

Characterization of Morphology, Anatomy, Secondary Metabolite Content and Molecular of Orchid *Rhynchosyilis Retusa* (L.) Blume

by Evy Yulianti, Ixora Sartika M, Ratnawati, Lili Sugiyarto, Djukri

ABSTRACT

This study aims to determine the morphological, anatomical, molecular and secondary metabolites of Orchid *Rhynchosyilis retusa* (L.) Blume grown in conventional way (adult plant) and in vitro culture. The morphological characteristics observed were root, stem and leaf, both qualitative (color) and quantitative (number, size) characters. The anatomical characters observed in the form of root morphometry are the number of epidermal cell layers, velamen, velamen thickness, inside velamen thickness, epidermal size, cortex and endodermis. Leaf morphometry is the thickness of the upper and lower epidermis, the cuticle, number of epidermal cells. The secondary metabolites seen are terpenoids, flavonoids, tannins, coumarins, steroids, and alkaloids. Molecular characters were observed using RAPD method using several primers ie OPU 3, OPU 16, OPA 12 and OPA 16. The results showed on morphological observations, anatomy and secondary metabolites of orchids *Rhynchosyilis retusa* (L.) Blume grown in vitro from seeds showed different characters. So it is with adult orchids. The results of molecular analysis of orchids *Rhynchosyilis retusa* (L.) Blume grown in vitro showed polymorphism using OPU 16 primer, whereas with OPU 3 primers, OPA 12 and OPA 16 did not show any polymorphism. The results of molecular analysis of orchids *Rhynchosyilis retusa* (L.) Blume adult does not indicate the presence of polymorphism by using primer OPU 16.

Kata Kunci: *Rhynchosyilis retusa* (L.) Blume, morphology, anatomy, secondary metabolite, molecular