THREE NEW ASTERACEAE FROM GUERRERO, MEXICO

Harold Robinson
Department of Botany
Smithsonian Institution, Washington, D.C. 20560.

During October 1975 a group of botanists from the University of Maryland and from Kew including James Reveal, C.Rose Broome, K.M.Peterson and R.M.Harley collected along the Milpillas-Atoyac road in central Guerrero, Mexico. Among the specimens collected were the following three new species of Asteraceae belonging to the tribes Heliantheae and Liabeae. Two of the new species have also been found represented by unnamed George B. Hinton material from northwestern Guerrero.

Montanoa revealii H.Robinson, sp. nov.

Plantae arborescentes usque ad 10 m altae laxe ramosae. Caules quadrangulares sparse puberuli. Folia opposita, petiolis ad 5.5 cm longis tenuibus; laminae ovatae vel quinquangulares plerumque 9-12 cm longae et 5-10 cm latae base obtusae vel subtruncatae apice anguste acuminatae margine serrulatae et 0-2 dentatae fere ad basem trinervatae supra in nervis et subtus in nervis et nervulis minute puberulae. Inflorescentiae corymboso-paniculatae ca. 15 cm latae et 12-15 cm altae, pedicellis 10-15 mm longis dense hirsutis. Capitula ca. 8 mm lata sine radiis ca. 7 mm alta. Squamae involucri exteriores 5 virides late ovatae 3-4 mm longae breviter acutae extus dense puberulae, squamae involucri interiores et paleae immaturae nigrae 4-5 mm longae base late ovatae superne subulatae anguste acuminatae apice argute spinosae extus sparse puberulae margine dense fimbriatae. Flores radii 3-5 albi extus puberuli sparse glanduliferi, tubis ca. 2.5 mm longis, limbis ellipticis ca. 15 mm longis et 8 mm latis; flores disci ca. 20-25; corollae ca. 5 mm longae extus dense hirtellae, tubis 1.5 mm longis, limbis ca. 3.5 mm longis cylindricis, lobis ca. 0.8 mm longis vix longioribus quam latioribus; thecae antherarum ca. 1.5 mm longae nigrescentes, appendices ovatae ca. 0.7 mm longae nigrescentes; grana pollinis ca. 30 μ diam. hispidula. Achaenia glabra immatura.

TYPE: MEXICO: Guerrero: Sierra Madre del Sur, along the Milpillas-Atoyac road via Puerto del Gallo, about 42.5 miles southwest of Mexico Highway 95, 11.5 miles southwest of Filo de Caballo and 6.3 miles

southwest of Carrazal del Bravo, in mixed deciduous forest on the slopes and in gulches at about 8500 feet elevation. Large tree up to 15 m tall; flowers white. October 16, 1975. Reveal, Peterson, Harley & Broome 4233 (Holotype US, isotypes K, MEXU). Guerrero: Galeana, Piedra Ancha-Tres Cruces, 2500 m, Oak Forest. Tree 10 m high, flower white. December 25, 1939. Hinton et.al. 15395 (US). Additional notes with the holotype say, "This is a large, open spreading tree with a thin girth but long, stoutish, spreading branches which harbored numerous clusters of flowers and leaves. The trees were locally common, in moist soil in an area of dense forest of mixed deciduous trees. It grew with Miconia aff. glaberrima, Castilleja sp., Croton sp., Styrax sp., Lopezia miniata, Dahlia tenuicaulis, and several low herbs.

Some of the distinctive features of the species are the simple inornate petioles, the ovate to pentangular leaves, the nearly glabrous leaf surfaces, the only 3-5 rays per head and the densely pubescent disk corollas. Closely related are M. subtruncata A.Gray and M. hexagona B.L.Robinson & Greenman which have more rays and pubescent leaf surfaces. Another close relative, M. karwinskii DC. (including M.olivae Schultz.Bip. and M. affinis Blake) can be distinguished by tendency for the trinervate condition to be exposed or projecting at the base of the leaf blade. From the immature appearance of the paleae and from the relationships of the species the paleae probably are the type that would enlarge into obovate truncate structures.

Rumfordia revealii H.Robinson, sp. nov.

Plantae frutescentes usque ad 7 m altae laxe ramosae. Caules hexagonales glabescentes ad nodos hirsuti. Folia opposita, petiolis 1-4 cm longis late alatis; laminae ovatae usque ad 25 cm longae et 12 cm latae base obtusae sensim in petiolis decurrentes margine dense serrulatae apice breviter acuminatae supra sparse pilosae, cellulis pilorum basilaribus brevibus incrassatis apicalibus pertenuibus, subtus sparse hirtellae in nervis et nervulis hirsutae, nervis secundariis pinnatis. Inflorescentiae corymboso-paniculatae ad 30 cm latae, pedicellis ad 4 cm longis dense hirsutis. Capitula ca. 1 cm latae et altae. Squamae involucri exteriores 5 uniseriatae obovatae ca. 1 cm longae apice obtuse acutae extus sparse puberulis, nervis in parte hirtellis; squamae involucri interiores et paleae exteriores immaturae virides base ovatae apice acuminatae superne et margine hirtellae extus dense glanduliferae. Flores radii ca. 12 flavi,

tubis ca. 2.5 mm longis dense hirsutis, limbis anguste ellipticis ca. 13 mm longis et ca. 4 mm latis extus fere glabris. Flores disci ca. 70; corollae ca. 4.5 mm longis, tubis 1mm longis dense hirsutis, limbis glabris, lobis ca. 1 mm longis vix longioribus quam latioribus; thecae antherarum 1.5 mm longae pallidae; appendices anguste ovatae ca. 0.7 mm longae; grana pollinis ca. 25 μ diam. hispidula. Achaenia immatura glabra exteriorius gibbosa.

TYPE: MEXICO: Guerrero: Sierra Madre del Sur, along the Milpillas-Atoyac road via Puerto del Gallo, about 40.5 miles southwest of Mexico Highway 95, 9 miles southwest of Filo de Caballo and 4.3 miles southwest of Carrazal del Bravo, in wooded forests south of the road, associated with Quercus and Pinus at about 9000 feet elevation. Shrub to about 7 m tall. October 16, 1975. Reveal, Peterson, Harley & Broome 4225 (Holotype US, isotypes K, MEXU). Additional notes with the holotype,"This was an infrequent shrub in the pine-oak forest, and it grew on the forest floor in open places where ± sunny. Associated species include Miconia aff. glaberrima, Tibouchina sp., Cuphea bustamanta, Salvia sp., Geranium sp., Archibaccharis sescenticeps and Bomarea hintella.

In appearance the new species is near R. floribunda DC. but it is clearly distinct in the pinnate venation of the leaves. The pedicels also seem more densely hirsute and the limbs of the disk corollas seem more glabrous. The rays are not as broad or as pale as in R. floribunda but the heads of the new species are not completely matured and some parts may not be completely expanded.

Sinclairia broomei H.Robinson, sp. nov.

Plantae scandentes usque ad 10 m longae epiphyticae laxe ramosae. Caules quadrangulares subglabri lactiferi. Folia opposita, petiolis 2.0-3.5 cm longis tenuibus; laminae latae ovatae vel subtriangulares 9-10 cm longae et latae base subtruncatae trinervatae apice abrupte breviter acuminatae margine minute dense mucronate denticulatae supra glabrescentes in nervis minute puberulae subtus canescentiter floccoso-tomentosae in nervis et nervulis sparse hirsutae fulvae. Inflorescentiae corymboso-paniculatae usque ad 35 cm latae, ramis sparse distincte hirsutis, pedicellis plerumque 1-10 mm longis hirtellis. Capitula per anthesin ca. 1 cm alta et 5 mm lata. Squamae involucri ca. 18-22 triseriatae inaequales 1.5-6.0 mm longae 1.0-1.5 mm latae ovatae vel oblongo-lanceolatae exteriores extus dense puberuli interiores papyraceae

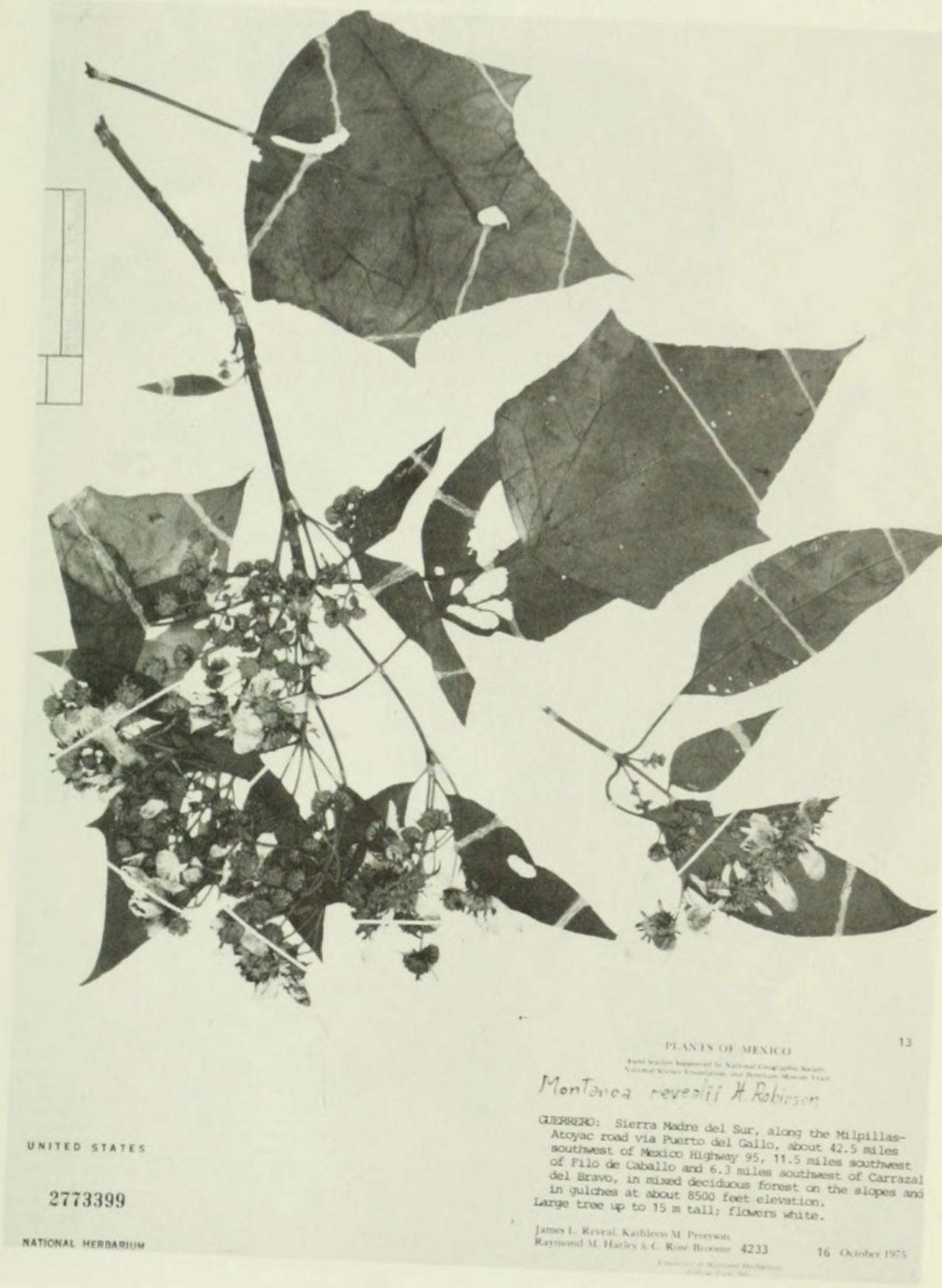
breviter acutae extus minute puberulae vel subglabrae; receptacula glabra. Flores radii ca. 4 flavi subglabrae, tubis 4-5 mm longi tenuibus, limbis anguste ellipticis 8-9 mm longis 1.5-2.0 mm latis. Flores disci 5-10; corollae flavae ca. 9 mm longae anguste infundibulares inferne glabrae, lobis ca. 3 mm longis et 0.6 mm latis superne extus dense puberulis; thecae antherarum ca. 3 mm longae pallidae; appendices oblongae ca. 0.4 mm longae; grana pollinis ca. 33μ diam. et 30μ alta. Achaenia prismatica 1.5 mm longa vel longiora in vittis 4 dense setifera; setae pappi ca. 40 plerumque 7-8 mm longae, scabrae, seriebus exterioribus subsquamiformibus ca. 0.5 mm longis.

TYPE: MEXICO: Guerrero: Sierra Madre del Sur, along the Milpillas-Atoyac road via Puerto del Gallo, about 47 miles southwest of Mexico Highway 95, 16 miles southwest of Filo de Caballo and 10.4 miles southwest of Carrazal del Bravo, 12.4 miles northeast of Yerba Santa, in forest associated with mixed deciduous trees. Liana growing on a large oak tree; milky juice present. October 17, 1975. Reveal, Peterson, Harley & Broome 4267 (Holotype US, isotypes K, MEXU). Guerrero: Mina, Cerro Azul, 2550 m, Oak and pine forest, clamering shrub 10 m, hanging on tree; sap milky. Flower yellow. December 4, 1939. Hinton et. al. 14951 (US).

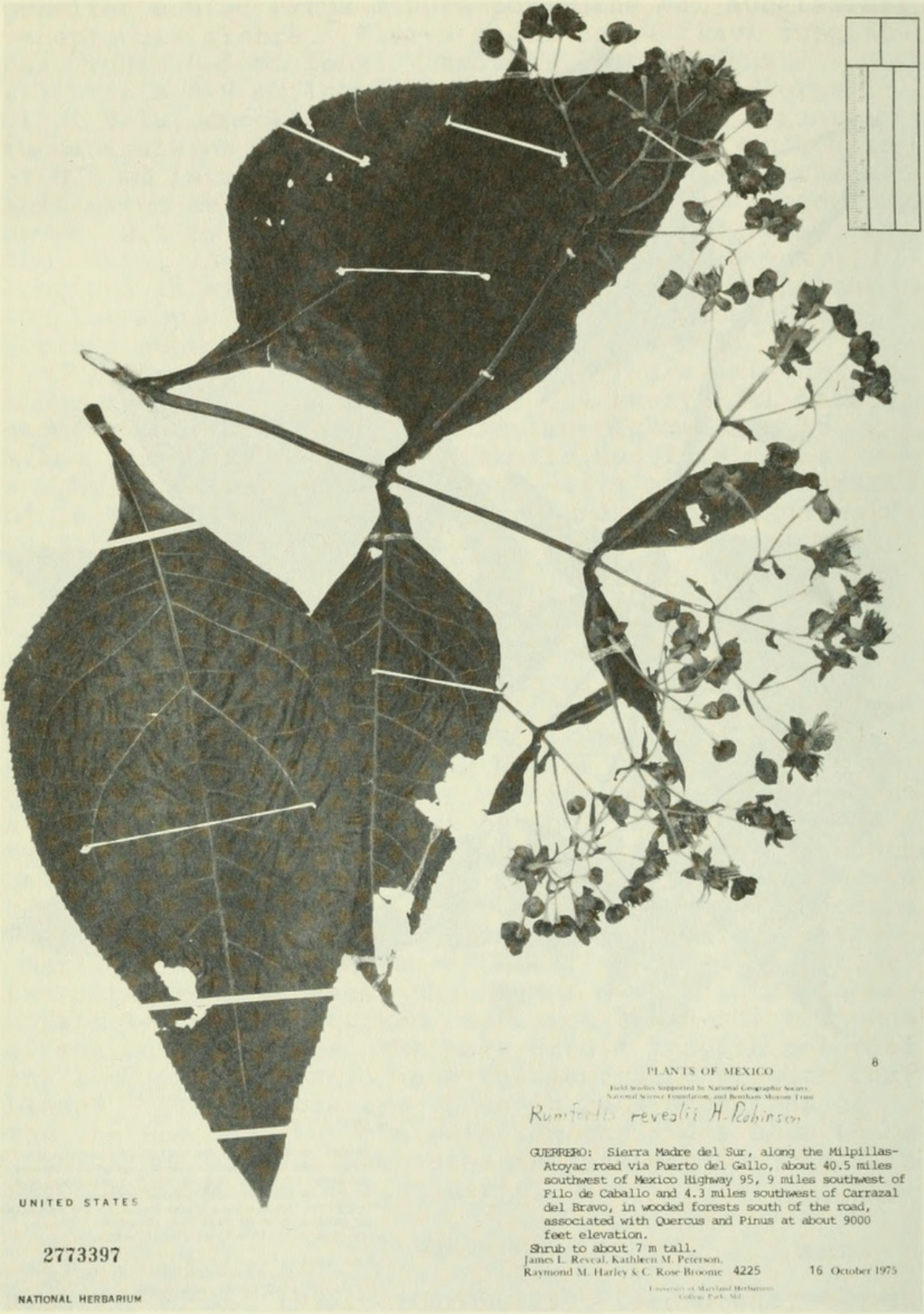
The new species keys to S. liebmannii (Klatt) Schultz.Bip. ex Rydb. in the key of Rydberg (1927). Only one head of the latter species has been seen but a number of differences are obvious including the striated phyllaries and the whole surface of the achene being setiferous. Actually, closest relation seems to be to S. discolor Hook. & Arn. which supposedly occurs in western Mexico but which is most common in Central America. The new species differs from S. discolor by the setiferous achenes, the firmer more pointed inner phyllaries, the scattered coarse hairs on the branches of the inflorescence, the more sordid grayish color of the leaf undersurfaces and the generally broader leaf blades. The achenes are young in both specimens of the new species, but the setae on the sides seem to be in distinct zones. Such achenes have not been seen in any other species of Sinclairia.

Literature

Rydberg, P. A. 1927. (Carduales), Carduaceae, Liabeae. North American Flora 34 (4): 289-301.

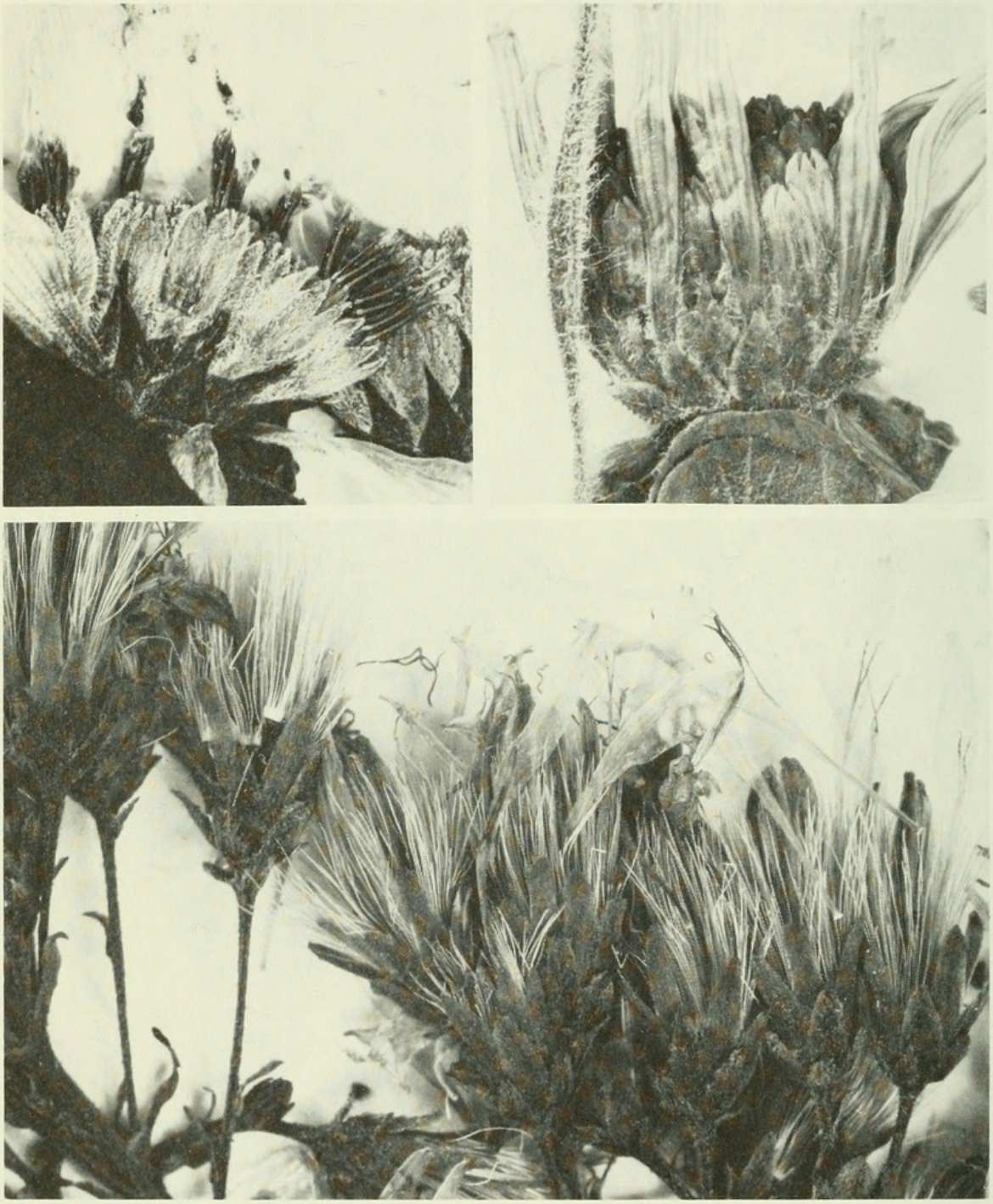


Montanoa revealii H.Robinson, Holotype, United States National Herbarium. Photos by Victor E. Krantz, Staff Photographer, National Museum of Natural History.



Rumfordia revealii H.Robinson, Holotype, United States National Herbarium.

Sinclairia broomei H.Robinson, Holotype, United States National Herbarium.



Enlargements of heads. Upper left: Montanoa revealii. Upper right: Rumfordia revealii. Bottom: Sinclairia broomei.