Phytologia (February 1992) 72(2):105-108.

A NEW SPECIES OF *PEDICULARIS* (SCROPHULARIACEAE) FROM WESTERN MEXICO

Guy L. Nesom

Department of Botany, University of Texas, Austin, Texas 78713 U.S.A.

ABSTRACT

Pedicularis chihuahuensis *sp. nov.* is described from southern Chihuahua, México. Based on similarities in floral morphology, it is most closely related to the Mexican species *P. mexicana* and *P. orizabae* but differs from both in having tuberous roots, villous vestiture, foliar teeth with aristate apices, and merely toothed (unlobed) floral bracts. The new species is allopatric with both of its putatively close relatives.

KEY WORDS: *Pedicularis*, Scrophulariaceae, México

A taxonomic overview of the Mexican species of *Pedicularis* with pinnately parted leaves was presented by McVaugh & Mellichamp (1975), and another such species was described by McVaugh & Koptur (1978). Yet another previously unknown one, has been collected in southern Chihuahua and is described here.

Pedicularis chihuahuensis Nesom, *sp. nov.* TYPE: MEXICO. Chihuahua: Mpio. Guadalupe y Calvo, 55.2 km SW of El Vergel on road between Parral and Guadalupe y Calvo, N side of town of Catedral in valley with moist meadows surrounded by dry hills with pines, fenced area protected from grazing, ca. 2400 m, 23 Aug 1983, *G. Nesom 4756* (HOLOTYPE: TEX!; Isotype: MEXU!).

Pediculari mexicanae Zucc. *ex* Benth. ac *P. orizabae* Cham. & Schlecht. similis morphologia florali sed a speciebus ambabus differt radicibus tuberantibus, vestimento villoso, et bracteis floralibus marginibus nonlobatis.

Perennial herbs arising from thick, fleshy roots, sometimes apparently taprooted or often the main axis of the root with 1-few thick branches; stems single from the base, unbranched, erect, 60-75 cm tall, loosely villous with spreading to deflexed, jointed, white vitreous hairs. Leaves cauline (the basal mostly absent by flowering), 4-10 along the stem, lanceolate to oblanceolate in outline, slightly villous along the veins, once pinnately parted, with 23-30 toothed to lobed segments, the teeth aristate, the petiole and rachis barely if at all winged, lower leaves 15-25 cm long, 1.5-5.0 mm wide (at the widest point), the uppermost greatly reduced in size. Racemes (flowering) 12-15 cm long, (fruiting) 20-35 cm long, 30-40 flowered, with sessile or nearly sessile flowers, the floral bracts ascending, 10-14 mm long, with ciliate, nearly entire to shallowly toothed margins, spatulate with an abruptly narrowed and linear-attenuate apex 3-7 mm long. Calyces campanulate, the tube 4.5-5.0 mm long, with 5 nearly equal lobes ca. 4 mm long. Corollas 20-22 mm long, "pink and yellow," bilabiate, the lower (abaxial) lip 16-18 mm long, the 3 lobes suborbicular, the terminal lobe 5 mm wide, the lateral lobes ca. 6 mm wide, the upper (adaxial) lip (the galea) 12-14 mm long, smoothly incurved from the adaxial side, without a beak, not prolonged beyond the curve. Stamens 4, didynamous. Style arcuate, the stigma slightly exserted at anthesis. Capsules 9-15 mm long, broadly ovoid, slightly raised on a broad stipe 1-2 mm long; seeds blackish, ca. 4 mm long, with reticulate surfaces.

Additional collections examined: MEXICO. Chihuahua: Mpio. Guadalupe y Calvo: along stream in meadow, San Juan, Sierra Chinatu, 8900 ft. (2700 m), flrs. pink and yellow, 8 Oct 1959, *D.S. Correll & H.S. Gentry 22927* (LL); along stream (tributary of Río Soldado) in gorge of conifer forest, near La Rocha, NE slope of Sierra Mohinora, 7500 ft (2270 m), 14 Oct 1959, *D.S. Correll & H.S. Gentry 23060* (LL).

Pedicularis chihuahuensis apparently is endemic to the vicinity of Cerro Mohinora and Mt. Chinatu in southern Chihuahua, a relatively small area of high elevation known to harbor numerous other local endemics in a number of different families. The three collections were made within a radius of about 25 kilometers. The only other species of *Pedicularis* that occurs in the same area is *P. angustifolia* Benth., which has linear, undivided leaves and loose, few flowered inflorescences.

McVaugh & Mellichamp (1975) observed that the Mexican species of *Pedicularis* with pinnately parted leaves are not particularly closely related among themselves but divisable instead into three groups, based on floral morphology: (1) the galea prolonged into a linear, recurved-ascending beak (*P. glabra* McVaugh & Mell.; *P. jonesii* Brandeg. [type MO!] also belongs here); (2) the galea downwardly curved, short beaked or merely enlarged and pointed on the lower side (*P. mexicana* Zucc. *ex* Benth. and *P. orizabae* Cham. & Schlecht., and *P. gordonii* McVaugh & Koptur also apparently belongs here); and (3) the galea clavate, rounded at apex, neither beaked, curved, nor enlarged to

a point on one side (*P. tripinnata* Mart. & Gal. and *P. hintonii* McVaugh & Mell.). Among these, *P. chihuahuensis* clearly is most similar to *P. orizabae* and *P. mexicana* in its short curved galea and to *P. orizabae* with its unbeaked galea and the lobes of its lower corolla lip shorter than the galea. *Pedicularis orizabae* is known from high peaks in the states of México, Veracruz, and Oaxaca; *P. mexicana* is more widespread, occurring from Puebla to Michoacán and central Durango. The new species differs from both in its vestiture, root morphology, foliar teeth apices, and floral bract morphology, but it is compared in the following couplet to *P. mexicana*, because the latter more closely approaches the geographic range of *P. chihuahuensis* than does *P. orizabae*.

1. Roots numerous, thin fibrous; stems, leaves, and floral axes glabrous; foliar teeth with callose-dentate apices; floral bracts trilobed; lower corolla lip as long as the galea, the galea abruptly incurved nearly at a right angle, narrowed beyond the curve into a short, truncate beak; Tlaxcala, Hidalgo, Puebla, Morelos, México, Distrito Federal, Michoacán, apparently disjunct to central Durango. ..... *P. mexicana*

1. Roots mostly with 1-3 tuberous thickened primary branches; stems, leaves, and floral axes villous; foliar teeth with aristate apices; floral bracts without lateral lobes; lower corolla lip shorter than the galea, the galea smoothly incurved from the adaxial side, without a beak; southern Chihuahua. ..... *P. chihuahuensis*

Apart from Mexican species that are putatively closely related to it, *Pedicularis chihuahuensis* also is similar and probably closely related to *P. procera* A. Gray, which occurs in the United States from Colorado to northern New Mexico and adjacent Arizona. *Pedicularis procera* also produces a villous vestiture, aristate foliar teeth, and usually unlobed floral bracts, but differs in its thin fibrous roots, much taller plants (8-18 dm tall), longer and denser inflorescences, longer flowers (27-34 mm long), and lanceolate, longer floral bracts (25-35 mm long) that are coarsely villous with stipitate glandular hairs on the surfaces and margins.

ACKNOWLEDGMENTS

I thank Dr. B.L. Turner and Dr. T.P. Ramamoorthy for their review and comments on the manuscript.

LITERATURE CITED

McVaugh, R. & T.L. Mellichamp. 1975. Mexican species of *Pedicularis* (Scrophulariaceae) hitherto confused with *P. tripinnata* Mart. & Gal. Contr. Univ. Michigan Herb. 11:57-63.

McVaugh, R. & S. Koptur. 1978. A new species of *Pedicularis* from Jalisco, Mexico. Contr. Univ. Michigan Herb. 11:298-300.