out with short gland-tipped hairs and also with longer glandless ones mostly in the inflorescence.....1. *C. clokeyi*

BB. Corolla 18–25 mm. long, the galea slightly exceeding the calyx but the lower lip wholly concealed within it; capsule cylindric-ovoid, (5–) 7–8 mm. wide, about twice as long as wide; mid-portion of leaf-blade linear or nearly so; herbage pubescent with fine short hairs and also villose-hirsute with longer hairs, all hairs white and glandless. .....2. *C. chromosa*

AA. Sepals united much farther posteriorly than anteriorly, the calyx distally wholly on the upper side of the flower; corolla 35–45 mm. long; leaf-blades entire or occasionally slightly lobed, linear or nearly so; stem 4–8 dm. tall.....3. *C. linariaefolia*

1. **Castilleja clokeyi** Pennell, sp. nov.

Forming large clumps, the stems many from the stout perennial main root. Stem 2–6 dm. tall, simple or with some ascending branches, somewhat angulate, pubescent with short spreading gland-tipped hairs and also, mainly distally, with longer white hairs, hirsute-villose in the inflorescence. Leaf-blades lanceolate or oblong-lanceolate, the lower or only the lowermost entire, the main stem-leaves becoming 3–5 cm. long and usually with 1 or 2 pairs of ascending-spreading or divaricate lobes, those of the branches much smaller and often entire; the blades glandular-pubescent and more or less clearly 3-ribbed. Inflorescence becoming 10–25 cm. long, the upper flowers crowded and exceeding the bracts, the lower becoming scattered and equalled or exceeded by the bracts. Bracts shorter than the leaves, with 1 or 2 pairs of slender lobes, glandular-pubescent, and also villose proximally on the ribs and margins. Pedicels in anthesis very short, in fruit becoming 2–3 mm. long. Calyx becoming 17–20 mm. long, the component sepals united medianly nearly $\frac{2}{3}$ length (equally on both posterior and anterior sides) and laterally $\frac{1}{2}$ to $\frac{2}{3}$ the remaining length so that the free lateral lobes are triangular-lanceolate, 2–4.5 mm. long; calyx proximally hirsute-villose and pale, distally finely glandular-pubescent and green, the free lobes red. Corolla 25–30 (–40) mm. long; tube included within the calyx; galea 15–19 mm. long, dorsally greenish-yellow and finely pubescent, laterally with thin red glabrous margins; anterior lip rudimentary, dark green, thickened, 1–1.5 mm. long. Anthers yellow, extruded from the apex of the galea. Stigma clavate or slightly bilobed, 0.3–0.5 mm. wide. Capsule 15–17 mm. long, 5–7 mm. wide, conic, attenuate. Seeds 1.5–1.7 mm. long, with loose alveolate testa.

(Perennis; caules multi 2–6 dm. alti pilis glanduliferis brevibus et nudis longis obsiti; folia lanceolata vel oblongo-lanceolata infimis integris et superioribus 3–5 lobatis; calyx 17–20 mm. longus sagittale aequaliter fissus lobis lateralibus rubris 2–4.5 mm. longis; corolla 25–30 (–40) mm. longa lobis exserta, galea 15–19 mm. longa, labio anteriore brevissimo; capsula 15–17 mm. longa attenuata; semina 1.5–1.7 mm. longa.)

Type, gravelly loam, on north slope with *Pinus scopulorum* (Engelm.) Lemmon and *Populus aurea* Tidestrom, at an altitude of 2425 meters, Kyle Canyon, Charleston Mountains, collected in flower and commencing to fruit July 8, 1936 by I. W. and C. B. Clokey, no. 7322; in Herb. Academy of

Natural Sciences of Philadelphia; isotypes to be distributed in Exsiccatae Grayanae.

Apparently restricted to the Charleston Mountains, from which the following additional collections have been seen: Big Falls (gravelly soil, 2760 m.), *Clokey & R. Bean* 7320, in flower July 14; Charleston Peak (gravelly hillside and broken rock at timberline, 3270–3300 m.), *Clokey* 5585 and 7708, in flower July 22 and August 8; Clark Canyon (gravelly wash, etc., in yellow pine belt, 2670 and 2760 m.), *Clokey* 7318[4] and 7319, in flower June 1 and July 12, respectively; Kyle Canyon (gravelly loam, canyon bottom, etc., 2270, 2425 and 2700–3200 m.), *Clokey* 5583, 7321 and 7322, in flower July 29, June 6, and July 8, respectively, and also *Goodman & Hitchcock* 6671, in flower and fruit July 22; Lee Canyon (limestone, 3000 m.), *Heller* 11042 and 11070, in flower July 26 and August 5, respectively.

From other Indian Paint-Brushes of the Great Basin area possessing herbage with glandular hairs, *Castilleja clokeyi* differs in several characters. *C. viscidula* Gray of the East Humboldt Mountains, Nevada and *C. viscida* Rydb. of the Wasatch Mountains of Utah have the galea shorter than the tube of the corolla; the former also bears smaller corollas and the latter narrower and usually longer calyx-lobes than *C. clokeyi*. *C. applegatei* Fern. and *C. pinetorum* Fern., both of the Klamath valley in southern Oregon, have the galea sometimes equalling the corolla-tube, and so nearly as long proportionally as in *C. clokeyi*, but the capsules are smaller and wider (10 × 5 mm.) and the leaf-blades narrower, in *C. pinetorum* being usually all entire. Among all these species *C. clokeyi* is most likely to be confused with *C. viscida*, the aspect of the leaves and bracts being closely similar, but the galea of *clokeyi* is usually more conspicuously exserted.

2. **Castilleja chromosa** Nelson.

This is the dominant Indian Paint-Brush of sagebrush land over much of the Great Basin and Colorado valley. On the Charleston Mountains the following collections have been seen: Clark Canyon (wash, in juniper and yellow pine belts, 2120 m.), *Clokey* 7317 and 7432, in flower June 1 and May 7; Cold Creek Spring[5] (brushy flat, 2000–2250 m.), *Clokey* 7710 and 7711, in flower and fruit June 2; Harris Spring Road (brushy hillside, 1700 m.), *Clokey* 7713, in flower May 17; Kyle Canyon (hillside and flat, in juniper belt, 1550 and 2100 m.), *Clokey* 7315 and 7712, in flower May 11 and 28; Trout Creek Canyon (fan, in Covillea belt, 1500 m.), *Clokey & E. G. Anderson* 7316, in flower May 8; and below Webber Wells (wash, in juniper belt, 2000 m.), *Clokey & Anderson* 7314, in flower May 31.

[4] 7318a, growing with 7318, differs by possessing much larger flowers, and is the sole cause of extending the limits of corolla-size from 30 up to 40 mm. long. It is evidently a rare, and perhaps unique, large-flowered form of the species.

[5] Leaves unusually wide and bracts "deep rose-pink".