

STUDIES IN THE HELIANTHEAE (ASTERACEAE). XXV.

A NEW SPECIES OF *UNXIA*.

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The genus *Unxia* has been known on the basis of two species, *U. camphorata* L.f., a herbaceous annual widely distributed in northern South America, and *U. suffruticosa* (Baker) Stuessy, a perennial subshrub from a restricted area in southern Venezuela. Both species have functionally male disk flowers and have been commonly associated with the genera *Melampodium* and *Polymnia*. The genus *Unxia* was resurrected and monographed in 1969 by Stuessy. A new collection from a white sand area in amazonian Brasil has now been seen which represents a third, previously undescribed, species of *Unxia*, and which present characters that clearly indicate the relationship of the genus.

The new species is a shrub with narrowly elliptical opposite leaves having nearly longitudinal secondary veins. The heads are in a small terminal group, and the lower "dichotomies" of the plant probably represent previous flowering stages. The species is most like *U. suffruticosa*, but has large, prominent, distinctly trilobed limbs on the rays, and has longer pubescence on the stems and leaves. The cells on the surface of the ray achenes are distinctive in each of the three species of the genus (Figs. 1-3). The type species, *U. camphorata*, has small smooth cells in a regular continuous pattern, *U. suffruticosa* has cells in distinctive fusiform groups with some cells bearing a distinct papilla, and the new species has cells in a more continuous pattern and bearing a distinct papilla.

The new species of *Unxia* is especially valuable for the insight it provides into the relationship of the genus. The species has the aspect of a *Calea*, and the appearance is reenforced by the large, yellow, strongly trilobed rays. Closer examination shows that the species shares other features that distinguish the natural group which includes *Calea* L., *Brasilia* Barroso, and *Tyleropappus* Greenm., yellowish anther thecae, radially symmetrical achenes, non-striate carbonized achene walls, non-papillose inner surfaces of the disk corolla lobes, numerous parallel resin ducts in the involucre bracts, single resin ducts along the veins of the disk corolla throats, and resin ducts inside the veins in the shaft of the disk corolla styles. On this basis, *Unxia* is regarded here as a close relative of *Calea* in the Neurolaeninae.

The new species is named for the principal collector, Dr. Klaus Kubitzki of the University of Hamburg, Germany. The material has been made available for study by Dr. Cleo Calderon, the co-collector.

UNXIA KUBITZKII H. Robinson, sp. nov.

Plantae fruticosae erectae ad 0.8 m altae dichotome ramosae. Caules brunnescentes teretes vel leniter striati dense hirsuti, internodis plerumque 5-12 mm longis, nodis prominentibus. Folia opposita, petiolis brevibus ca. 2 mm longis; laminae anguste ellipticae plerumque 4-7 cm longae et 0.7-10.0 cm latae base et apice acutae margine remote serrulatae anguste recurvatae supra villosae subtus densius longe villosae, nervis secundariis paucis sublongitudinalibus. Inflorescentiae terminales 1-3-capitatae, pedicellis 5-12 mm longis dense hirsutis. Capitula late campanulata ca. 9 mm alta et 10 mm lata; squamae involucris ca. 16-18 ca. 3-seriatae ovatae vel late oblongae 7-8 mm longae et 4-5 mm latae, exteriores herbaceae extus et margine dense puberulae vel breviter villosae apice breviter acutae margine superne anguste reflexae, interiores scariosae rubro-flavae apice obtusi vel anguste rotundati extus glabrae vel in medio dense hispidulae, canales resiniferi longitudinales rubri numerosi; paleae minutae breviter triangulares ca. 1 mm longae et 0.5 mm latae. Flores radii feminei ca. 10; corollae flavae 7 mm longae, tubis ca. 2.5 mm longis cylindraceis inferne leniter latiores extus pilosulis, limbis late oblongis ca. 4.5 mm longis et ad 3 mm latis apice valde trilobatis intus leniter mamillosis extus multo glandulopunctatis base pauca pilosulis. Achaenia radii obovata leniter arcuata ca. 3 mm longa et 1.5 mm lata non striata extus in cellulis distincte papillosa; carpopodia late irregulariter annuliformia, cellulis isodiametricis vel latioribus quam longioribus ca. 25-30 μ m latis, parietibus leniter incrassatis; callus annuliformis; pappus nullus. Flores disci ca. 8; corollae sordide flavae ca. 5 mm longae extus glabrae vel inferne sparse pilosulae 5-lobatae, tubis cylindraceis 1.5-2.0 mm longis, faucibus anguste infundibularibus 2.0-2.3 mm longis, lobis triangularibus 1.0-1.2 mm longis et ca. 0.8 mm latis intus laevibus; canales resiniferi in faucibus ad nervos solitarii in lobis marginales interdum inter nervos praesentii; filamenta in partibus inferioribus laevibus in partibus superioribus ca. 0.20-0.25 mm longa base ad 0.15 mm lata; thecae antherarum flavae 1.6-1.8 mm longae, cellulis endothelialibus breviter ellipticus vel subquadratis in parietibus transversalibus 1-2 noduliferis, appendices antherarum ovatae 0.25-0.30 mm longae et 0.20-0.23 mm latae extus concavae et dense glanduliferae; nectaria cylindrica ca. 0.5 mm alta breviter 5-lobata; basi stylorum submaturi non noduliferi; styli apice non ramosi subtruncati subapice dense obtuse papilloso, canales resiniferi e nervos interiores. Achaenia disci sterilia cylindrica vel in basis valde obliqua extus laevia vel raro pauca papillosa; carpopodia prominentia annuliformia, pappus nullus. Grana pollinis in diametro 27-30 μ m valde breviter spinosa.

TYPE: BRASIL: Amazonas: Rio Negro, Temedauí, right river bank, 2 hours below Tapuruquara (Santa Isabel do Rio Negro). Shrubs up to 0.8 m, dichotomously branched, flowers yellow; in

campina. Sept. 1979. K.Kubitzki, C.E.Calderon & H.-H.Poppendieck K.-79-103 (Holotype, INPA; isotypes, HBG, US).

Literature Cited

Stuessy, T. F. 1969. Re-establishment of the genus *Unxia* (Compositae-Heliantheae). *Brittonia* 21 (4): 314-321.

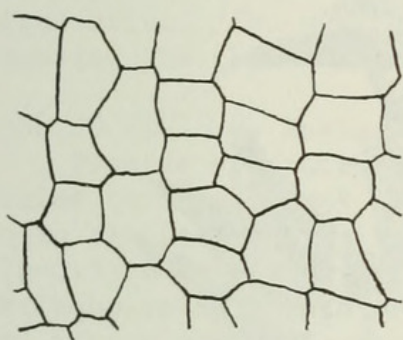


Fig. 1. Achene wall of *Unxia camphorata*.

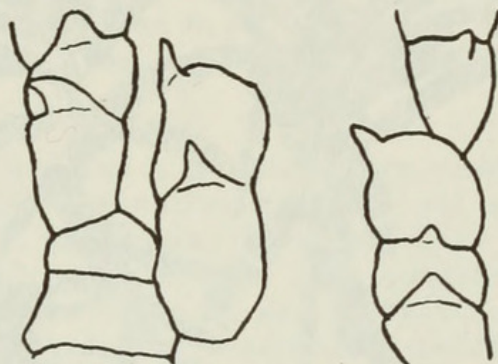


Fig. 2. Achene wall of *Unxia suffruticosa*.

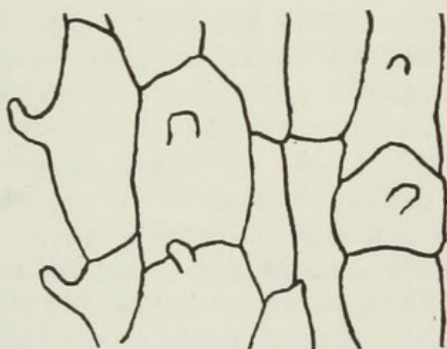
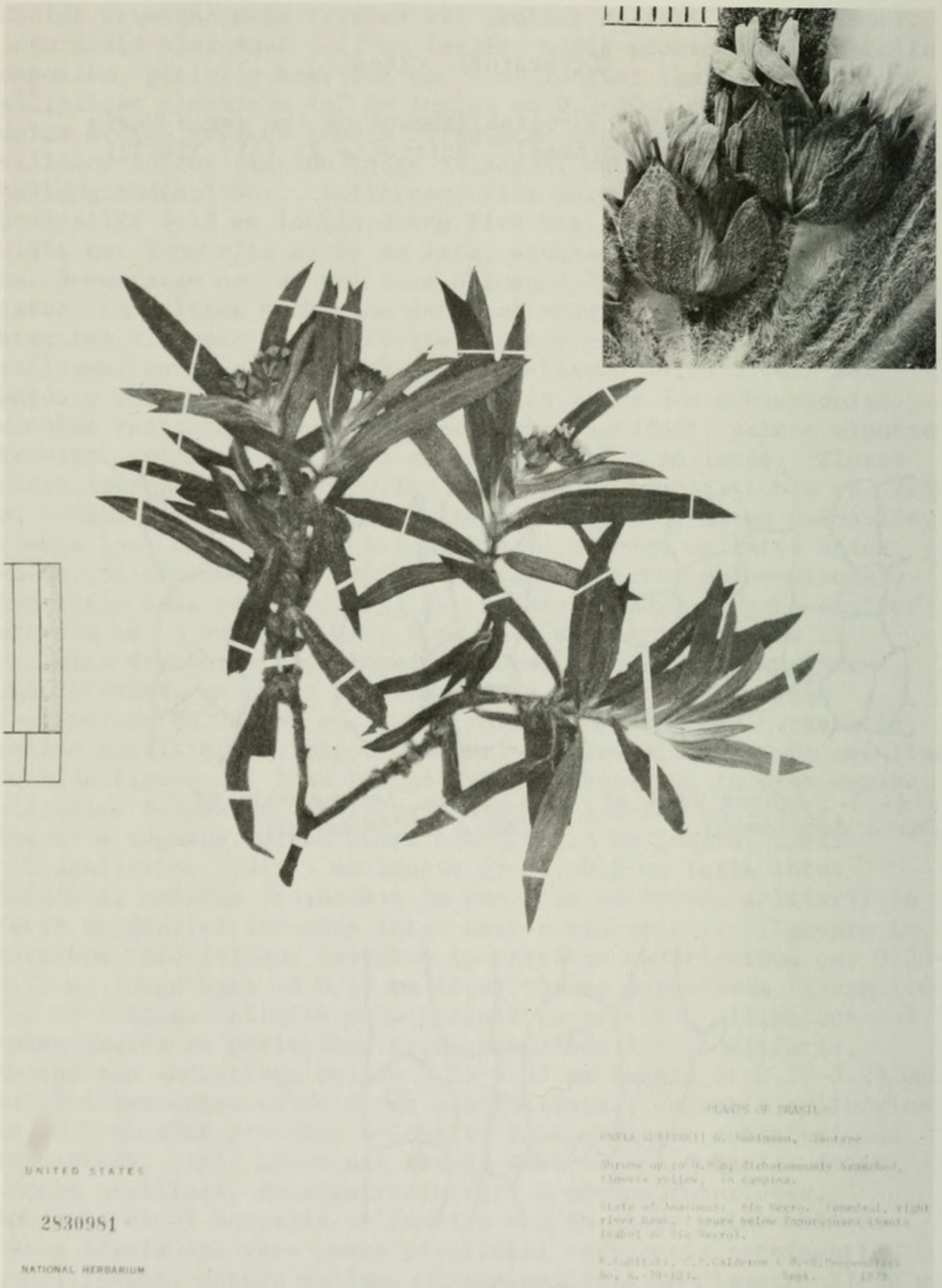


Fig. 3. Achene wall of *Unxia kubitzkii*.



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PLANTS OF BRAZIL

UNXIA KUBITZKII H. Robinson, Isotype

Shrub up to 0.8 m, dichotomously branched, flowers yellow, in axils.

State of Amazonas: Rio Negro, Imedul, right river bank, 2 hours below Tapacutu (Santa Isabel do Rio Negro).

E. Kubitzki, F. Calderon & B. G. Gendreau
No. 8, 79-10, Sept. 1979

Unxia kubitzkii H. Robinson, with enlargement of heads. Isotype, United States National Herbarium. Photos by Victor E. Krantz, Staff Photographer, National Museum of Natural History.



Robinson, Harold E . 1980. "Studies in the Heliantheae. (Asteraceae). XXV. A new species of *Unxia* [*U. kubitzkii*]." *Phytologia* 46(5), 289–292.

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