

Notes on *Uraria* (Leguminosae: Papilionoideae: Desmodieae) from Thailand and Vietnam

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ABSTRACT

Uraria balansae and *U. barbaticaulis* are newly recorded from Thailand. *Uraria pseudoacuminata* is reported as new for Vietnam. Descriptions, ecological data, vernacular names, photographs and distribution maps are provided. *Uraria balansae* is lectotypified.

KEYWORDS: Fabaceae, new record, Thailand, Vietnam.

Accepted for publication: 2 March 2020. Published online: 12 March 2020

INTRODUCTION

Uraria Desv. is a small genus that belongs to subfamily Papilionoideae, tribe Desmodieae (Niyomdham, 1994). The genus comprises ca 20 species distributed over tropical Africa, Asia, and Australia (Puhua *et al.*, 2010). In Thailand ca 13 species have been reported (Thuân *et al.*, 1987; Tokaew & Chantaranothai, 2008 & 2013). The genus is characterized by pinnately compound leaves with 1–9 leaflets, terminal or axillary, racemose or paniculate inflorescences, hooked pedicels and plicate pods with 1 seed per article (Thuân *et al.*, 1987; Niyomdham, 1994; Puhua *et al.*, 2010). During our careful examination of specimens in herbaria and during a field survey for the revision of the Papilionoideae for the Flora of Thailand project, we discovered two new records for Thailand, *Uraria balansae* Schindl. from Narathiwat province and *U. barbaticaulis* Iokawa, T.Nemoto, J.Murata & H.Ohashi from Tak. Moreover, a species of *Uraria* recently described for Thailand, *U. pseudoacuminata* W.Tokaew & Chantar. (Tokaew & Chantaranothai, 2013), was also found in Khánh Hòa, Vietnam; this extension of the distribution of the species is reported here.

TAXONOMIC TREATMENT

Uraria balansae Schindl., Bot. Jahrb. Syst. 54: 53. 1916. Type: Vietnam, Tonkin, Mocha, 29 Sept. 1891, *Balansa 4448* (lectotype **P** [P02142542!], designated here by Chantaranothai & Tokaew), isolecotype **P** [P02142543!]. Fig. 1A & Map 1.

Erect and unbranched subshrubs, 50–60 cm high. *Leaves* 3-foliolate; petioles 6–16 cm long; stipules deltoid, acuminate, ca 15 by 8 mm. *Leaflets* thinly coriaceous, lanceolate, (10–) 15–23 by (2–) 4–6 cm, base obtuse, apex acuminate, margin entire, upper surface scabrous, lower surface pubescent; petiolules 4–5 mm long; stipels narrowly lanceolate, acuminate, ca 8 by 1 mm. *Inflorescences* racemose, terminal, erect, 15–30 cm long. *Flowers* dense; bracts lanceolate, 18–23 by 1.5–6 mm; pedicels 15–17 mm long, up to 20 mm at maturity, with bulbous based straight hairs and sparse straight hairs. *Calyx* with bulbous base straight hairs and sparse straight hairs; tube 1.5–2 mm long; upper lobes ca 4 mm long; lower ones 4–5 mm long. *Corolla* purple; standard 9–10 by 7–8 mm, claw ca 2 mm long; wings 5–6 by ca 2 mm, claw ca 1 mm long; keel 7–8 by ca 3 mm, claw ca 2 mm long. *Ovary* with 6 or 7 ovules. *Pods* with 1–6 segments; segment ovate-orbicular, dark brown, with sparsely tiny straight hairs.

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Thailand.—PENINSULAR: Narathiwat [Sirindhorn Waterfall, 7 May 2001, *Niyomdham 6492* (BKF); Waeng, Hala-Bala Wildlife Sanctuary, Klong Ai Ka Pa, 50 m alt., 23 Aug. 2006, *Poopath et al. 72* (BKF)].

Distribution.— Vietnam (type).

Ecology.— Open area in tropical rain forest, ca 50 m alt., flowering: May–August, fruiting: August–December.

Vernacular.— Chang nga diao (ช้างงาเดียว).

Notes.— Schindler (1916) described *Uriaria balansae* based on two sheets of the type collection, *Balansa 4448* (P02142542 & P02142543). After careful examination, P02142542 is selected here as the lectotype, because it has more leaves, morphological details and dissected floral parts.

Uriaria barbaticaulis Iokawa, T.Nemoto, J.Murata & H.Ohashi, J. Jap. Bot. 79(4): 226. 2004.

— *Uriaria barbata* Lace, Bull. Misc. Inform. Kew 1915(9): 397. 1915, non Desv. (1826); A.J.P.de Haas, Bosman & R.Geesink, Blumea 26: 439. 1980. Type: Myanmar (Burma), Taong Dong, *Wallich, Numer. List no. 5679B* (lectotype **K!**, designated by De Haas *et al.*, 1980). Fig. 2A–C & Map 1.

Erect and unbranched subshrubs, 30–60 cm tall; stem pilose. *Leaves* 1-foliolate; petioles 1–2 cm long, densely pilose; stipules deltoid, acuminate, puberulose, 11–13 by 3–3.5 mm. *Leaflets* ovate, broadly ovate or cordate, (4.5–)7–12 by (2.5–)3–6 cm, base obtuse or cordate, apex acute, margin entire, chartaceous; both surfaces pilose; petiolules 1.5–2 mm long, pilose; stipels narrowly lanceolate, acuminate, 4–6 by 0.5–1 mm. *Inflorescences* racemose, terminal and axillary in the upper part of stem, erect, 10–30 cm long. *Flowers* lax; bracts lanceolate, 3.5–4.5 by 1–1.2 mm, pale green; pedicels 4–4.5 mm long in flower and 4.5–5 mm long in fruit, pubescent with hooked hairs mixed with straight hairs. *Calyx* pale green, pilose with straight hairs; tube 1–1.5 mm long; upper lobes 1, 3–3.5 mm long; lower lobes 3, 2.5–3 mm long, well-developed in mature fruit. *Corolla*: standard ca 3 by 2.5–3 mm, claw 1.3–1.5 mm long, pale violet to white; wings 2.5–2.8 by 1–1.3 mm, claw 1.8–2 mm long, pale violet; keels 2.7–3 by 1–1.3 mm, claw 1–1.2 mm long, pale violet. *Ovary* with 5 or 6 ovules. Pods with (3–)5–6 segments; segments orbicular, 2–2.5 by 1.8–2.2 mm, black,

with hooked hairs. *Seeds* reniform, ca 2 by 1.5 mm, dark yellow.

Thailand.— NORTHERN: Tak [Umphang, Mae Chan, 900 m alt., 18 Nov. 2015, *Tokaew 916* (BKF, KKU)].

Distribution.— Myanmar (type).

Ecology.— In dry evergreen forests, 900 m alt. Flowering: September–October, fruiting: October–December.

Vernacular.— Tong tit (ตองติ๊ด).

Note.— The collections from Myanmar have dimorphic leaves with unifoliolate leaves in the upper part of the plant and pinnately trifoliolate leaves in the lower part of the plant (Iokawa *et al.*, 2004), but the Thai specimens only show unifoliolate leaves throughout.

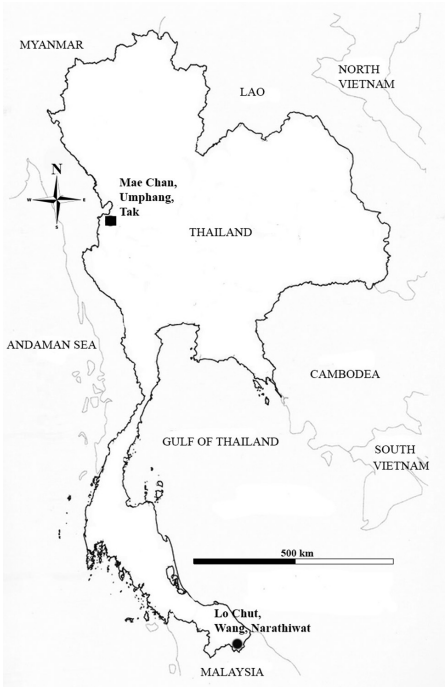
Uriaria pseudoacuminata W.Tokaew & Chantar., ScienceAsia 39: 327, figs. 1, 2c–2e. 2013. Type: Thailand, Bueng Kan, Bungkhla, Phu Wua Wildlife Sanctuary, *Tokaew & Chantaranothai 403* (holotype **KKU!**, isotype **BKF!**). Fig. 1B.

Thailand.— NORTH-EASTERN: Udon Thani [Nhong Saeng, Her Majesty the Queen's 60th Birthday Anniversary Arboretum (Northeast), 17 July 2003, *Sidajium 54* (BKF)]; Bueng Khan [Bungkhla, Phu Wua Wildlife Sanctuary, alt. 240 m, 21 Oct. 2007, *Tokaew & Chantaranothai 403* (BKF, KKU)]; Phu Wua Wildlife Sanctuary, alt. 300 m, 9 Aug. 2004, *Nielsen et al. 1580* (AAU)]; Khon Kaen [Phu Khiao, Game Reserve, ca 80 km east of Phetchabun, alt. 850 m, 8 Nov. 1984, *Murata et al. T-41860* (BKF)]; EASTERN: Chaiyaphum [Nam Phrom, alt. 600 m, 11 Dec. 1971, *van Beusekom et al. 9167* (BKF)]; Phu Khiao, alt. 600–700 m, 4 Aug. 1972, *Larsen et al. 31388* (AAU)]; Nakhon Ratchasima [Pak Thong Chai, Khao Yai National Park, alt. 350 m, 3 Oct. 1970, *Charoenpol et al. 4491* (AAU)]; Sakaerat, 2 Oct. 1968, *C.H. 374* (abbreviation unknown; **BKF** [BKF46328]); Sakaerat, alt. 400 m, 22 Oct. 1971, *van Beusekom et al. 3299* (BKF, C, K)]; SOUTH-EASTERN: Chon Buri [Siracha, Khao Khiao, alt. 500 m, 4 Sept. 1976, *Maxwell 76-631* (AAU)]; Chanthaburi [Pong Nam Ron, alt. 350 m, 3 Oct. 1898, *Sangkhachand s.n.* (BKF [BKF13174])].

Vietnam.— Khánh Hòa [Nha Trang, Annam, Phuho, 200 m alt., 22 Jan. 1923, *Poillane 5401* (HN)].



Figure 1. Voucher specimens of *Uraria* species: A. *U. balansae* Schindl., Niyomdham 6492 (BKF); B. *U. pseudoacuminata* W.Tokaew & Chantar., Poilane 5401 (HN).



Map 1. Distribution map of new species records for Thailand; ● *Uraria balansae* Schindl., ■ *U. barbaticaulis* Iokawa, T.Nemoto, J.Murata & H.Ohashi



Figure 2. *Uraria barbaticaulis* Iokawa, T.Nemoto, J.Murata & H.Ohashi: A. plant habit; B. inflorescence and flowers; C. infructescence. Photos by W. Tokaew (A & C) and S. Mattapha (B).

Ecology.— In evergreen, dry evergreen and deciduous forests, 50–850 m alt., flowering: August–September, fruiting: September–December.

Vernacular.— Thailand: Hangsuea baiphai (ทางเสือใบไฟ).

ACKNOWLEDGEMENTS

This work was supported by the Carlsberg Foundation (for the Flora of Thailand Project), Denmark. We would like to thank the curators and staff of AAU, ABD, BCU, BK, BKF, C, CMU, CMUB, HN, K, KKU, PBM, PI, PSU, QBG and TCD for their facilities. We also wish to thank Sawai Mattapha for the flower images. Finally, we also thank Department of Biology, Faculty of Science, Mahasarakham University for their facilities.

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