



**ANGIOGENIC ACTIVITIES OF *Dieffenbachia seguine* (DUMB CANE)  
CRUDE EXTRACTS ON THE CHORIOALLANTOIC  
MEMBRANE OF A 10-DAY OLD DUCK EMBRYO**

A Research Presented to the  
Biological Sciences Department  
College of Science and Computer Studies  
De La Salle University-Dasmariñas  
City of Dasmariñas, Cavite

In Partial Fulfilment of the Requirements for the Degree  
Bachelor of Science in Biology Major in Human Biology

**HERNANDEZ, MEG NICOLE L.**

**ARASULA, LEONEL D.**

July 2017



### ABSTRACT

This study focused on the observation of the collateral blood vessels present in the chorioallantoic membrane (CAM) of a 10-day old duck embryo for angiogenic influences after the administration of different crude extract concentrations of *Dieffenbachia seguine*. Seven (7) treatments were utilized as follows: T<sub>0</sub> being the control group with no administration of any crude extracts, T<sub>1</sub> administered with 50% leaf extract, T<sub>2</sub> with 70% leaf extract, T<sub>3</sub> with 50% stem extract, T<sub>4</sub> with 70% stem extract, T<sub>5</sub> with combined 50% stem extract and 50% leaf extract, and T<sub>6</sub> with combined 70% stem extract and 70% leaf extract. Six (6) duck eggs were used for each of the treatment, thus having a total of forty-two (42) 10-day old duck eggs. The treatments with an increased number of collateral vessels were observed in treatments 3, 4, and 5, thus considered to possess pro-angiogenic properties. On the other hand, only one (1) treatment, Treatment 2, demonstrated anti-angiogenic properties to the fertilized egg. Two (2) treatments showed no influence on the angiogenic activity on the CAM of the 10-day old duck embryo, Treatments 1 and 6. By post-hoc analysis using Tukey's test, treatments 2, 3, 4, and 5 rendered a significant difference ( $p < 0.05$ ) compared to the control group (T<sub>0</sub>), demonstrating promotion of angiogenesis for treatments 3, 4, and 5, and inhibition of the said activity for treatment 2.

*Keywords: Dieffenbachia seguine, angiogenesis, collateral blood vessels, chorioallantoic membrane*