

**Morfologi, Anatomi, dan Histokimia Organ Daun dan Bunga Anggrek  
*Bulbophyllum biflorum* Teijsm. & Binn. (sect. *Biflorae*) dan *Bulbophyllum  
apodum* Hook.f. (sect. *Stachysanthes*)**

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**INTISARI**

Anggrek tergolong dalam suku Orchidaceae, salah satu suku tanaman bunga terbesar yang memiliki variabilitas cukup tinggi. Setiap jenis anggrek memiliki morfologi dan anatomi berbeda-beda sehingga substansinya juga berbeda. Morfologi dan anatomi bunga tertentu menghasilkan daya tarik polinator untuk penyerbukan bunga. Saat ini, belum banyak studi morfologi, anatomi, dan histokimia anggrek *Bulbophyllum* dari Indonesia. Penelitian ini bertujuan mengidentifikasi struktur morfologi, anatomi, serta mengamati keberadaan substansi penarik polinator organ daun dan bunga anggrek *Bulbophyllum biflorum* Teijsm. & Binn. (sect. *Biflorae*) dan *Bulbophyllum apodum* Hook.f. (sect. *Stachysanthes*). Sampel diambil dari Kebun Raya Bali–BRIN dan Kebun Raya Bogor–BRIN. Metode yang digunakan yaitu pengamatan morfologi bunga dengan *dissecting microscope*, sayatan epidermis dengan metode *handsection*, anatomi daun dengan metode *non-embedding* dan anatomi bunga dengan metode *embedding*, serta uji histokimia untuk keberadaan amilum, protein, lipid, kalsium oksalat, dan lignin. Analisis data hasil penelitian dilakukan secara kualitatif dan deskriptif menggunakan gambar dan tabel perbandingan. Hasil penelitian menunjukkan bahwa morfologi bunga *B. biflorum* memiliki satu sepal dorsal berbentuk cekung ke dalam, dua sepal lateral yang menyatu, dua petal, satu labellum berujung menyempit, serta satu *gynostemium*, sedangkan *B. apodum* memiliki satu sepal dorsal berujung meruncing, dua sepal lateral dengan bagian pangkal melebar, dua petal, satu labellum dengan ujung tumpul membulat, serta satu *gynostemium*. Anatomi penampang melintang daun kedua jenis anggrek terdiri atas kutikula, epidermis atas dan bawah, mesofil, dan berkas pengangkut. Stomata hanya ditemukan di bagian epidermis bawah daun. Anatomi penampang melintang sepal, petal, labellum kedua jenis anggrek terdiri atas kutikula, epidermis atas dan bawah, parenkim dasar, dan berkas pengangkut, serta terdapat papila dan sel sekretori pada anggrek *B. apodum*. Substansi metabolit yang terdapat dalam daun kedua jenis anggrek yaitu amilum, protein, lipid, dan lignin, sedangkan pada sepal, petal, labellum kedua jenis anggrek terdapat tambahan kristal rafida pada parenkim dasar di dalam sel idioblas. Substansi penarik polinator terdapat pada bagian bunga anggrek (sepal, petal, terutama labellum) dengan sekresi amilum, protein, dan lipid dimungkinkan sebagai *pollination-reward*.

**Kata kunci :** anatomi, anggrek, histokimia, labellum, morfologi

**Morphology, Anatomy, and Histochemistry of Leaves and Flower Organs of  
the Orchid *Bulbophyllum biflorum* Teijsm. & Binn. (sect. *Biflorae*) and  
*Bulbophyllum apodum* Hook.f. (sect. *Stachysanthes*)**

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**ABSTRACT**

Orchids belong to the Orchidaceae family, one of the largest flowering plant families that has quite high variability. Each type of orchid has different morphology and anatomy so that their substances are also different. The morphology and anatomy of certain flowers results in the attraction of pollinators for flower pollination. Currently, there are not many studies on the morphology, anatomy and histochemistry of *Bulbophyllum* orchids from Indonesia. This research aims to identify the morphological structure, anatomy, and observe the presence of pollinator-attracting substances in the leaf and flower organs of the *Bulbophyllum biflorum* Teijsm orchid. & Binn. (sect. *Biflorae*) and *Bulbophyllum apodum* Hook.f. (sect. *Stachysanthes*). Samples were taken from the Bali Botanical Gardens–BRIN and the Bogor Botanical Gardens–BRIN. The methods used were observing flower morphology using a dissecting microscope, epidermal incision using the handsection method, leaf anatomy using the non-embedding method and flower anatomy using the embedding method, as well as histochemical tests for the presence of starch, protein, lipids, calcium oxalate and lignin. Analysis of research data was carried out qualitatively and descriptively using pictures and comparison tables. The results showed that the flower morphology of *B. biflorum* has one concave dorsal sepal, two fused lateral sepals, two petals, one labellum with a narrow tip, and one gynostemium, while *B. apodum* has one dorsal sepal with a tapered tip, two lateral sepals. with a wide base, two petals, a labellum with a rounded blunt tip, and a gynostemium. The cross-sectional anatomy of the leaves of both species of orchids consists of the cuticle, upper and lower epidermis, mesophyll, and transport bundles. Stomata are only found in the lower epidermis of the leaf. The cross-sectional anatomy of the sepals, petals, labellum of both species of orchids consists of the cuticle, upper and lower epidermis, basic parenchyma, and transport bundles, as well as papillae and secretory cells in the *B. apodum* orchid. The metabolite substances contained in the leaves of both species of orchids are starch, protein, lipids and lignin, while in the sepals, petals and labellum of both species of orchids there are additional raphide crystals in the basic parenchyma in the idioblast cells. Pollinator-attracting substances are found in orchid flower parts (sepals, petals, especially the labellum), with the secretion of starch, proteins, and lipids being possible as a pollination-reward.

**Keywords :** anatomy, histochemistry, labellum, morphology, orchid.