

蛭状弯曲,侧根成丛,胡萝卜状而端细长,长达4厘米,变粗的一段长1厘米,端须状。茎老时基部多少木质化,几为圆柱形,上部草质而略作方形,有沟纹,有4条成行之毛,此毛线在下部不显著,上部渐显著,至花序轴上则毛很长而密,上部常多分枝,枝对生至4条轮生。叶基出者早枯,很小,连柄长仅9毫米而柄长5毫米,向上渐大,柄可长达1厘米,有膜质之翅,叶片长圆状披针形,长2—5厘米,宽0.8—2.3毫米,羽状深裂,裂片6—9对,线状长圆形至三角状卵形,大者长达1厘米,宽6毫米,缘有锐锯齿,端钝或微锐,基部常三角形变宽而延下于叶轴,老时上部常因边缘反捲而形成狭三角形而全缘,上面有极疏的微毛,下面无毛而有时有白色肤屑状物,细网脉明显。花序生于主茎与短枝之端,长不超过5—6厘米,一般仅2—4厘米;苞片下部者狭披针形而羽状浅裂,长于花,上部者变宽而为三角状卵形,柄膜质而宽,有长缘毛;萼圆卵形,长约4毫米,除齿的边缘及约10条脉之外,全部膜质透明,仅齿中有极少的网脉,齿3枚,后方1枚三角形较显著,长约0.8毫米,其余前侧方与后侧方者都各自结合成一短而宽三角状卵形的大齿,顶有极浅的三角形小缺,宽达2.5—3毫米,高仅半毫米或更少,由于前方开裂而歪斜,主脉上及齿缘有长毛;花冠长达15毫米,但在管弯曲的情况下仅12毫米左右,管在近基2.5—3毫米处强烈向前作膝屈,径仅1毫米,初开时约45°角,至凋落几成直角,管的上段指向前上方,稍稍向下弓曲,长达6毫米,近喉处略扩大,径达2毫米,下唇长约7毫米,裂片侧方者卵状椭圆形,长5.5毫米,宽4毫米,中间者很小,圆形,两侧为侧片盖迭,长宽几相等,均为3毫米,盔稍稍由管喉仰起,几伸直,长仅3毫米左右,额方形,在转角处略圆,微有鸡冠状凸起,前缘无凸尖;花丝1对上部有长毛;柱头微微伸出。蒴果约半部为宿萼所包,长约11.5毫米,宽在基部约3.5毫米,三角状披针形,两室不等,尖端稍稍偏向下方面具小凸尖。

为我国特有种,产我国鄂西川东。

本种与上种之别,不但在花冠上,而萼上网脉稀少,相当透明而薄,不如前一种之为暗色而质厚,亦可区别。

142. 穗花马先蒿

Pedicularis spicata Pall., Reise III (1776) 738, pl. S, f. 2B; Maxim. in Bull. Acad. St. Pétersb. XXIV (1877) 64, et XXXII (1888) 597, f. 117, et in Mém. Biol. X (1877) 97, et XII (1888) 886, f. 117; Forbes et Hemsl. in Journ. Linn. Soc. Bot. XXVI (1890) 216; Limpr. in Repert. Sp. Nov. Beih. XII (1922) 485, et in Repert. Sp. Nov. XX (1924) 205; Pai, in Contr. Inst. Bot., Nat. Acad. Peiping III (1934) 220; Li, in Proc. Acad. Nat. Sci. Philad. C (1948) 304, f. 32.----

P. spicata Pall. var. *sesinowii* Bonati, in Bull. Soc. Bot. G n v  ser. 2, I (1912) 328; Limpr. in Repert. Sp. Nov. XX (1924) 206.

穗花馬先蒿穗花亚种

Pedicularis spicata Pall. subsp. *spicata*

一年生草本,干时不变黑或微微变黑,老时尤其下部多少木质化。根圆锥形,常有分枝,长可达8厘米,强烈木质化。茎有时单一而植株稀疏,或常自根颈发出多条而使植株显得丛杂,侧生者倾卧或弯曲上升,全不分枝或在更多的情况下上部多分枝,茎枝老时均坚挺,后者4条轮生,均中空,略作四稜状,或有时下部完全方形,沿稜有毛綫4条,节上毛尤密。叶基出者至开花时多不存在,多少莲座状,较茎叶为小,柄长13毫米,有密捲毛,叶片椭圆状长圆形,长约20毫米,两面被毛,羽状深裂,裂片长卵形,边多反捲,时有胼胝;茎生叶多4枚轮生,各茎3—6轮,中部者最大,柄短,约达10毫米,扁平有狭翅,被毛,叶片多变,长圆状披针形至綫状狭披针形,其长与宽的比例为2:1—7:1,最长者达7厘米,最宽可达13毫米,上面疏布短白毛,背面脉上有較长的白毛,基部广楔形,端渐细而頂尖微钝,緣边羽状浅裂至深裂,裂片9—20对,卵形至长圆形,多少带三角形,后緣稍长于前緣而略偏指前方,緣有具刺尖的锯齿,有时极多胼胝。穗状花序生于茎枝之端,长可达12厘米,仅下部花轮有时間断;苞片下部者叶状,中上部者为菱状卵形而有长尖头,基部宽而膜质,前方有齿而綠色,长于萼,有长白毛,齿常有胼胝;萼短而钟形,长约3—4毫米,前方仅微微开裂,全部膜质透明,主脉5条最粗,另外还有次脉2—4条,管部常在主脉近端处有网脉,有时下部沿主脉亦有斜升支脉,惟不网結,萼齿3枚,后方一枚三角形銳头而小,余4枚各边两两結合成一短三角形鈍头之寬齿,两边不等,向前方的一面邊緣徐徐斜下以組成萼的裂口,长于另一边2—3倍,在进化較不完全的植株中两寬齿之端有微缺,以代表原来的两个,齿中有明显的网紋;花冠紅色,长12—18毫米,管在萼口向前方以直角或相近的角度膝屈,下段长约3毫米,上段約6—7毫米,向喉稍稍扩大,盔指向前上方,长仅3—4毫米,基部稍寬,額高凸,下唇长于盔2—2.5倍,长约6—10毫米,中裂較小,倒卵形,較斜卵形的側裂小半倍;雄蕊花絲一对有毛;柱头稍伸出。蒴果长6—7毫米,狭卵形,下綫稍弯,上綫強烈向下弓曲,近端处突然斜下,斜截形,端有刺尖;种子仅5—6枚,长达2毫米,臍点明显凹陷,切面略作三稜形,背面寬而圓,两个腹面狭而多少凹陷,端有尖,均有极細的蜂窝状网紋。花期7—9月,果8—10月。

自我国湖北北部、四川北部、甘肅南部、陝西、山西、河北,經內蒙古、东北各省及蒙古人民共和国至苏联东部西伯利亚。生于海拔1,500—2,600米的草地,溪流旁及

ovato-oblongis, ad 9 mm. longis, illae foliorum superiorum saepe deltoideo-lanceolatae, basi ad 17 mm. latae, supra sparse adpresque pubescentes, subtus dense reticulatae, saepe albo-furfuraceae, secus costam nervosque pilis longis albidis sparse obsitae. Inflorescentiae breviter spicatae, ad 6 cm. longae; bracteae foliaceae, pinnatifidae, lanceolatae, inferiores flore longiores; calyx membranaceus, basi subinflatus apice plus minus contractus, antice ad $2/5$ fissus, 5.5 mm. longus, $2/3$ superne reticulatus, dentibus 3, postico deltoideo, acutiusculo, 1.5 mm. longo, lateralibus multo majoribus, apice breviter bifidis; corolla rubra, tubus validus, basi 2 mm. diam., supra basin valde geniculatus, parte superiore 6 mm. longus, sursum valde dilatatus, ore ad 4–4.5 mm. diam., labium inferum amplum, 7–8 mm. longum, 10–11 mm. latum, lobis lateralibus elliptico-ovatis, circ. 5.4 mm. longis, 4 mm. latis, obtusis, lobo medio breviter stipitato, circ. 3 mm. longo ac lato, galea circ. $2/3$ longitudinem labii inferii aequans, 5 mm. longa, basi 2.6–3 mm. lata, sursum gradatim angustata, parte media 1.8 mm. tantum lata, fronte vix convexa, fere truncata; staminum filamentis omnibus glabris; stylus paulo exsertus.

Szechuan: Nanchuan District, King-fu Shan under bamboo groves, alt. 1730 m. (Hsung Tsi-hua & Chow Tze-lin 90822), V, 17, 1957, (type).

142. **Pedicularis spicata** Pall. subsp. **bracteata** Tsoong, subsp. nov.

A subsp. *spicata* recedit bracteis post anthesin valde auctis flabelliformibus, ad 10 mm. longis, 8 mm. latis; filamentis staminii minus pilosis.

Hopei: Hsiaowutai Shan, north peak (Y. Yabe s.n.), VI, 28, 1960 (subsp. type).

Pedicularis spicata Pall. subsp. **stenocarpa** Tsoong, subsp. nov.

A subsp. *spicata* differt capsulis angustioribus et longioribus, ad 8–10 mm. longis, lanceolato-ovatis, parte superiore valde curvatis longeque apiculatis.

Hopei: Tung-lin Shan (C. K. Yang 1480), IX, 6, 1953 (subsp. type).

143. **Pedicularis szetschuanica** Maxim. subsp. **latifolia** Tsoong, subsp. nov.—*P. szetschuanica* Maxim. subsp. *ovatifolia* Tsoong, MS. H. Smith, *Plantae Sinenses*, Scrophular. (1950), non *P. szetschuanica* var. *ovatifolia* Li, in *Proc. Acad. Nat. Sci. Philad. C* (1948) 317.

Haec subspecies a subsp. *szetschuanica* abhorret fere glabra, foliis oblongis usque ovatis, basi rotundatis usque subcordatis, ad 27 mm. longis, 13 mm. latis, petiolis foliorum basalium ad 67 mm. longis, iis foliorum mediorum ad 4–13 mm. longis, floribus saepe multo majoribus.

Szechuan: reg. bor., Dongrego, in prato herboso-fruticoso, c. 4000 m.s.m. (H. Smith 3868) VII, 22, 1922 (subsp. type).

Pedicularis szetschuanica Maxim. subsp. **anastomosans** Tsoong, subsp. nov.—*P. szetschuanica* Maxim. subsp. *angustifolia* var. *normalis* Tsoong, in *Acta Phytotax. Sin.* III (1954) 311.

Haec subspecies, huius caulibus saepe plus minus lignosis, tantum ad 10 cm. altis, calicibus omnino anastomosantibus, labio infero corollae irregulariter eroso etc., ab omnibus subsp. huius speciei facile distinguenda.

Tibet: Chamdo Region, "Kongbo, Besang Landup, Lechen Chu, 14500' (Lud-