2. **Agave andreae** Sahagún & A.Vázquez, sp. nov.—TYPE: MEXICO. Michoacán: Mun. Chinicuila, Sierra de Coalcomán, Risquera de Tehuantepec, Predio de Ángela Ortega, 18°41′53.6″ N, 103°18′5.2″ W, 1386 m, 14 Apr 2011 (fl), *M. A. Muñiz-Castro & J. Padilla-Lepe 862* (holotype: IBUG; isotypes: IEB, GUADA, MEXU, MICH, MO, WIS).

Species magnitudine rosularum exsurculosarum, colore foliorum et altitude inflorescentiarum (4–5(–6) m) cum Agave gypsophila Gentry optime congruens, sed differt numero foliorum (20–40 vs 10–11) et floribus longioribus.

Rosettes multiannual, solitary, not suckering (rarely surculose), 0.8–2.3 × 1.5–3.6 m, with 20–40 leaves; **mature leaves** 90–150 (–210) × 12–14 (–23) cm, to 11.5–15 cm wide at base, to 4–5.5 cm thick at base, 14–23 cm at the base of the sheath, narrowly lanceolate, firm but brittle, concave to channeled with the sides almost perpendicular, light green and slightly darker above, glaucous underneath at the base, smooth on both the abaxial and the adaxial surfaces, not evidently cross-zoned on both sides; **margins** slightly undulate, distinctly crenate in the middle to closely dentate basally and apically, with mammae 3–4 × 4–5 mm; teeth mostly 3–5 mm long, 30–38 mm apart at mid leaf, 5–11 mm apart at base, flattened, the cups from broad bases 3–4 mm wide, mostly ascending and curved, dark brown, interstitial margin curved with teeth few or none; **spine** 15–26 mm long, usually short and conic, firm, nondecurrent, dark brown; **panicles**, including the peduncles, 5–7.3 m high, shaft 5–8 cm in diameter at base, with 27–36 compact flowering branches in the upper two thirds of the shaft; bracts triangular, the basal ones to 15 cm long, acute at the apex, transversally ridged at base, variable in size along the shaft, spirally arranged, smooth, 7–13 cm toward the base; **flowers** 190–219 per branch, 34–40 mm long, orange, protandrous; ovary 18–21 × 1.7–2.1 mm, the neck 3–4 × 5.5 mm, constricted, green; tube 5–6 × 11–12 mm wide, somewhat funnelform; tepals 11–13 × 5–7 mm, triangular, fleshy, erect, the apex galeate, orange at the apex, yellow at base; filaments 32–36 mm long, inserted at 2–3 mm above the tube base, firm, orange; anthers at anthesis 14–15 mm long, centric, yellow; **capsules** oblongoid 32–39 (–45) × 18–19 mm, stipitate, apiculate, thin-walled; carpels acute, 33–43 × 14–15 mm, curving outward for dehiscence; **seeds** 5–6 × 4 mm, lunular, 334 (207 black, 127 white-frequently sterile), but curved on one side, flat, membranous, black. Figure 3.

A. andreae is related to *A. gypsophila* Gentry s.s. in having non suckering rosettes comparable in size, smooth green leaves, not evidently cross-zoned, and a tall inflorescence 4–5 (–7) m, including the peduncle; however, it differs from the latter in having many more ascending leaves, more robust inflorescence, larger flowers (Table 1), and growing at a much higher elevation.

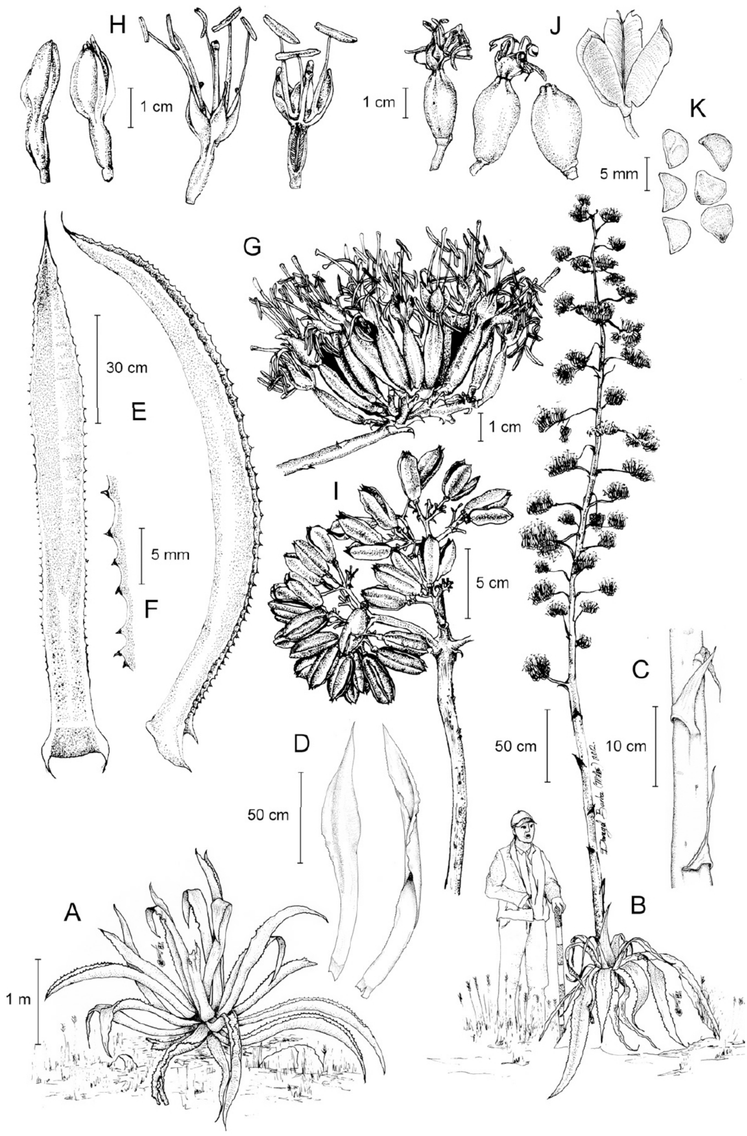

FIG. 3. *Agave andreae* Sahagún & A. Vázquez. A. Habit. B. Habit with panicle, including peduncle. C. Scales on the shaft. D and E. Leaves. F. Leaf margin and teeth. G. Flowers on a branch. H. Flower stages and longitudinal section at anthesis. I. Capsules on a branch. J. Capsules. K. Seeds. From *Muñiz-Castro* & *Padilla-Lepe 862* and photographs (MAMC).

Distribution and Ecology—So far, *Agave andreae* is endemic to Sierra de Coalcomán, Michocán, at 1400–1435 m. *Agave andreae* is found on limestone outcrops of Tecalitlán (Late Aptian, 118–112 mya) and Tepacalcatepec (Early Albian 112–99.6 mya & Cenomanian 99.6–93.5 mya) formations (Corona-Esquivel & Alencáster 1995) at higher elevations of the Sierra de Coalcomán, in tropical dry forest, with *Opuntia* spp., *Lysiloma acapulcense* Benth., *Bursera* spp., *Pittocaulon hintonii* H.Rob. & Brettell and *Pedilanthus coalcomanensis* Croizat (Table 1).

Phenology—Flowering from January to March; fruits dehiscing from March to April.

Etymology—The specific epithet is named after Andrea Sahagún-Romo, daughter of the senior authority of this species.

Ethnobotany and Conservation Status—"Maguey de piedra" is traditionally used to treat internal contusions although this property needs to be scientifically validated. *Agave andreae* is locally abundant but regionally rare.

Potential Use and Economic Value—*Agave andreae* is the largest within the Gypsophila complex, worthy of cultivation as an ornamental because of its very robust habit and spectacular inflorescence with brilliant orange-yellow flowers.

Additional Specimens Examined—MEXICO. Michoacán: Mun. Chinicuila, Hw Aquila–Coalcomán, 2 km NE of road to Tehuantepec, 18°42′06″ N, 103°18′26″ W, 1435 m, 19 Mar 2000 (fl), *Sahagún-Godínez 1608* w/Lomelí-Sención (GUADA); Mun. Chinicuila, Hw Aquila–Coalcomán, 2 km of road to Tehuantepec, 1400 m, 4 Feb 2002 (fl), *Cházaro-Basáñez et al. 8170* (IBUG, IEB); Mun. Chinicuila, Sierra de Coalcomán, parcel of Ángela Ortega, 18°41′53.6″ N 103°18′5.2″ W, 1386 m, 14 Apr 2011 (fl, fr), *Muñiz-Castro 856*, *857*, *858*, *859*, *860*, *861* (IBUG, MEXU, MO, WIS); Mun. Chinicuila, carretera Aquila–Coalcomán, 3km al NE del crucero de Tehuantepec, frente a una fonda, 1400 m, 15 mar 2012 (fl bud), *J. Antonio Vázquez-García & Jesús Padilla-Lepe 9333* (IBUG, MEXU).