

Two New Species of *Heteropterys* (Malpighiaceae) from the Guayana Highland

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Abstract

ANDERSON, W. R. (University of Michigan Herbarium and Department of Biology, North University Building, Ann Arbor, MI 48109-1057, U.S.A.). Two new species of *Heteropterys* (Malpighiaceae) from the Guayana Highland. Mem. New York Bot. Gard. **64**: 225–228. 1990. *Heteropterys maguirei* is proposed as the name for a new species from the Gran Sabana in Bolívar, Venezuela; it is described, illustrated, and compared to its most similar congener, *H. cuatrecasii* W. R. Anderson, which is endemic to Amazonas, Venezuela. *Heteropterys ayacuchensis* is described from northernmost Amazonas, Venezuela, and compared to *H. atabapensis* W. R. Anderson, endemic to the same area and adjacent Colombia. Both new species are referable to subgenus *Parabanisteria*.

The Guayana Highland is one of the great centers of diversity for the Malpighiaceae. I treated the known taxa in detail less than a decade ago (Anderson, 1981), but new species continue to be found, even in relatively well-known areas like the Gran Sabana of the state of Bolívar, Venezuela, and Puerto Ayacucho in Territorio Federal Amazonas. The purpose of this paper is to describe two such new species and comment on their relationships.

Heteropterys maguirei W. R. Anderson, sp. nov.

Type. Venezuela. BOLÍVAR: Along road between Santa Elena and El Dorado on the Gran Sabana, 194 km N of Santa Elena, 114 km S of jct with road to El Dorado, 26 km S of village of “88 km,” edge of road, 5°47'N, 61°24'W, elev. 1040 m, 27 Jul 1982, T. B. Croat 54310 (HOLOTYPE MICH!, ISOTYPE MO!). Fig. 1.

Liana lignosa, ramis arcte et pertinaciter sericeis. Foliorum majorum lamina 8–10.5 cm lon-

ga, 4.7–6.7 cm lata, late elliptica, basi late cuneata vel rotundata, apice latissime obtusa vel rotundata, coriacea, abaxialiter pertinaciter sericea pilis atrorubris vel atrobrunneis, reticulo supra visibili vel prominulo, subtus prominenti. Inflorescentia panicula, pseudoracemis 2–6 cm longis, 6–14-floriferis, bracteis 4.5–8 mm longis, 1.3–1.9 mm latis, anguste ellipticis, planis, bracteolis 3–5 mm longis, 1–1.5 mm latis. Sepala per anthesin revoluta, 5–7 glandulis munita. Petala lutea. Stamina fertilia ut videtur 6–7, caetera 3–4 stamina absentia vel ad filamenta ananthera reducta.

Woody vine, the stems tightly and persistently sericeous with dark red or brown hairs; punctiform lenticels developing on older stems. Leaves strictly decussate; lamina of larger leaves 8–10.5 cm long, 4.7–6.7 cm wide, broadly elliptical, broadly cuneate to rounded at base, very broadly obtuse or rounded and sometimes retuse and apiculate at apex, coriaceous, with a row of 5–7 small impressed glands abaxially at or just within

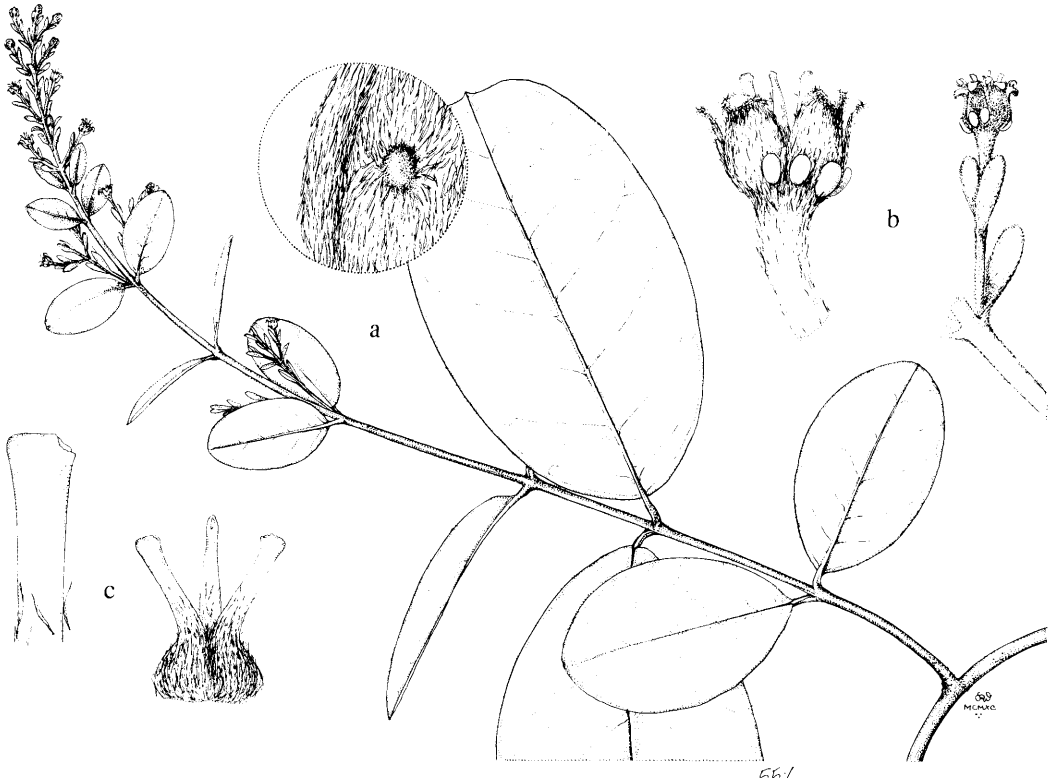


FIG. 1. *Heteropterys maguirei*, drawn from the type. a). Flowering branch, $\times 0.5$, with enlargement of abaxial leaf margin showing hairs and gland, $\times 25$; b). old flowers, right $\times 2$ showing bract, peduncle, bracteoles, and pedicel, left $\times 5$ showing calyx glands and revolute sepals; c). gynoecium, right, $\times 7.5$, and style tip, left, $\times 20$.

margin, initially sericeous on both sides with very short, sessile, tightly appressed, dark red or brown hairs, the adaxial hairs turning white and eventually deciduous, the abaxial hairs retaining their color and persisting, giving the leaves a rusty or dark brown color below; lateral veins and reticulum visible to prominent above, prominent below; petiole 7–9 mm long, persistently sericeous, eglandular; stipules not seen. *Inflorescence* sericeous with dark reddish brown hairs, a terminal panicle with the short pseudoracemes terminal and axillary to much-reduced leaves; each pseudoraceme 2–6 cm long, congested, with 6–14 strictly decussate flowers; floriferous bracts 4.5–8 mm long, 1.3–1.9 mm wide, narrowly elliptical, flat, ascending-appressed, persistently sericeous on both sides, eglandular (?) or with several tiny marginal glands hidden under hairs; peduncle 2.5–5 mm long; bracteoles like bracts but smaller (3–5 mm long, 1–1.5 mm wide) and often somewhat obovate, at or slightly below apex

of peduncle; pedicel 5–6 mm long, sericeous. *Flowers* with sepals completely concealing petals during enlargement of bud, revolute in anthesis, 2.5–3 mm long, 1.3–1.5 mm wide, triangular, abaxially densely sericeous, adaxially sparsely sericeous, the lateral four sepals bearing 5–7 elliptical glands 0.8–1.2 mm long, the anterior sepal eglandular. Petals yellow, with a few hairs on the margin and abaxial midrib, the claw 2–2.5 mm long, the limb 2–2.5 mm long and wide, erose or irregularly laciniate at the margin. Fertile stamens approximately 6–7, those opposite sepals mostly present and fertile, those opposite petals variously fertile, represented by sterile filaments, or absent altogether; filaments to 2.5 mm long, glabrous; anthers 0.8–1 mm long, glabrous, the connective uniformly orange or dark red. Ovary ca. 1.2 mm high, densely sericeous; styles ca. 2.3 mm long, sericeous on the proximal half, divergent, dorsally truncate or rounded at the apex. Fruit unknown.

I am pleased to name this distinctive species in honor of Bassett Maguire. *Heteropterys maguirei* is a member of subgenus *Parabanisteria* (Morton) Morton, which harbors most of the taxonomic problems in the genus. It belongs to a group of closely related species endemic to the Guayana Highland, of which *H. cuatrecasasii* W. R. Anderson and *H. dichromocalyx* W. R. Anderson were published in the 1981 treatment; *H. huberi* W. R. Anderson appeared more recently (Anderson, 1987). The four species all have the coriaceous leaves persistently sericeous on the abaxial surface. *Heteropterys maguirei* most closely resembles *H. cuatrecasasii*, a woody vine endemic to Cerros Parú, Huachamacari, and Marahuaca in the Territorio Federal Amazonas of Venezuela. The following couplet compares the two species, insofar as their characters are known; when *H. maguirei* is collected with fruits they may provide additional bases for differentiation.

Leaves very broadly obtuse or rounded at apex, the larger laminae 4.7–6.7 cm wide, the reticulum clearly visible above in dried specimens; bracts 4.5–8 mm long; bracteoles 3–5 mm long; fertile stamens 6–7.

..... *H. maguirei*.
Leaves acuminate at apex, the larger laminae 2–3.7 (–4) cm wide, the reticulum invisible above in dried specimens; bracts 2–3 mm long; bracteoles 1.5–2.5 mm long; fertile stamens 10. *H. cuatrecasasii*.

This is the first species of the genus in which the androecium has been reported to comprise fewer than ten fertile and more or less similar stamens. Unfortunately, the few and fragmentary flowers on the only available collection do not permit me to provide a thorough analysis or illustration of this peculiar androecium. Additional collections should shed more light on this surprising feature of *Heteropterys maguirei*. It is also possible that they will have the standard androecium for *Heteropterys* and the type collection will prove to have been abnormal and atypical for the species.

Heteropterys ayacuchensis W. R. Anderson, sp. nov. Type. Venezuela. TERRITORIO FEDERAL AMAZONAS: Estación de Piscicultura de Puerto Ayacucho, at the N edge of the Laja Grande, between the highway to Samariapo and the landing strip of the Puerto Ayacucho airport, 5°37'N, 67°36'W, elev. 75 m, 23 Aug 1977,

Otto Huber 991 (HOLOTYPE MICH!; ISO-TYPE VEN!).

Frutex 1–2 m altus. Folia decussata; foliorum majorum lamina 7–8.5 cm longa, 2–3 cm lata, plana, anguste ovata, basi late cuneata vel rotundata, apice anguste acuta vel acuminata, glabrata, reticulo utrinque visibili venulis quam nervis lateralibus subaequaliter prominentibus; petiolus 4–7 mm longus, plerumque in medio biglandulifer. Inflorescentia e pseudoracemis axillaribus, 3–8 cm longis, 8–14-floriferis constans, bracteis deciduis. Sepala per anthesin revoluta, utrinque sericea. Samara 17–20 mm longa, ascendens vel paene erecta; ala dorsalis 6.5–8 mm lata; nux 5–6 mm longa, 3–4 mm alta.

Shrub 1–2 m tall, the younger stems tightly and persistently sericeous with minute dark brown hairs, the older stems with many punctiform lenticels erupting through the disintegrating epidermis. *Leaves* strictly decussate; lamina of larger leaves 7–8.5 cm long, 2–3 cm wide, flat, narrowly ovate, broadly cuneate to rounded at base, gradually or more abruptly tapered to a narrowly acute or acuminate apex, on the abaxial side with one or two rows of 5–10 small impressed glands somewhat within the margin and mostly on the proximal $\frac{2}{3}$, probably initially sericeous on both sides but the adaxial surface soon quite glabrate, the abaxial surface also soon glabrescent but with some of the very short (0.15–0.2 mm), sessile, tightly appressed brown hairs persistent at least for a while, especially proximally on and near the midrib; very fine reticulum equally visible on both sides in dried leaves, the finest subdivisions almost as prominent as the lateral veins; petiole 4–7 mm long, persistently sericeous with minute brown hairs, mostly with two sunken glands near middle and occasionally two more near apex; stipules not seen. *Inflorescence* tightly sericeous with reddish and dark brown hairs, of unbranched pseudoracemes axillary to vegetative leaves, plus one terminal; each pseudoraceme 3–8 cm long, open, with 8–14 strictly decussate flowers; bracts mostly deciduous before maturation of the fruit, only 2 seen, 1.8–2.2 mm long, ovate or elliptical; peduncle (in fruit) 1–2.5 mm long; bracteoles 1–1.3 mm long, 0.6–0.8 mm wide, elliptical, spreading or ascending, sericeous on both sides, apparently eglandular, at apex of peduncle, persistent or deciduous before maturation of fruit; pedicel 4.5–

5.5 mm long (in fruit), sericeous. *Flowers* with sepals revolute in fruit, ca. 2.5 mm long, ca. 1.5 mm wide, triangular, abaxially densely sericeous, adaxially moderately sericeous or appressed-tomentose, the lateral four sepals with eight elliptical glands 1.5–2 mm long, the anterior sepal eglandular or with one small gland. Petals not seen, presumably yellow. Fertile stamens 10; filaments ca. 2.5 mm long, glabrous; anthers ca. 1 mm long, glabrous, the connective mostly dark red, distally and laterally yellow. Ovary densely sericeous; styles ca. 2.5 mm long in fruit, bearing a short pointed dorsal hook at apex. *Samara* 17–20 mm long, ascending to nearly erect; dorsal wing 6.5–8 mm wide, the abaxial edge curving gradually upward throughout its length, somewhat more strongly so distally than proximally; nut 5–6 mm long, 3–4 mm high.

The epithet *ayacuchensis* refers to Puerto Ayacucho, the source of the only known collection. *Heteropterys ayacuchensis*, like *H. maguirei*, belongs to subgenus *Parabanisteria*, all of whose species have yellow petals, which is my reason for assuming that its petals will prove to be yellow when it is collected in flower. It is probably most closely related to *H. atabapensis* W. R. Anderson, another species of Amazonian Venezuela and adjacent Colombia, whose range does not extend quite as far north as Puerto Ayacucho. The two share such features as a shrubby habit, flat glabrescent leaves, open pseudoracemes, small bracts and bracteoles, adaxially hairy sepals, and small fruits. The most obvious differ-

ences between them are summarized in the following couplet:

Leaves strictly decussate, the lamina narrowly acute or acuminate at apex, the reticulum with its finest subdivisions almost as prominent as the lateral veins; petioles 4–7 mm long, mostly bearing 2 sunken glands near middle; most bracts and some bracteoles deciduous before maturation of the fruits. *H. ayacuchensis*.
 Leaves opposite, alternate, or whorled, obtuse or rounded at apex, the lateral veins distinctly more prominent than the finest veinlets; petioles 0–2 mm long, eglandular; bracts and bracteoles persistent past maturation of the fruits. *H. atabapensis*.

Acknowledgments

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