

GENUS *HYPHEAR* OF TAIWANJEW-MING CHAO<sup>(1)</sup>

**Abstract:** *Hyphear* is one of the six genera of Loranthaceae found in Taiwan. The genus in Europe and Eastern Asia endemic, consists about four species. Two of them are found at median and low altitudes of the broad-leaved forest of this island. *Hyphear Kaoi*, in here reported as a new species.

In this paper complete descriptions for the genus and new species, Key to the species, ranges of distribution, and the host plants of each species are given in as much detail as possible. The materials used in the present study are deposited in the Herbarium of the Taiwan Forestry Research Institute (TAIF) and the Herbarium of the Botany Department, National Taiwan University (TAI).

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*Hyphear* Danser

Parasitic shrubs. Leaves opposite, simple, entire, often short-penninerved. Flowers spike, bisexual or unisexual, dioecious, adnate with the peduncles, bracteoles absent; outer perianth-limb shortly truncate or 4-6 dentate; inner perianth 4-6, free, patent and spreading brightly colored; stamens 4-6 inserted on the perianth, the anthers adnate or versatile; 2-4-celled, the cells parallel, longitudinally dehiscent, a rudimentary pistil present in the staminate flowers; pistil 1, the ovary inferior, the stigma obtuse of capitate; disc wanting; rudimentary stamens present in the pistillate flowers. Fruit a 1-seeded drupe.

About 4 species. Europe to Eastern Asia 2 species in Taiwan.

## KEY TO THE SPECIES

1. Leaves oblong, flowers unisexual, dioecious, anthers 4-celled.....2. *H. delavayi*  
 1. Leaves elliptical, flowers bisexual, anthers 2-celled.....1. *H. Kaoi*  
 1. *Hyphear Kaoi* Chao. sp. no.

*Loranthus* sp., Hay., Icon. Pl. Formos. 5: 182, 1915.

Frutex ad ramox *Scurruli Ionicerifoli* (Hay.) Dans. Rami glabri, lenticellis minutis medio fissis, ramulis in exsiccato fuscentibus. Folia opposita, coriacea, ovata vel oblonga 3-4 cm. longa, 1-2 cm. lata, apice rotundata obtusissima, basi obtusa vel prope basin subito cuneata ad petiolulum abeuntia utraque pagina glabra haud nitida, costis venis utraque pagina obscure elevatis, margine integra, petiolis alatis, 6-7 mm. longis. Flores spicati, toto glabri approximativum siti subflore 1-bracteati, bracteis brevissimis triangularibus, 1 mm. latis, 0.3 mm. longis, late acutis. Perianth erecta 6, glabra, linearis-lanceolata, minus quam 2.5 mm. longa, minus 0.5 mm. late, valvata, intus plus minus concava apice acuta. Stamina 6, filamentis complanatis, linearibus, 1 mm. longis, basi ad medium cum petalo connatis glabris, antheris adnatis 0.2 mm. longis

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0.3 mm. latis, 2-locularis, connectiois latis apice obtusis. Ovarium inferius apice glabrum. Stylo validissime columnari, 2.5 mm. longo, glabro apice, pyramido-acuto. Fructus oblongus, 5 mm. longus, 3 mm. latus.

Shrub, parasitic on the branch of *Scurrula lonicerifolius* (Hay.) Dans. branches glabra with conspicuous lenticle; leaves opposite, coriaceous, ovate to oblong, 3-4 cm. long 1-2 cm. broad, apex round to obtuse, base obtuse to cuneate, short-petiolate, petiole 6-7 mm. long, viens obscure, margine entire; inflorescence spike, spike 2-3 cm. long, 3-5 clustered in the axillary of leaves; flowers bisexual, sessile, bracts broad-triangular, about 0.3 mm. long, perianth erect, 6 valvated, glabra, linear-lanceolate about 2.5 mm. long 0.5 mm. broad, stamens 6, filaments filiform, 1 mm. long, base adnate with petal, glabra, anthers minute, 0.5 mm. long, 2-celled, connective broad, apex obtuse, ovary inferior, glabra, style filiform 2.5 mm. long, stigma pyramide-shaped; fruits elongate-ellipsoid, 5 mm. long, 3 mm. in diameter.

Parasitic on the branches of *Scurrula lonicerifolius*, (Hay.) Danser. It only be found at the median altitude of the central part of the island.

**Taichung:** Lee-shan, C. S. Feung & M. T. Kao 5082, (Holotype, TAI; Isotypes, TAI), 4581 (TAI); Ammashan, T. S. Liu et al. s. n. Oct. 14, 1957 (TAI). **Han:** Taiping-shan, S. Suzuki s. n., Aug. 9, 1928.

This new species is named in honor of Mr. M. T. Kao (a technician of the Herbarium of Department of Botany, National Taiwan University, who presented the specimen to the author). It was first described by B. Hayata (Icons Plantarum Formosanarum 5: 182, 1915) but he neither gave the species name nor cited any specimen. It is very similar to *Hyphear delavayi* (Vany Tiegh) Danser, but it can be easily distinguished by the flowers bisexual. Besides the leaves and flowers are smaller than those of the later species. This is the only species of Loranthaceae in Taiwan which is parasitic on the parasitic plants.

2. *Hyphear delavayi*, (Van Tiegh) Danser, in Bull. Jard. Bot. Buit 111. 10: 319, 1929.

*Loranthus delavayi*, Van Tiegh. in Bull. Soc. Bot. Pr. 41: 535, 1894.

*Hyphear ovatarii*, (Matsum. et Hay.) Danser, in Bull. Jard. Bot. Suit. 111. 10: 319, 1929; Liu, Illus. Nat. Intr. Lign. Pl. Taiwan 2: 812, f. 651, 1962; Ll. wood. Pl. Taiwan 144, 1963. syn. nov.

*Loranthus ovatarii*, Matsum. et. Hay., Enum. Pl. Form. 357, 1906; Hay., Icon. Pl. Form. 6: 39, 1916. syn. nov.

*Hyphear Koumensis*, (Sasaki) Hosokawa, in Jour. Jap. Bot. 12: 418, 1963; Iwata, in Journ. Agr. Sci. Tokyo 3: 178, 1956. syn. nov.

*Loranthus Koumensis*, Sasaki in Trans. Nat. Hist. Sorm. 21: 158, 1931, syn. nov.

Parasitic on the branches of *Alnus Japonica*, (Thunb.) Steud. *Cyclobalanopsis morii*, (Hay.) Schottky. *Carpinus Kawakamii*, Hay. and *Persea acuminatissima*, (Hay.) Koster, etc. It is found at median and low altitudes throughout the island. Distributed in Southern China.

**Taipei:** Yangmingshan, S. Suzuki s. n., Oct. 21, 1923 (TAI). Kudo, Suzuki & Mori s. n., April 21, 1929 (TAI); Chihsinshan, S. Suzuki s. n., Nov. 2, 1928. (TAI); Taihyo (TAPA), S. Suzuki s. n., Dec. 30, 1929. (TAI). **Taichung:** Lee-shan, Feung & Kao 5005 (TAI), 4980 (TAI), 4602 (TAI); Pahsienshan, Chuang, Kou & Kao 2770 (TAI); Inter Taboku et Matumine, S. Suzuki 5545 (TAI). **Chiayi:** Mt. Morrison (Yushan), T. Kawakami & Mori 8647 (TAIF). **Nantou:** Musya (Wushe), S. Suzuki 5695 (TAI), R. Kanehira & S. Sasaki s. n., Dec. 1930 (TAI); Tonbara (Tunyuan), Y. Shimada, 8644 (TAIF); Funsueiling, T. Kawakami & Mori, 8648 (TAIF), Yuyorin (Yuehling), S. Sasaki s. n., Dec. 11, 1930, (Type of *Loranthus Koumensis*. Sasaki, TAI). **Kao-hsiung:** Chishan, T. Sasaki, 20953 (TAI), Gaogan, Y. Shimada, 8649 (TAIF). **Pingtung:**

Kuwarusuya, *E. Matsuda s. n.*, Jan. 4, 1920 (TAI), 8651 (TAIF); 8652 (TAIF); Paiwan, *E. Matsuda*, 8650 (TAIF). **Taitung:** Burubururito, *S. Sasaki s. n.*, Oct. 18, 1933 (TAI); Chingshulying (Sinsulei), *T. Suzuki*, 8014 (TAI). **Hualine:** (Tailuko) Taroko, *S. Suzuki*, 9586 (TAI). **Han:** Painan (Peinan), *S. Suzuki s. n.*, Nov. 2, 1928 (TAI).

In comparing specimens of *Hyphear owatarii* from Taiwan and *Hyphear delavayi* from southern China, I have found that these two actually belong to one species. I have also examined the type specimen of *Loranthus Koumensis* and compared it with its original description and found that Sasaki's *Loranthus Koumensis* is merely a female plant of *Hyphear delavayi*.



Fig. 1. *Hyphear delavayi* (Ching-shulying, Taitung, Taiwan). 1. Flowering branch; 2. Magnified flower; 3. Magnified fruit; 4. Magnified stem section.



Fig. 1. *Hyphear kooi*, Chao sp. nov. A. Flowering branch; B. Inflorescence; C. Fruiting branch; D. Flower; E. Flower; longitudinal section; F. Pistil; G. Ovary; cross section; H. Anther with perianth; I. Anther; dorsal view; J. Anther; ventral view; K. Fruit.