

**STUDIES OF NEOTROPICAL COMPOSITAE–XVI.  
*HIERACIUM ORTIZIAE* (CICHORIEAE), A NEW SPECIES FROM PASCO, PERU**

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**ABSTRACT**

***Hieracium ortiziae*** Pruski, **sp. nov.** (Compositae: Cichorieae), is described from Pasco in the central Peruvian Andes. *Hieracium ortiziae* is similar to *H. lagopus*, thereby probably a member of *Hieracium* subg. *Chionoracium* sect. *Piloselliformia*. *Hieracium ortiziae* differs most conspicuously from *H. lagopus* by its monocephalous to paucicephalous capitulescences, larger capitula, glabrous involucre, and mostly eglandular peduncles.

Exploration in Peru by staff members of Missouri Botanical Garden has resulted in discovery of *Hieracium ortiziae* Pruski (Compositae: Cichorieae), a species new to science occurring in Pasco and centered in the Parque Nacional Yanachaga-Chemillén near Oxapampa. In northern and western South America, *Hieracium* L. is mostly high-elevation Andean, e.g., no species of *Hieracium* were treated in either the Guayana flora of Pruski (1997) or in the Cenepa flora of Pruski (2010). Among regional genera of Cichorieae (aka Lactuceae), the characters of *Hieracium* are basically drab, the genus characterized in part by having simple leaves, mostly yellow corollas, erostrate cypselae with smooth surfaces (viz Fig. 4A vs. Fig. 4C–D), and elongate simple scabrid pappus bristles (Fig. 4B). Among other widespread American Cichorieae, by its florets in several series and corollas and anthers concolorous (Fig. 1B), *H. ortiziae* is distinguished from genera with few series of florets, e.g., *Youngia* Cass. and *Cichorium* L. (Fig. 6).

*Hieracium ortiziae* by its few large capitula seems most similar to *H. lagopus* D. Don (1830), and one paratype was originally determined as that species. Fries (1848) placed *H. lagopus*, *H. peruanum* Fr., *H. strigosum* D. Don, and a few other species in his informal stirps *Piloselliformis*, and cited *H. lagopus* based on materials in the Pavón and Bossier herbaria. Zahn (1923) excluded from *Hieracium* sect. *Piloselliformia* Fr. most of the species placed by Fries in *Hieracium* stirps *Piloselliformis*, although retaining *H. lagopus* there. *Hieracium lagopus* was "doubtfully referred" (McVaugh 2000) to synonymy of *H. mexicanum* Less. by Robinson and Greenman (1904), whereas earlier Hemsley (1881) equated *H. lagopus* and *H. irasuense* Benth. Among Central American species, *H. lagopus* instead proves more similar to large-capitulate *H. skutchii* S.F. Blake and *H. sphagnicola* S.F. Blake.

Fries (1848, 1862) treated nearly all American species of *Hieracium* as members of subg. *Stenotheca* Fries, and Zahn (1923: 1094–1095) placed 13 species, including *Hieracium lagopus*, (then including *H. fulvipes* Wedd. in synonymy) in *Hieracium* subg. *Stenotheca* sect. *Piloselliformia*. Garland (1990) reduced *Hieracium* subg. *Stenotheca* to synonym with *Hieracium* subg. *Chionoracium* Sch. Bip., and designated *H. lagopus* as the lectotype, albeit basically mechanically so, of section *Piloselliformia*. Sleumer (1956) resurrected the more southern *H. fulvipes* Wedd. from the synonymy of *H. lagopus*, but nonetheless *H. fulvipes* stands adjacent to *H. lagopus* within the section, as treated by Fries (1862: 143) and distinct from *H. ortiziae*. The newly described *H. ortiziae* may thus be treated within *Hieracium* subg. *Chionoracium* sect. *Piloselliformia*.

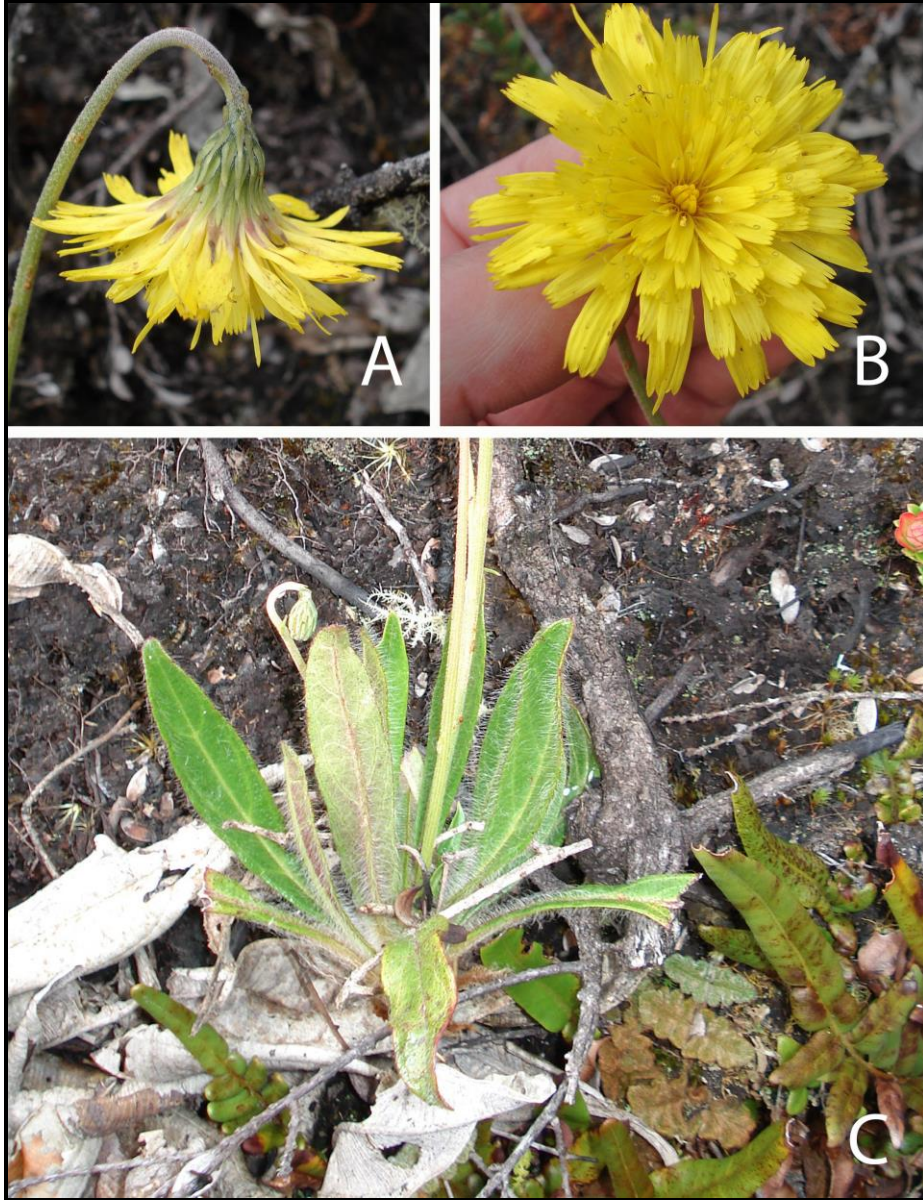


Figure 1. *Hieracium ortiziae* Pruski. A. Nutant capitulum showing the subglabrous phyllaries and the distal portion of the low-dendroid-floccose-tomentulose scape. B. Capitulum showing the 5-lobed yellow corollas of the several-seriate florets. C. Basal rosette leaves showing the long-pilose-hirsute eglandular homotrichous indument. (Pruski *et al.* 4363, field photographs by Rosa Ortiz).

*Hieracium ortiziae* seems similar in many aspects to northern *H. lagopus* and the more southern *H. fulvipes*, but it differs most conspicuously from them by its monocephalous to paucicephalous capitulescences, larger capitula, glabrous involucre, and by scapes-peduncles mostly distally eglandular and homotrichous (or rarely indistinctly heterotrichous and very sparsely stipitate-glandular) with thick-based irregular-dendroid trichomes (Figs. 1–3). The dendroid peduncular trichomes, the usual absence of stipitate-glands (Fig. 3C), and glabrous involucre (Figs. 1A, 3A) are features that at a glance distinguishing *H. ortiziae* from *H. lagopus* (Fig. 5) and *H. fulvipes*, as otherwise these three species are similar in gestalt. The key to species of sect. *Piloselliformia* Fr. in Zahn (1923) gives involucreal indument as the first two couplets, with *H. lagopus* (and then-synonymous *H. fulvipes*) keying out in opposite parts of the section than would *H. ortiziae*, which instead keys most closely to *H. loxensis* Benth. and *H. chilensis*.

Don (1830) described *Hieracium lagopus* based on a Lambert herbarium (viz Miller 1970) duplicate labeled as from Mexico and collected by Sessé and Mociño, and the species was not treated as Andean by Weddell (1855). Zahn (1923), Dillon and Turner (1982), Beaman (1990), and Beaman and Pruski (2018) later excluded the species from Mexico, and instead gave it as South American, where it is centered in northern Peru and Ecuador. Among regional species of sect. *Piloselliformia*, *H. weberbauerianum* Zahn is only slightly more southern than *H. ortiziae* (it is from nearby Huacapistana, Junín), but is leafy-stemmed and has long-pilose phyllaries seemingly rendering it close to *H. fulvipes*. Although named by Zahn (1925) and Sleumer (1936) in sect. *Piloselliformia* and post-dating Zahn (1923), southern Peruvian *H. comasinum* Zahn has a floccose involucre and *H. infravillosulum* Sleumer is small-capitulate, both species thereby immediately distinct from *H. ortiziae*.

Among other regional Peruvian species, *Hieracium neoherrererae* Zahn from Cusco is similarly relatively large capitulate, but it is a leafy stemmed plant with much broader leaves, thus differing from *H. ortiziae*. *Hieracium ortiziae* of sect. *Piloselliformia* is seen to differ from *H. adenoconum* Sleumer from Chachapoyas, *H. peruanum* Fr. from Huánuco, and *H. tallenganum* Zahn from Ancash, each of which differ by glandular-pubescent and small capitula; the latter three species have been placed in sect. *Adenothyrsa* Zahn (Zahn 1923; Sleumer 1936). Indeed, most Andean species of *Hieracium* are small-capitulate and have obvious involucre pubescence much different from characters of *H. ortiziae*. I find no species matching the material from southern Pasco, allowing for *H. ortiziae* to be described below as a regionally endemic new species.

**HIERACIUM ORTIZIAE** Pruski, sp. nov. **TYPE: PERU. Pasco.** Dist. Oxapampa. Cordillera Yanachaga, Chacos, ridge south of antenna, 12 km SE of Oxapampa, pajonal vegetation on sandstone derived soils, 10° 39' 02" S, 75° 17' 40" W, 2700–2800 m, 1 July 2008, *John Pruski, Rosa Ortiz, Rodolfo Vasquez, Gina Castillo & Rigoberto Rivera 4363* (holotype: MO-6956059; isotypes: F, HOXA, K, US, USM). Figures 1–4.

Herbae perennes rosulatae vel subrosulatae 20–60 cm altae, caules erecti simplices subtereti ad basem dense longe-hirsuto-pilosi vel distaliter floccoso-tomentulosi; folia basilaria simplicia alterna sessilia 5–15 × 0.5–1.5 cm oblanceolata pinnatim venosa basi longe-attenuata margine integra apice obtusa vel rotundata longe-hirsuto-pilosa rarer subglabrata; capitulescentia terminalis monocephala vel oligocephala cymosa; capitula homogama ligulata magna circiter 14 × 10 mm, involucre campanulatum usque circiter 10 mm latum, phyllaria 15–30 inaequalia 4–6-seriata 2–4 × 0.7–1.5 mm vel 7–14 × 1.5–2 mm glabrata apice acuminata vel attenuata, clinanthium epaleaceum 2–3 mm latum alveolatum; flosculi ligulati hermaphroditi circiter 60–90 4–6-seriata, corolla luteola limbo quinquelobata externa 5–22 mm longa, antherae circiter 7 mm longae, styli rami circiter 1.5 mm longi; cypselae 1–2.5 mm longae glabratae laevae, setae pappo vel 7 mm longae.

**Perennial herbs** 20–60 cm tall, scapose (aphyllopodous) and nearly fully rosulate with usually 2–9 elongate basal leaves and 0–1(–3) usually much-reduced proximal scape-cauline narrow leaves, scapes seemingly 1(–few) per plant but often pressed adhering to one another and seemingly pluriscapose, caudex mostly 5–15 cm long, scapes-stems usually 20–60 cm tall, ca. 2+ mm wide, brownish, subterete, caudex and proximal portion of scape densely long-pilose-hirsute, trichomes multicellular in length and breadth, to 6+ mm long, thick-based and ca. 5+ cells wide, simple but with lateral trichome margins irregularly roughened by protruding cell ends, the thickened basal portion of trichomes ca. 0.3 mm long, opaque-brown, the distal flagelliform portions of trichomes clear, midscape often becoming sparsely pilose-hirsute and pubescent with scattered low T-shaped-dendroid trichomes, distal portions of scape just below involucre often moderately to densely low-floccose-tomentulose and occasionally (seen only in *V-13445*) also sparsely glandular-hirsute; herbage with triterpene-rich milky latex. **Leaves** basal or mostly so, simple, alternate, entire, basically sessile with a long narrow petiolariform base but without a true distinct petiole, margins entire, surfaces eglandular; basal leaves 2–13, 5–19 × 0.5–2 cm, oblanceolate or spatulate,

chartaceous, pale green to sometimes tingled purplish abaxially, venation pinnate, base long-attenuate, apex obtuse to rounded, margins short-pilose-hirsute, surfaces homotrichous, long-pilose-hirsute, trichomes resembling those of caudex and stem, surface trichomes mostly concentrated on both faces of midrib, sparse elsewhere; cauline leaves 0–1(–3), abruptly smaller than basal leaves, basically restricted to proximal half of plant, 2–8 × 0.2–0.4 cm, oblanceolate to linear-lanceolate, long-pilose-hirsute especially at base. **Capitulescence** (anthela) terminal, monocephalous to openly cymose and 2–3(–4)-capitulate; scape-peduncle few-striate, pilose-hirsute proximally, moderately to densely low-floccose-tomentulose distally immediately below capitulum with irregularly short-branched eglandular dendroid trichomes, trichomes more or less matted, 2–5 branched, to ca. 0.4 mm long, eglandular or rarely sparsely glandular-hirsute distally (seen only in V-13445), these gland-tipped trichomes patent, ca. 0.7 mm long and held above the lower matted irregular-branched eglandular dendroid trichomes, minutely 1–7-bracteolate; bracteoles somewhat appressed to stem, 4–7 mm long, lanceolate, ciliate, surfaces glabrous. **Capitula** homogamous, ligulate, 1–4 per scape, nutant, to ca. 14 × 10 mm (but not including measurements of the spreading corolla limbs of the outer florets), relatively large especially as compared to regional congeners, ecalyculate; involucre campanulate, ca. 10 mm wide; phyllaries 4–6-seriate, 15–30, triangular to lanceolate, outer few 2–4 × 0.7–1.5 mm, evenly grading to inner phyllaries, inner phyllaries 7–14 × 1.5–2 mm, all glabrous or sparsely floccose basally, green, apex acuminate to attenuate, never stipitate-glandular; clinanthium 2–3 mm diam, flat, epaleate, foveolate. **Florets** ligulate, bisexual, ca. 60–90, 4–6-seriate, outer ones at anthesis while inner most still in bud, thereby appearing gradually but strongly unequal; corolla of outer florets much-exserted from involucre, 15–22 mm long, yellow, (4–)5(–6)-lobed, glabrous to rarely sparsely setose-pilose, tube 5.5–7 mm long, limb 9–15 × 2–4.5 mm, teeth ca. 1(–5) mm long; anthers positioned immediately above mouth of corolla tube, ca. 7 mm long, long-sagittate, spurs ca. 1.5 mm long, pointed, apical appendage ca. 0.5 mm long, flat, pollen spheroidal, echino-sublophate; style to ca. 10 mm long, distal portion of trunk and abaxial branch surfaces papillose, branches recurved ca. 1.5 mm long, stigmatic surfaces adaxial, continuous. **Cypselae** (immature) 1–2.5 mm long, subterete-subcylindrical, truncate apically, dark brown, glabrous, surfaces smooth; pappus of 30–40 white to stramineous, scabrid, slightly unequal elongate bristles to ca. 7 mm long. **Chromosome number** unknown, but as with many American species of the genus it seems possible the plant is a diploid with a base number of  $x = 9$  (viz Dillon and Turner 1982 who reported the chromosome number of *H. lagopus* as  $2n = 18$ ).

**Paratypes. PERU. Pasco.** Dist. Oxapampa, Sector Chacos, 10° 38' 42" S, 75° 17' 30" W, 2740 m, 4 Nov 2004, *Monteagudo et al.* 7528 (HUT, MO, USM); Dist. Huancabamba, Parque Nacional Yanachaga-Chemillén, 10° 18' 04" S, 75° 36' 30" W, 2300 m, 1 Nov 2006, *Monteagudo et al.* 13021 (AMAZ, F, G, HUT, LSU, MO, MOL, S, UC, US, USM); Dist. Huancabamba, alrededores de la Laguna San Daniel-Sector San Daniel, Parque Nacional Yanachaga-Chemillén, 10° 25' 56" S, 75° 27' 24" W, 2410 m, 10 Sep 2005, *E. Ortiz et al.* 923 (MO, USM); Dist. Oxapampa, camino hacia la antena de Chacos-Zona de Amortiguamiento, Parque Nacional Yanachaga-Chemillén, 10° 37' 24" S, 75° 17' 43" W, 2360–2800 m, 27 Sep 2005, *E. Ortiz et al.* 997 (AMAZ, GH, HUT, MA, MO, USM); Dist. Oxapampa, sector Chacos pajonal, 10° 37' 25" S, 75° 17' 43" W, 2100 m, 3 Jun 2004, *Rojas et al.* 2634 (MO, USM); Dist. Oxapampa, Abra-Villa Rica. Bosque de arenisca (Pajonal), 10° 40' 36" S, 75° 18' 55" W, 2400 m, 7 Jun 2004, *Rojas et al.* 2713 (MO, USM); Abra-Villa Rica, 10° 40' 36" S, 75° 18' 55" W, 2400 m, 1 Sep 2004, *Rojas et al.* 3302 (AMAZ, B, HOXA, HUT, MO, NY, USM); Dist. Oxapampa, sector Chacos Pajonal, 10° 37' 25" S, 75° 17' 43" W, 2300 m, 5 Sep 2004, *Rojas et al.* 3308 (H, M, MO, US); Dist. Oxapampa, Cerro Pajonal, 29 km from Oxapampa, 10° 35' 37" S, 75° 20' 29" W, 2680 m, 6 Oct 1982, *Smith & Foster* 2513 (MO); Dist. Huancabamba, Sector Oso Playa, 10° 18' 47" S, 75° 36' 22" W, 2559 m, 13 Oct 2009, *Valenzuela et al.* 13445 (F, HOXA, HUT, MO, MOL, P, USM; although the label reads "Hierba 80 cm" I have seen duplicates to only 60 cm tall); Dist. Huancabamba, Oso playa, 10° 17' 58" S, 75° 36' 36" W, 2300 m, 18 Oct 2009, *Valenzuela, et al.* 13633 (BM, HOXA, HUT, MA, MO, MOL, NY, USM); Dist. Oxapampa, Sector Chacos, Bosque el Sho'llet' - Mirador la Princesa, 10° 36' 54" S, 75° 17' 39" W, 2639 m, 5 Dec 2015, *Valenzuela et al.* 29327 (HOXA, MO); Dist. Oxapampa, near antenna past Chacos,

montane forest and low scrub (pajonal), rosette herb in subparamo, 10° 38' S, 75° 17' W, 2450 m, 19 Jul 2003, *H. van der Werff*, *R. Vásquez*, *B. Gray*, *Rosa Ortiz* & *N. Dávila* 18697 (C, E, M, MO, TEX, US; the duplicate I sent in 2010 to M was labeled by me as an isotype); Dist. Oxapampa, Bosque de Sho'llet, Abra Esperanza, 10° 40' 05" S, 75° 19' 10" W, 2440 m, 11 Oct 2006, *Vásquez et al.* 31447 (G, MO, USM).

**Eponymy.** I am pleased to name this new species for native Peruvian Dra. Rosa del Carmen Ortiz of the Missouri Botanical Garden, a collector of the type and of an earlier paratype gathering. Rosa Ortiz is a noted specialist in phylogeny and taxonomy of Menispermaceae, having revised *Curarea* (Ortiz 2018), named the South American genus *Rupertiella* Wei Wang & R. Ortiz (Lian et al. 2019), named Menispermaceae tribe Spirospermeae R. Ortiz & Wei Wang (Ortiz et al. 2016), and worked on several Menispermaceae floras of Central America and South America.

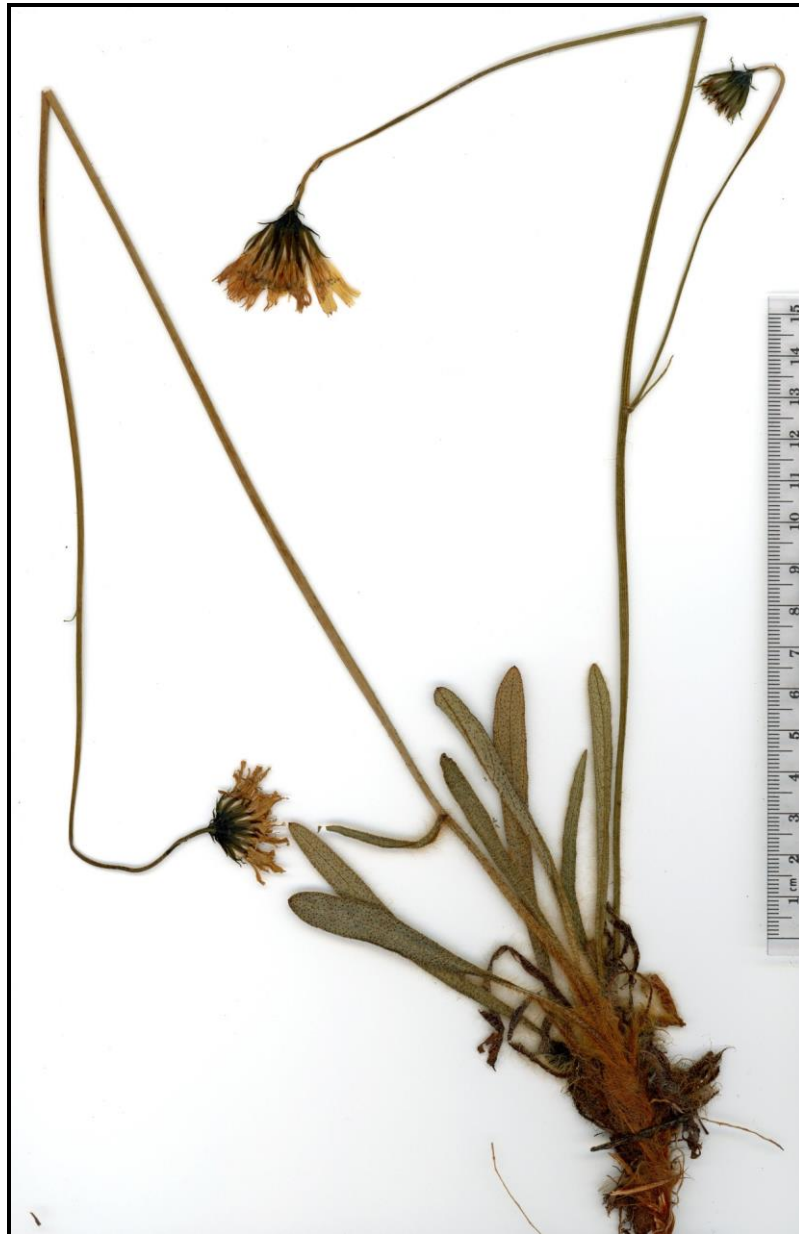


Figure 2. *Hieracium ortiziae* Pruski, two individual loosely adhering plants, showing two 1–2-capitulate scapes, two overlapping plants-rosettes, and a single cauline leaf proximally on the monocephalous plant leaning to the left. (*Pruski et al.* 4363, MO, holotype, before mounting).

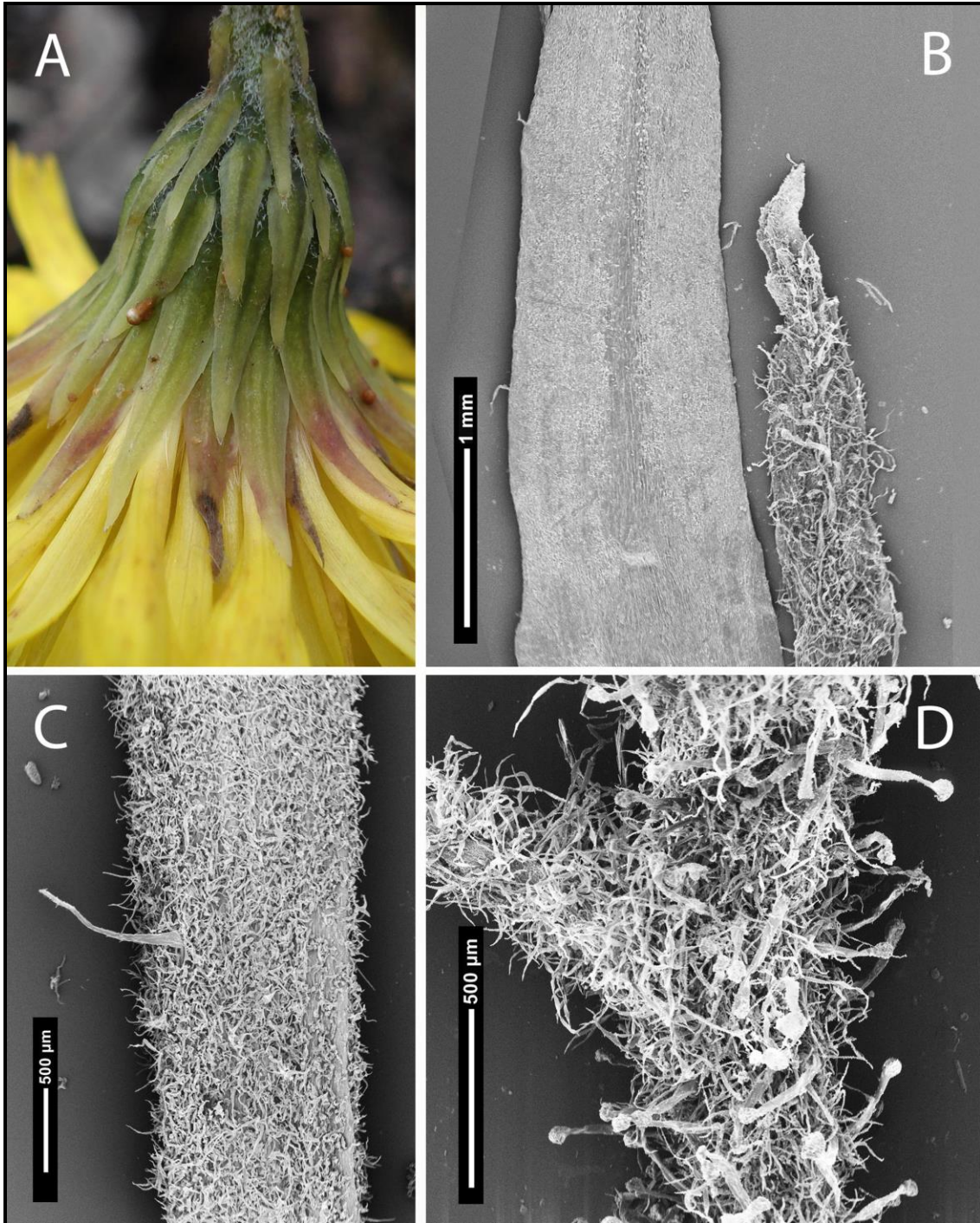


Figure 3. Indument of *Hieracium ortiziae* Pruski (A, B-left, C) and of (B-right, D) *Hieracium lagopus* D. Don. A. *Hieracium ortiziae*, involucre showing the several-seriate mostly subglabrous phyllaries with only sparse short eglandular trichomes proximally. B. Abaxial phyllary surfaces; subglabrous inner phyllary (left) of *Hieracium ortiziae*; on the right is a heterotrichous outer phyllary of *Hieracium lagopus* showing scattered elongate stipitate-glandular trichomes and a shorter dense layer of eglandular trichomes. C. Distal portion of scape of *Hieracium ortiziae*, nearly homotrichous, showing a dense low layer of dendroid tomentum and (mid-left) a single elongate eglandular trichome. D. Peduncle of *Hieracium lagopus*, obviously heterotrichous, showing scattered elongate stipitate-glandular trichomes and the slightly shorter eglandular trichomes of the dense underlying layer of tomentum. (A, C Pruski *et al.* 4363, MO, holotype; B left van der Werff *et al.* 18697, MO; B right and D Dillon & Turner 1557, MO).

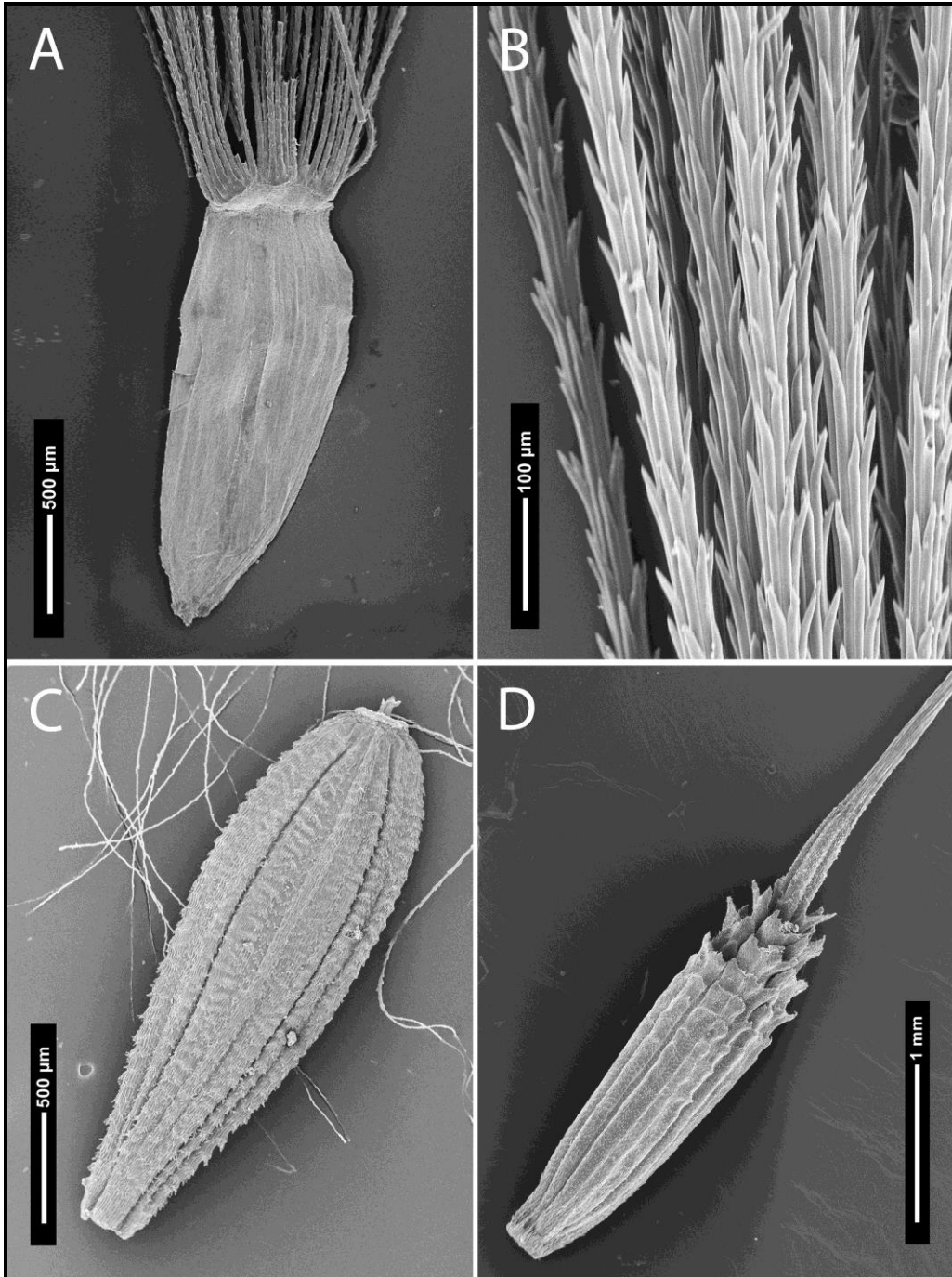


Figure 4. Cypselae of *Hieracium ortiziae* Pruski, and representative regional Cichorieae. A. Cypselus of *Hieracium ortiziae*, apex erostrate and surfaces weakly nerved, smooth. B. Scabrid pappus bristles of *Hieracium ortiziae*. C. Cypselus of *Sonchus oleraceus* L., biconvex, apex erostrate and surfaces costate, transverse-rugulose. D. Cypselus of *Taraxacum officinale* F.H. Wigg., subterete, apex long-rostrate and surfaces costate, body distally transverse-spiculate plated just below rostrum. (A–B van der Werff *et al.* 18697, MO; C Pruski & Ortiz 4270, MO; D Pruski 4595, MO).

**Distribution and ecology.** *Hieracium ortiziae* is an occasional to frequent low herb occurring from 2100–2800 meters elevation in pajonal vegetation of Cordillera Yanachaga southeast of Oxapampa, Pasco, Peru. The new species occurs mostly on sandstone derived soils and appears to

flower mostly from June to December. *Hieracium ortiziae* is found just south of Pozuzo-Huancabamba, Pasco, where the similar *H. lagopus* occurs.



Figure 5. *Hieracium lagopus* D. Don, presumed isotype in the Madrid Ruiz & Pavón Herbarium Peruvianum. (From MO-1700657 photograph printed from Macbride neg. 29297 of Ruiz & Pavón 28/66, MA, now stamped MA-816439).





Figure 6. Representative Cichorieae genera showing capitula with fewer subequal florets in fewer series than in *Hieracium ortiziae* Pruski. A. *Youngia japonica* (L.) DC., yellow corollas and discolorous anthers. B. *Cichorium intybus* L., corollas and anthers concolorous. (A Pruski 3791; B Pruski & Ortiz 4598).

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