

- 齿而有长缘毛;体多毛…………… 268. 宿叶马先蒿 *P. tenacifolia* Tsoong
 4(1) 植株茎常单条,虽有宿存的叶柄,但不成密丛,且除宿存叶柄外,更有膜质披针形的鳞片
 多枚;基生叶的裂片每边 4—5 枚…………… 269. 季川马先蒿 *P. yui* Li

267. 迈亚马先蒿 图版 LXIX, 9—12

Pedicularis mayana Hand.-Mazz. Symb. Sin VII (1936) 858, t. 15, f. 10;
 Li, in Proc. Acad. Nat. Sci. Philad. CI (1949) 101, f. 159.

多年生低矮草本,干时变黑,高 4—9 厘米。根茎粗壮,径达 4 毫米,上部常分枝,密被褐色丝状的宿存去年叶柄,有时更有去年残茎,使植物成密丛。茎常 3—7 条,直立,或偶弯曲上升,纤细而中空,草质,稍有棱角,沿棱有锈色毛线,基部被有卵形至披针形鳞片数层。叶互生,几全部为基出,柄长约 4—5 厘米,纤细扁平,沿中肋有狭翅,中肋及边缘疏被长柔毛,叶片卵状披针形至卵状长圆形,草质,长约 8—15 毫米,宽 4—5 毫米,上面无毛,下面疏被短毛和糠枇状物,边羽状全裂,裂片每边 6—12 枚,显有间距,披针形,基部稍下延,连于中肋两侧构成狭翅,缘有反卷的圆齿。花序顶生,亚头状,花约 4—8 朵,少有单朵,密集,在果中稍稍伸长;苞片叶状,有时掌状三裂,具短柄,长 4—7 毫米;萼长圆筒状钟形,长约 7—9 毫米,厚膜质几不透明,前方不开裂,被锈色长柔毛,主脉 5 条,4 粗 1 细,次脉数多,约 7—8 条,结成极疏的网纹,齿 5 枚,质地较厚,长约为管长的 1/3,不等,后方 1 枚较狭细,自三角形基部向上成线状披针形,全缘,其余 4 枚较宽,长圆形而端不膨大或偶有上方稍稍膨大者,上部多有反卷之齿;花冠紫色,长 15—18 毫米,管伸直,略长于萼,长 9—12 毫米,外面无毛,上部稍扩大,盔直立部分前缘约高 2.5 毫米,宽约 2 毫米,含有雄蕊的部分很膨大,宽达 3.5 毫米,约以 75° 角转向前方而稍偏上方,额没有或有时稍有鸡冠状凸起,急速向前倾斜,狭成细长之喙,喙长约 3—4 毫米,稍稍向下弓曲,端浅 2 裂,下唇长 6—9 毫米,无缘毛而有明显的嚙痕状齿,中裂圆形,稍凸出,侧裂斜椭圆形,约大于中裂 1 倍;雄蕊着生于花管基部,花丝两对均无毛;柱头伸出。蒴果披针状长圆形,长约 13—14 毫米,宽约 5 毫米,扁平,稍偏斜,端有短凸尖。花期 5—8 月。

为我国特有种,产于云南西北部(怒江澜沧江分水岭),生于海拔 3,660—4,575 米的高山草原上。

268. 宿叶马先蒿 图版 LXX, 5—7

Pedicularis tenacifolia Tsoong, sp. nov., in Addenda, 416. — *P. umbelliformis* auct. non Li: Tsoong in Phytotax. Sinic. III (1955) 321, et in Bull. Brit. Mus. (Nat. Hist.) Bot. II (1955) 34.

多年生草本,干时变黑,高 5—7 厘米,多毛。侧根多条,线形而细或稍稍增粗,长约 4 厘米,径 1—2 毫米,顶端宿存去年枯叶,其枯叶多连叶片宿存,亦常有去年枯茎宿存,再加当年生多数基叶乃成为极密之丛。茎 3—5 条,不分枝,相当粗壮,具稜沟,沿稜有锈色多细胞毛组成的密毛线,他处亦生疏毛,基部被有长 4—5 毫米的宽卵形膜质鳞片。叶全部基生,柄长 2—3 厘米,膜质,扁平,沿中肋有宽翅,宽约 2 毫米,沿缘密被长毛,他处几无毛,叶片长 1—1.5 厘米,宽 5—6 毫米,卵状长圆形或长卵形,草质,两面均有锈色疏毛,下面杂有糠枇状及白色肤屑状物,羽状全裂,裂片每边 5—6 枚,宽卵形,互相接近,边缘有反卷的细圆齿。花序顶生,亚头状,花 3—5 朵,密聚;苞片约与萼等长,柄短而变宽,上部深 3 裂,裂片有少数羽裂;花梗短,长约 2—3 毫米,被毛;萼圆筒状钟形,厚膜质,长约 7 毫米,前方不开裂,被长毛,脉不规则,主脉约 5 条,由许多细脉组成,宽而不很凸起,次脉 6—7 条,较细,更有多数纵行的细网脉,齿 5 枚,长约 5 毫米,下部三角形,中部稍狭细成柄状,端绿色而厚,多 3 裂,齿常反卷;花冠紫红色,盔的地平部分色较深,长 12—15 毫米,花管伸直,稍过于萼,端略扩大,盔直立部分前缘约高 4 毫米,几以直角向前转折成为含有雄蕊的部分,惟转角处多少镰状,后者长约 5 毫米,前方多少急狭为 1 圆柱形的喙,额部多少凸起,喙长约 5 毫米,伸直而稍稍偏指下方,端斜截形,微有齿,下唇长约 10 毫米,有长缘毛,侧裂斜椭圆形,中裂仅侧裂的半大,宽卵形,大部向前凸出,基部迭置于侧裂之下;雄蕊着生于花管中部,前方 1 对花丝有疏毛;子房长卵形,长约 4 毫米,柱头伸出喙端。

为我国特有种,产西藏昌都专区西南部。

269. 季川馬先蒿

Pedicularis yui Li, in Proc. Acad. Nat. Sci. Philad. CI (1949) 102, f. 167.

季川馬先蒿季川变种 图版 LXX, 1—4

Pedicularis yui Li var. *yui*

二年生?,干时变为黑色,低矮,高约 6—7 厘米,近于无毛。根茎纤细,斜入地中或多少水平伸展,多节,节上常有膜质三角形鳞片,不定根少,或 3—5 条,长达 3 厘米,丝状或稍稍肉质增粗。茎常单条,有时仅长 1.5 厘米,直立不分枝,纤细,几无毛,基部有多数膜质披针形鳞片,亦有去年的枯叶柄宿存,但不成大丛。叶互生,全部基出,柄长 1.5—3 厘米,扁平,沿中肋有狭翅,边缘有疏长毛,叶片长卵形至卵状长圆形,厚

图版 LXX 1—4. 季川馬先蒿季川变种 *Pedicularis yui* Li var. *yui*, 1. 植株×1; 2. 花×3; 3. 花萼×3; 4. 下唇×3. 5—7. 宿叶馬先蒿 *P. tenacifolia* Tsoong, 5. 植株×1; 6. 花×3; 7. 花萼×3. (绘图人刘春荣)

tis, lobo medio lateralibus duplo majore, basi stipite usque 1.5 mm. longo prominente suffulto, limba 4.5—5 mm. longa, manifeste porrecta, lobis lateralibus quoque breviter stipitatis; stamina paulo supra basin tubi inserta, ad insertiones pubescentia; ovarium anguste ovoideum, circ. 3 mm. longum, appendice circ. 1 mm. longa, inferne basin ovarii amplexante, superne conica, longitudine sua circ. $\frac{1}{3}$ ovario adnata, praedito, stylus 1.5—2 mm. ex apice galeae exsertus.

Yunnan: without exact loc. (T. T. Yu 12689), (type).

240. **Pedicularis alopeculos** Franch. var. **lasiandra** Tsoong, var. nov.

A var. *alopeculos* differt filamentis superne breviter pilosis antherisque longe sparseque pilosis.

Szechuan: without exact loc. (T. T. Yu 3355), (var. type).

241. **Pedicularis debilis** Franch. subsp. **debilior** Tsoong, subsp. nov.—*P. liana* Pennell ex Li, in Proc. Acad. Nat. Sci. Philad. C(1948) 370, text-fig. 3 F, ex Yu 12446, nom. non *P. nudicaulis* Bonati.

A subsp. *debile* differt planta 5—8 cm. tantum alta, foliis plus orbiculatis margineque minus profunde lobatis, circ. ad $\frac{1}{3}$ — $\frac{1}{2}$ vel ultra lobatis, labio infero corollae minus eroso-denticulato, nervis loborum in dentes parvos triangulares excurrentibus.

Yunnan: without exact loc. (T. T. Yu 12446), (subsp. type).

245. **Pedicularis pheulpinii** Bonati subsp. **chilienensis** Tsoong, subsp. nov.—*P. heydei* auct. non Prain: Maxim. in herb.

Usque ad 5—15 cm. alta; ambitu folii ei subspeciei *pheulpini* simile, sed lobis paucioribus (7—14); labio infero majore, ad 10 mm. lato, 7 mm. longo.

Chinghai: Chieh-lien Hsian, Tza-ma-szu, in wet stony places in Picea forest (P. C. Tsoong 8639), VII, 30, 1958 (subsp. type).

268. **Pedicularis tenacifolia** Tsoong, sp. nov. (Ser. Asplenifoliae).

P. umbelliformis auct. non Li: Tsoong in Phytotax. Sinic. III, (1955) 321, et in Bull. Brit. Mus. (Nat. Hist.) Bot. II (1955) 34.

Nostra *P. meyanae* H.-M. arcte propinquat, sed laminis siccis foliorum anni praecedentis tenacissime persistentibus (nec petiolis solum praeditis), lobis foliorum basium paucioribus latioribusque, labio infero haud eroso sed manifeste ciliato satis distare videtur.

Perennis, siccitate nigrescens, 5—7 cm. alta, dense pilosa. Radices fibrosae vel paulo incrassatae subcarnosae, ad 4 cm. longae, 1—2 mm. diam.; collo apice petiolis siccis anni praecedentis saepe cum laminis omnino persistentibus caulibusque vetustis nonnullis interdum intermixtis densissime coronato. Caules 3—5, simplices validiusculi, sulcati, secus sulcos pilis multicellularibus ferrugineis dense praediti ceterum sparse pubescentes, basi squamis late ovatis membranaceis 4—5 mm. longis ornati. Folia omnia basalia, petiolis 2—3 cm. longis, membranaceis, complanatis, secus costam mediam late alatis, circ. 2 mm. latis, margine densissime pilosis, ceterum fere glabris; lamina 1—1.5 cm. longa, 5—6 mm. lata, ovato-oblonga vel anguste ovata, herbacea, utraque pagina pilis ferrugineis sparse, subtus etiam furfuribus albidis in-

termixtis vestita, pinnatisecta, segmentis utrinsecus 5—6, late ovatis, contiguis, margine minute dentatis dentibus reflexis. Inflorescentia terminalis, subcapitata; floribus 3—5, dense congestis; bracteae circiter dentibus calycis aequilongae, petiolis brevibus dilatatis suffultae, sursum alte trilobatae, lobis plus minus pinnatifidis; pedicellis brevibus, circ. 2—3 mm. longis, pilosis; calyx cylindrico-campanulatus, crasse membranaceus, circ. 7 mm. longus, antice non fissus, longe pilosus, nervis irregularibus circiter 5, sat latis sed vix elevatis, nervis secundariis 6—7, paulo tenuioribus, venis laxe reticulatis, calicis dentibus 5, inaequalibus, longitudine circ. dimidium tubi aequantibus, inferne triangularibus, medio angustatis stipiformibus, apice herbaceo-incrassatis viridibus saepe trilobatis, denticulatis, dentibus reflexis; corolla purpureo-rubra, galea intensius colorata, 12—15 mm. longa, tubus rectus, calycem paulo excedens, apice leviter dilatatus, galea margine antica circ. 4 mm. alta, apice fere angulo recto in partem antherigeram circ. 5 mm. longam subfalcato-geniculata, antice in rostrum cylindricum fere 5 mm. longum rectum apice oblique truncatum leviter denticulatum subito producta, fronte plus minus elevata, labium inferum circ. 10 mm. longum, longe ciliatum, lobis lateralibus oblique ellipticis, lobo medio eis dimidio minore, late ovato, valde producto; stamina ad medium tubi inserta, filamentis anticis sparse pilosis; ovarium anguste ovoideum, circ. 4 mm. longum, stylo ex apice rostri exserto.

Tibet: Chamdo Region, "Chianang, Langong, 14,500' (Ludlow, Sherriff et Taylor 3959), June 4, 1938", (type).

269. **Pedicularis yui** Li var. **ciliata** Tsoong, var. nov.

A var. *yui* recedit labio infero ciliato, filamentis anticis pilosis.

Yunnan: Upper Kiukiang Valley, Clulung, S. of Lungtsahmuru, alt. 4,000 m., alpine grassland (T. T. Yu 19863), Aug. 10 1938 (var. type).

276. **Pedicularis forrestiana** Bonati subsp. **flabellifera** Tsoong, subsp. nov.

A subsp. *forrestiana* differt multo elatior, racemis usque ad 20 cm. elongatis, floribus sparsis, bracteis longe petiolatis flabelliformibus.

Yunnan: "Kari Pass, Mekong-Yangtze Divide, open situation amongst heavy grass and scrub (G. Forrest 13130)." (subsp. type).

285. **Pedicularis tapaoensis** Tsoong, in MS. H. Smith: *Plantae Sinenses*, Scrophular. (1950). (Ser. Albiflorae)

Evidenter *P. taylorianae* m. valde accedens, galea imo apicem partis verticalis versus biauriculata, rostroque apice oblique truncato quasi eroso-denticulato differt.

Perennis, ad 6 cm. alta, siccitate nunquam nigrescens. Rhizoma breve, radices cylindricas graciles 5 cm. longas emittens, collo caulibus petiolisque vetustioribus et squamis ovatis usque lanceolatis membranaceis nonnullis praedito. Caules caespitosi, brevissimi, 1 cm. alti vel vix evoluti. Folia basalia et caulinarum dense caespitosa, petiolis 8—22 mm. longis, tenuibus et complanatis, utrinsecus late membranaceo-alatis, glabris; lamina elliptico-ovata usque oblonga, circ. 1 cm. longa, 4.5—7 mm. lata, pinnatisecta, rhachide anguste alata, lobis 4—6-jugatis, ovatis, basi angustatis, iterum pinnatilobatis vel grosse serratis, serratulis longe cuspidatis, utrinque glabra,