



Tetrastigma loheri Gagnep. Vitaceae

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Synonyms

Tetrastigma philippinense Merr. (POWO 2020)

Local Names

Indonesia: bulung sitelu telu (Karo community, North Sumatra). **Philippines:** bariatuat (Ilocos Norte), chanon (mt), nala (D), ragini (B), loher's ayu (Tag) (Tagalog), Loher'sayo (Batangas), ayo (Mindoro) (Brown 1920; Jansen et al. 2016; Marina Silalahi, personal observation; Umali et al. 2018; Villanueva and Buot Jr 2015).

Botany and Ecology

Description: A woody vine, climbing by simple tendrils; compound leaves with three leaflets, pointed at the tip. Leaves trifoliolate; petioles 2–3 cm long; leaflets ovately lanceolate, 12 × 4 cm, midrib ridged beneath with lateral obscure nerves, entire or obscurely toothed toward acute apex, rounded at base. Inflorescences scattered in upper leaf axils, subglabrous, up to 3 cm long, paniculately cymose; short stalk subtended by broad, brown bracts; secondary stalks short, spreading; flowers upon 3–5 mm long pedicels; calyx subtruncate, short; corolla ovately oblong, 5 mm in length, reflexed; styles glabrous; stigmas sessile, subcapitate. Berries

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subellipsoid, 1 cm long, whitish with black seed, fleshy, juicy, acidic, and edible (Jansen et al. 2016; Pancho and Gruezo 2006; Pelsner et al. 2016; Wester 1922).

Distribution and Habitat: This species is reported to grow from sea level up to 1400 m altitude in Luzon, Mindoro, Palawan, to Davao, Mindanao (Wester 1922), Borneo, Philippines (Luzon, Mindanao, Mindoro, Palawan), Visayas (Negros, Panay, Samar), and South East Sulawesi (Wen et al. 2013). In addition, the species also occurs in Sumatra Island, more particular in North Sumatra and Riau (Baihaqi 2019; Masyithoh et al. 2020; Marina Silalahi, personal observation). The species grows in thickets and forests at low and medium altitudes (Jansen et al. 2016) (Figs. 1 and 2).

Local Medicinal Uses

Indonesia: The leaves is one of the constituents of massage oil (*minyak urut*) that is used by Karo community of Kaban Tua Village, North Sumatra. The leaves are pounded with the rhizome of species from Zingiberaceae and Araceae. The plant material are mixed with coconut milk and cooked until thickened. The massage oil is usually used to relieve rheumatic disorders. The Karo community in the same village also uses the leaves to make a health drink called *tawar*. They pound the leaves along with the rhizome of *Zingiber officinale* and brew it. The community usually consumes it to maintain overall health and fitness (Marina Silalahi, personal observation). **Philippines:** The plant is used to cure dysentery (Johnson 1998).



Fig. 1 Living plants of *Tetrastigma loheri* (Vitaceae). Simalungun, North Sumatra, Indonesia. (© M. Silalahi)

Fig. 2 Leaves of *Tetrastigma loheri* (Vitaceae). Simalungun, North Sumatra, Indonesia. (© M. Silalahi)



Local Food Uses

Philippines: The fruit is edible (Brown 1920). The fruits pulp are also edible (Martin et al. 1987). The sour leaves are used as flavoring (Brown 1920; Jansen et al. 2016). The leaves are edible, taste agreeably sour, and can be used to quench thirst. The leaves are also locally used in various culinary preparations (Morton and Collectanea 1968).

References

- Baihaqi A. Perbandingan Keanekaragaman Jenis Herpetofauna antara Areal Bekas Terbakar dan Tidak Terbakar di PT National Sago Prima, Riau [undergraduated thesis]. Bogor: IPB University; 2019.
- Brown WH. Wild food plants of the Philippines. Ann Arbor: University of Michigan Library; 1920.
- Jansen PCM, Jukema J, Oyen LPA, van Lingen TG. *Tetrastigma loheri* (PROSEA). 2016. Published on the internet: [https://uses.plantnet-project.org/en/Tetrastigma_loheri_\(PROSEA\)](https://uses.plantnet-project.org/en/Tetrastigma_loheri_(PROSEA)). Retrieved 8 Aug 2020.
- Johnson T. CRC ethnobotany desk reference. 1st ed. Boca Raton: CRC Press; 1998.

- Martin FW, Campbell CW, Puberté RM. Perennial edible fruits of the tropics: an inventory, Agriculture handbook no. 642. Washington, DC: US Department of Agriculture; 1987. p. 252.
- Masyithoh G, Purnamasari I, Santosa Y. Comparison of undergrowth diversity between post burned and unburned land in PT National Sago Prima, Riau Province. *IOP Conf Ser Earth Environ Sci.* 2020;504(1):1–6.
- Morton JF, Collectanea M. Tropical fruit tree and other exotic foliage as human food. *Proc Fla State Horticult Soc.* 1968;81:318–29.
- Pancho JV, Gruezo WSM. Vascular flora of Mount Makiling and vicinity (Luzon: Philippines), part 2. Laguna: National Academy of Science and Technology (NAST) Philippines, Department of Science and Technology, Bicutan, Taguig City and Institute of Biological Sciences, College of Arts and Sciences, University of the Philippines Los Banos; 2006. p. 626.
- Pelser PB, Nickrent DL, Barcelona JF. Untangling a vine and its parasite: host specificity of Philippine *Rafflesia* (Rafflesiaceae). *Taxon.* 2016;65(4):739–58.
- POWO. Plants of the World Online. Kew: facilitated by the Royal Botanic Gardens. 2020. Published on the internet: <http://www.plantsoftheworldonline.org/>. Retrieved 8 Aug 2020.
- Umali AGA, Malabrigo PL, Replan EL. Floral diversity and habitat assessment at Mt. Malarayat Brgy. Malitlit, Lipa City, Batangas. *Environ Dev.* 2018;8(1):3–14.
- Villanueva ELC, Buot IE Jr. Threatened plant species of Mindoro, Philippines. *IAMURE Int J Ecol Conserv.* 2015;14:168–90.
- Wen J, Lu LM, Boggan JK. Diversity and evolution of Vitaceae in the Philippines. *Philipp J Sci.* 2013;142:223–44.
- Wester PJ. Bulletin, volume 38 – Mindano and the Sulu Archipelago: their natural resource and opportunities for development. Manila: Bureau of Agriculture – Manila Bureau of Printing; 1922.