

the shaft, bracts triangular, the basal ones 12×5 cm, acute at the apex, rough, 6.5–8 cm apart; flowers ca. 50 per branch, 28–36 mm long, orange-yellow; ovary $14-18 \times 3.5-4$ mm; tube $4-5 \times 6-8$ mm, somewhat funnelform; tepals $10-13 \times 3$ mm, triangular, fleshy, galeate, orange-yellow, filaments 7–24 mm, firm, inserted 1 mm above the base of tube; anthers at anthesis 8–9 mm, centric, yellow; capsules $21-28 \times 13-16$ mm, oblongoid, stipitate, apiculate, thin walled; carpels $2-2.5 \times 10-11$ mm, obovate, apiculate; seeds $4-6 \times 3-4$ mm, sub triangular or semi-circular thin, black. Figure 5.

Populations previously cited from the State of Colima as *Agave gypsophila* (Gentry 1982; McVaugh 1989; Vázquez-García et al. 2007) actually correspond to *A. pablocarrilloi* (i.e. Carrillo-Reyes 1783, 1744, 1744b (GUADA, IBUG); Pérez de la Rosa 619 (IBUG); Lott & Solis 915 (MO); Gentry 18328 (MICH); Gentry 19563, 22193, 23533 (ARIZ; DES, MICH, US)). This species is similar to *A. gypsophila* in its medium sized rosettes, brittle leaves with undulate margin, rarely cross-zoned patterning, and calciphilous habitat. It differs from *A. gypsophila* in its suckering habit, rough, bluish glaucous-grayish leaves that are flat on the lower half, close firm teeth, smaller panicles with only 8–15 (19) lateral branches (vs. 28–30 in *A. gypsophila*) and being confined to lower elevations.

Distribution and Ecology—*Agave pablocarrilloi* is endemic to the State of Colima. It is found on limestone outcrops of the Madrid Formation (Albian, 105–100 mya) (Corona-Esquível & Henríquez 2004), at 300–610 m, in succulent woodland, thorn forest and tropical dry forest with *Cordia* sp., *Pachycereus* sp., *Pedilanthus* sp., and *Neobuxbaumia* sp. (Table 1).

Phenology—Flowering from February to April; fruiting from April to May.

Etymology—The specific epithet is named after Pablo Carrillo-Reyes, a promising botanist and outstanding explorer of the succulent flora of western Mexico.

Ethnobotany and Conservation Status—*A. pablocarrilloi* is locally known as “Maguey de piedra”, it is locally abundant but a narrow endemic to Coquimatlán, Ixtlahuacán, and Colima municipalities.

Additional Specimens Examined—MEXICO. Colima: Mun. Colima: West of Cd. Colima, on Manzanillo road, 2000 ft, 610 m, 1955, C. Miegs s. n., grown at Desert Botanical Garden, Phoenix, $33^{\circ}27'33''$ N, $111^{\circ}56'35''$ W, 1200 ft., 366 m, accession number 1955 5144, 14 Apr 2005 (fl), Hodgson & Damrel 19341 (DES); Mun. Colima/Ixtlahuacán, seaward facing slopes, 18–24 km S of Colima, Gentry 18328 (ARIZ—not seen); 400 m, 5 Dec 1959, Gentry 19563 (DES, MEXU, MICH, US—not seen); Mun. Colima: Ca. 17 km SSW of Colima, on road to Manzanillo, 23 Mar 1982 (fl), 400–500 m, Lott & Solís-Magallanes 915 (DES!, MEXU!, MO!); Mun. Colima, West of Km 18, on road from Colima to Manzanillo, 300 m, 11 Mar 1984 (fl), Pérez de la Rosa 619 (IBUG); Mun. Coquimatlán, 1 km S of Ejido El Alcomún (Luis Echeverría Álvarez), on road to La Brasileira and La Antena, 5 km ENE of Madrid, 29 Apr 2001 (sterile), Carrillo-Reyes 1744 (GUADA-cult!), 1744b (IBUG-cult!); Mun. Coquimatlán, E of Barranca Las Agujas, 1.5 km W of Calera de Moisés, 450–500 m, 19 Apr 2011 (fr), Vázquez-García 9091 (IBUG). Mun. Coquimatlán, Barranca Las Agujas, 2 km W of Calera de Moisés, 500–600 m, 30 Apr 2001 (fl), Carrillo-Reyes 1783 (IBUG!). Mun. Ixtlahuacán, 13 miles S of Cd. Colima, crossroad along road to Manzanillo, 22 Nov 1966 (old fr), Gentry 22193 (ARIZ!, DES!, MEXU!, MICH, US—not seen); Mun. Ixtlahuacán, 13–14 miles SW of Cd. Colima, near Rn. La Salada, 9 Feb 1975 (sterile, fl buds), 1500 feet, Gentry & Gentry 23533 (ARIZ!, DES!, MEXU!, MICH—not seen, US—not seen); Mun. Ixtlahuacán, 550 m NE of Rancho La Salada, Km 4, on road from Ixtlahuacán to Colima, 450 m, 19 Abr 2011 (st), Vázquez-García 9086, 9087, 9088, 9089 (IBUG-cult).

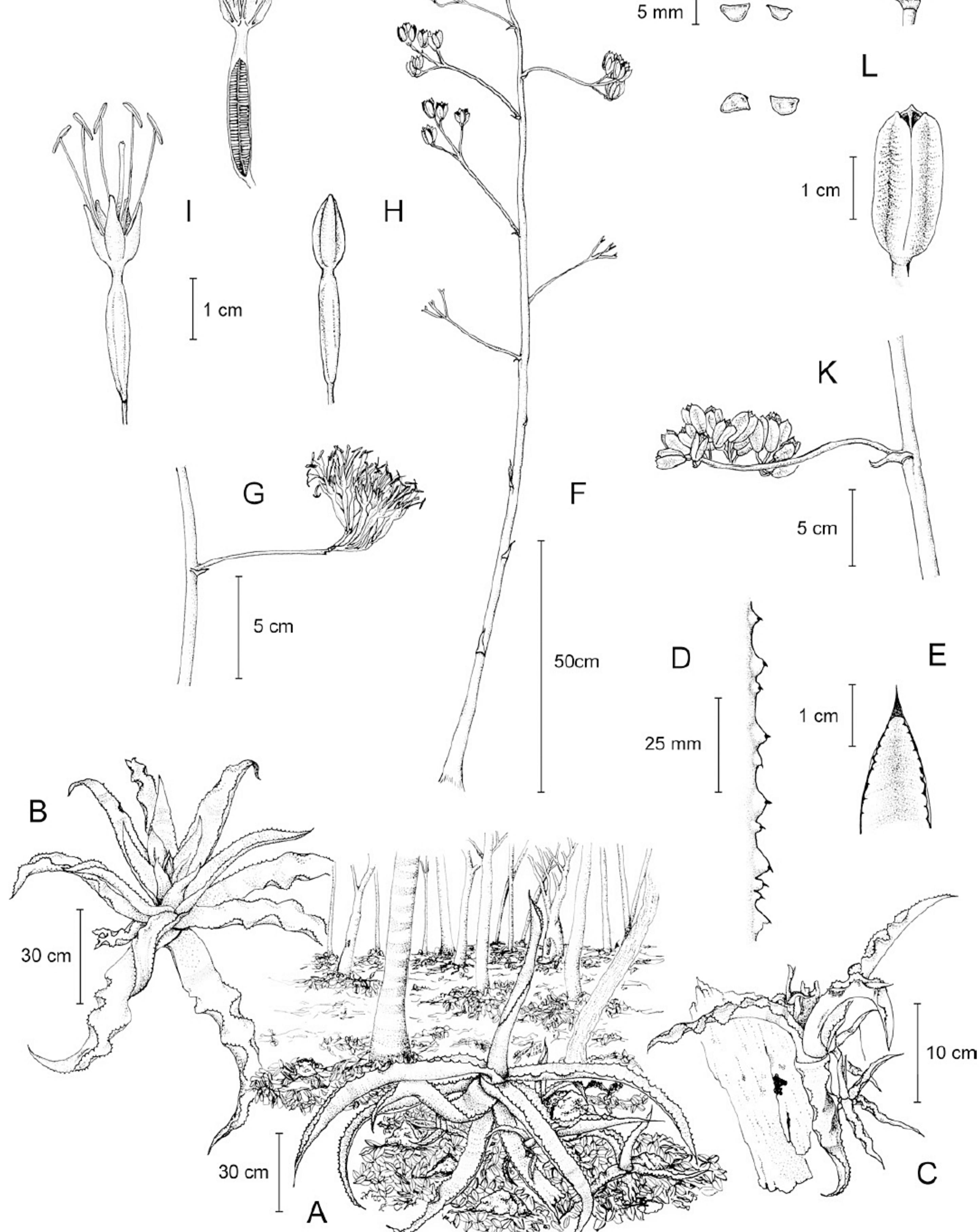


FIG. 5. *Agave pablocarrilloi* A. Vázquez, M. A. Muñiz & Padilla-Lepe. A. Habit. B. Cultivated and well watered habitat. C. Juvenile and surculose habit. D. Leaf margin and teeth. E. Spine. F. Panicle, including peduncle, with remaining capsules. G. Flowers on a branch. H. Flower bud. I. Mature flower. J. Longitudinal section of a mature flower. K. Capsules on a branch. L. Capsules. M. Seeds. Adult habit from Vázquez-García & Padilla-Lepe 9090, juvenile habit from Carrillo-Reyes 1744, flowers from Pérez de la Rosa 619.