

## NOVITATES BURSERACEARUM II

BY

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**Protium Bangii Swart** n. sp. Arbor. Ramuli satis robusti teretes striati fusciscentes lenticellis ellipticis sparsis. Folia 2-juga circ. 15 cm longa ubique glabra juvenilia pilis nonnullis munita, petiolis semiteretibus basi subincrassatis 3,5 cm longis, interjugis teretibus supra carinatis 2 cm longis, petiolulis foliolorum lateralium semiteretibus subalatis 2—3 mm longis sed terminalibus teretibus carinatis 15 mm longis, foliolis elliptico-oblongis subovatis apicem versus valde angustatis 8 cm longis 3,75 cm latis lateralibus leviter asymmetricis basalibus in super brevioribus, omnibus apicem versus gradatim acuminatis, acumine attenuato 7,5 mm longo 5 mm lato, basi late cuneata vel rotundata, margine integro, pergamentaceis laevibus, nervis secundariis utrinque circ. 12 apicem versus prope marginem conjunctis, nervis primariis supra sulcatis infra cum sec. et tert. prominentibus. Inflorescentiae axillares pauciramosae floribus satis numerosis compositae, rhachibus teretibus sparse puberulis, pedunculis usque ad 9 cm longis, ramulis sec. ad 3 cm, tert. ad 0,5 cm longis. Pedicelli teretes 0,5—1 mm longi cum bracteis bracteolisque late triangularibus 0,5 mm longis calycibusque sparse puberuli. Flores 5-meri 3 mm longi. Calyx late cupuliformis circ. 1 mm alta, lobis triangularibus obtusis tubo aequilongis. Petala oblongo-ovata inflexo-apiculata glabra. Stamina 10, filamentis subulatis 2 mm longis, antheris oblongis 0,5 mm longis. Discus annularis 10-lobis 0,5 mm altus glaber. Pistillum glabrum 1,5 mm altum basi disco cinctum ex ovario ovoideo circ. 1 mm alto, stylo brevissimo et stigmate 5-lobo compositum.

Typus: Bang 2370 in U.S. Nat. Herb. 1380537.

Distributio: Bolivia, dept. La Paz, flum. Yungas, Coroico, Bang 2370 (Aug. 1894, flor.).

*Protium Bangii* Swart resembles *P. ovatum* Engl., recorded also from Bolivia, but the latter differs mainly by the flattened and bisulcate interjuga, by the shortly acuminate leaflets with 8—10 pairs of sec. nerves, branched halfway the blade and by the 4-merous flowers in clustered inflorescences.

*P. Bangii* Swart differs from *P. laxiflorum* Engl. by its 2-jugate leaves and by its short petiolules and its leaflets narrowed distinctly to the apex and provided with an acumen  $1\frac{1}{2}$  times as long as wide.

**Protium decandrum** March. var. **breviacuminatum** Swart  
 nov. var. Folia 2-juga, foliolis elliptico-oblongis plerumque 12,5 cm  
 longis 6 cm latis, acumine marginibus parallelis latitudine longitudini  
 subaequali.

Typus: L. Williams 10242 in U.S. Nat. Herb. 1459412.

Distr.: Venezuela, Aragua, El Limon, L. Williams 10242.

**Protium juruense** Swart n. sp. Arbor circ. 20 m alta. Ramuli  
 robusti 5 mm diam. laeves glabri caesio-brunnescentes lenticellis  
 parvis inconspicuis muniti. Folia 3- vel 4-juga interdum 2-juga  
 25—35 cm longa ubique glabra, petiolis semiteretibus 5—6,5 cm  
 longis, interjugis carinatis 3—5 cm longis; petiolulis semiteretibus  
 canaliculatis utrinque incrassatis foliolorum lateralium 12,5 (10—17)  
 mm longis foliolorum terminalium circ. 30 mm, foliolis oblongis  
 plerumque apicem versus attenuatis 9—19 cm longis 4—6,5 cm latis  
 terminalibus paulo latoribus lateralibus subobliquis basalibus quam

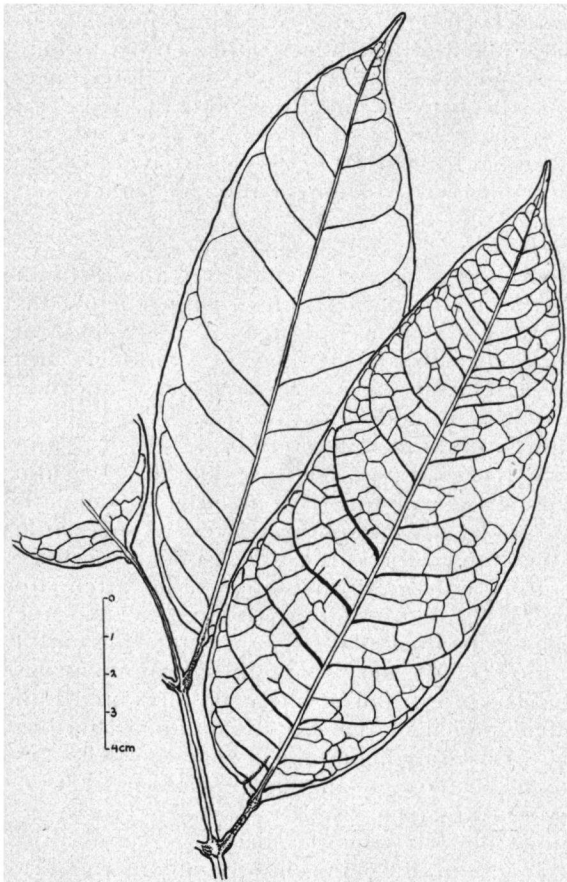


Fig. 1. *Protium juruense*  
 Swart. — Krukoff 5012  
 in herb. Utrecht 15776A

alia brevioribus, foliolorum omnium apicem versus gradatim in acumen attenuatum 10 (5—20) mm longum 3 (2—3,5) mm latum obtusum angustatis, basi late cuneata, margine integro, subcoriaceis laevibus supra nitidis glaucescentibus subtus opacis, nervis sec. utrinque 12—13 nervis prim. et sec. prominentibus tert. prominulis. Inflorescentiae axillares thyrsoidae pauciramosae petioli foliorum sufficientium dimidia breviores usque ad 3 cm longae ubique glabrae. Rhaches teretes striatae leaves. Pedicelli teretes, fructiferi 3—5 mm longi. Flores 5-meri. Calyx cupuliformis lobis semiobicularibus acuminatis tubo aequilongis. Discus annularis glaber. Ovarium stigmatibus sessili. Drupa ovoidea rubra apice acuta 1,75 cm longa 1,25—1,5 cm diam.

Typus: Krukoff 5012 in herb. Utrecht 15776A.

Distr.: Brasilia, Amazonia, flum. Jurua, prope ostium flum. Embira, Krukoff 5012 (Jun. 1933, fruct.).

Nom. vern.: almisca.

*Protium juruense* Swart resembles *P. cuneatum* Swart, *P. laxiflorum* Swart and *P. Bangii* Swart. It differs from *P. cuneatum* Swart by its smaller leaves and by the acumen of its leaflets being 3 times as long as wide, from *P. laxiflorum* Engl. by its larger leaves, its inflorescences being about half as long as the petioles and from both by its lateral leaflets, not narrowed to the base, but to the apex, which is gradually narrowed in a tapering acumen. From *P. Bangii* Swart it differs by its 3- to 4-jugate and larger leaves with longacuminate leaflets and by its short inflorescences.

***Protium meridionale* Swart** n. sp. Arbor circ. 20 m alta. Ramuli robusti 6 mm diam. teretes striati glabrescentes castanei lenticellis oblongis ferrugineis sparsis. Folia 2- vel 3-juga 32 (22—38) cm longa, petiolis semiteretibus basi incrassatis 6,5 (4—9) cm longis cum interjugis petiolulis costis foliolorum facie inferiore sparse appresse puberulis, interjugis carinatis ad nodos incrassatis 3 (2—3,5) cm longis, petiolulis foliolorum lateralium semiteretibus 12 (8—15) mm longis petiolulis foliolorum terminalium teretibus 30 (20—35) mm longis, foliolis elliptico-oblongis plerumque 16 cm longis 6 cm latis terminalibus basim versus angustatis lateralibus apicem versus paulo angustatis foliolis basalibus tamen brevioribus et subovatis, apice foliolorum omnium abruptius acuminato, acumine paulo attenuato obtuso 5 (3—7) mm longo 3 (2—4) mm lato, basi cuneata, margine integro repando, chartaceis laevibus glabris supra nitidulis infra opacis, nervis sec. utrinque 14—16 nervis omnibus prominentibus glabris nervo medio subtus excepto. Inflorescentiae axillares interdum pseudoterminales thyrsoidae pauciramosae circ. 7 cm longae floribus in glomerula terminalia structura dichasialia congestis. Rhaches teretes cum bracteis bracteolisque parvis triangularibus pedicellis teretibus brevissimis necnon calycibus densiuscule appresse puberulae. Flores 4-meri 2,5—3,5 mm longi. Calyx cupuliformis 1,25 mm altus lobis triangularibus tubo aequilongis. Petala elliptico-oblonga glabra

apiculo acuto inflexo margine papillosa. Filamenta late subulata in fl. masc. 0,5 mm longa, antherae ellipticae 0,5 mm. Discus annularis 8-lobus glaber. Pistillum in fl. masc. 0,35 mm altum ex ovario globoso 4-lobo et stigmate 4-lobo subsessili compositum.

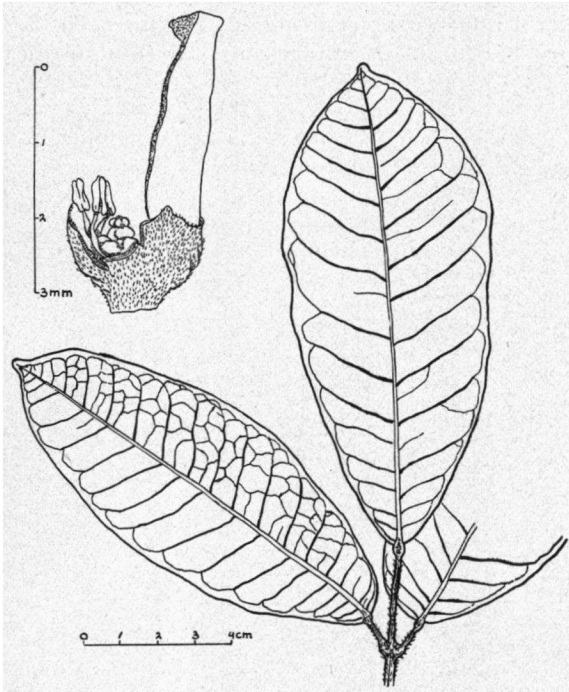


Fig. 2. *Protium meridionale* Swart. — Krukoff n. 10877 in herb. Utrecht 55879A

Typus: Krukoff 10877 in herb. Utrecht 55879A.

Distr.: Bolivia, dept. La Paz, prov. Larecaja, Turi, ad ripas flum. Mapiri, Krukoff 10877 (Sept. 1939, fl. masc.); id., prov. S. Yungas, flum. Bopi, San Bartolome, prope Calisaya, Krukoff 10231 (Jul. 1939); id., id., Krukoff 10232 (Jul. 1939).

*Protium meridionale* Swart resembles *P. ecuadorensis* Benoist em. Swart, but the latter differs mainly by the acumen of its leaflets being 3 times as long as wide and by its distinctly pedicellate flowers with a glabrous calyx.

***Protium montanum* Swart n. sp.** Arbor 15—20 m alta. Ramuli graciles 4 mm diam. glabri laeves fusci lenticellis ferrugineis sparsis. Folia 2- vel 3-juga 17,5 (14—20) cm longa ubique glabra, petiolis semiteretibus basi paulo incrassatis 3,5 (2,5—4) cm longis, interjugis semiteretibus 3 (2—3,5) cm longis, petiolulis semiteretibus utrinque subincrassatis longitudine decima parte foliolorum metientibus 6—10 mm longis, petiolulis foliolorum terminalium teretibus 20 mm longis, foliolis oblongis forma irregularibus 7,5 (6—9) cm longis 3 (2,5—3,5).

cm latis, terminalibus basin versus paulo angustatis lateralibus asymmetricis, apicem versus abruptius acuminatis, acumine attenuato ipso obtuso 3—6 mm longo 2—4 mm lato, basi cuneata, margine integro subrepando, pergamentaceis laevibus supra viridibus infra pallide viridibus, nervis sec. utrinque 12—13 cum nervis prim. utrinque prominulis, nervis tert. vix conspicuis. Inflorescentiae axillares thyrsoidae laxae e floribus satis numerosis compositae usque

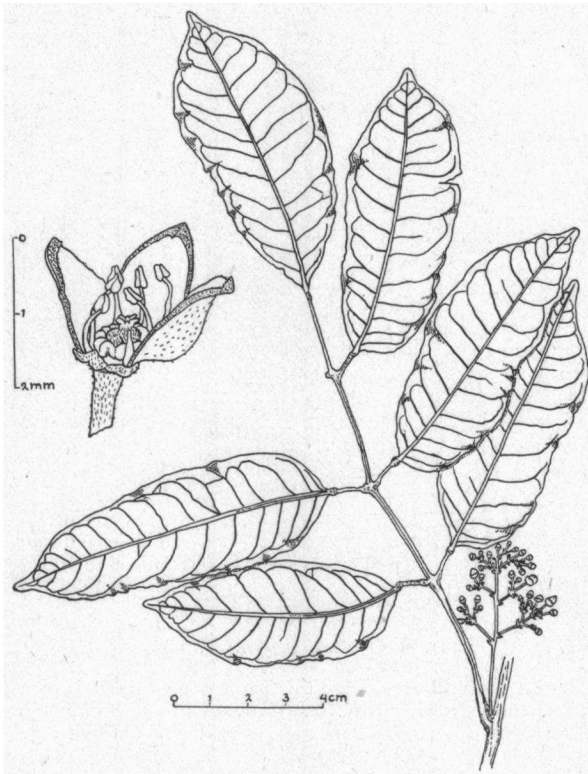


Fig. 3. *Protium montanum* Swart. — Krukoff 11014 in herb. Utrecht 55836A

ad 4 cm longae. Rhaches teretes cum pedicellis teretibus gracilibus circ. 2,5 mm longis bracteis bracteolisque triangularibus 0,5 mm longis, calycibus sparse adpresse puberulis. Flores 4-meri 2,5 mm longi. Calyx cupuliformis circ. 1 mm longis lobis tubo aequilongis late triangularibus acutis. Petala ovato-triangularia acuta inflexo-apiculata extus pilis nonnullis sparsa margine papilloso. Stamina in fl. masc. 1,25 mm longa, filamentis subulatis 1 mm longis, antheris ellipticis. Discus annularis 8-lobus glaber 0,25 mm altus. Pistillum in fl. masc. circ. 0,5 mm altum, ovarium rudimentarium disco cinctum sparse puberulum stigmatibus subsessili 4-lobo coronatum.

Typus: Krukoff 11014 in herb. Utrecht 55836A.

Distr.: Bolivia, dept. La Paz, prov. Larecaja, Tuirí, prope Mapiri, Krukoff 10915 (Sept. 1939, fruct.); id., id., Copacabana, Krukoff 11014 (Nov. 1939, fl.

masc.); id., id., Krukoff 11071 (Nov. 1939); id., id., Krukoff 11269 (Nov. 1939, fl. masc.).

*Protium montanum* Swart resembles *P. giganteum* Engl., *P. nodulosum* Swart, *P. crenatum* Sandw., *P. octandrum* Swart and *P. decandrum* March. *P. giganteum* differs from *P. montanum* Swart by its larger leaves, by its leaflets with 16 pairs of sec. nerves and a linear acumen and by its densely pilose calyx and corolla. *P. nodulosum* Swart differs by its larger leaves, by the linear acumen of its leaflets, by its 10—17 cm long inflorescences and by its 5-merous flowers with densely pilose calyx and corolla. *P. crenatum* Sandw. differs by the serrate margin of its leaflets and its long inflorescences. *P. octandrum* Swart differs by its 1- to 2-jugate leaves and its clustered inflorescences, *P. decandrum* by its 1- to 2-jugate leaves and its 5-merous flowers.

***Protium unifoliolatum* Engl. var. *inconforme* Swart nov. var.** Folia plerumque 1-juga 19—27 cm longa, petiolis semiteretibus 2—4 cm longis, petiolulis lateralibus 0,5—1 cm longis terminalibus 2,5—4,5 cm longis, foliolis lanceolatis apicem versus angustatis lateralibus 12 (9—14) cm longis 3,5 (2,75—4) cm latis terminalibus majoribus 17,5 (16—20) cm longis 4,5 (4-5,5) cm latis omnibus apicem versus gradatim acuminatis, acumine sublineari 7,5—10 mm longo 2—2,5 mm lato obtuso, margine remote sed distincte serrato.

Typus: Gardona 1327 in U.S. Nat. Herb. 1906078.

Distr.: Venezuela, Amazonas, Sierre Parima, flum. Siapa, Cardona 1327 (Mar. 1946, fl. masc.); id., flum. Casiquiare sup., Capihuara, L. Williams 15698 (Maio 1942, fruct.).

***Trattinickia Lawrancei* Standl. var. *bolivianum* Swart nov.** var. Folia minora, petiolis 5—6,5 cm longis, interjugis 2—2,5 cm longis, petiolulis 3—5 mm longis, foliolis 8,5—14 cm longis 2,75—5 cm latis, acumine 8—10 mm longo 3—5 mm lato instructis, basi subcordata, nervis secundariis utrinque 16—18.

Typus: Krukoff 10767 in herb. Utrecht 56926A.

Distr.: Bolivia, dept. La Paz, prov. Larecaja, Tuirí, prope Mapiri, Krukoff 10767 (Sept. 1939, flor.); id., id., Krukoff 10889 (Sept. 1939, fruct.).

***Trattinickia rhoifolia* Willd. ssp. *Sprucei* Engl. var. *pubescens* Swart nov. var.** Petioli, petioluli, nervi primarii utrinque dense nervi secundarii sparse ferrugineo-hirtelli.

Typus: Krukoff 11112 in herb. Utrecht 55967A.

Distr.: Bolivia, dept. La Paz, prov. Larecaja, Copacabana, Krukoff 11112 (Nov. 1939, fruct.); id., id., Krukoff 11229 (Nov. 1939, fruct.).