

微凹头,中裂仅略小于侧裂,而其两侧为后者所掩迭,盔粗短,前缘长仅 3.5—4 毫米,下半部圆凸,宽 2—2.5 毫米,有厚皱折,近端处仅宽 1.7 毫米,顶圆而微有狭条的鸡冠状凸起,额部斜下与凸出的前缘共同组成一方形的角;雄蕊花丝无毛;柱头稍稍伸出。

为我国特有种,产四川西北部,生于海拔 3,750 米左右的山坡上。

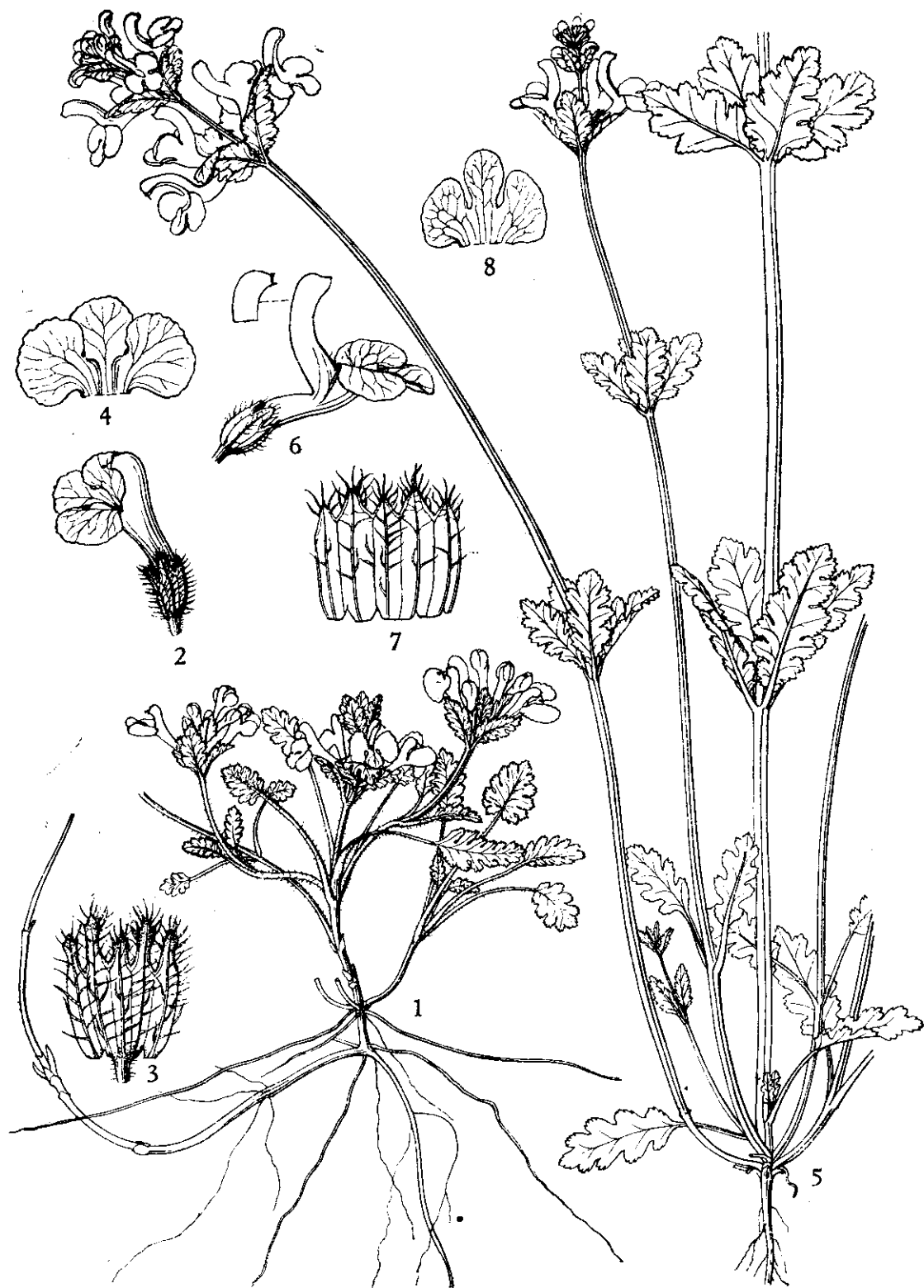
这一新种与四川馬先蒿的关系,很象假多色馬先蒿 (*P. pseudoversicolor* H.-M.) 与欧氏馬先蒿 (*P. oederi* Vahl) 之间的关系。它的盔端具有稜角,几乎与那两种中的前一种一样,显然是进入双齿型的第一步。它不但以盔有稜角而不同,并且,盔与下唇的比例,也要比四川馬先蒿中短得多;此外毛被也厚得多。从这些方面看起来,显然进化和分化,是在花冠和体态的好几方面进行着,所以不但不应该仅仅作为四川馬先蒿的一个种下阶层中的成员,而且为了表示确实的进化步骤,必须和其它有稜角和有齿的类型组合起来,另成一个新系,放在輪叶系后面,以表明两者之间的关系,正象假多色馬先蒿 (*P. pseudoversicolor*) 与哈巴山馬先蒿 (*P. habachanensis* Bonati) 共同组成假欧氏系 (ser. *Pseudo-oederianae*), 以与包括欧氏馬先蒿 (*P. oederi*) 的火焰系 (ser. *Flammeae*) 相区别一样。在麦氏的图 125 中,这一种为中間仅画有盔部上端的两个小图中的左手一个所代表。

153. 草莓状馬先蒿 图版 XLIII, 1—4

Pedicularis fragarioides Tsoong, sp. nov. in Addenda 409.

多年生草本,干时多少变黑,草质,多毛。地下部分包括伸长而蔓延的根茎,黑色光滑,向各方发出不育的成丛基叶和着花的茎,其节上有对生的披针形膜质鳞片,并发出许多细长而柔软的须状根,长达 7 厘米,略粗而微带肉质,其上更生细须根,根颈上也有膜质鳞片,并生有成丛的须状根。茎高不及 10 厘米,常倾卧或斜升,节间短,多少四棱形而生有稠密的淡褐色毛,常在中下部分枝。叶基出者紫黑色,具长柄,柄黑色如铁丝,扁平有沟,长达 3 厘米,长于叶片 3—4 倍,后者宽卵状心脏形至椭圆状心脏形,钝头,缘有 3—6 对宽卵形裂片,裂片有小裂或重锯齿;茎生叶柄较短,但最下一輪柄亦可长达 10—25 毫米,常对生,其余者均为对生或偶有 4 枚輪生,其叶片较狭长,基部为广楔形至亚圆形,上面均散布压平捲曲之毛,背面脉上有长而伸直的刺状长白毛。花序有时在第二輪叶子的腋中开始,几乎连续,长者达 5 厘米,在分枝上者短而头状,均密生褐色毛;苞片三角状亚心脏形至菱状宽卵形,仅具浅圆齿,甚短于花,

图版 XLIII 1—4. 草莓状馬先蒿 *Pedicularis fragarioides* Tsoong, 1. 植株×1; 2. 花×2; 3. 花萼×4; 4. 下唇×4。5—8. 小唇馬先蒿 *P. microchila* Franch., 5. 植株×1; 6. 花×2; 7. 花萼×4; 8. 下唇×2。(繪图人刘春荣)



常为美丽的暗紫紅色，其毛有清晰的暗紫色細胞間隔障；萼亦生有与苞片相同的毛，多少管状，长达6毫米，管部后方高前方低，几不开裂，长2.5—3毫米，膜質，常有紅暈，具脉10条，中部以上有极疏的网紋，齿长1.7—2毫米，基部三角形，后方1枚仅在端部略略膨大，其余4枚上部膨大而綠色，全緣或有1—2枚大缺刻及小齿，常反捲，緣有稠密的具紫色隔障的长毛；花冠长约15—16毫米，为鮮丽的紫紅色，管在离基4毫米处向前上方膝屈，下段約寬1.8毫米，上段长7毫米，下綫中部多少向下膨脹，粗壮，近基处即粗2.6毫米，喉部亦仅寬4毫米，下唇极丰满，寬11毫米，长仅6毫米，緣有明显的深嚙痕状齿，裂片3枚均为圓卵形，几乎等大，盔短，长约4.5毫米左右，前緣中部稍稍圓凸而有內向皺褶，寬2.5毫米，上部仅寬1.5毫米，后頂圓形，向前緣稍稍昂起，而后突然向前下方以一截形的斜綫成一方角；花絲兩对均无毛；花柱从方角中伸出。花期8月。

为我国特有种，仅見四川西北部，生于海拔4,700米的碎石坡上。

这是輪叶系和其它相近的系中的唯一生有根茎的种类，分明是高山碎石山坡所促成的一个特殊的由四川馬先蒿或稜盔馬先蒿轉变而来的生态型。不計其他的特征，只就具有紫色細胞間隔障的长毛一点上來說，也是在靠近的种类中所不見的。

154. 后生四川馬先蒿 图版 XLII, 4—6

Pedicularis metaszechuanica Tsoong, sp. nov., in Addenda 410. — *P. szetschuanica* Maxim. subsp. *typica* var. *dentigera* Tsoong, in MS. H. Smith, *Plantae Sinenses*, Scrophul. (1950) ined.? — *P. szetschuanica* Maxim. in Bull. Acad. St. Pétersb. XXXII (1888) 601, pro parte, f. 125, pro parte, quoad florem sinistrum, et in Mém. Biol. XII (1888) 892, pro parte, f. 125, pro parte, quoad florem sinistrum.

一年生草本，高达25厘米，干时多少变黑。根多少圓錐状，不分枝或分枝，有极少須状側根，长可达5厘米，木質化。茎单一或2—7条自根頸发出，外围者基部多少偃臥而后上升，多白色伸张之长毛，节上尤多，成为毛茸状。基叶多少宿存，有細柄长达1—1.5厘米，多少有白毛；叶片小，多少长圓形至披針形，长达1厘米，寬2.5—4毫米，羽状浅裂，裂片4—6对，茎叶柄較短，叶片稍較大，柄上密生白色长毛，上面有压平的捲曲白毛，背面脉上有长白毛。花序頂生，下方一枚花輪有时相距甚远，其余多少連續成短穗状，下方者不計长达4厘米；苞片下部叶状，中上部者菱状寬卵形，基部广楔形膜質，生有密长毛；萼长4—6毫米，膜質，后方高前方低，不开裂，脉10条，暗綠而明显，近齿处与齿內略有网紋，齿三角形而短，5枚，多少不等，后側方者最大，端不膨大或仅稍稍膨大而为暗綠色；花冠长15毫米，紅紫色，管在基部下2.5—3毫米处向

dense pilosis, laminae ovatae vel ovato-oblongae, 7—15 mm. longae, 4—8 mm. latae, supra appresse hispidulae, subtus ad costam dense et patenter pilosae, margine repandulo-lobulatae, lobis utrinsecus 3—6, duplicato-dentatis, folia caulinaria brevius petiolata, verticillastribus sub quoque caule 2 vel rarius 3, infimis usque ad 12 cm. distantibus, laminae saepe ea foliorum basaliū longiores, anguste oblongae, lobis numerosioribus, usque 10-jugatis. Inflorescentiae saepius spicatae, verticillastribus inferioribus haud raro interruptae; bracteae inferiores foliiformes, mediae superioresque rhomboideo-ovatae, basin versus solum integrae, flore breviores, ut rhachide densissime pilosae; calyx anguste campanulatus, 4—5 mm. circ. longus, tubo plus minus reticulato, costis densissime longeque pilosus, dentibus 5, postico minore, deltoideo, acuto, ceteris subaequalibus, basi triangularibus membranaceis, superne leviter ovato-expansis, herbaceis et viridibus, fere integris vel indistincte crenatis, 1.5 mm. longis; corolla dilute rubra, 15 mm. longa, tubus 3.5 mm. supra basin sub angulo 60—90° geniculatus, parte inferiore 1.5 mm. latus, superiore 6 mm. longus, sursum dilatatus, ore 4 mm. latus, labium 6 mm. longum, 8.5 mm. latum, lobis omnibus plus minus obovatis, margine sese tegentibus, leviter retusis, lobo medio lateralibus tantum paulo minore, galea brevis, margine antice 3.5—4 mm. alta, parte inferiore convexa, 2—2.5 mm. lata, plicata, parte superiore 1.7 mm. tantum lata, apice rotundata, angustissime cristata, antice subito cum marginibus anticis angulos obliquos edentatos formans; staminum filamentis omnibus glabris; stylus leviter exsertus.

Szechuan: Hai-shui Distr., Ke-szu-pa-kou, alt. 3750 m. (H. Li 73242), VII, 21, 1958, (Type). Ma-erh-Kang, Tze-ku Shan, alt. 3750 m. (H. Li 71602). Li Hsien, alt. 4000 m. (F. T. Wang 21543), VI, 24, 1930. "Dongrergo, supra Huang-lung-ssu, in silvis nivalibus, ca. 4300 m.s.m. (H. Smith 3868), VII, 20, 1922". "Hsio-eh-shan, in prato alpino, ca. 4300 m.s.m. (H. Smith 3898), VII, 19, 1922". Kansu: "Tao River basin, highest alpine meadow on Mt. Lissedzadza, alt. 12750 ft. (J. F. Rock 12620), VII, 7, 1925."

153. **Pedicularis fragarioides** Tsoong, sp. nov. (Ser. praeced.)

Planta in saxosis delabentibus peculiaris, stolonifera, habitu fere *Fragariae*, inter *Metaverticillatas* excellens.

Perennis, siccitate plus minus nigrescens, pilosa, herbacea. Rhizoma elongatum, nigrum, sursum folia caespitosa sterilia caulesque scapiformes floriferos, deorsum radices graciles fibrosas plus minusve carnosas ad 7 cm. longas emittens, nodosque squamis membranaceis lanceolatis oppositis obtectos munitum; collo eodemmodo squamifero caespitosoque radiculoso. Caules vix 10 cm. alti, plerumque decumbentes vel nonnumquam adscendentes, internodiis brevibus praediti, plus minus 4-angulati, pilis fuscis dense obtecti, infra medium saepe ramosi. Folia basalia atropurpurea, longe petiolata, petiolis nigrescentibus, complanatis et canaculatis, ad 3 cm. longis, quam lamina 3—4 plo longioribus, illa late ovato-cordata usque elliptico-cordata, obtusa, margine utrinsecus 3—6-lobata, lobis iterum lobulatis vel duplicato-serratis; folia caulinaria brevius petiolata, sed illa verticillastribus inferioris usque ad 10—25 mm. longe petiolata, saepissime opposita vel raro verticillata, lamina angustiora,

basi late cuneata usque subrotundata, supra pilis sparsis appressis subtus ad costas pilis longis setiformibus vestita. Inflorescentiae fere continuae, longiores ad 5 cm. longae, illae ramorum lateralium saepe breviores et capitatae, omnino densissime fusco-pilosae; bractae deltoideo-cordatae usque late rhomboideo-ovatae, crenato-dentatae, flore multo breviores, saepe pulchre atropurpureae, pilis manifeste purpureo-septatis vestitae; calyx eodemmodo pilosus, plus minus tubulatus, ad 6 mm. longus, tubo membranaceo, 2.5—3 mm. longo, saepe colorato, 10-costato, supra medium laxissime reticulato, dentibus 1.7—2 mm. longis, basi deltoideis, postico apice tantum leviter dilatato, reliquis validiore expansis, viridibus, integris vel 1—2 incisus et dentatis, parte superiore saepe reflexis, margine pilis longis colorato-septatis densissime ciliatis; corolla circ. 15—16 mm. longa, pulchre purpurea, tubus ca. 4 mm. supra basin geniculus, parte inferiora 1.8 mm. lata, superiora 7 mm. longa, plus minus curvata, basi 2.6 mm., oreque ad 4 mm. lata, labium inferum amplum, 6 mm. tantum longum, 11 mm. latum, margine manifeste erosum, lobis omnibus ovatis, fere aequalibus, galea brevis, circ. 4.5 mm. longa, margine antice medio plus minus convexa et introrse plicata, 2.5 mm. lata, superne 1.5 mm. tantum lata, apice dorso rotundata, antice leviter elevata, deinde subito angulam oblique truncatam formata; staminum filamentis omnibus glabris; stylus ex angulo galeae exsertus.

Szechuan: "reg. bor., Dongrergo, in declivitate microlapidosa, c. 4700 m.s.m. (H. Smith 3147), IX, 8, 1922". (typus).

154. **Pedicularis metaszetschuanica** Tsoong, sp. nov.—*P. szetschuanica* Maxim. subsp. *typica* var. *dentigera* Tsoong, in MS. H. Smith, Plantae Sinenses, Scrophul. (1950).—*P. szetschuanica* Maxim. in Bull. Acad. St. Pétersb. XXXII (1888) 601, pro parte, f. 125, pro parte, quoad florem sinistram, et in Mém. Biol. XII (1888) 892, pro parte, f. 125, pro parte, quoad florem sinistram.

Per omnia cum *P. szetschuanica* Maxim. congruens, sed galea apice manifeste bidentata diversa.

Annua, ad 25 cm. alta, siccitate plus minus nigrescens. Radix leviter conica, nonnumquam ramosa, radiculis fibrosis paucis munita, ad 5 cm. longa, lignosa. Caules singulus vel 2—7, laterales leviter adscendentes, undique sed ad nodos densius pilis albidis patentibus obtecti. Folia basalia saepe persistentia, petiolis gracilibus 1—1.5 cm. longis, plus minusve albo-pilosis, lamina parva, oblonga usque lanceolata, ad 1 cm. longa, 2.5—4 mm. lata, pinnato-lobata, lobis utrinsecus 4—6, folia caulinarum brevius petiolata, lamina paulo majora, supra appresse albo-crispato-pilosa, subtus secus costam longe pilosa. Inflorescentia terminalis, verticillaster infimus florum saepe longe distantus, reliqui continui et in spicam breves ad 4 cm. longam aggregati; bractae inferiores foliiformes, mediae et superiores late rhomboideo-ovatae, basi late cuneatae et membranaceae, pilis longis dense obtectae; calyx 4—6 mm. longus, membranaceus, non fissus, costis 10, atroviridibus, prominentibus, prope dentes leviter reticulatus, dentibus 5, breve deltoideis, plus minus inaequalibus, postero-lateralibus maximis, apice vix vel leviter dilatatis, atroviridibus; corolla 15 mm. longa, purpureo-rubra, tubus 2.5—3 mm. supra basin geniculatus, parte superiore circ. 7 mm. longus,