

**New Endemic Species of Harpalyce (Leguminosae: Brongniartieae) from South-Central Brazil with a Key to the Brazilian Species**



H. S. Irwin; Mary T. Kalin Arroyo

*Brittonia*, Vol. 25, No. 1 (Jan. - Mar., 1973), 21-25.

Stable URL:

<http://links.jstor.org/sici?sici=0007-196X%28197301%2F03%2925%3A1%3C21%3ANESOH%28%3E2.0.CO%3B2-L>

*Brittonia* is currently published by New York Botanical Garden Press.

---

Your use of the JSTOR archive indicates your acceptance of JSTOR's Terms and Conditions of Use, available at <http://www.jstor.org/about/terms.html>. JSTOR's Terms and Conditions of Use provides, in part, that unless you have obtained prior permission, you may not download an entire issue of a journal or multiple copies of articles, and you may use content in the JSTOR archive only for your personal, non-commercial use.

Please contact the publisher regarding any further use of this work. Publisher contact information may be obtained at <http://www.jstor.org/journals/nybg.html>.

Each copy of any part of a JSTOR transmission must contain the same copyright notice that appears on the screen or printed page of such transmission.

---

JSTOR is an independent not-for-profit organization dedicated to creating and preserving a digital archive of scholarly journals. For more information regarding JSTOR, please contact [support@jstor.org](mailto:support@jstor.org).

**NEW ENDEMIC SPECIES OF HARPALYCE  
(LEGUMINOSAE: BRONGNIARTIEAE) FROM  
SOUTH-CENTRAL BRAZIL WITH A KEY TO THE BRAZILIAN SPECIES**

H. S. IRWIN<sup>1</sup> AND MARY T. KALIN ARROYO

Irwin, H. S. & Mary T. Kalin Arroyo (New York Botanical Garden, Bronx). New endemic species of *Harpalyce* (Leguminosae: Brongniartieae) from south-central Brazil with a key to the Brazilian species. *Brittonia* **25**: 21-25. 1973.—*Harpalyce parvifolia* and *H. robusta*, endemic species from the Serra do Espinhaço, State of Minas Gerais, and Chapada dos Veadeiros, State of Goiás, respectively, are described and included in a new key to the Brazilian members of the genus.

*Harpalyce* Moç. & Sessé is a small genus of largely shrubby legumes of the New World occurring in Mexico, Cuba, and south-central Brazil. While examining Brazilian collections of *Harpalyce* in connection with a generic revision, we have encountered material representing two new species from areas notably rich in endemism (Serra do Espinhaço in the State of Minas Gerais and Chapada dos Veadeiros in the State of Goiás). These are described herewith and inserted into a summary key to the Brazilian representatives of the genus.

***Harpalyce parvifolia* Irwin & Arroyo, sp. nov.**

Frutex ad 2 m altus, ramis junioribus sericeo-villosis, adultis glabratiss. Folia imparipinnata; stipulae ovatae vel triangulares, 2-5 mm longae, 0.5-1 mm latae, supra glabrae, subtus cinereo-sericeae interdum glandulis aureis inter pilos immixtis conspersis; petioli 2-8 (11) mm longi, cinereo-sericei; rhachides 2.5-9 mm longae, cinereo-sericeae; squamae interpetiolulares numerosae, conspicuae, fuscae, stipellis non occultae; foliola opposita vel subopposita, (19-) 25-31 (-39), coriacea, supra sparse sericeo-velutina, costa immersa, subtus densissime aureo-sericea, glandulis aureis immixtis pube occultis, costa valde prominula, nervis obscuris; foliola lateralia oblonga vel elliptica, apice rotundata vel retusa ad marginem revoluta, 6-14 mm longa, (1.5-) 2-4 (-5) mm lata; foliolium terminale obovatum, apice rotundatum vel retusum, basi rotundatum, 8-17 mm longum, 4-6 mm latum; petioluli cinereo-sericei, folioli terminalis ad 4 mm longus, foliolorum lateralium ad 1.5 mm longi; stipellae caducae. Inflorescentia axillaris, racemosa, 2-4-flora, basi folio simplici aut folio pinnato suffulta; pedunculi 15-25 (-30) mm longi ut pedicelli et calyx sericeo-villosi glandulisque aureis conspersi; bracteae foliiformes, 7-9 mm longae, 2-4 mm latae, sericeo-villosae; pedicelli 8-15 mm longi; bracteolae anguste triangulares ad 13 mm longae, 1-1.5 mm latae, extus sericeae, intus glabrae; calyx bilabiatus, extus sericeo-tomentosus glandulisque aureis conspersus, intus glaber ad marginem pubescens, labio superiori cucullato, ad 22 mm longo, 5 mm lato, labio inferiori ad 20 mm longo, 5 mm lato; corolla atrorubra; vexillum rotundatum, 15-18 mm latum, 18-20 mm longum, glabrum, ungue ad 4 mm longo; alae auriculatae, obovatae vel oblongae, 12-15 mm longae, 5-7 mm latae; carina valde arcuata, 18-20 mm longa; gynoeceium glabrum; ovarium ca. 8 mm longum, 1 mm latum; stylus ad 20 mm longus; stigma terminale, ad 1 mm latum; stamina dimorpha, ad 22 mm longa, antheris staminum majorum 1.5 mm longis, 0.5

<sup>1</sup> Research supported by National Science Foundation Grant Number GB-6458X3 to H. S. Irwin.

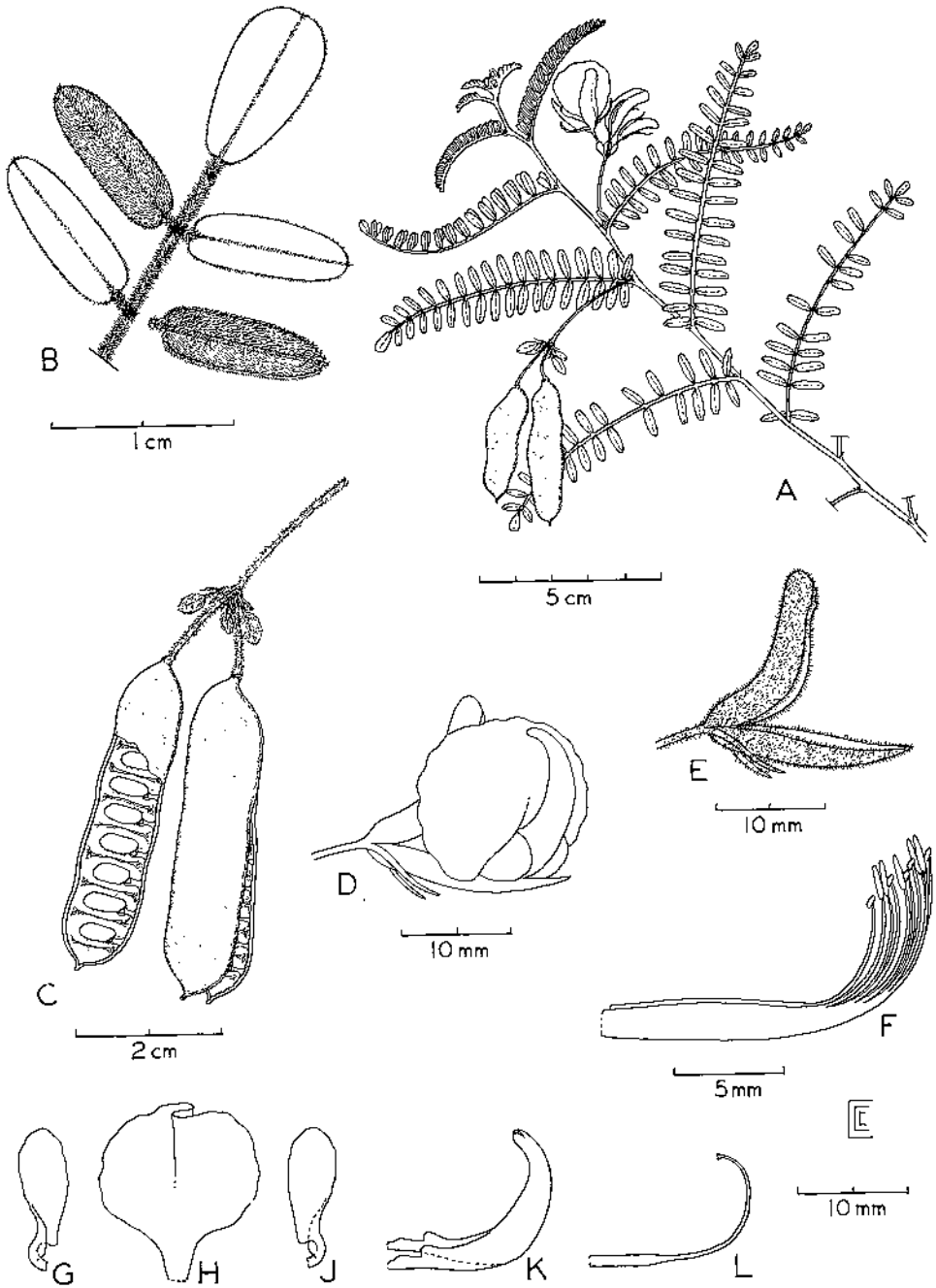


FIG. 1. *Harpalyce parvifolia* Irwin & Arroyo. A, habit; B, details of leaflets; C, fruit; D, flower; E, calyx and bracteoles; F, stamens; G, inner view of wing; H, vexillum; J, outer view of wing; K, keel; L, gynoeceium.

mm latis, iis minorum 0.5 mm longis, 0.5 mm latis. Legumen pendulum, oblongum, plano-compressum, ad 45 mm longum, 12 mm latum, glabrum, coriaceum; semina 7-9, obovata, 5 mm longa, 3 mm lata, minute pubescentia, minute striata, badia, arillo basali albido 1 mm lato.

TYPE: BRAZIL: MINAS GERAIS: cerrado interspersed with wet rocky campo, ca. 8 km W of Grão Mogol, ca. 950 m elevation, Serra do Espinhaço, "Few-branched shrub ca. 2 m tall. Corolla dark red. Fruit green. Outcrops." 16 Feb 1969, *H. S. Irwin, R. Reis dos Santos, R. Souza & S. F. da Fonsêca* 23345 (HOLOTYPE: UB; ISOTYPES: K, MO, NY, P, SP, US).

Distribution: Known only from cerrado and shrubby savanna on the sandy, outcrop-studded slopes along the east flank of Serra do Espinhaço near Grão Mogol, Minas Gerais.

Additional material examined:

MINAS GERAIS: Rio Itacambiruçu, ca. 15 km N of Grão Mogol, elev. 950 m, 18 Feb 1969, *Irwin et al.* 23518 (F, K, MO, NY, P, SP, UB, UC, US).

*Harpalyce parvifolia* is undoubtedly the most distinct species of the Brazilian alliance of this genus and may be distinguished from all such members by its numerous small leaflets and its very well developed bracteoles. In leaflet, flower, and inflorescence size, *H. parvifolia* recalls *H. lepidota* Taub. but the latter may easily be distinguished from the new species by its smaller number of glabrous, densely glandular-punctate leaflets (in *H. parvifolia* the glands few and always obscured by the leaflet pubescence) and by its linear bracts (in *H. parvifolia* the bracts leaflike). Differences in leaflet number and bracteole size aside, *H. parvifolia* is probably most closely related to the widespread Brazilian species, *H. brasiliiana* Benth., and to the lesser known *H. minor* Benth., both of which, like the new species, have oblong densely pubescent leaflets and leaflike bracts.

### **Harpalyce robusta** Irwin & Arroyo, sp. nov.

Suffrutex robustus caulibus multis sulcato-striatis cinereo-velutinis ad 1 m altus. Folia imparipinnata; stipulae lineares 7-9 mm longae, 0.5 mm latae, utrinque pubescentes; petioli ad 25 mm longi; rhachides ad 7 cm longae, ut petioli sordide cinereo-velutinae; foliola (5-) 7-9, opposita, elliptica vel ovata, acuta, mucronulata, basi rotundata, coriacea, supra sparse velutina demum glabrescentia, costa immersa nervis primariis et secundariis elevatis, prominulis subtus dense ferruginea vel sericeo-velutina demum minute velutina, elevato-reticulata, glandulis non nisi foliorum vestustorum manifestis; foliolia lateralia 2.5-4.5 cm longa, 1.5-2.5 cm lata; foliolium terminale ad 4.5 cm longum, ad 2.5 cm latum; petioluli cinereo-velutini, folioli terminalis ad 10 mm longus, foliolorum lateralium ad 3 mm longi; stipellae caducae. Racemi et terminales et axillares, basi semper folio pinnato suffulti, ramis inflorescentiae cum pedicellisque sulcatis, ferrugineis; bracteae caducae; pedicelli 15-20 mm longi; bracteolae anguste triangulares ad 8 mm longae, 2 mm latae, dense ferrugineae; calyx bilabiatus, extus dense ferrugineus, intus glaber, labio superiori cucullato ad 20 mm longo, 5 mm lato, labio inferiori ad 18 mm longo, 5 mm lato; partes ceterae floris ignotae. Legumen oblongum, plano-compressum ad 55 mm longum, 15 mm latum, glabrum, coriaceum, rugosum; semina 7-9, ovata, 5 mm longa, 2 mm lata, minute pubescentia, badia, arillo albido basali 1 mm lato.

TYPE: BRAZIL: Goiás: Chapada dos Veadeiros ca. 1 km W of Veadeiros (subsequently renamed Alto do Paraíso), "Subshrub with several erect stems to ca. 1 m tall. Fruit green." 13 Feb 1966, *H. S. Irwin, J. W. Grear, Jr., R. Souza & R. Reis dos Santos* 12757 (HOLOTYPE: UB; ISOTYPES: NY, US).

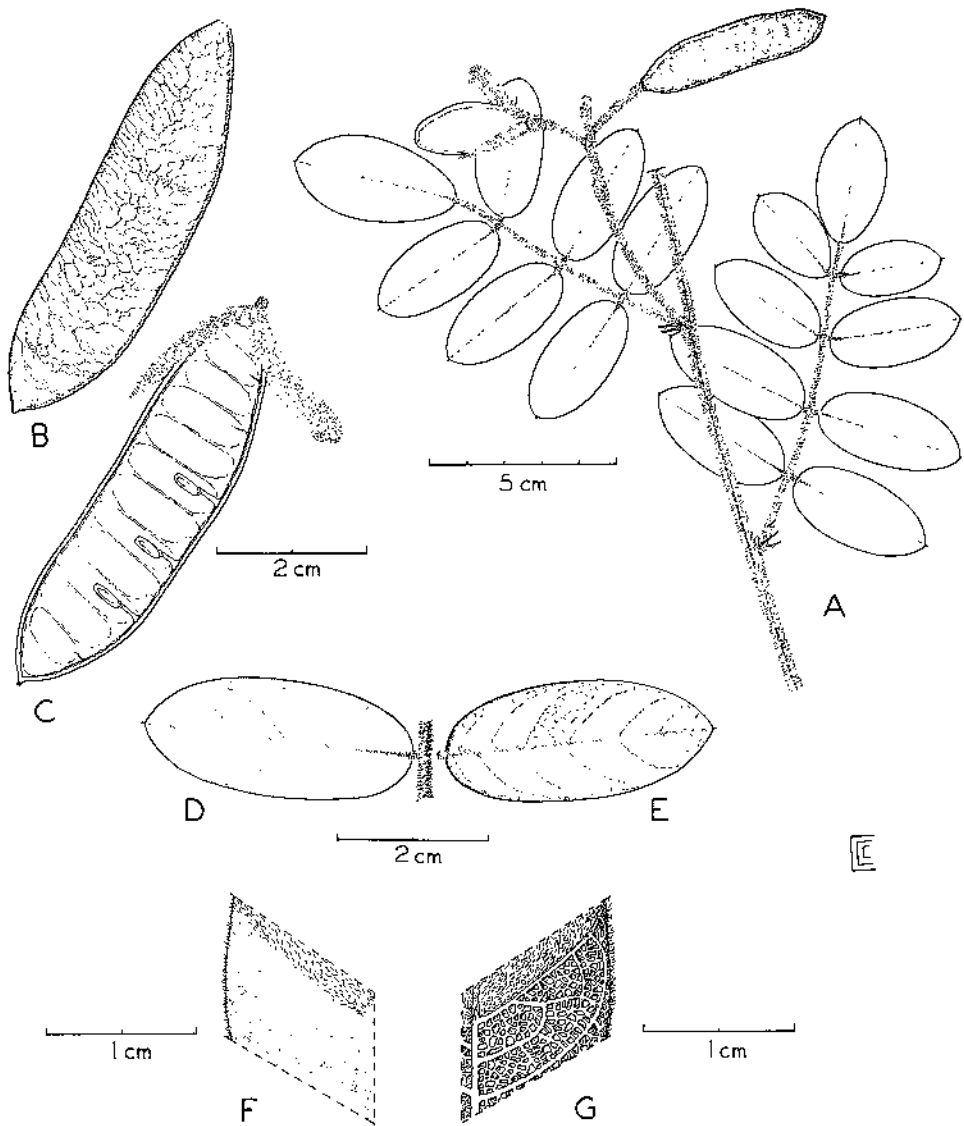


FIG. 2. *Harpalyce robusta* Irwin & Arroyo. A, habit; B, fruit; C, interior details of fruit; D, upper surface of leaflet; E, lower surface of leaflet; F, detail of upper surface of leaflet; G, detail of lower surface of leaflet.

Distribution: Known thus far only from the type locality.

*Harpalyce robusta*, known from a single locality, represents but another highly local species to be added to the long list of endemics known from this elevated area of the Planalto of Brazil. Although cognizance is taken of the commonly vigorous, robust display of vegetative features in the growth flush that follows the frequent, sometimes annual, firing of the pastured cerrados of central Brazil, the several diagnostic traits of the proposed species seem distinct and not merely extensions in the ranges of morphological variation of other recognized species. The closest allies of this species are *H. hilariana* Benth. and *H. speciosa* Taub., all three of which share small numbers

of large velutinous to ferruginous leaflets, having the venation elevated below and salient above, and sulcate densely ferruginous stout stems and branches. The most striking characteristics separating *H. robusta* from the above mentioned species are its narrowly elliptic leaflets with round bases (in *H. speciosa* and *H. hilariana* the leaf bases always cordate) and its rather long-pedicellate racemes that tend to be mostly axillary (in *H. speciosa* and *H. hilariana* the racemes arranged in leafy panicles).

#### Key to the Brazilian Species of *Harpalyce*

1. Leaflets glabrous to sparingly villous beneath on the veins and midrib, intervein areas densely gland-dotted.
  2. Leaflets glabrous to sparingly pubescent above.
    3. Leaflets oblong to ovate-oblong, obtuse to retuse at the apex, round at the base, 1.2–1.8 cm wide; flowers 2–2.5 cm long, the racemes mostly arranged in leafy panicles. (Serra Município Natividade, Goiás) *H. macedoi* Cowan.
    3. Leaflets oblong-lanceolate, acute to briefly mucronate at the apex, cuneate at the base; flowers 1.5–2 cm long, the racemes axillary. (Near Sobradinho, Distrito Federal) *H. lepidota* Taub.
  2. Leaflets sericeous above. (Known only from the type collection: Central Brazil, without locality) *H. minor* Benth.
1. Leaflets densely pubescent beneath, gland dots if present obscured by the pubescence or only becoming evident with age.
  4. Leaflets cordate at the base, 2.5–4 cm wide.
    5. Leaves 3–5-foliolate, the uppermost often simple. (Near Chapada, Minas Gerais) *H. hilariana* Benth.
    5. Leaves 5–9-foliolate, rarely simple. (Local in Goiás and western Mato Grosso) *H. speciosa* Taub.
  4. Leaflets round or cuneate at the base, usually less than 2.5 cm wide.
    6. Leaves (5–) 7–21-foliolate; leaflets 1.2–4.5 cm long, 8–25 mm wide, velutinous to ferruginous beneath; bracteoles usually caducous, if persistent less than  $\frac{1}{2}$  the length of the calyx.
      7. Leaflets elliptic, densely reticulate beneath; petioles 2–2.5 cm long. (Chapada dos Veadeiros, Goiás) *H. robusta* Irwin & Arroyo.
      7. Leaflets mostly oblong to ovate-oblong, not reticulate beneath; petioles 8–10 mm long. (Common in Goiás, Mato Grosso, and Minas Gerais; local in São Paulo, Ceará, Piauí, and Maranhão) *H. brasiliana* Benth.
    6. Leaves (19–) 25–37 (–39) -foliolate; leaflets 6–13 mm long, less than 5 mm wide, undersurface clad in long sericeous hairs; bracteoles persistent, greater than  $\frac{1}{2}$  the length of the calyx. (Eastern flanks of the Serra do Espinhaço, Minas Gerais) *H. parvifolia* Irwin & Arroyo.

#### ACKNOWLEDGMENTS

We wish to thank Mr. Rupert Barneby, the New York Botanical Garden, for reading the Latin descriptions. The figures were prepared by Mr. Charles Clare, the New York Botanical Garden.