

Umbelliferae of Taiwan⁽¹⁾

With 16 plates

By

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INTRODUCTION

The present paper is a revision of the genera and species of the UMBELLIFERAE of Taiwan. The naturalized and cultivated species are not included. A taxonomic study was followed by a cytological survey of chromosome numbers. For chromosome counts, fresh young buds were fixed in Farmer's solution, aceto-carmine smear technique was then employed to make temporary slides for chromosome determination. Drawings were made under the microscope with the aid of a camera lucida at the magnification of 1280 \times .

This paper includes 15 genera, 32 species and 1 variety of Umbelliferae of Taiwan. Four new species, one new variety and several new synonyms are listed herein. All specimens cited in this paper have been deposited in the Herbarium of the Department of Botany, National Taiwan University (TAI), Taiwan Forest Research Institute (TAIF), and the Herbarium of the Institute of Botany, Academia Sinica (AS). Voucher specimens for chromosome counts are all in the TAI and AS.

Key to the genera

1. Low creeping herbs; leaves simple; flowers in small axillary simple subcapitate umbels..... 2
2. Slender to stout, erect or ascending herbs; leaves simple or ternate or pinnately compound; flowers pedicellate in compound umbels (rarely simple or sessile)..... 3
3. Leaves with a pair of free stipules at base of petiole; fruits without secondary ribs; involucre wanting or inconspicuous *Hydrocotyle*

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11, 1940 (TAI); Keng & Kao K1291 (TAI); Kao K3507; Kao & Chuang K3505, 3302 (TAI). Nantou Hsien: S. Suzuki, Oct. 11, 1935 (TAI); Kao, Kuo & Chuang 3235 (TAI, AS). Chiayi Hsien: Kao, Kuo & Chuang 4099 (TAI, AS), 4109 (TAI, AS). Taitung Hsien: Hosokawa 5287 (TAI). Ilan Hsien: S. Suzuki Aug. 7, 1928, type of *Hydrocotyle laxiflora* Masamune (TAI); S. Suzuki Aug. 19, 1925, type of *Hydrocotyle pseudoconferta* Masamune (TAI).

4. *Hydrocotyle keelungensis* LIU, CHAO et CHUANG sp. nov. (Plate VI, fig. 15).

Herba perennis glabra; caules repentes, teretes, graciles; folia longe petiolata; petiolis 1.5-2.5 cm. longis filiformis glabris; lamis crassis, reniformi-cordatis 0.8-1.5 cm. diam., basi sinuatis, supra sparse setulosis, laeviter palmatim 5-7-lobatis, lobis rotundatis 3-crenatis, crenis obtuso-rotundatis, subtus longe piloso-pubescentibus, pilis reflexibus, 7-nervis; umbellae simplices 5-7-flores, bractis minutis 0.5 mm. longis membranaceis oblongo-ovatis; flores minutis sessilibus albidis, sepalis inconspiculis, petalis 5 albidis oblongo-ovatis, apice acutis; fructus sessilis compresso-orbiculati utrinque costati 1 mm. longi 1.2 mm. lati.

Perennial prostrate herb. Stem glabrous, rooting at nodes. Leaves thick, sparsely covered with rough stiff hairs on upper surface, orbicular reniform, 0.8-1.5 cm. in diameter, shallowly 5-7-lobed, the lobes slightly crenate, base with white long reflexed hairs; petiole filiform, 1.5-2.5 cm. long. Umbel simple, 5-7-flowered, mostly 6, peduncles 0.5-2 cm. long, usually shorter than the leaves. Flowers greenish-white, nearly sessile. Fruits sessile, suborbicular, 1 mm. long, 1.2 mm. broad.

This new species is near *Hydrocotyle sibthorpioides* in external morphology, but is distinguished from it by its thick and sparsely covered with rough stiff hairs and base with white long reflexed hairs in its leaves. Chromosome counts reveal that the new species has a diploid number of 24, while *H. sibthorpioides* also has 24 somatic chromosomes.

Type locality—Keelung, Taiwan, T. I. Chuang 3980 type! (TAI).

Distribution—Endemic to Taiwan.

Specimens examined—Keelung; T. I. Chuang 3980 type! & isotype! (TAI, AS).

5. *Hydrocotyle benguetensis* ELM., Leaflets. Philipp. Bot. 2: 628. 1909. (Plate VII, fig. 17).

Hydrocotyle ranunculifolia OHWI in Acta Phytotax. Geobot. 2: 151. 1933.

Perennial herb. Stem prostrate, long slender and rooting at the nodes. Leaves petiolate, orbicular reniform, 1-3 cm. in diameter, deeply 3-lobed, with rough stiff hairs, palmately 5-7-nerved, the lobes obovate, the margin crenate; petioles 2-10 cm. long; stipules ovate-cordate, apex round, membranaceous. Umbels small, solitary, peduncles 2-5 cm. long, many-flowered. Flowers minute, white; calyx-teeth inconspicuous; petals 5, ovate, acute. Fruits sessile or subsessile, 1 mm.

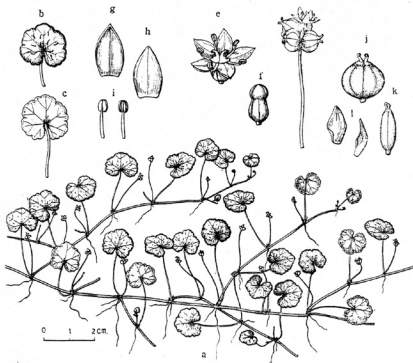


Fig. 15.

Hydrocotyle keelungensis Liu, Chao et Chuang sp. nov.

- a. Whole plant. Habit. b. Leaf, upper side. c. Leaf, lower side.
 d. Inflorescence. e. Flower f. Flower bud. g. Petal, inner side.
 h. Petal, outer side. i. Stamens. j. Fruits. k. Fruit, lateral view.
 l. Bracts.