

FIVE NEW SPECIES OF PIPER FROM BOLIVIA

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R E S U M E N

Cinco Especies Nuevas de Piper de Bolivia. — Examinando especímenes de *Piperaceae* obtenidos en Bolivia y Brasil por E. de la Sota fueron descubiertas cinco colecciones de piper bolivianos que no pueden identificarse con ninguna de las especies conocidas y que aquí son descritas como nuevas para la ciencia.

In examining specimens of *Piperaceae* obtained by E. de la Sota in Bolivia and Brazil, five collections of Bolivian pipers were discovered which could not be satisfactorily matched with any known species and are here described as new to science.

Piper sotai Yuncker n. sp.

(Fig. 1)

Frutex ramosus, internodiis superis gracilibus plus minusve crispo-pubescentibus, pilis usque ad 1 mm longis; foliis ellipticis vel elliptico-subobovatis apice sat brevi-acuminatis basi inaequilateris latere altero abrupte obtuso-rotundatis 1 - 2 mm brevior latere longiore sat angustato-auriculatis supra glabris subsus ad venas puberulis totis pinnatim venosis nerviis utrinque ca. 12, petiolo crispo-pubescente ad laminam vaginato, pedunculo dissite pubescente glabrescente, bracteis triangulari-subpeltatis fimbriatis, drupa obovoidea apice truncato-depressa puberula, stigmatibus sessilibus.

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A branching shrub, the upper internodes slender, 2 - 5 cm long, thinly to moderately crisply pubescent, the hairs up to 1 mm long. Leaves elliptic or elliptics-subobovate, with rather short-acuminate apex, the base inequilateral, the shorter side abruptly and obtusely rounded to the petiole, the longer side rather narrowly auriculate and attached 1 - 2 mm lower, (4-) 5 - 8 cm wide and (13-) 16 - 20 cm long, glabrous above, the nerves beneath crisply puberulent, pinnately nerved throughout, the nerves about 12 on each side plus 2 or 3 short, descending nerves in the basal lobe, submarginally loop-connected, with intermediates and cross-connecting, anastomosing nervules, minutely venulose as viewed by transmitted light, obscurely finely glandular-dotted, drying membranous, translucent; petiole scarcely 5 mm long, crisp-pubescent, vaginate to the blade. Spikes 5 mm thick and 5 - 6 cm long, straight or very slightly curved; peduncle about 1 cm long, thinly pubescent glabrescent; bracts triangular-subpeltate, fringed; stamens 4 (?); drupes obovoid, puberulent at the truncate-depressed apex, the stigmas sessile.

DEPT. BENI, alrededores Guayaramerín, alt. 150 m, 8 Feb. 1956, E. de la Sota 814 (LIL, TYPE).

The leaf shape, subauriculate leaf base, comparatively short, thick spikes, and puberulent drupes are distinctive characters of this species.

Piper pandoense Yuncker n. sp.

(Fig. 2)

Frutex glaber nodosus ramosus, internodiis superis sat gracilibus granulosis obscuro glanduloso-punctatis; foliis oblongo-lanceolatis apice subobtusè brevi-acuminatis basi acutis ad obtusis a medio pinnatim venosis nerviis utrinque 5 - 6 obscuro glanduloso-punctatis, petiolo ad laminam lato vaginato, pedunculo sat gracili, bracteis triangulari-subpeltatis conferte fimbriatis pedicello hirsuto, drupa glabra obovoidea truncata, stigmatibus sessilibus.

A glabrous, nodose, branching shrub, the upper internodes moderately slender, of various lengths up to 6 cm or more, somewhat granular-scurfy, obscurely glandular-dotted, finely striate when dry. Leaves oblong-lanceolate, with short-acuminate, bluntish apex and essentially equilaterally acute to obtuse base (3.5-) 5 - 6.5 cm wide and 12 - 17 cm long, pinnately nerved to about the middle, the nerves 5 or 6 on each side, with intermediates and cross-connecting, anastomosing nervules, obscurely glandular-dotted, drying rather firm, narrowly revolute, pale, translucent, somewhat obscurely scaly beneath; petiole variable in length from 1 cm on upper leaves to 3 cm below, vaginate to the blade, the lower clasping part broad. Spikes 5 mm thick and up to 4 cm long; peduncle comparatively slender, about 1 cm long; bracts triangular-subpeltate, strongly fringed, the pedicel hirsute; stamens 4 (?); drupes glabrous, obovoid, truncate, the stigmas sessile.

DEPT. PANDO, Prov. Manuripi, Sta. Rosa, 22 Mar. 1956, E. de la Sota 932 (LIL, TYPE).

The completely glabrous parts, somewhat scaly twigs and lower leaf surface, petioles vaginate to the blade, and comparatively short and thick spikes are distinctive characters of this species.

Piper conquistanum Yuncker n. sp.

(Fig. 3)

Frutex ramosus, internodiis superis gracilibus conferte villosis, pilis sat erectis heteromorphis usque ad 2 mm longis; foliis ellipticis apice attenuatim longe-acuminatis basi inaequilateraliter rotundatis obtuse subcordulatisve latere altero 2 mm brevior utrinque scabridis villosisque conferte ad venas sat bene ciliatis ad mediam pinnatim venosis nerviis utrinque 5, petiolo villosa vaginato ad medium vel ultra, spicis falcatis curvatis mucronatis, pedunculo villosa, bracteis triangulari-subpeltatis bene fimbriatis, drupa 3 - 4 angulata versus basem cuneata apice truncata puberulenta, stigmatibus sessilibus.

A branching shrub, the upper internodes slender, 2 - 4 cm long, densely villous, the hairs essentially erect, of various lengths with the longer up to 2 mm long. Leaves elliptic, with attenuately slender, sharp, acuminate apex, the base inequilaterally rounded, obtuse or subcordulate, one side 2-3 mm shorter at the petiole, (4-) 7 - 8.5 cm wide and (12-) 15 - 19 cm long, scabrid and villous on both sides, the nerves more densely so, rather strongly ciliate, pinnately nerved to about the middle, the nerves 5 on each side, with rather prominent cross-connecting, anastomosing nervules, drying membranous, brown, translucent; petiole 3 - 5 plus 2 - 3 mm long, villous, vaginate to the middle or above. Spikes 3 mm thick and up to 15 cm long, curved, mucronate; peduncle 1 - 2 cm long, villous; bracts triangular-subpeltate, strongly fringed; stamens 3 or 4 (?); drupes 3 or 4 angled, narrowed and wedge-shaped toward the base, the apex truncate, puberulent, the stigmas sessile.

DEPT. PANDO, Prov. Manuripi, Conquista, 25 Mar. 1956, Sota 947 (LIL, TYPE); DEPT. BENI, Guayaramerín, alt. 150 m, 16 Mar. 1956, E. de la Sota 886 (LIL).

The strongly villous parts with hairs up to 2 mm or longer, 5-nerved, scabrid leaves drying dirty brown, rather large, curved spikes, and puberulent drupes are distinctive characters of this species.

***Piper ivonensis* Yuncker n. sp.**

(Fig. 4)

Frutex ramosus, internodiis superis gracilibus retrorse puberulis; foliis ellipticis apice acutis basi inaequilateris latere altero angustatis acutis 2 mm brevior latere longiore angustatis rotundato-cordatis supra glabris subtus ad venas minute crispo-puberulis ciliolatis totis pinnatim venosis nerviis utrinque 7-8, petiolo crispo-puberulo ad basem vaginato, pedunculo crispo-puberulo, bracteis triangulari-subpeltatis dissite fimbriatis, drupa obovoidea glabra, stigmatibus sessilibus.

A branching shrub; upper internodes slender, about 2 cm long, moderate to densely retrorsely puberulent. Leaves elliptic, with acute apex and inequilateral base, one side acutely narrowed and about 2 mm shorter at the petiole, the longer side narrowly rounded-cordate, 4 - 5 cm wide and 8 - 12 cm long, glabrous above, the nerves beneath minutely crisp-puberulent, minutely ciliolate, finely and obscurely dark glandular-dotted, pinnately nerved throughout, the nerves 7 or 8 on each side, submarginally loop-connected, with cross-connecting, anastomosing nervules, drying brown, chartaceous, translucent; petiole 3 - 5 plus 2 mm long, crisp-puberulent, vaginate at the base. Spikes 3 - 4 mm thick and 2 cm (or more?) long; peduncle 5 mm long, crisp-puberulent; bracts triangular-subpeltate, sparsely fringed; stamens 3 (?); drupes obovoid, glabrous, the stigmas sessile.

DEPT. BENI, Ivon, 3 Mar. 1956, E. de la Sota 1029 (LIL) TYPE).

The retrorsely puberulent twigs, type of venation, short spikes and glabrous drupes are distinctive features of this species.

***Piper yungasanum* Yuncker n. sp.**

(Fig. 5)

Frutex ramosus, internodiis superis gracilibus glabris nodiis dissite hispidis; foliis lanceolato-ovatis apice sensim acuminatis basi inaequilateraliter rotundatis obtusis latere altero usque ad 1 mm brevioribus supra hispidis-scabridis subtus ad venas pubescentibus hispidis-ciliatis maturis rugoso-bullatis ad medium laminam pinnatim venosis nerviis utrinque 5, petiolo hispido ad basem vaginato; spicis valde falcatis curvatis, pedunculo glabro, bracteis sat parvis triangulari-subpeltatis fimbriatis, drupa latero-compressa ad basem angustato glabra, stigmatibus sessilibus.

A branching shrub; upper internodes slender, 2 - 4 cm long, glabrous except sparsely hispid at the nodes. Leaves lance-ovate, with slenderly acuminate apex and inequilaterally rounded, obtuse base, one side up to 1 mm shorter at the

petiole, hispid and harshly scabrid above, scabrid and pubescent along the nerves beneath, hispid-ciliolate, obscurely pale glandular-dotted, becoming rugose-bullate at maturity, 4 - 5 cm wide and 10 - 12 cm long, pinnately nerved to about the middle, the nerves 5 on each side, the lowermost slender and obscure, with cross-connecting, anastomosing nervules, drying firm, narrowly revolute, translucent; petiole about 5 mm long, hispid, vaginate at the base. Spikes 2 - 3 mm thick and up to 11 cm long, strongly curved; peduncle about 1 cm long, glabrous; bracts rather small, triangular-subpeltate, fringed; stamens 3; drupes laterally compressed, narrowed toward the base, glabrous, the stigmas sessile.

DEPT. LA PAZ, Supai, Nor-Yungas, alt. 1300 m, 9 Feb. 1956, E. de la Sota 569 (LIL, TYPE).

The essentially glabrous stems and peduncles, scabrid, rugose-bullate leaves, and strongly curved spikes with glabrous drupes are distinctive characters of this species.



Fig. 1. — *Piper sciai* Yuncker n. sp. (E. de la Sota 814, isotype in DPU).



Fig. 2. — *Piper pandoense* Yuncker n. sp. (E. de la Sota 932, isotype in DPU).

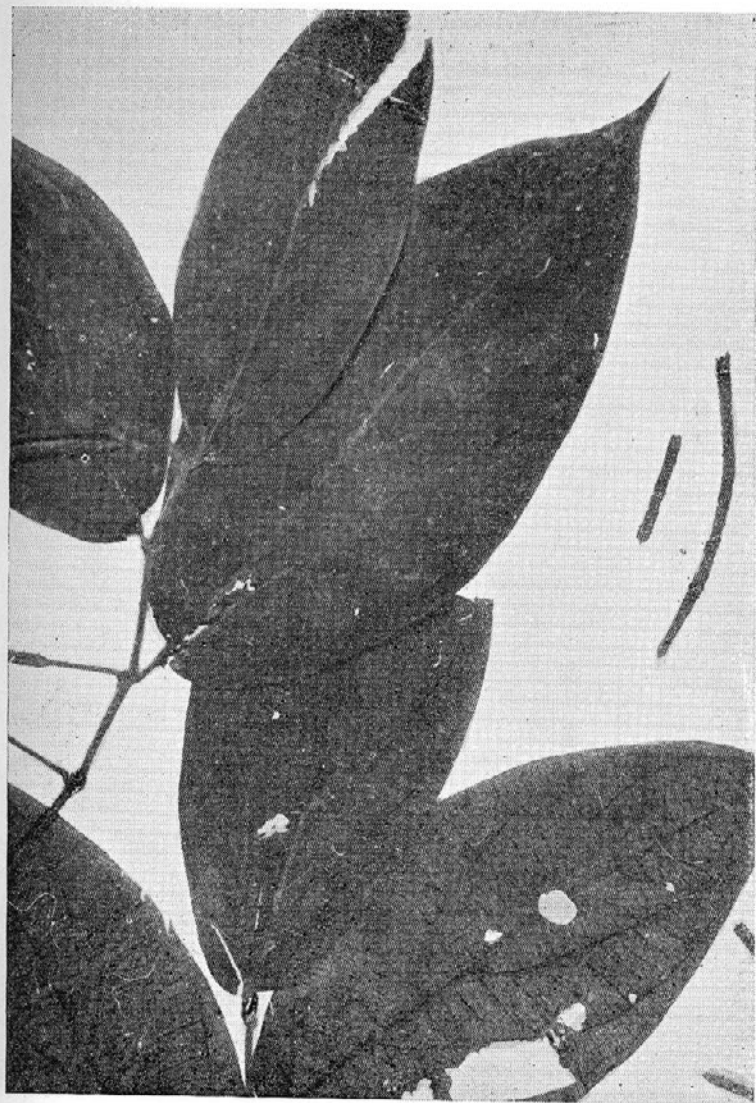


Fig. 3. — *Piper conquistatum* Yuncker n. sp. (E. de la Sota 947, isotype in DPU).

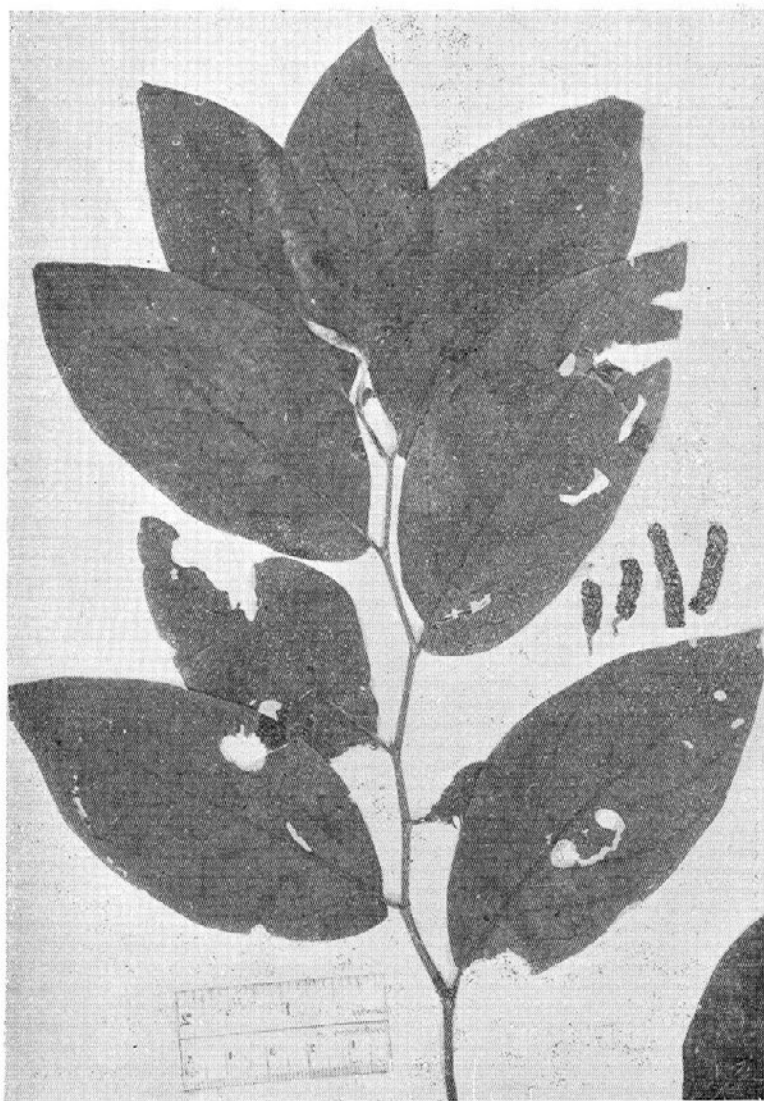


Fig. 4. — *Piper iconensis* Yuncker n. sp. (E. de la Sota 1029, isotype in DPU).

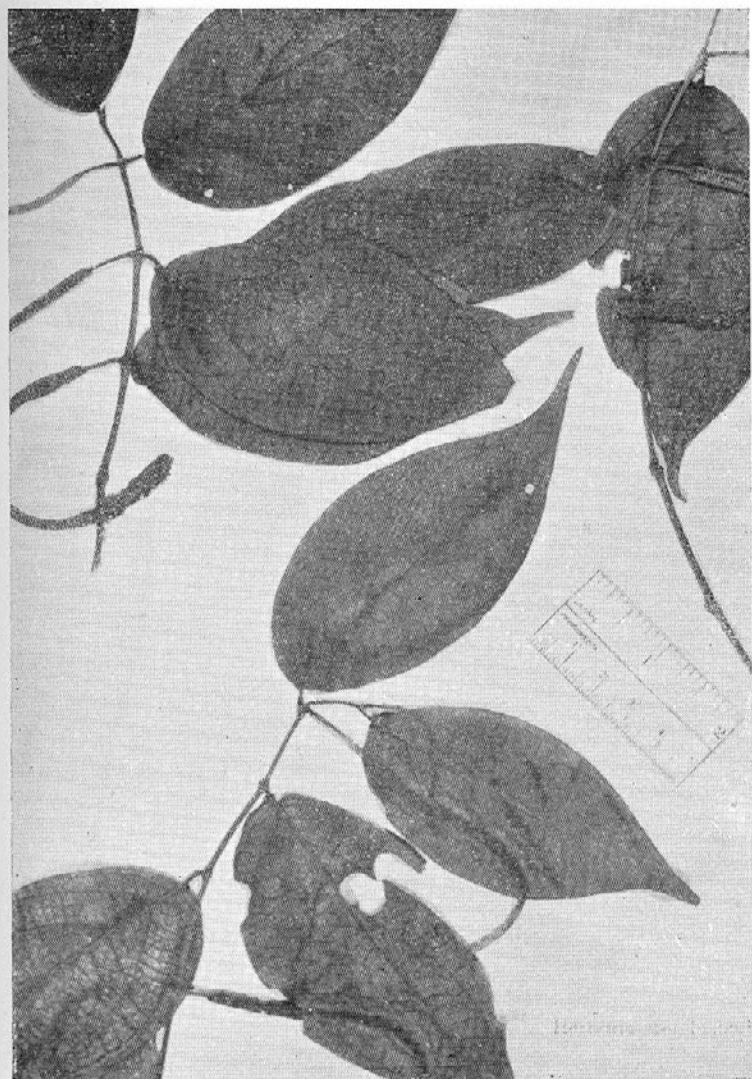


Fig. 5. — *Piper yungasanum* Yuncker n. sp. (E. de la Sota 569, isotype in DPU).