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Two New Species of *Heteropterys* (Malpighiaceae) from Southern South America

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**ABSTRACT.** *Heteropterys mulgurae*, from Misiones, Argentina, and Paraná, Brazil, and *H. schulziana*, from Salta, Argentina, are described as new, and the distinction of each from its closest sister species is discussed.

In the course of treating the Malpighiaceae for the forthcoming *Catálogo de las Plantas Vasculares de la Argentina*, I have encountered two new species that require description, and that is the purpose of this brief contribution.

***Heteropterys mulgurae* W. R. Anderson, sp. nov.**

TYPE: Argentina. Misiones: Dep. San Ignacio, Santa María, 24 Aug. 1946 (fr), *G. J. Schwarz* 3218 (holotype, LIL).

Species affinis *Heteropterydis nitidae* (Lamarck) DC. sed differt glandulis abaxialibus laminae margine vel usque ad 1 mm intra marginem portatis, petiolo plerumque biglanduloso in dimidio distali, samara usque ad 34 mm longa ala dorsali in costam crassam abaxialem circumnecem extensa, pilis folii samaraeque 0.6–0.8 mm longis relative laxis, et bracteolis 1.5–2 mm longis, ellipticis, lateribus saepe revolutis.

Woody vine; stems initially sericeous, gradually glabrescent during the first year, developing whitish punctiform to somewhat elongated lenticels, the axillary buds sericeous with dark brown hairs. Lamina of larger leaves 9–15.5 cm long, 3.3–6 cm wide, narrowly elliptical or slightly ovate or obovate, cuneate to nearly rounded at base, broadly obtuse to rounded or emarginate and often apiculate at apex, bearing a row of 5–20 small glands from base to apex along abaxial margin or within 1 mm of mar-

gin, adaxially initially sericeous but soon quite glabrate, abaxially densely and persistently metallic-sericeous with a continuous underlayer of white hairs and a thinner overlayer of brown hairs, the longer hairs 0.6–0.8 mm long, straight,  $\pm$  strongly appressed, the principal lateral veins 7–10 pairs, more prominent below than above, the fine reticulum visible above; petiole of larger leaves 9–12 mm long, persistently sericeous, mostly biglandular between middle and apex (eglandular in *Hatschbach* 52790); stipules 0.5–0.7 mm long, triangular, borne on very base of petiole. Inflorescence terminal and axillary, paniculate, sericeous or loosely sericeous to glabrescent in age; flowers borne ultimately in umbels of (3–)4–5(–6) flowers, occasionally with an additional pair of flowers borne more proximally; bracts 1.5–2 mm long, elliptical, erect to spreading, eglandular, abaxially sericeous, adaxially glabrous, persistent; peduncle 3.5–9 mm long, sericeous or glabrescent in age; bracteoles like the bracts but more rounded distally and often somewhat revolute at sides, borne at apex of peduncle; pedicel 4–6 mm long, sericeous or glabrescent in age. Sepals somewhat loose in bud, strongly appressed in anthesis, 1.2–2 mm long beyond glands, 1.7–2.5 mm wide, triangular and obtuse or rounded at apex, abaxially densely and persistently golden-sericeous or appressed-tomentose over the whole surface to glabrescent in fruit, adaxially glabrous, the lateral 4 bearing 8 glands 1.7–2.5 mm long, elliptical or slightly ovate, distally detached and eventually spreading. Petals yellow, strongly reflexed in anthesis, glabrous or with a few appressed hairs on abaxial rib, the claw 1–1.5 mm long, the limb 3–3.5

mm long, 2–2.2 mm wide, ovate or roughly rectangular, distally erose or denticulate, proximally bearing several marginal glands especially near base, abaxially carinate, the posterior petal similar in size and shape to the lateral 4 but with a thicker claw and larger marginal glands. Filaments 1.7–2.3 mm long, longer opposite sepals than opposite petals, slender, erect or reflexed at apex, abaxially loosely sericeous on proximal half at least where adjacent filaments are connate, adaxially glabrous, connate for  $\frac{1}{2}$ – $\frac{2}{3}$  of their length; anthers 1–1.3 mm long, alike, glabrous. Ovary 1–1.2 mm high, densely tomentose, each carpel with an abaxial crest under the hairs but no lateral crests; styles 1.2–1.7 mm long, glabrous, relatively stout, erect to diverging from the base and distally somewhat recurved, with the stigma distinctly internal and dorsally truncate or slightly acute at apex. Samara 27–34 mm long; nut subspheroidal, 5–7 mm long and 4.5–6 mm across, completely without lateral appendages, appressed-tomentose; dorsal wing 9–11 mm wide distally, extending around the nut abaxially as a thick rib, loosely sericeous with the hairs 0.6–0.8 mm long.

**Distribution.** Misiones, Argentina, and the adjacent state of Paraná, Brazil. The two Argentinian collections of *H. mulgurae* came from near the Río Alto Paraná, so the species must occur on the Paraguayan side of that river, but as far as I know it has not been collected there.

**Etymology.** I am happy to name this species in honor of María Ema Múlgura de Romero (b. 1943), enthusiastic student of Argentinian Malpighiaceae.

Múlgura de Romero (1981) reported this species as new for Argentina and illustrated it with a drawing that is generally accurate except that it exaggerates the degree to which the leaf glands are set in from the margin. She called it *Heteropteris nitida* (Lamarck) Kunth, which is correctly cited *Heteropteris nitida* (Lamarck) DC., because the spelling *Heteropteris* is now conserved and Kunth did not validly publish the combination. *Heteropteris nitida* is a rather common species along the coast of Brazil from Bahia south to Paraná, just reaching Santa Catarina and extending inland as far as eastern Minas Gerais. After reviewing the complex to which these plants belong, series *Metallophyllis* (Nieden-zu, 1928), I have concluded that Múlgura was correct that *H. nitida* is the closest relative of the plant described above as *H. mulgurae*, and it would have been convenient to leave it there, but that has the disadvantage of depriving a well-marked species of some of its most useful distinctions. The couplet below summarizes the differences between the two

species that are apparent from the material now available.

- 1a. Abaxial lamina glands borne at margin or within 1 mm of margin; petiole biglandular on distal half or eglandular; samara up to 34 mm long, with the dorsal wing extended around nut abaxially as a thick rib; hairs of leaf and samara 0.6–0.8 mm long, relatively loose; bracteoles 1.5–2 mm long, elliptical, often revolute at sides . . . . . *H. mulgurae* W. R. Anderson
- 1b. Abaxial lamina glands set well in from margin, those of larger leaves mostly 5 mm or more from margin; petiole eglandular; samara (35–)37–52 mm long, with the dorsal wing merging smoothly into the nut at apex or slightly below; hairs of leaf and samara 0.2–0.4 mm long, very tight; bracteoles 0.7–1.3(–1.5) mm long, ovate, flat or involute at sides . . . . . *H. nitida* (Lamarck) DC.

**Paratypes.** ARGENTINA. **Misiones:** Dep. Iguazú, P. N. Iguazú, Isla Grande, frente a Pto. Canoas, interior de selva, 31 Mar. 1995 (fl), Vanni et al. 3374 (CTES, MICH). BRAZIL. **Paraná:** Rod. PR-11, 4–5 km S de Senges, orla da mata, 27 Jan. 1989 (fl), Hatschbach 52790 (MICH).

**Heteropteris schulziana** W. R. Anderson, sp. nov. TYPE: Argentina. Salta: Quebr. Yariaguarenda [eastern slopes of Sierra de Tartagal], Las Piletas, ladera cerro, cueлга en barrancas, 1 Jul. 1944 (fl), A. G. Schulz 509 (holotype, CTES; isotype, LIL).

Species affinis *Heteropteridis cochleospermae* Adrien de Jussieu sed differt lamina minore pilis rectis sessilibus appressis instructa, petiolo eglanduloso, petalis abaxialiter carinatis, et stigmatibus ut videtur terminali.

Pendent shrub with flexible (perhaps facultatively twining) woody stems; youngest stems sericeous, soon glabrate, developing punctiform lenticels in the first year; older stems 5 mm diam., with elongated splits and raised fissures; axillary buds densely ferrugineous-sericeous. Lamina of larger leaves 3–4 cm long, 1.6–2.2 cm wide, ovate or elongate-ovate, broadly obtuse to rounded at base, flat at margin, acute to broadly obtuse or rounded and often apiculate at apex, eglandular or bearing 1–2 small but mostly prominent glands on very margin well above base but below middle, initially sericeous on both sides but soon glabrescent and often nearly or quite glabrate at maturity, the hairs 0.3–0.6 mm long, fine, white, sessile, straight, appressed, the principal lateral veins 5–7 pairs, the veins and reticulum visible on both sides in dried leaves, slightly raised below; petiole of larger leaves 4–5.5 mm long, initially sericeous but soon glabrate, eglandular; stipules 0.2–0.4 mm long, triangular, borne on very base of petiole. Inflorescences terminating currently leafy stems or axillary to current leaves, simple or ternate, loosely sericeous to gla-

brесcent, containing much-reduced leaves like the larger leaves but more likely to have marginal glands; flowers borne ultimately in umbels or corymbs of 4–7 flowers, often with an additional pair of flowers borne more proximally; bracts 0.6–1.4 mm long, very narrowly triangular, spreading to appressed, eglandular, loosely hairy to nearly glabrous except for spreading hairs on margin, persistent; peduncle 3–5 mm long, thinly sericeous to glabrate; bracteoles like the bracts but smaller, 0.6–0.9 mm long, swollen at base and strongly appressed, one or both borne below apex of peduncle with one usually lower than the other; pedicel 6–10 mm long, thinly sericeous to glabrate. Sepals loose to somewhat spreading in bud, spreading to distally reflexed in anthesis, 1.5–1.7 mm long beyond glands, 0.9–1.1 mm wide, narrowly triangular and obtuse or rounded at apex, abaxially loosely sericeous especially proximally, adaxially glabrous, the lateral 4 bearing 7–8 glands 1.3–1.8 mm long, elliptical or somewhat obovate. Petals “pink” [yellow?], glabrous, the claw ca. 1 mm long, the limb 3.2–3.5 mm long, 1.6–2 mm wide, narrowly elliptical, eglandular, denticulate or slightly erose, abaxially slightly carinate on the proximal half, the posterior petal apparently hardly different in size and shape from the lateral 4. Filaments 2.3–2.9 mm long, longer opposite sepals than opposite petals, slender and reflexed at apex, glabrous, basally connate; anthers 0.9–1 mm long, alike, glabrous. Ovary 1.5 mm high, densely sericeous, each carpel with an abaxial crest under the hairs; styles 1.8–2.2 mm long, glabrous, slender, erect or diverging from the base, straight or slightly recurved, truncate at apex with the stigma terminal or perhaps very slightly internal but without any apical-dorsal angle or hook. Fruit unknown.

**Distribution.** I recently surveyed the Malpighiaceae in all the major herbaria of Argentina and found no collections of this species other than the holotype and isotype. I can also find no collections of it in the extensive holdings of Malpighiaceae at the University of Michigan, so for now it will have to be considered endemic to Argentina, but I expect that it will eventually be found in southern Bolivia.

**Etymology.** This interesting plant is named in

honor of its collector, the Argentinian botanist Augusto Gustavo Schulz (1899–1992).

The species closest to *Heteropterys schulziana* is probably *H. cochleosperma* Adrien de Jussieu (= *H. hassleriana* Niedenzu), which occurs in Bolivia, Mato Grosso, and Paraguay, as well as farther east. In *H. cochleosperma* the leaf is usually larger than in *H. schulziana*, with looser hairs, and there is always a pair of large glands on the distal half of the petiole or at the very base of the lamina. Its petals are abaxially smooth, not carinate, and the stigma is distinctly internal, with the style apex dorsally rounded to acutely angled. *Heteropterys cochleosperma* and its relatives have yellow petals, so if the petals of *H. schulziana* are really pink as noted by the collector (“fl. rosada”), that will be an additional distinction, but I shall be surprised if they do not turn out to be yellow. In placing *Heteropterys schulziana* near *H. cochleosperma* I am especially influenced by the marginal lamina glands, the umbellate inflorescence, and the strongly appressed bracteoles borne below the apex of the peduncle. Another species in that complex is *H. kropovickasii* W. R. Anderson from Bolivia and Mato Grosso, which differs from *H. schulziana* in the same characters as *H. cochleosperma*, and is also distinguished by the vesture of its laminas, which are abaxially densely and persistently sericeous.

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