

A NEW SPECIES OF *BALANOPHORA* (BALANOPHORACEAE) FROM HONG KONG

KAI-MAN LAU¹ NING-HON LI¹ AND S. Y. HU²

Abstract. *Balanophora hongkongensis* (Balanophoraceae) is described and illustrated. This species grows in the shade of a mixed forest on a hill at an elevation of 200 m, and flowers from late November through December, with the carpellate flowers lasting longer. The staminate and carpellate plants grow in close proximity to each other. The forest community where the new species was found consists of trees, shrubs and woody vines. *Bauhinia championii* was identified as the host.

Keywords: *Balanophora*, Balanophoraceae, China, Hong Kong, parasitic.

In December 1992 a colony of *Balanophora* was observed in the forest of Castle Peak, New Territories, Hong Kong. After repeated field observations, critical studies of all known species of the genus in southern China, and a review of the literature (Hayata, 1908; Hemsley, 1894; Tam, 1988), we concluded that it had not been previously described and herein propose it as a new species, *Balanophora hongkongensis* K. M. Lau, N. H. Li et S. Y. Hu.

Balanophora hongkongensis K. M. Lau, N. H. Li & S. Y. Hu. *sp. nov.* TYPE: CHINA. Hong Kong: Castle Peak, parasitic herbs, growing in shade of evergreen forest; flowering plants orange-red; staminate flowers sessile, each with numerous white anthers; carpellate spikes shorter, 9 December 2000, N. H. Li & K. M. Lau 310 (Holotype: HK, Isotype: G, CUHK). Fig. 1–2.

Herba parasitica carnosae; caulibus 3–10 cm longis, 2–11 nun diametro; foliis ovato-lanceolatis, 1.2–4 cm longis, 8–10 mm latis; spicis staminalis 3–10 cm longis, 1.0–1.6 cm diametro, spicis pistillatus 1.5–8 cm longis, 1.1–3 cm diametro.

Plant parasitic, dioecious, erect, orange-red, fleshy; tuberous, tuber sub-spherical, irregularly warty, 3–10 cm in diameter, yellowish-brown in life, dark brown when dried; stems 3–10 cm long, 2–11 mm in diameter. Leaves sessile,

ovate-lanceolate, 1.2–4 cm long, 8–10 mm wide, apex acute. Inflorescences cylindrical upright spikes; staminate spikes 2–10 cm long, 5–16 mm in diameter (Fig. 1A). Staminate flowers sessile; perianth segments 4–9, triangular-ovate, 2.5 mm long, 1–2 mm wide, apex acute or obtuse, appressed to floral axis, star shaped; synandrium discoid, 3–4 mm across, anthers 10–30 or more, dehiscent by slits (Fig. 1D–E). Carpellate spikes 1.5–8 cm long, 1–3 cm in diameter (Fig. 1B), densely covered with flowers separated by mushroom-like toruloses about 1 mm long (Fig. 1F). Carpellate flowers: ovaries stipitate, fusiform, 0.5 mm long, style filiform, 3–4 times length of ovary (Fig. 1G–I).

Additional specimens examined: CHINA. Hong Kong: Castle Peak: 9 December 2000, S. Y. Hu 21358A (CUHK); 1 January 2002, K. M. Lau 501 (CUHK).

Balanophora hongkongensis is closely related to *B. laxiflora* Hemsley and *B. spicata* Hayata. It differs from both species in that its perianth has 4–9 segments; *B. laxiflora* has 4–6 segments and *B. spicata* has 6. The tuber of *B. laxiflora* is covered with raised granules scattered over its rough and somewhat ribbed surface; the tuber of *B. hongkongensis* is relatively smooth, not granulated, and not ribbed. The synandrium disk of *B. spicata* is elongate while that of *B. hongkongensis* is round to ovate. The staminate flower of *B. spicata* is stalked while

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¹Hong Kong Chinese Medical Research Institute, 212 Johnston Road, Hong Kong.

²Arnold Arboretum, Harvard University, Cambridge, Massachusetts 02138 U.S.A.; The Chinese University of Hong Kong, Hong Kong.

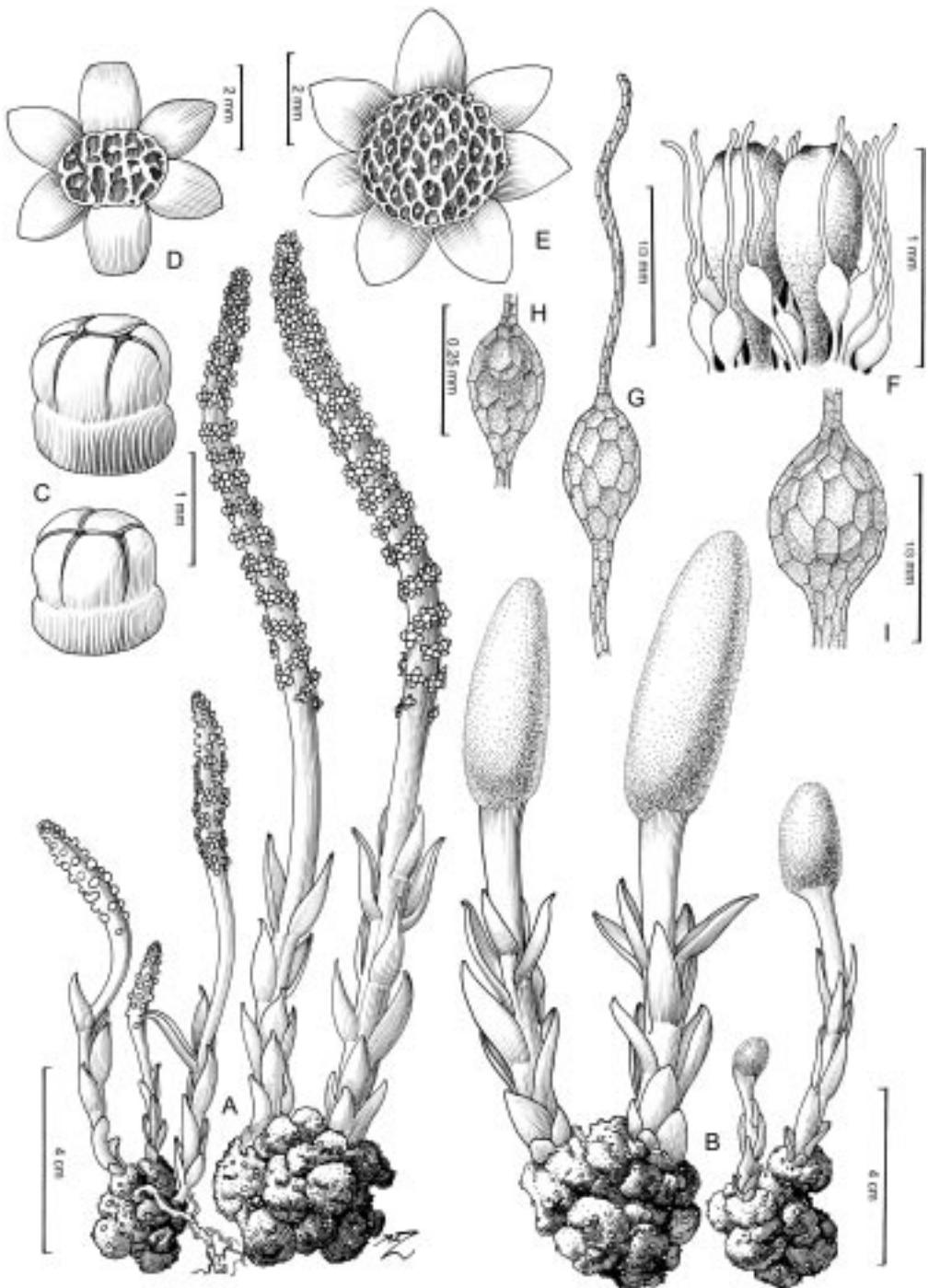


FIGURE 1. *Balanophora hongkongensis* K. M. Lau, N. H. Li & S. Y. Hu. A, habit sketch of two staminate flowering plants showing common vegetative mass and three and two flowering shoots respectively, each with oblong-acute leaves on stem and cylindrical terminal spike; B, same, of two carpellate plants with stouter flowering shoots, larger leaves on stems and oblong or ovate-oblong spikes; C, two staminate flowers (about to open) with different numbers of valvate perianth lobes; D, E, two opened staminate flowers with 6 and 7 perianth lobes and a central disk having a variable number of roughly hexagonal anthers of different sizes; F, two mushroom-like toruloses with numerous carpellate flowers; each flower on a stalk and producing only one ovary and a style; G-I, sketches of ovary at different magnifications.



FIGURE 2. Colony of *Balanophora hongkongensis* K. M. Lau, N. H. Li & S. Y. Hu. A, staminate and carpellate plants in natural habitat; B, Two carpellate plants of *Balanophora hongkongensis* parasitic on roots of *Bauhinia championii*.

that of *B. hongkongensis* is sessile.

Balanophora hongkongensis grows in the shade of a mixed forest on an east facing slope in rich, well drained soil covered by decaying leaves on a hill at an elevation of 200 m. It flowers from late November through December, with the carpellate flowers lasting longer. The staminate and carpellate plants grow in close proximity to each other (Fig. 2A).

The forest community consists of trees, shrubs and woody vines such as *Bauhinia championii* Benth., *Buettnera aspera* Colebr., *Cinnamomum burmannii* Nees ex Blume, *Desmos cochinchinensis* Lour., *Elaeagnus loureirii* Champ. ex Benth.,

Microcos nervosa (Lour.) S. Y. Hu, *Mucuna birdwoodiana* Tutcher, *Sarcandra glabra* (Thunb.) Nakai, *Tetracera asiatica* (Lour.) Hoogl., *Camellia caudata* Wall., *Ficus simplicissima* Lour., *Gnetum lofuense* C. Y. Cheng, *Ligustrum sinense* Lour., *Litsea cubeba* (Lour.) Pers., *Psychotria rubra* (Lour.) Poir., *Schefflera heptaphylla* (L.) Frodin (*S. octophylla* (Lour.) Hassk.), *Sterculia lanceolata* Cav., *Tetrastigma planicaule* Gagn., *Uvaria microcarpa* Champ. ex Benth., and other species. The first nine species grow in the immediate vicinity of *Balanophora hongkongensis*, while *Bauhinia championii* has been identified as the host (Fig. 2B).

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