

Habitu *Youngiae piliferae* Shih similis, sed caule albo-hamato-pilifero, foliis utrinque glabris, flosculis ligulatis cyaneis differt.

Herba perennis, 15 ~ 22 cm alta. Rhizoma breve, radices carnosas emittens. Caulis erectus, simplex, albo-hamato-pilifer, supra medium ramosus. Folia basilaria petiolata, petiolis tenuibus 1.3 ~ 3 cm longis, margine albo-hamato-piliferis; laminae ovato-sagittatae vel ovatae, 1 ~ 1.8 cm longae, 6 ~ 8 mm latae, apice acutae vel obtusae, integrae, basi sagittatae, truncatae vel rotundatae, utrinque glabrae; illa inferiora et media caulina elliptico-ovata, lanceolata vel anguste lanceolata, 1.8 ~ 2.2 cm longa, 3 ~ 7 mm lata, integra, basi cuneata vel attenuata, utrinque glabra, petiolis 1.7 ~ 2.8 cm longis; illa superna caulina lineari-lanceolata, bracteiformia. Calathia 5 ~ 10, in corymbos laxos vel paniculato-corymbos disposita; pedunculi albo-hamato-piliferi; involucri anguste cylindricum, 6 ~ 7 mm longum, circa 1.5 mm latum; involucri phyllaria circa 4-seriata; illa extima minora, ovata, 1 ~ 2 mm longa, circa 1 mm lata; illa mediana oblonga vel lanceolata, 2.5 ~ 4 mm longa, circa 1 mm lata, apice acuta; illa intima oblonga, 6 ~ 7 mm longa, 1 ~ 1.5 mm lata, apice nigro-purpurea, albo-hamato-pilifera, dorso glabra. Flosculi ligulati 4 ~ 6; ligulae cyaneae, oblongae, 4 ~ 5 mm longae, circa 1 mm latae, apice 5-denticulatae, tubo circa 2 mm longo, glabro. Achenia (immatura) fusiformia, compressa, flavido-rufa, breve albo-setulosa, apice contracta erostrata; costae laterales 2, medianae 1 vel 2. Pappi setae albae, 4 ~ 5 mm longae.

China. Qinghai (青海): Yushu (玉树), Jiangxigou (江西沟), Jiangda (江达), river banks, alt. 3700 m, 1980-07-22, Z. D. Wei 21708 (holotype, here designated, HNWP).

多年生草本, 高 15 ~ 22 cm。根状茎短, 具肉质根。茎直立, 单生, 被白色钩状毛, 上部分枝。基生叶具柄, 柄较细, 长 1.3 ~ 3 cm, 边缘被毛, 基部略膨大; 叶片卵状箭形或卵形, 长 1 ~ 1.8 cm, 宽 6 ~ 8 mm, 先端急尖或钝, 全缘, 基部箭形, 平截至圆形, 两面无毛; 茎中下部叶椭圆状卵形、披针形或狭披针形, 叶片长 1.8 ~ 2.2 cm, 宽 3 ~ 7 mm, 全缘, 基部宽楔形或渐狭, 两面无毛, 叶柄长 1.7 ~ 2.8 cm; 茎上部叶线状披针形, 苞叶状。头状花序 5 ~ 10, 在茎端排成疏伞房状或近似圆锥状伞房花序; 花序分枝和花序梗被白色钩状毛; 总苞细圆柱状, 长 6 ~ 7 mm, 宽约 1.5 mm; 总苞片约 4 层, 最外 2 层短小, 卵形, 长 1 ~ 2 mm, 宽约 1 mm, 中层长圆形或披针形, 长 2.5 ~ 4 mm, 宽约 1 mm, 最内层长圆形, 长 6 ~ 7 mm, 宽 1 ~ 1.5 mm, 先端黑紫色, 被白色柔毛和钩状毛, 背部无毛, 边缘狭膜质。舌状花深蓝色, 4 ~ 6, 舌片长圆形, 长 4 ~ 5 mm, 宽约 1 mm, 先端 5 齿裂, 管部长约 2 mm。瘦果(未熟)淡黄红色, 狭纺锤形, 长约 4 mm, 边肋 2, 稍粗, 每面具 1 或 2 中肋, 间肋不明显, 无喙, 果体全部被白色指向上方的小刺毛。冠毛白色, 长 4 ~ 5 mm。

本种的体态与糙毛黄鹌菜十分相似, 但舌状花深蓝色, 茎及花序分枝被白色钩状毛, 叶两面无毛而不同。

2 乳苣属 *Mulgedium* Cass.

2.1 青海乳苣 新种 图 2: 1 ~ 5

Mulgedium qinghaicum S. W. Liu et T. N. Ho, sp. nov. Fig. 2: 1 ~ 5

Species nova *M. monocephalo* (Chang) Shih similis, sed foliis integris vel dentatis, caule superne et involucri longe cinereo-purpureo-pilosis differt.

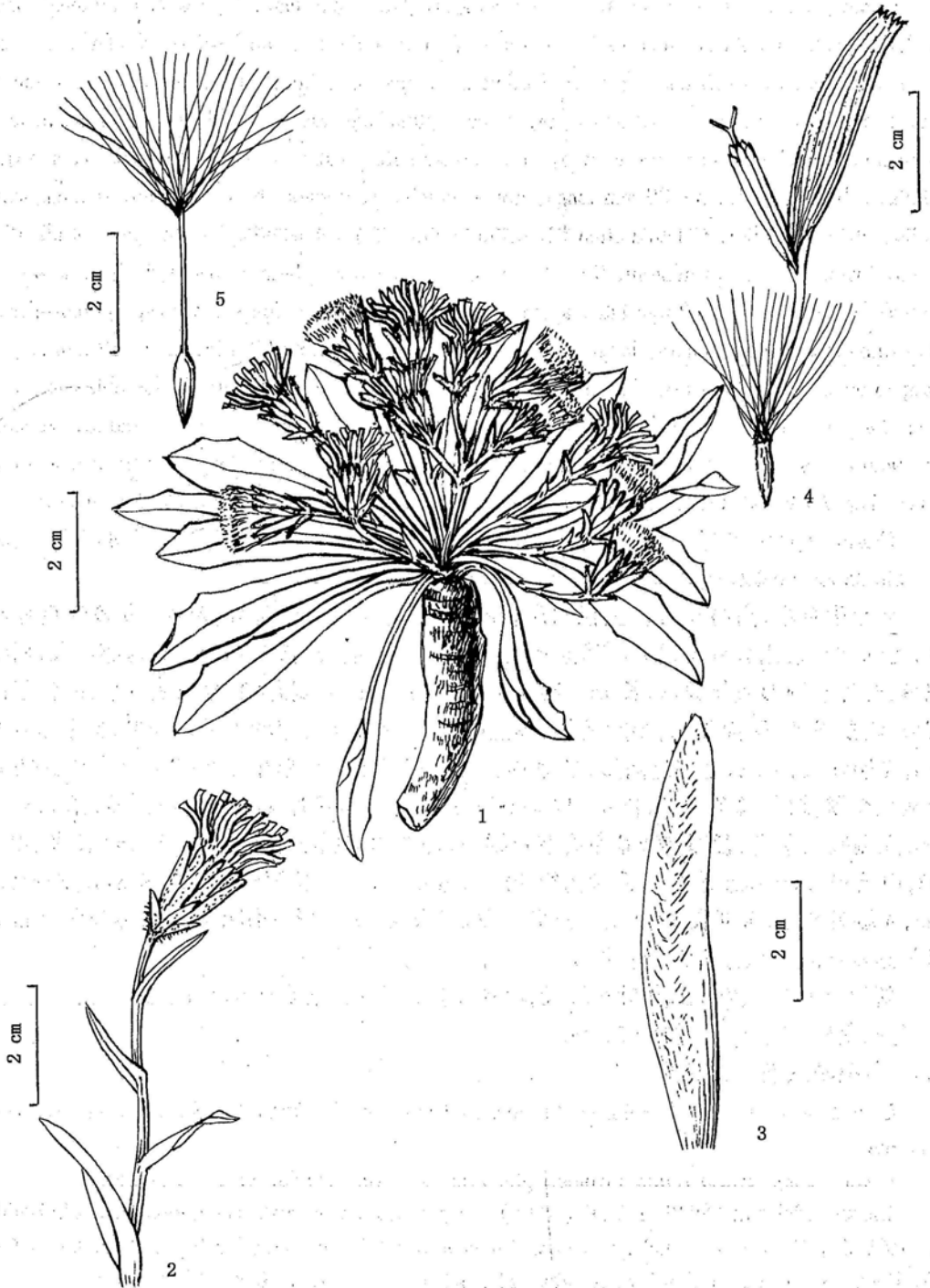


图2 1~5. 青海乳苣 1. 植株; 2. 花茎; 3. 总苞片; 4. 舌状花; 5. 果实。
 Fig. 2 1~5. *Mulgedium qinghaicum* S. W. Liu et T. N. Ho 1. Plant; 2. Flowering stem;
 3. Involucral bract; 4. Ligulate floret; 5. Achene.

Herba perennis, circa 4 cm alta. Radix carnosae, circa 7 mm diam. Caules 9, aequilongi, fasciculati, erecti, simplices, superne longe cinereo-purpureo-pilosi. Folia basilaria rosulata, petiolata, petiolis alatis, 1 ~ 1.5 cm longis, basi dilatatis, amplexicaulibus; laminae ellipticae vel oblongae, 1.5 ~ 2 cm longae, 4 ~ 10 mm latae, apice acutae, integrae vel denticulatae, basi cunetae, attenuatae in petiolo, utrinque glabrae, costa crassa; illa caulina 4 ~ 5, ovato-lanceolata usque subulata, bracteiformia, 5 ~ 20 mm longa, apice acuminata, integra, basi rotundata, semiamplexicaulia, utrinque glabra. Calathia circa 12, solitaria atque 4 in cymas ad apicem caulis centralis disposita; involucri campanulatum, 9 ~ 12 mm longum, 5 ~ 6 mm latum; involucri phyllaria 4 ~ 5-seriata, lanceolata, 1.5 ~ 2 mm lata, apice obtusa vel acuta, dorso longe cinereo-purpureo-pilosa; illa extima medianaque minora, longitudine 1/2 ~ 1/3 intimis breviora; illa intima 9 ~ 12 mm longa, margine anguste membranacea. Flosculi ligulati circa 20, coeruleo-purpurei; ligulae oblongae, 7 ~ 9 mm longae, circa 1.5 mm latae, apice 5-denticulatae, tubo 3 ~ 4 mm longo, glabro. Achenia (immatura) fusiformia, compressa, utrinque attenuata, ipsa circa 2 mm longa, rostro usque 4 mm longo. Pappi setae albae, 2-seriatae, 5 ~ 6 mm longae, longitudine tubum corollae aequantes.

China. Qinghai(青海): Hualong(化隆), in poplar forests, alt. 2600 m, 1988-09-18, S. W. Liu 3536b (holotype, here designated, HNWP).

多年生草本,高约4 cm。主根肉质,径约7 mm。茎9条,等高,丛生,具多数苞片状叶,上部被灰紫色有节长柔毛。基生叶莲座状,具翅状柄,柄长1~1.5 cm,基部扩大,鞘状抱茎;叶片椭圆形或长圆形,长15~20 mm,宽4~10 mm,先端急尖,全缘或具小尖齿,基部楔形,渐狭成柄,两面无毛,中脉较粗;茎生叶4~5,苞片状,卵状披针形至钻形,长5~20 mm,先端渐尖,全缘,基部近圆形,半抱茎。头状花序12个,单生茎顶和4个在中央的茎上成聚伞状排列;总苞钟形,长9~12 mm,宽5~6 mm;总苞片4~5层,披针形,宽1.5~2 mm,先端钝或急尖,背部被灰紫色有节长柔毛,外层和中层稍短或较短,长为内层的1/2~2/3,内层较长,边缘狭膜质。舌状花约20个,蓝紫色,舌片长圆形,长7~9 mm,宽约1.5 mm,先端具5齿,管部长3~4 mm,光滑。瘦果(未熟)纺锤形,两端渐狭,果体长约2 mm,喙长达4 mm。冠毛白色,2层,长5~6 mm,与花冠管部等长。

新种与单头乳苣相近,但叶全缘或有小齿,茎上部及总苞被灰紫色有节长柔毛而不同。

3 垂头菊属 *Cremanthodium* Benth.

3.1 黄苞垂头菊 新变种

Cremanthodium campanulatum (Franch.) Diels var. **flavidum** S. W. Liu et T. N. Ho, var. nov.

A var. *campanulato* differt involucri phyllariis albis vel flavidis, longe albo-pilosis.

China. Sichuan (四川): Muli (木里), in gravel zone on high mountains, alt. 4450-4460 m, 1929-06, Rock 17919 (holotype, here designated, GH); the same locality and habitat, 1929-09, Rock 18130 (GH); the same locality, alt. 4830 m, 1932-10, Rock 24470 (GH).

与原变种的区别是总苞片淡黄色或白色,被白色有节长毛。

4 囊吾属 *Ligularia* Cass.

4.1 尼泊尔囊吾 新变种

Ligularia amplexicaulis DC. var. **nepalensis** S. W. Liu et T. N. Ho, var. nov.