apiaceae)

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Abstract—The morphologically and phylogenetically anomalous genus *Hermas* is revised and nine perennial species are recognized, all endemic to mountain slopes within the Cape Floristic Region of South Africa. The new combination *Hermas lanata* is instated as the correct name for *H. pillansii*, based on the oldest available basionym. The latter species is also shown to be a very narrow endemic of the Cape Peninsula (Table Mountain to Noordhoek), not extending into the Jonkershoek Mountains as previously reported. The genus is characterized by fruits with woody endocarps, rhomboidal crystals, and pseudo-wings, all features shared with subfamily Azorelloideae, but recent phylogenetic analyses suggest that *Hermas* is an isolated lineage in the family, possibly sister to subfamily Apioideae s. 1. An isolated position for *Hermas* is supported further by the unique floral morphology, viz. petaloid sepals and filiform petals, both of which are recovered as generic synapomorphies. The species may be distinguished on the basis of their habits, the size, shape, and vestiture of the leaves and involucral bracts, the synflorescence structure, the colour and venation of the sepals and petals, and the morphology and anatomy of the fruits. Species relationships are assessed in the form of a cladistic analysis of 11 morphological characters, resulting in a well-resolved phylogenetic hypothesis. A comprehensive taxonomic treatment is presented, including a key to the species, updated nomenclature, typification, descriptions, and geographical distributions.

Keywords—Anatomy, Azorelloideae, Cape Floristic Region, morphology, South Africa, taxonomy.

*Hermas* L. is an anomalous genus of perennial herbs or shrubs endemic to the Fynbos biome of the Western and Eastern Cape Provinces of South Africa (Van Wyk et al. 2013). Most of the species within the genus are not considered to be of conservation concern as they occur on rocky mountain slopes (often on difficult-to-access ledges) usually at high elevation. The now-vulnerable *Hermas lanata*, once thought to be possibly extinct (Helme et al. 2012), is endemic to Table Mountain and was one of the earliest known Cape plants, first illustrated by Hendrik Claudius in 1685 (Burman 1738; Burtt 1981). The genus was traditionally placed in subfamily Hydrocotylinae (now defunct), and is currently treated with members of subfamily Azorelloideae (Plunkett et al. 2004), with which it shares similar carphophore features (Liu et al. 2012) and fruits with a woody endocarp, rhomboidal crystals, and prominent lateral pseudo-wings (Liu et al. 2009; Magee et al. 2010). Recent molecular systematic studies (Calviño et al. 2006; Nicolas and Plunkett 2009), however, place *Hermas* as an isolated lineage sister to the protoplasts of the subfamily Apioideae s. 1. (Magee et al. 2010). The latter subfamily is diagnosed by several synapomorphies, viz. the absence of rhomboidal crystals, the presence of druse crystals scattered throughout the mesocarp (subsequently lost in the euapioids), the non-woody endocarp, and the presence of true fruit wings (Magee et al. 2010). Recent morphological and anatomical characters.

Materials and Methods

All species were studied in situ as well as in the complete collections from the following herbaria: BM, BOL, JRAU, K, MO, NBG, NY, PRE, S, SAM, and UPS (abbreviations according to Thiers 2014). The recorded distribution of each species was verified and mapped using this material, together with geographical information from Leistner and Morris (1976). The specimens examined are cited under each species treatment and arranged by country, province, and then district. Within each district the specimens are ordered according to geographical position, from west to east and north to south. Herbarium and FAA-preserved materials were used to study fruit anatomy. The herbarium material was first rehydrated and then placed in FAA for a minimum of 24 h. All material was subsequently treated according the method of Feder and O’Brien (1968) for embedding in glycol methacrylate (GMA), but modified to involve a final infiltration in GMA for five days. Sections were stained according to the periodic acid Schiff/toluidine blue (PAS/TB) method (Feder and O’Brien 1968) and the sections photographed using a Leitz Wetzlar microscope and JVC KY-F1030 digital camera.

As a first attempt to resolve infrageneric relationships within the genus, character states (Appendix 1) were scored for 11 discontinuous and logically polarisable morphological characters across the 10 included taxa, using *Azorella compacta* as outgroup. The data set (Table 1) was analysed using the maximum parsimony (MP) algorithm of the software package PAUP version 4.0b10 (Swofford 2002). All characters were treated as unordered and equally weighted (Fitch parsimony, Fitch 1971). Tree searches were performed using the branch-and-bound algorithm with furthest addition sequence, MULTrees option in effect and multistate characters treated as polymorphisms. Internal support was assessed with 1,000 bootstrap replicates (Felsenstein 1985) using TBR swapping and the MULPARS option. The sequence of species in the cladogram was followed in the taxonomic treatment.

Results and Discussion

Morphology and Anatomy—Vegetative Characters—Most of the species are acaulescent herbs (Fig. 1A–G), although *H. quercifolia* and *H. quinquidentata* are shortly acaulescent suffruticises (Fig. 1H) and *H. villosa* is a small shrub up to 0.6 m tall (Fig. 1I). In these three species, the leaves are usually congested along the upper part of the stems rather than in a basal rosette as found in the acaulescent species. While the leaves are usually suberect to spreading, in *H. ciliata* they are diagnostically prostrate (Fig. 1G). *Hermas proteranthus* is unique in having pinnately lobed, deciduous leaves (Fig. 2B), rather than the undivided evergreen leaves found in the rest of the genus (De Villiers and Van Wyk 2008). The leaves are...
always simple but vary greatly in size, shape, and vestiture so that they can largely be used to distinguish the species (Fig. 2A–I). In particular, the vestiture of the upper leaf surface is a valuable diagnostic character. While the lower leaf surface is always densely felty to lanate, the upper leaf surface is glabrous to glabrescent in mature leaves of *H. capitata*, *H. ciliata*, *H. proterantha*, and *H. intermedia* (with the young leaves of *H. capitata* rarely densely lanate), or felty to densely lanate in *H. gigantea* (Fig. 1E), *H. intermedia* (Fig. 1D), *H. lanata* (Fig. 1C) and *H. quercifolia*. In fact, the vernacular name *toneltblaar* [“tinder leaf”] for *H. gigantea* refers to the use of these hairs for tinder (Van Wyk et al. 2013). The leaf margin also has diagnostic value. In *Hermas ciliata* (Fig. 2C), the margins are ± entire with prominent setose hairs reminiscent of species of *Alepidea* (e.g. *A. amatysmbica* Eckl. & Zeyh.), and in *H. quinquedentata* and *H. villosa*, they are diagnostically stiffly toothed and often distinctly revolute (Fig. 2E & 2F).

Reproductive Characters—The structure of the inflorescence in *Hermas* was studied by Froebe (1979). The inflorescences invariably develop close to the apical meristem, resulting in a pseudo-terminal raceme of compound umbels. Each plant may have up to six inflorescences, each of which has a single, large terminal primary compound umbel subtended by up to 19 smaller secondary umbels. The peduncle is usually basally lanate but can be densely felty and lanate throughout (*H. lanata* and *H. intermedia*—Fig. 1D) or entirely glabrous to glabrescent (*H. ciliata*). The involucral and involucellar bracts of *H. lanata* and *H. intermedia* are distinct in that they are densely felty to lanate rather than glabrous to glabrescent, as in the other species. An aberrant population of *H. capitata* with adaxially densely lanate leaves and involucral bracts has been collected, but even in this population, the involucellar bracts remain diagnostically glabrous.

*Hermas* is unique in having petaloid sepals and staminoid petals (Fig. 3). The sepals are large and very prominent, with a conspicuous median vein and usually two lateral veins (Fig. 3B, D), although the lateral veins of *H. ciliata* (Fig. 3C), *H. quercifolia* (Fig. 3A), and *H. villosa* are inconspicuous. The sepals are usually cream-coloured but are diagnostically maroon in *H. gigantea* and *H. intermedia*. In the latter species, only the sepals are maroon, whereas in *H. gigantea* the ovaries, rays, and much of the inflorescence are also maroon (Fig. 1F).

In all the species, the petals are inconspicuous, filiform, and strongly inflexed.

The fruits are ovate to transversely ovate in shape, homomericarpic and dorsally compressed (Fig. 4A–I). Despite the putative sister relationship with the Apioidae, *Hermas* shares several fruit characters with members of the Azorelloideae (Liu et al. 2009), viz. the lignified endocard (Fig. 5A–F), the presence of rhomboidal crystals (Fig. 5F), the prominent lateral ribs and the wings (when present; Fig. 5A) composed of both the mesocarp and endocard with the vascular bundle located at the margin (Fig. 5E); these are the so-called pseudo-wings of Magee et al. 2010). The median rib of the fruits is prominent in all the species (except in *H. capitata* and *H. proterantha*) and is distinctly winged in the lower third in *H. ciliata*, *H. quercifolia*, *H. quinquedentata*, and *H. villosa* (Fig. 5A). As pointed out by De Villiers & Van Wyk (2008), the fruits of *H. proterantha* are unique in that the pseudo-wings occur between the lateral and marginal ribs (Fig. 5D) rather than along the lateral ribs as in all the other species (Fig. 5E).

Phylogenetic Relationships—A single tree was obtained with a score of 14, a consistency index (CI) of 0.79 and a retention index (RI) of 0.82 (Fig. 6). The genus is distinguished from the outgroup (and to our knowledge all other Apiaceae genera) by two synapomorphies, viz. the petaloid sepals (character 7) and filiform petals (character 9). Within *Hermas*, three main clades were recovered, with the earliest diverging clade, the *H. capitata* clade (comprising *H. capitata* and *H. proterantha*), supported by only a single synapomorphy, viz. a slender petiole (character 4). This clade lacks also the prominent median rib in the fruit (character 10), which is a synapomorphy for the *H. villosa*–*H. gigantea* clades. The *H. villosa* clade comprises four species (*H. ciliata*, *H. quercifolia*, *H. quinquedentata*, and *H. villosa*) and is recognised by the shared presence of 1-veined sepals (character 8, but lost in *H. quinquedentata*) and basally-winged median fruit ribs (character 11). Within the latter clade, the caulescent habit (character 1) is recovered as a homoplasic character supporting the *H. quercifolia*–*H. villosa* grouping. The *H. gigantea* clade comprises three species (*H. gigantea*, *H. intermedia*, and *H. lanata*) based on the lanate upper leaf surface (character 2). This character was also recovered as a homoplasic autapomorphy in *H. quercifolia*. The lanate peduncle (character 5) and felty bracts (character 6) suggest a sister relationship between *H. intermedia* and *H. lanata*. This result is presented here as a first hypothesis of relationships within the genus *Hermas* and the sequence of species in the taxonomic treatment follows that of the cladogram (Fig. 6).

Taxonomic Treatment


Acaulescent to caulescent, resprouting, evergreen or rarely deciduous herbs or shrubs, 50–600 mm tall (excluding the inflorescence). Leaves in a basal rosette or regularly arranged to congested along the upper parts of the branches, suberect to prostrate, simple; petioles longer than or shorter than the lamina, glabrescent to densely felty; lamina narrowly elliptic or lanceolate to oblong, obovate or ovate, 7–250 mm × 4–120 mm; base prominently cordate to attenuate, cuneate or truncate; apex broadly obtuse to attenuate; margins ± entire to crenate, serrate or dentate, strongly revolute; adaxial surface green to grey-green, glabrous to densely lanate, matted...
and shaggy; abaxial surface grey-white to rusty, densely felty to lanate. Synflorescences 120–1,000 mm long, with a terminal involucre bracts densely felty and involucellar bracts lanate; much of peduncle densely felty to bearded; lamina elliptic to obovate (rarely ovate) with an attenuate or sometimes truncate base. Seed variable in shape, transversely oblong to sub-triangular.

**Diagnostic Characters**—This is a morphologically isolated genus easily distinguished from all other genera of Apiaceae by the large petaloid sepals and staminiform petals. The genus combines the compound umbels typical of the Apioidae with the woody endocarp, rhomboidal crystals and pseudo-winged fruits of the Azorelloideae. The broad simple leaves may somewhat resemble those of *Alepidea* (Apioidae, tribe Saniculeae) but can be readily distinguished by the felty leaves.

**Phenology**—Flowering is in early to late summer (December to February), and fruits reach maturity in late summer to autumn (February to April).

**Distribution and Ecology**—Hermas is endemic to the Cape Floristic Region of South Africa, where it invariably grows on sandstone slopes, often in fairly inaccessible places such as rock ledges or in cracks between rocks at high elevations.

**Key to the Species of Hermas**

1. Upper leaf surfaces felty to densely lanate. ..................................................................................... 2

2. Involucre bracts densely felty and involucellar bracts lanate; much of peduncle densely felty to bearded; lamina ovate to oblong with a truncate to cordate base. ..................................................................................... 3

3. Sepals and petals cream to white; lamina shaggy lanate adaxially, base cordate; fruit lateral ribs narrowly-winged; Table Mountain. ..................................................................................... 5. *H. lanata*

4. Sepals and petals maroon; lamina shortly lanate adaxially, base truncate to sometimes cordate; fruit lateral ribs broadly-winged; fold mountains of the Western Cape. ..................................................................................... 4. *H. intermedia*

5. *H. capitata*

6. *H. proterantha*

7. *H. quercifolia*

8. *H. villosa*

9. *H. quinquedentata*

10. *H. villica*

11. *H. villosa*

12. *H. quinquedentata*
4. Leaves ≤ 70 mm long, margins crenate and undulate; sepals cream-coloured, with one prominent vein (lateral veins when present inconspicuous). ......................................................... 7. H. quercifolia

4. Leaves ≥ 100 mm long, margins denticulate to crenulate; entire umbel (bracts, rays, ovaries and sepals) maroon, sepals with three prominent veins. ................................................................. 3. H. gigantea

1. Upper leaf surface glabrous to glabrescent, never felty (rarely densely lanate when young in H. capitata but then leaves less than 20 mm long and fruits without prominent median rib). ...................................................... 5

2. Plants deciduous, leaves pinnately-lobed. ......................................................................... 2. H. proterantha

3. Plants evergreen, leaves undivided with entire or crenate to dentate or serrate margins. ................................................................................................................................. 6

4. Leaves prostrate, margins ± entire, setose. . ......................................................................... 6. H. ciliata

5. Leaves suberect to spreading, margins variously toothed, teeth mucronate ...................................................... 7

6. Petiole longer than or equal to lamina; leaf margins sparsely crenate to dentate, not involute; fruit without prominent median rib. ................................................................. 1. H. capitata

7. Petiole shorter than lamina; leaf margins stiffly toothed, involute; fruit with prominent, basally-winged median rib. ......................................................................................................................... 8

8. Large shrubs up to 60 cm tall (excluding inflorescence); lamina ≥ 60 mm long, margins regularly serrate to dentate with > 20 teeth; primary umbel ≥ 40 mm in diameter; sepals with one prominent vein (lateral veins when present inconspicuous). ................................................. 9. H. villosa

9. Dwarf shrublets less than 20 cm tall (excluding inflorescence), lamina ≤ 45 mm long, margins coarsely serrate with 5–11 teeth; primary umbel < 35 mm in diameter; sepals with three prominent veins. ........... 8. H. quinquedentata

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Fig. 5. Transverse sections through the mature fruit of selected Hermas species. A. H. villosa, with the prominently winged median and lateral ribs. B. H. ciliata, lignified endocarp. C. H. capitata, unwinged marginal ribs. D. H. proterantha, note the position of the lateral and marginal vascular bundles (arrow). E. H. quinquedentata, note the position of the lateral (lr) and marginal (mr) vascular bundles (arrows). F. H. ciliata, rhomboidal crystals in the endocarp (arrow). Vouchers: A: MacOwan 128, NBG; B: Wurts 557, NBG; C: Bolus 911, PRE; D: Zinn s. n., NBG; E: Bolus 127, PRE; F: Helme 3200, NBG. Scale bar = 100 μm.
Acaulescent, resprouting, evergreen herb, 30–100 mm tall (excluding inflorescence). Leaves in basal rosette, spreading, simple, present at anthesis; petioles 7–110 mm long, sparsely to densely lanate, often becoming glabrescent in mature leaves; lamina ovate to elliptic, 7–40 mm × 4–22 mm; base ± cordate; apex obtuse; margins sparsely crenate to dentate, terminating in a small tubercle; adaxial surface green, sparsely felty adaxial indumentums, smaller leaves and umbels.

**Diagnostic Characters**—An easily recognisable species distinguished from other adaxially-glabrescent, evergreen species with suberect to spreading leaves by the long petioles (longer than or equal to the lamina), the sparsely crenate to dentate leaf margins and the fruits without a prominent median rib. There are two collections from an aberrant Nuweberg population (Mc Donald 609, NBG; Haynes 523, NBG) which are unusual in having adaxially densely lanate leaves and involucral bracts, but in all other aspects are typical for the species. These can be distinguished from other adaxially non-glabrescent species by the lanate rather than felty adaxial indumentums, smaller leaves and umbels.

**Distribution and Ecology**—This species favours cool, shady and moist slopes or outcrops, and occurs in occasional localised populations on the uppermost slopes or summits from the Cape Peninsula Mountains to the Van Stadens and Groot Winterhoek Mountains (Fig. 7).

**Additional Specimens Examined**—South AFRICA. 3318 (Cape Town): Noordhoek mountains (–AB), Salter 1596 (BM, K); Table Mountain (–CD), Bolus 9111, Bowie s. n. (BM); Bolus 4002, Pillans 2778 (BOL), Wielogy 1694 (BOL, K); Bolus 911 (BOL, PRE), Ecklon and Zeyher 2260 (SAM, S), Marloth 5185, 81486 (PRE), Dregge s. n., Thunberg s. n., Wahlberg s. n. (S); Table Mountain, boulders on path to Maclears Beacon (–BD), Magee, Nicolas & Plumett 486 (NGC, NY); Table Mountain, Grotoorkop (–CD), Andreat 1694 (NBG); Table Mountain, Valley of Isolation (–CD), Marloth s. n. (PRE); Table Mountain, Echo Valley (–CD), Compton 8306 (NBG); 3319 (Worcester); Mostert Hoek Twins (–CD); Esterhuysen 3262 (BOL); Kaaimansgat (–BD), Goldblatt 5416 (NBG); Du Toit’s Peak (–CC), Esterhuysen 8580 (WBM); Wemmershoek Mountains (–CC), Andreat 792 (NBG); Waaihoek Peak (–CB), Esterhuysen 18216, 22605 (BOL); Villiersdorp, Wolfeskop (–CD), Esterhuysen 32845 (BOL, S), 3322 (Oudtshoorn); Swartberg Pass (–AC), Adamson 4357 (BOL), Stokoe 8671 (BOL, SAM); Uniondale, Buffelsberg Mountain, Kammanassie (–DB), Compton 16552 (NBG), Valters and Vlok 32 (NBG, PRE); Uniondale, Mannetjesberg (–DB), Esterhuysen 4731 (BOL), 3325 (Port Elizabeth).


![Fig. 6. Single most parsimonious tree obtained from a maximum parsimony analysis of the morphological data in Appendix 1 and Table 1. Bootstrap percentages are given above the branches. TL = 14. CI = 0.79. RI = 0.82.](image-url)
Uitenhage, Groot Winterhoek (–CB), Esterhuysen 27114 (BOL); Uitenhage, Van Stadens River Mountains (–CD), Ecklon and Zeyher 2266 (NBG). 3418 (Simonstown): Constantiaberg (–AB), Compton 14555 (SAM); Klaasijagers Mountain (–AB), Holte 304 (BM, BOL); Muizenberg (–AB), Saller 262/16 (BM, K); Bolus 3372 (BOL); Oranje Kloof (–AB), Compton s. n. (NBG); Stellenbosch, Somerset West Triplets (–BB), Esterhuysen 15254 (BOL); Hangklip, Kogelberg State Forest, Steenbras Peak (–BB), Boucher 3656 (NBG); Landdros Kloof (–BB), Stokoe 7817 (BOL); Somerset West, Sneeukop (–BB), E. Esterhuysen 27071, T.P. Stokoe 2854 (BOL, SAM); Hottentot Hollands Mountains, near summit of Moordenaarskop (–BB), Stokoe s. n. (SAM); Nuweberg State Forest, Landdroskloof (–BB), Kruiger 1565 (PRE). 3419 (Caledon): Franschhoek Mountains (–AA), Stokoe 68836 (SAM); Huwouhoek (–AA), Schlecter 7343 (BM, K, S); Jakkals River, Lemon Forest Reserve (–AA), Haynes 523 (NBG, PRE); Stellenbosch, Jonkershoek State Forest, Dwarsberg, Victoria Peak (–AA), Esterhuysen 9760 (BOL), Kerfoot 6605 (NBG, PRE), Kerfoot 5749, Kerfoot and Haynes 4 (PRE); Caledon, Vogelgat (–AD), Williams 3640 (NBG). 3420 (Bredasdorp): Swellendam, Swellendam Mountain (–AB), Compton 10584 (NBG).


Acaulescent, resprouting, evergreen herb, 100–300 mm (excluding inflorescence). Leaves in basal rosette, spreading, simple, present at anthesis; petioles 50–300 mm long, densely lanate, matted and shaggy; lamina elliptic to obovate, rarely ovate; 100–250 mm × 40–100 mm; base attenuate to sometimes truncate, apex acute to obtuse, margins denticulate to crenulate, terminating in a small tubercle; adaxial surface grey-green, densely felty and slightly lanate; abaxial surface grey-white, densely felty and slightly lanate. Synflorescences 500–1,000 mm long, with terminal primary umbel subtended by 4–19 smaller secondary umbels; peduncles stout, sometimes felty and lanate when very young but soon becoming largely glabrescent; peduncular bracts 20–60 mm, oblong to foliaceous, densely felty and lanate. Umbels compound, 60–80 mm in diameter, dense; involucral bracts lanceolate, 10–12, 10–15 mm long, maroon to purple-black, venation parallel, adaxial surface glabrous to glabrescent, abaxial surface sparsely lanate; rays ca. 40–65, 15–25 mm long at anthesis, glabrous; involucellar bracts 2–4, 5–8 mm long; lanceolate, maroon to purple-black, glabrous to glabrescent; raylets 6–12, ca 2 mm long at anthesis, maroon to purple-black, glabrous; umbellules with 1–7 hermaphroditic flowers surrounded by 4–10 functionally male flowers. Flowers with 5 large, petaloid sepals, maroon to purple, veins 3, inconspicuous; petals filiform, strongly inflexed, maroon to purple. Fruits ovate, base truncate to cordate, dorsally compressed, ca. 2.0–2.5 × 1.5 mm; mericarps homomorphic, glabrous; marginal ribs inconspicuous; lateral ribs narrowly-winged; median rib prominent, narrow.

**Diagnostic Characters**—Hermas gigantea shares the very large, adaxially felty leaves with *H. intermedius* and *H. lanata* but can be easily distinguished from these species by the glabrous to glabrescent involucral and involucellar bracts and much of the peduncle. Both *H. gigantea* and *H. intermedius* have distinct maroon sepals (all other species have cream-coloured sepals), however in *H. gigantea* the bracts, rays, ovaries and often much of the peduncle are also maroon. The leaves also differ in that they are often larger, elliptic to obovate (rarely ovate) with an attenuate or sometimes truncate base. In *H. lanata* and *H. intermedius* they are ovate to oblong with a truncate to cordate base.

The following vernacular names have been recorded for this species and refer to the use of the wooly indumentum of the leaves as tinder: *tondelblaar* ["tinder leaf"], *tondel doek* ["tinder cloth"] (from voucher specimen, Guthrie 18568 and Burchell 7102 respectively), *tondelblad* ["tinder bush"] (Pappe 1862), "tundel-bloom" (Sonder 1862) and "Tündelbloom" [both "tinder flower"] (Bastian and Hartmann 1872). Historical artefacts showing how the leaves were once used to stuff the tinderbox and even to make tinderboxes are depicted in Van Wyk et al. (2013).
**Distribution and Ecology**—This species occurs in small, occasional groups and favours partially shaded, rocky slopes or ledges above 600 m. It has been recorded from the Cedarberg Mountains south to the Hottentots Holland Mountains and east along the Langeberg Mountains to Riversdale (Fig. 8).

**Additional Specimens Examined**—South AFRICA. 3218 (Clanwilliam): Ceres (–DB), Guthrie 18588 (K); Ceres, Olifants River Mountains (–DB), Esterhuysen 13422 (BOL); 3219 (Wuppertal): Cedarberg mountains (–AC), Pocock 5332 (PRE), Compton s. n. (NBG) Skoongesig, Krue-Bokkeveld (–CC), Harkom 1527 (K), 3418 (Simonstown); Somerset West, Helderberg (–BB), Rourke 1612 (NBG), 3318 (Cape Town) Stellenbosch, Jonkershoek Twins (–DD), Esterhuysen 11467 (NBG, PRE), Taylor 10346 (PRE); Jonkershoek, Bosbouklouf (–DD), Borchardt 442 (PRE) Jonkershoek Nature Reserve, Panorama trail, between Banghoek Peak and First Ridge Peak (–DD), Magee, Nicolas & Plunkett 475 (NBG, NY); Jonkershoek, Lang River (–DD), Kerfoot 3710 (NBG, PRE); Jonkershoek State Forest, Dwarsberg, Victoria Peak (–DD), Kerfoot & Haynes 2 (PRE), 3319 (Worcester): Wintershoek Mountains (–AA), Ecklon & Zeyher 2256 (SAM, S), Drege s. n. (S); Worcester, Waaihoek Mountains (–AD), Barnard s. n. (SAM); Tulbagh, top of ridge between Bailey’s Peak and Pic Blanc (–CA), Stokoe s. n. (SAM); Goudini, Jan du Toit’s Kloof (–CB), Andreae 856 (NBG, PRE); Du Toit’s Kloof (–CA), Esterhuysen 11357 (PRE), Drege s. n. (S); Franschoek Pass, Du Toit’s Kop (–CC), Compton 21899 (NBG), Marloth 5319 (PRE); 3320 (Montagu): Tradouw Mountains (DD), Bowe s. n. (BM), 3321 (Ladismith); Vryersberg, Attakwasberg (–DC), McDonald 1769 (NBG), Wilde Perdeberg (–AC), Stokoe 9545 (BOL); 3419 (CA), Cederberg, Lebanon River Catchment (–AA), Kruger 639 (PRE); Jonkershoek Nature Reserve, Panorama trail, near Dwarsberg (–AA), Magee, Nicolas & Plunkett 475 (NBG, NY); Villiersdorp, Elands Kloof Pass (–AB), Gillett 735 (NBG, PRE).

**Diagnostic Characters**—Hermas intermedia shares the large, adaxially felty leaves with H. gigantea and H. lanata. It can be distinguished from H. gigantea by the densely felty or lanate involucral bracts, involucellar bracts and penduncle, as well as having only the sepals maroon (entire umbels maroon in H. gigantea). It can be distinguished from H. lanata by the maroon sepal (cream in H. lanata), less rigid, adaxially short lanate leaves (rigid, long lanate, matted and shaggy in H. lanata) with usually truncate bases (prominently cordate in H. lanata).

**Distribution and Ecology**—This species occurs in rock crevices on shaded or semi-shaded ledges or outcrops above 1,000 m. It is known from only a few small populations along the western mountains of the Western Cape from the Cederberg and Piketberg to Hottentots Holland Mountains (Fig. 9).

**Additional Specimens Examined**—South AFRICA. 3218 (Clanwilliam): Skimmelberg (–BD), Pillans 9087 (BOL); Piquetberg Mountains, Zebraskop (–DB), Pillans 7373 (BOL); 3318 (Cape Town): Summit ridge of Kasteelberg, east of Farm Waterval to Spes Bona (–BD), Helme 5432 (NBG); Summit ridge of Kasteelberg (–BD), Magee, Nicolas & Plunkett 492 (NBG, NY); South side of crest of Riebeek Kasteel (–BD), Pillans 6061 (BM, K), 3319 (Worcester): Ceres, Witzenberg (–AC), Pillans 9635 (BOL); Hex River Mountains, base of headwall below Milner Peak (–AD), Helme 2848 (NBG); Klein Drakenstein Mountains, Mias Poort, NE of Hugenoot kop (–AC), Helme 6535 (NBG); Franschoek Pass (–CC), Pillans 6743 (K); Groot Drakenstein Mountains, Duivelskloof (–CC), Esterhuysen 21346 (BOL); 3419 (CA), Paarl, Disavlei area at western base of Victoria Peak (–AA), Helme 3293 (NBG).
5. *Hermas lanata* (Hill) Magee, comb. nov. *Scabiosa lanata* Hill, Syst. Veg. 5: 46. 1763. —TYPE: SOUTH AFRICA. Western Cape: Cape of Good Hope, in Burman, Rar. Afr. Pl.: t. 72, Fig. 3. 1738. (lectotype designated here; epitype: *Magee, Nicolas & Plunkett* 484 (NBG). [Note: The only original elements eligible for lectotypification of *Scabiosa lanata* are two figures: Burman’s and Hill’s. As expressed by Burtt (1981), Hill’s illustration and description are clearly taken from those of Burman’s with the differences in his plate “taken from his own imaginative interpretation of Burman’s comments and name”. As such we designate the Burman plate as the lectotype. An epitype is also designated to facilitate the precise application of the name]


Acaulescent, resprouting, evergreen herb, 150–250 mm (excluding inflorescence). Leaves in basal rosette, rosetted, simple, present at anthesis; petioles 100–250 mm long, densely lanate, matted and shaggy; lamina ovate; 40–150 mm × 20–120 mm; base prominently cordate, apex broadly obtuse, margin crenulate, terminating in a small tubercle; adaxial surface grey-green, densely lanate, matted and shaggy; abaxial surface grey-white, densely felty and lanate. Synflorescences 300–800 mm long, with terminal primary umbel subtended by 0–5 smaller secondary umbels; peduncles stout, densely felty, lanate, matted and shaggy when young but becoming patchy and largely glabrescent on upper third; peduncular bracts 30–60 mm, oblong to foliaceous, densely felty and lanate. Umbels compound, 60–70 mm in diameter, dense; involucral bracts lanceolate, 10–12, 10–15 mm long, grey-green, venation parallel, adaxial surface densely lanate, matted, abaxial surface lanate to partly glabrescent; rays ca. 40–60, 15–20 mm long at anthesis, green, glabrous; involucellar bracts 2 or 3, 5–8 mm long; lanceolate, green, apically lanate; raylets 6–12, ca 2 mm long at anthesis, brown, glabrous; umbellules with 4–10 hermaphroditic flowers surrounded by 2–5 functionally male flowers. Flowers with 5 large, petaloid sepal, cream-coloured, veins 3, conspicuous; petals filiform, strongly inflexed, cream-coloured. Fruits ovate, base rounded to truncate, dorsally slightly compressed, ca. 2.5–1.5 mm; mericarps homomorphic, glabrous; marginal ribs inconspicuous; lateral ribs narrowly-winged; median rib prominent, narrow.

**Diagnostic Characters**—*Hermas lanata* can be distinguished from the similar *H. gigantea* and *H. intermedia* by the cream-coloured sepal, feltly involucral and involucellar bracts and peduncle (shared with *H. intermedia*) and the firmer, cordate leaves with a long shaggy indumentum.

**Distribution and Ecology**—This species is a very narrow endemic of the Cape Peninsula recorded from Table Mountain and Noordhoek. It favours high western, shaded and moist sandstone kloofs or cliffs facing the ocean (Fig. 9). Previously this species had been reported to extend onto the Jonkershoek Mountains near Stellenbosch (Goldblatt & Manning 2000; Magee et al. 2012). However, closer examination of the specimen for that record, revealed its correct identity to be *H. gigantea*. There were concerns that *H. lanata* was extinct as it had not been collected for several years despite numerous searches of previous known localities by N. Helme to locate it. However, in 2012 we were able to locate six plants from two subpopulation near Fountain Ledge on Table Mountain. As this species is one of the Cape’s earliest known plants, first illustrated in 1685 (Burtt 1981), it was probably not extremely rare, although it does appear to be so now. As a result of its declining population and threats from recreational rock climbing and hiking all across Table Mountain this species has been listed as VU D1 + 2 (Helme et al. 2012).

**Additional Specimens Examined**—SOUTH AFRICA. 3318 (Cape Town): Table Mountain, beginning of India Venster path from plateau, Fountain valley (–CD), *Magee, Nicolas & Plunkett* 484 (NBG, NY); Table Mountain, Mystery B Route (–CD), *Hutchinson et al. MSB* 5213 (NBG); Twelve Apostles, between Grootkop and St. Luke’s (–CD); *Pillans 8876* (BOL); Table Mountain, Fountain Ledge (–CD), *Stokoe 45088* (SAM); Table Mountain (–CD), *Stokoe 4171* (BOL), 3418 (Simonstown): Campsbay, Noordhoek (–AB), *Stokoe 9451* (BOL), *Pillans s. n.*, *Salter 272/13* (K), *Norman 293* (BM).


Acaulescent, resprouting, evergreen herb, 40–80 mm tall (excluding inflorescence). Leaves in basal rosette, procumbent, simple, present at anthesis; petioles 15–60 mm long, usually glabrescent, margins villose; lamina lanceolate to ovate-elliptic, 28–75 mm × 10–50 mm; base attenuate to cuneate; apex acute to attenuate; margins ± entire, setose; adaxial surface green, glabrous to glabrescent; abaxial surface grey-white, felty. Synflorescences 500–850 mm long, with terminal primary umbel subtended by 1–5 smaller secondary umbels, often verticillately arranged; peduncles slender, glabrous throughout or glabrescent at the base; peduncular bracts lanceolate, 10–25 mm, setose. Umbels compound, 35–70 mm in diameter, dense; involucral bracts lanceolate, 10–14, ca. 10 mm long, venation parallel; rays 36–50, 20–35 mm long at anthesis, glabrous; involucellar bracts 1 or 2, 3–8 mm long, spathulate, glabrous; raylets 5–7, 3–5 mm long at anthesis, glabrous; umbellules with 1–6 hermaphroditic flowers surrounded by 1–6 functionally male flowers. Flowers with 5 large, petaloid sepal, cream-coloured, veins 1 with lateral pair sometimes present but inconspicuous; petals filiform, strongly inflexed or coiled, cream-coloured. Fruits broadly ovate, base cordate, dorsally slightly compressed, 3.0–4.5 mm × 2.5–4.0 mm; mericarps homomorphic, glabrous; marginal ribs inconspicuous, lateral ribs winged; median rib prominent, becoming winged in lower third.

**Diagnostic Characters**—*Hermas ciliata* is readily distinguished from all other species by the prostrate, adaxially
glabrous to glabrescent leaves with ± entire and setose margins, usually forming a tidy rosette. As in H. quercifolia and H. villosa, the sepals have only a single prominent central vein with the lateral pair inconspicuous, when present. H. ciliata was at first thought to be unusual in lacking the lignified endocarp found in all other species of the genus and typical for the subfamily Azorelloideae. However, further studies showed that the fruit originally sectioned was immature and that mature fruits do indeed have lignified endocarps.

**Distribution and Ecology**—This species favours moist, steep, lower to upper southern slopes between 400–1,525 m. It occurs from Hottentots Holland and Piketberg Mountains east largely along the Langeberg and Outeniqua Mountains to the Van Stadens Mountains, as well as the Swartberg Mountains (Fig. 10).

**Additional Specimens Examined**—South AFRICA. 3218 (Clanwilliam): Piquetberg Mountain (–DC), Zinn 54440 (SAM). 3219 (Wuppertal): Skoonsesig, Koue-Bokkeveld (–CC), Hanekom s. n. Pillans 6742 (NBG). 3220 (Montagu): Swellendam, Langberg Mountains, Jonkershoek Nature Reserve, Panorama trail, between Banghoek and Jonkershoek, Observation Peak (–CA), Adamson 3644 (BO, K), Compton 557 (BOL), McDonald 1510, C. Ruiters 57 (SAM). 3221 (Wuppertal): Heidelberg, Strawberry Hill (–DD), Stokoe s. n. Adamson 3875 (K). 3222 (Willowmore): Landdroskloof Nek (–BB), Esterhuysen 5602 (SAM). 3223 (Wuppertal): Jonkershoek Forest Reserve (–DD), Kerfoot 6626, Kruger 620, Viviers 117 (K). 3224 (Babylon’s Tower (–AB), Bolus 9219 (BOL), Babylons Tower (–AB), Esterhuysen 5602 (BOL), Esterhuysen 5602 (BOL); Caledon, Jonaskop (–DC), Rouwe 713 (NBG). 3320 (Montagu): Swellendam, Langberg Mountains, Ten O’Clock Mountains (–CD), Compton 557 (NBG); Barrydale (–DC), Acocks 20337 (PFE); Lemoenshoek Peak (–DD), Adamson 3875 (BOL); Grootvadersbosch State Forest (–DD), McDonald 1510, C. Ruiters 57 (NBG, PRE); Heidelberg, Strawberry Hill (–DD), Stokoe s. n. (SAM); Robinson Pass, Outeniqua (–CC), Hops 83 (BOL); Montagu Pass, Cradock Peak (–CD), Zinn 54809 (SAM); Mannetjieberg, Kammanassie (–DB), Esterhuysen 4719 (BOL), Kerfoot 6626, Kruger 620, Viviers 117 (K). 3325 (Port Elizabeth): Humansdorp, Loerie Forest Reserve (–CC), Long 51 (NBG); Van Stadensberg (–CD), Macowan 1128 (K), 3418 (Simonstown): Llandudno Nek (–BB), McDonald 633 (NBG, PRE); Somerset West, Helberg (–BB), Salt 4231 (BM), Calpin 12386 (PRE); Stellenbosch, Lourensford (–BB), Pillans 10023 (BOL); Simonstown (–BD), Fisher 15 (NBG); Jonkershoek Forest Reserve (–DD), Kruger 1004 (NBG). 3419 (Caledon): Dwarsbergen Mountains, Jakkals River, Lebanon Forest Reserve (–AA), Hughes 270, 518, Kerfoot 6626, Kruger 620, Viviers 117 (PRE, NBG); Caledon, Zwarteberg (–AB), Bolus 9219 (BOL); Babylon’s Tower (–AB), Esterhuysen 5602 (BOL), Esterhuysen 5602 (BOL); Caledon, Avontuur (–AD), Fourcade 2067 (BOL, K), Fourcade 1303 (BOL, NBG); Beaconhead, Vogelgat (–AD), Williams 3585 (NBG); Riveronderend, Pilaarskop (–BB), Olivier & Olivier 11227 (NBG).


Shortly caulescent, resprouting, evergreen suffrutes, 60–150 mm (excluding inflorescence). Stems short, woody, 3–5 mm in diameter. Leaves congested along upper part of the stems, spreading, simple, present at anthesis; petioles 5–15 (25) mm long, lanate; lamina obovate to oblanceolate; 20–70 mm × 10–35 mm; base cuneate, apex acute to obtuse, margins crenate, slightly undulate, teeth obtuse, terminating in an in inconspicuous tubercle; adaxial surface grey-green, lanate; abaxial surface grey-white to rusty, densely felty. Synflorescences (250) 350–700 mm long, with terminal primary umbel subtended by 0–4 smaller secondary umbels; peduncles slender, slightly lanate in upper and lowermost portions, remainder glabrescent; peduncular bracts 5–20 mm, foliose to lanceolate, glabrescent. Umbels compound, (15) 25–45 mm in diameter, dense; involucral bracts lanceolate, 10–12, 4–8 mm long, green, venation parallel, adaxial surface glabrescent, abaxial surface glabrescent; rays 7–30, 5–15 mm long at anthesis, glabrous; involucellar bracts lanceolate, 10–12, 4–8 mm long, green, venation parallel, adaxial surface glabrescent, abaxial surface glabrescent; rays 7–30, 5–15 mm long at anthesis, brown, glabrous; umbellules with 1–3 hermaphroditic flowers surrounded by 2–5 functionally male flowers. Flowers with 5 large, petaloid sepals, cream, veins 1, petals filiform, strongly inflamed, cream. Fruits ovate, base truncate, dorsally compressed, ca. 3.5 × 2.5 mm; mericarps homomorphic, glabrous; marginal ribs inconspicuous; lateral ribs narrowly-winged; median rib prominent, becoming winged in lower third.

**Diagnostic Characters**—This species has previously been incorrectly treated as synonymous with H. quinquidentata (Sonder 1862, Burtt 1991), with which it shares the basally-winged median fruit ribs, but can be distinguished by the densely lanate adaxial leaf indumentums, the sepals with one prominent vein (lateral veins when present inconspicuous) and the soft, crenate and slightly undulate leaf margins, which are not involute. It shares the felty to densely lanate upper leaf surface indumentum and glabrous involucellar bracts and bracteoles with H. gigantea but is easily distinguished by the...
smaller leaves (less than 70 mm long), the cream-coloured sepalas with a single prominent vein and the fruit with basally-winged median ribs.

**Distribution and Ecology**—This species favours rocky slopes between 400–800 m, where it grows as a rare occasional in rock crevices or amongst rocks. It occurs from the Elandskloof Mountains south to the Hottentots Holland Mountains near Stellenbosch (Fig. 11).

Additional Specimens Examined—South AFRICA. 3318 (Cape Town): Kasteel Kloof, Zachariasheo (–CC), Smith 204 (NBG, PRE), Drège s. n. (BM), Worcester, Slanghoek Pass (–CA), Adamson 3609 (NBG), Schlechter 7961 (BM), Tulbagh Police Station (–AC), Taylor 4635 (NBG), Jonkershoek State Forest (–DD), Esterhuysen s. n. (PRE), 3319 (Worcester); Between Nuwekloof and Esterhuysen s. n. (NBG). PRECISE LOCALITY UNKNOWN: Banhoek (–DD), Kruger 404 (PRE), Esterhuysen 33747, 34577 (NBG), Rourke 735 (PRE, S), Kerfoot 5609 (PRE), Drège 404 (PRE), Goldblatt 6808 (S); Groot Drakenstein Mountains, Banhoek (–DD), Taylor 4635 (NBG), Jonkershoek State Forest (–DD), Esterhuysen s. n. (PRE). 3319 (Worcester); Between Nuwekloof and Elandskloof (–AC), Drège 404 (PRE), Goldblatt 6808 (S); Franschhoek, LaMotte Forest Station (–CC), Goldblatt 6809 (K), Pillans 6787 (NBG), Rourke 735 (PRE, S), Esterhuysen 19985, 33748, 34577 (BOL, PRE, S), Rourke 735 (PRE, S), Kruger 892 (NBG, PRE), Mager, Nicolas & Plunkett 465 (NBG, NY); Paarl, Jonkershoek Valley (–DD), Schlechter 615, 616 (BOL, NBG), Pillans 6787 (NBG), Paarl, Franshoek Forest Reserve (–CC), Compton 12977 (NBG), Leighton 187 (BOL); Franschhoek, LaMotte Forest Station (–CC), Compton 12977 (NBG), Viectors 103, 595 (NBG, PRE), Paarl, Berg River Hoek (–CC), Compton 8345 (NBG). PRECISE LOCALITY UNKNOWN: Drège s. n. (BM).


Shorty caulescent, resprouting, evergreen suffrutes, 60–450 mm (excluding inflorescence). Stems relatively short, woody, 3–5 mm in diameter. Leaves congested along upper part of stems, suberect, simple, present at anthesis; petioles 5–15 (25) mm long, lanate to glabrescent; lamina elliptic to narrowly elliptic; (15) 20–45 mm × 6–25 mm; base attenuate, apex acute, margins coarsely serrate, strongly revolute, teeth 5–11, acute, mucronate; adaxial surface green, glabrous to glabrescent; umbilical rib prominent, becoming winged in lower third. Synflorescences 90–300 mm long, with terminal primary umbel subtended by 0–1 (2) smaller secondary umbels; peduncles slender, slightly lanate in upper and lowermost portions, remainder glabrescent; peduncular bracts 4–12 mm, foliose to lanceolate or narrowly ovate, glabrescent. Umbels compound, 12–25 (35) mm in diameter, dense; involucral bracts lanceolate, 5–8, 4–8 mm long, green, venation parallel, adaxial surface glabrescent, abaxial surface glabrous; rays 10–30, 3–8 mm long at anthesis, sparsely lanate to glabrescent; involucellar bracts 2–4, ca. 3–6 mm long; elliptic to lanceolate, green, glabrescent; raylets 4–7, ca 2 mm long at anthesis, brown, glabrous; umbellules with 1–2 hermaphrodite flowers surrounded by 3–5 functionally male flowers. Flowers with 5 large, petaloid sepalas, cream, veins 3; petals filiform, strongly inflexed, cream. Fruits transversely ovate, base cordate, dorsally compressed, ca. 3.5 × 0.4 mm; mericarps homomorphic, glabrous; marginal ribs inconspicuous; lateral ribs winged; median rib prominent, becoming winged in lower third.

**Diagnostic Characters**—This species is easily distinguished from *H. quercifolia* by the glabrous upper leaf surface, the stiff coarsely serrate leaves with strongly involute margins and the sepals with three prominent veins. It shares the stiffly toothed, adaxially glabrescent and shortly petioled leaves with *H. villosa* but is readily distinguished from this species by the much smaller habit (dwarf shrublets less than 20 cm tall), the smaller leaves (lamina less than 45 mm long) that are coarsely serrate with only 5–10 teeth and the sepals with three prominent veins.

**Distribution and Ecology**—This species favours moist, partially shaded soils amongst rocks 400–800 m and is particularly prominent soon after a fire. It occurs from the Hottentots Holland Mountains near Sir Lowry’s Pass eastwards along the Klein River Mountains to Potberg (Fig. 12). Additional specimens Examined—South Africa. 307 (Cape Town): Hottentot’s Holland Mountains, Sir Lowry’s Pass (–BD), Bolus 127 (BM, K, NMW, PRE), Burman 1080 (BOL), Esterhuysen 35748 (BOL, K, S), Parker 4707 (BOL, NBG), Parker 4707, Schlechter s. n. (K), Bolus 5338 (NBG, PRE), Schlechter 615, 616 (PRE), Hangklip, Kogelberg Forest Reserve (–BD), Boucher 924, 1143 (NBG), Rourke 314 (NBG, PRE); Ouadebos (–BD), Stokoe 2104 (PRE, 3419 (Caledon); Houwhoek, Houtch site, near lookout (–AA), Magee, Nicolas & Plunkett 488 (NBG, NY), Grabouw (–AA), Goldblatt and Manning 10856 (NBG); Houwhoek Mountain (–AA), Esterhuysen 35393 (BOL), Boucher and Stindt 5352, de Vos 1534, Guthrie 2251, Williams 2717 (NBG), Esterhuysen 35748, Haynes 521 (PRE), Lebanon Nature Reserve (–AA), F.G. Kruger 662 (BM). Zwarbeberge (–AB), E. Esterhuysen 4976 (BOL, NBG), Stokoe s. n. (SAM), Ecklon and Zeyher 2262 (SAM, S), Bolus s. n. (PRE), Hermanus (–AC), Guthrie 224423 (BOL), Gillett 579 (NBG); Babylon’s Tower, above Hillendale (–AD), Helme 3383 (JRAU, NBG); Klein River Mountains (–AD), Stokoe 9542 (BOL, Stokoe s. n. (SAM); Palmiet River Mountains (–BB), Levyn 5376 (BOL), Walgate s. n., Stokoe 1551 (BOL, PRE), Stokoe s. n. (SAM, PRE), Stokoe 1944, 1945 (NBG); Bredasdorp Mountains (–DD), Gelpin 34403 (BOL), 3420 (Bredasdorp); Swellendam (–AB), Adamson 3910 (BOL); Bredasdorp, Potberg (–BC), Ackoo 23583 (K). PRECISE LOCALITY UNKNOWN: Drège s. n. (BM).


Caulescent, resprouting, evergreen shrubs, up to 600 mm (excluding inflorescence), evergreen. Stems prominent, 10–20 mm in diameter. Leaves regularly arranged or congested along upper part of branches, suberect, simple, present at anthesis; petioles 5–25 (40) mm long, densely felty; lamina elliptic to narrowly elliptic or ovate to narrowly ovate; (30) 60–180 mm × 20–60 mm; base cordate to cuneate, apex acute, margins regularly serrate to dentate, strongly revolute, acute, mucronate; adaxial surface green, glabrous to glabrescent; abaxial surface grey-white to rusty, densely felty. Synflorescences (150) 30–700 mm long, with terminal primary umbel subtended by 0–5 (8) smaller secondary umbels; peduncules stout, lanate in upper and lowermost portions, remainder glabrescent; peduncular bracts 5–50 mm, foliose to lanceolate, glabrescent. Umbels compound, (30) 40–95 (35) mm in diameter, dense; involucral bracts lanceolate, 8–20, 5–20 mm long, green, venation parallel, adaxial surface glabrescent, abaxial surface glabrescent; rays 40–100, 15–30 mm long at anthesis, sparsely lanate to glabrescent; involucral bracts 1–3, ca. 5–6 mm long; elliptic to lanceolate, green, glabrescent, sometimes with an abaxial tuft of lanate hairs; raylets 4–8, 4–6 mm long at anthesis, brown, glabrous; umbellules with 1 or 2 hermaphroditic flowers surrounded by 3–6 functionally male flowers. Flowers with 5 large, petaloid sepals, cream, veins 1 with lateral pair sometimes present but inconspicuous; petals filiform, strongly inflexed, cream. Fruits ovate to transversely ovate, base corolate, dorsally compressed, ca. 4.0–5.0 × 3.5–4.0 mm; mericarps homomorphic, glabrous; marginal ribs inconspicuous; lateral ribs winged; median rib prominent, becoming winged in lower third.

**Diagnostic Characters**—*Hermas villosa* shares the stiffly toothed, adaxially glabrescent and shortly petioled leaves and basally-winged median fruit ribs with *H. quinquidentata* but is readily distinguished by the larger, stout shrubby habit (to 60 cm tall), the larger primary umbels (more than 40 mm but is readily distinguished by the larger, stout shrubby habit). The species is readily recognized by its larger, stout shrubby habit and the larger, more prominent median rib of the fruit.

**Distribution and Ecology**—This is the most commonly encountered species occurring on stony southern lower to middle slopes from 50 m above sea level. It occurs from the Cape Peninsula westwards along the Hottentots Holland Mountains around Caledon to the Klein River Mountains (Fig. 11).


**Appendix 1.** Morphological characters and character states used in the cladistic analysis. 1. HABIT (acaulescent = 0; caulescent = 1); 2. ADAXIAL LEAF SURFACE (glabrescent = 0; lanate = 1); 3. LEAF MARGIN (not stiffly toothed = 0; stiffly toothed = 1); 4. PETIOLE (stout = 0; slender = 1); 5. PENDUCLE (glabrous = 0; lanate = 1); 6. BRACT (glabrous = 0; felty = 1); 7. SEPAL (not petaloid = 0; petaloid = 1); 8. SEPAL VENATION (lateral veins prominent = 0; lateral veins obscure or absent = 1); 9. PETAL (ovate to elliptic = 0; filiform = 1); 10. FRUIT MEDIAN RIB (obscure = 0; prominent = 1); 11. MEDIAN RIB (not winged = 0; basally-winged = 1)