

## *Anoectochilus hainanensis* (Orchidaceae), a new species from Hainan, China

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*Anoectochilus hainanensis* H.Z. Tian, F.W. Xing & L. Li *sp. nova* (Orchidaceae) is described from Hainan, China, and illustrated. It can be distinguished from the morphologically similar *A. reinwardtii* by the leaves, which have much denser and exquisitely golden-shiny reticulations on the upper surface, and by the column wings which have a broadly ligulate anterior part and appressed inner margins, and a saddle-like lamelliform posterior part connected with the anterior part at an acute angle.

Key words: *Anoectochilus*, new species, Orchidaceae, taxonomy

The genus *Anoectochilus*, based on *A. setaceus*, belongs to the tribe Cranichideae, subtribe Goodyerinae (Pridgeon *et al.* 2003). It has about 40 species (Dressler 1993, Ormerod 2005) distributed from Sri Lanka and the Himalayan region throughout SE Asia (incl. Japan) to Oceania (Fiji and Samoa) (Pridgeon *et al.* 2003). There are 22 species in China, of which three have been reported from Hainan (Lang 1999, 2002, Jin 2002, Ormerod 2003).

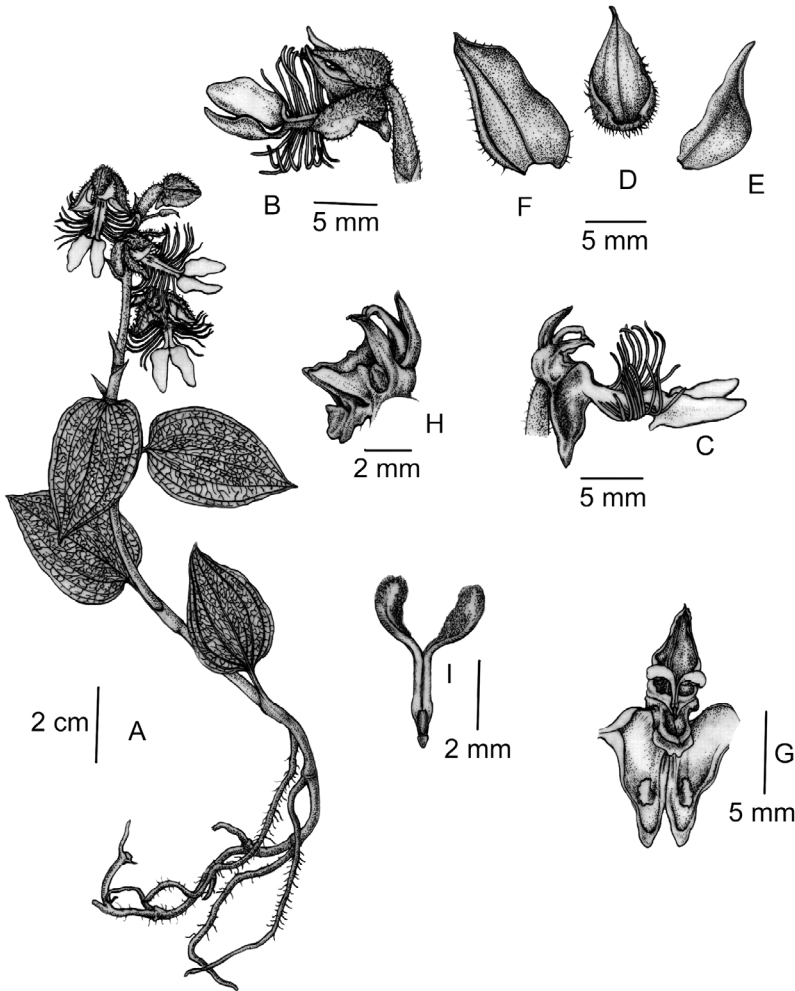
During a field trip to Hainan in July 2006, an attractive specimen with shiny golden-reticulated leaves was found. It flowered in January 2007 after being transplanted to a greenhouse of the South China Botanical Garden, Chinese Academy of Sciences. It was proved to be an undescribed species on the basis of careful examination and comparison with the morphologically close *A. reinwardtii* (Smith 1908, Backer &

Bakhuizen 1968, Seidenfaden 1971, 1978, 1992, Ormerod 2002, 2005). We also found two specimens in IBSC, which were collected in the same locality and misidentified as *A. roxburghii*, that represented the species we had collected.

***Anoectochilus hainanensis* H.Z. Tian, F.W. Xing & L. Li, *sp. nova* (Fig. 1)**

*Species A. reinwardtii affinis, sed foliis supra dense aureo-reticulatis, aliis floribus columnarum 2, antice liberatis, supera medium recavis, postice lamellosis ephippioideis differt.*

TYPE: China. Hainan, Ledong County, Jianfeng Mountain National Nature Reserve, under the tropical montane rainforests, shady, in loamy humus, collected in July 2006 and flowering in cultivation, 13.I.2007 H. Z. Tian 577 (holotype IBSC). — PARATYPES: China. Hainan, Jianfeng Mountain, the



**Fig. 1.** *Anoectochilus hainanensis* (from the holotype, drawn by Ms. Yun-Xiao Liu) — **A:** Habit. — **B:** Flower, lateral view. — **C:** Column and labellum, lateral view. — **D:** Dorsal sepal. — **E:** Petal. — **F:** Lateral sepal. — **G:** Column and calli, front view. — **H:** Column, lateral view. — **I:** Pollinia.

fifth area, shady and damp places beside the valley, 28.X.1982 *C. Wang* 821031 (IBSC); same locality, 15.IV.1982 *C. Wang* 820161 (IBSC).

Erect terrestrial herb, 12 cm tall in flower. Rhizome terete, creeping, rooting at nodes, 10 cm long, 2.5–3 mm thick; internodes 1.5–2.2 cm long. Stem terete, 6 cm long, 2.2–2.8 mm thick. Leaves 3–4, obliquely ovate, acute, round at base, velvety blackish green with shining golden dense reticulation above, lilac beneath, 3–3.5 cm by 1.8–2.2 cm; petioles with amplexicaul sheaths 1.2–1.5 cm long, roseate; sheaths membranous, 5–7 mm long. Inflorescence 4–6 flowered; peduncle 3–3.5 cm long, pubescent; sterile bracts 2–3, ovate-lanceolate, caudate, 1-veined, 1.2–1.5 cm long, sparsely hairy; rachis 3–4 cm long; floral bracts similar to sterile bracts, 6–9

mm by 4 mm. Ovary with a fusiform pedicel, 14 mm long, 3 mm thick, densely white-hairy. Flowers slightly fragrant, 1.5 cm long. Sepals green with reddish-brown apex and white-hairy outside. Dorsal sepal ovate-elliptic, acuminate, 9–10 mm by 6 mm, appressed to petals, forming a hood. Lateral sepals obliquely elliptic, slightly spreading, subacute, 11–12 mm by 4.5–5 mm, 1-veined. Petals dimidiately falcate-elliptic, oblique, strongly dilated in middle and sharply narrowed towards apex, olive-green with white margins, 8–8.5 mm by 3.6–3.8 mm. Labellum Y-shaped, white, spurred, 16 mm long, spur extending beyond base of lateral sepals, cylindric-conical, dilated in middle, subacute and distinctly bilobed at apex, parallel to ovary, olive-green with white apex, 8 mm long, 3.5 mm

thick, 2 calli on the back of wall inside; calli trapeziform, 1.5 mm long, base pink, apex papillose; hypochile subquadrate, with 2 olive green spots in front, 2.5 mm long, side lobes involute, semicircular; mesochile narrowed to a channeled claw, 4.5 mm long, each side with 7–9 white filaments slightly reflexed upwards, one near hypochile 4 mm long, others almost 8 mm long; epichile bilobed with a minute tooth between lobules, lobules ligulate-elliptic, obliquely truncate, 9 mm by 3.5 mm. Column 4 mm long; column wings 2, anterior part broad ligulate, concave in middle and obliquely emarginate at apex, 3.8 mm by 3 mm, formed by 2 separate semicircular wings with appressed inner margins, each wing with an protuberance near stigma and concave below; posterior part saddle-like lamelliform, 1 mm by 6 mm, connected with anterior part at acute angle. Rostellum deltoid, short-bifid at the apex, 3.5 mm long. Stigmas 2, lateral. Operculum ovoid-lanciform, reddish-brown, 5 mm by 3 mm. Pollinia 2, yellow, curved, obliquely clavated, 5 mm long, caudicle linear, 3 mm long; viscidium quadrate with an hastate apex, 1.2 mm by 0.5 mm.

*Anoectochilus hainanensis* is known from the type collections only, so it appears to be endemic to Hainan. It is morphologically close to *A. reinwardtii*. However, the reticulations on the leaves of *A. reinwardtii* are much sparser, and the column wings are not divided into two pairs but each forms a single wing that is free from the other. *Anoectochilus hainanensis* is also similar to *A. falconis*, but in that species the inflorescence has only 1–2 flowers, the subcylindric-conical spur is obtuse, and the substigmatic column wings are slightly decurved and much smaller than the main column wings, which are oblong-elliptic and united along the lower margin.

*Anoectochilus hainanensis* should also be compared with *A. formosanus* from Taiwan. That species differs by the vegetative and floral characters, e. g. reticulations on the leaves are white rather than golden, and also much sparser; the conical-saccate spur is shorter, 4 mm by 3 mm; and the filaments on each side of the mesochile are pale yellow rather than white and shorter, 5 mm long.

*A. pingbianensis* from Yunnan has a similar shiny-golden reticulation on the leaves as *A. hainanensis*, but the former differs clearly by the T-shaped labellum; 180 degrees divaricated epichile; filaments 5–6; and rostellum with one small tooth on each side.

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