

**STRUKTUR ANATOMIS DAN PERKEMBANGAN UMBI TUMBUHAN
SARANG SEMUT (*Myrmecodia pendens* Merr. & Perry.) DI AREA
PEGUNUNGAN DISTRIK ILAGA KABUPATEN PUNCAK, PAPUA**

Oleh
Lydia Natalia Endewip
10/304412/BI/8549

INTISARI

Myrmecodia pendens Merr. & Perry., tumbuhan sarang semut yang banyak dijumpai di Papua dan dikenal sebagai minuman herbal, memiliki modifikasi batang yang unik yakni berupa umbi yang berongga. Maka dilakukan penelitian dengan tujuan mengetahui struktur anatomis dan perkembangan umbi batang *Myrmecodia pendens* Merr. & Perry. Ada 4 tahapan metode kerja yakni koleksi sampel, pembuatan preparat mikroskopi permanen, pengamatan dan koleksi data. Koleksi sampel umbi *Myrmecodia pendens* Merr. & Perry. diambil 5 fase berdasarkan diameter umbi, diperoleh dari area pegunungan di Distrik Ilaga Kabupaten Puncak, Papua. Pembuatan preparat menggunakan metode penyelubungan parafin. Pengamatan dilakukan dengan mikroskop cahaya (Nikon) dan pengambilan gambar menggunakan *opti lab*. Data yang diperoleh berupa data kualitatif komponen sel penyusun umbi *Myrmecodia pendens* Merr. & Perry., pola rongga, posisi letak kamar tiap rongga dan karakteristik permukaan rongga. Juga data kuantitatif berupa diameter umbi, lebar pembukaan rongga dan tebal lapisan kutil. Dari penelitian ini hasil yang diperoleh adalah diferensiasi umbi *Myrmecodia pendens* Merr. & Perry. beradaptasi terhadap kondisi pegunungan Papua (2830 mdpl), yakni kadar oksigen rendah, curah hujan tinggi dan intensitas cahaya matahari yang tinggi. Kelima fase umbi baru memperlihatkan perkembangan awal diferensiasi umbi yakni dengan pembentukan satu rongga awal. Diferensiasi parenkim di tepi luar batang *Myrmecodia pendens* Merr. & Perry. menjadi felogen dan mereduksinya parenkim menginisiasi pembentukan dan perkembangan rongga awal. Rongga bertahap terbentuk dari basal umbi dengan satu pembukaan, memanjang ke bagian pucuk dengan felem melapisi permukaan dalam rongga dan terdapat satu pori, selanjutnya muncul satu percabangan rongga (kamar) dengan kutil melapisi permukaan dalam rongga. Sel-sel penyusun umbi *Myrmecodia pendens* Merr. & Perry. dari luar ke dalam: felem (sel-sel gabus), felogen (kambium gabus), feloderm (sel-sel parenkim gabus), parenkim dan berkas pengangkut.

Kata kunci : Felogen, Rongga, Umbi *Myrmecodia pendens* Merr. & Perry.

**ANATOMICAL STRUCTURE AND DEVELOPMENT OF
ANT PLANT'S TUBER (*Myrmecodia pendens* Merr. & Perry.)
ON MOUNTAIN AREA IN ILAGA DISTRICT-PUNCAK COUNTY,
PAPUA**

By
Lydia Natalia Endewip
10/304412/BI/8549

ABSTRACT

Myrmecodia pendens Merr.& Perry., a species of ant-plants found in great quantities in Papua, is known as herbal drink, and has an unique stem modification as tuber with cavities. The aims of this study was to understand about anatomical structure and development of *Myrmecodia pendens*' stem-tuber. There were 4 stages of the method: sample collection, microscopy slides preparation, data observation and collection. *Myrmecodia pendens*' tuber were classified into 5 phases based on tuber's diameter. Tuber's samples were collected from mountain area in Ilaga District-Puncak County, Papua. Preparation of anatomical slides used paraffin embedding method. Slides observation used light microscope (Nikon). Image capture of permanent slides used opti lab. The data observed were the qualitative data such as cell components of tuber, pattern of cavity, chamber position on cavity and characteristic of cavity's surface; and also the quantitative data such as size of the tuber's diameters, size of the cavity's basal opening and size of the wart's layers. The results showed that differentiation of *Myrmecodia pendens*' tuber was adapted to mountain condition in Papua (2830 masl) with low level of oxygen, high precipitate of rain fall, and high radiation intensity. The fifth phases of tuber showed the early differentiation of tuber was one first cavity development. Parenchyma in outer-layer at *Myrmecodia pendens*' stem differentiated to be phellogen and parenchyma reduction, are become the initial of the form and the development of tuber's first cavity. The cavity was gradual formed from basal of tuber with an opening, become longer to shoot apical with phellem covered on the inner surface and with one small pore. The cavity developed to be a chamber with wart's layer on the surface. The cells of *Myrmecodia pendens*' tuber were arranged by phellem (cork's cells), phellogen (cork cambium), phelloderm (cork parenchyma), parenchyma and vascular bundle.

Key words : Phellogen, Cavity, *Myrmecodia pendens*' tuber.