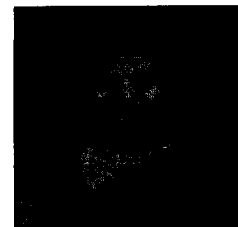


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## EFFECT OF AQUEOUS SOLUBLE PROANTHOCYANIDINS FROM *COCOS NUCIFERA* L. INFLORESCENCE ON PROGESTERONE AND OESTROGEN LEVELS IN FEMALE RATS

C. Padumadasa<sup>\*1</sup>, D. Dharmadana<sup>1</sup>, A.M. Abeysekera<sup>1</sup>, M.G. Thammitiyagodage<sup>2</sup>

<sup>1</sup>Department of Chemistry, Faculty of Applied Sciences, University of Sri Jayewardenepura, Gangodawila, Nugegoda, Sri Lanka.

<sup>2</sup>Animal Centre, Medical Research Institute, Colombo 8, Sri Lanka.

### ABSTRACT

The immature inflorescence of *Cocos nucifera* L. variety aurantiaca is used by Ayurvedic and traditional medical practitioners for the treatment of menorrhagia in Sri Lanka. We have previously reported the effect of ethyl acetate soluble proanthocyanidins (EASPA) of the inflorescence of *Cocos nucifera* L. on reproductive hormone levels of female rats in relation to its ethno medical usage. AQSPA obtained from immature *Cocos nucifera* L. (var. aurantiaca) inflorescence was evaluated for its effect on the reproductive hormonal levels of female rats. AQSPA (2.8 mg/day) dissolved in water was administered orally to female rats for 28 consecutive days. At the end of the study period, oestrogen and progesterone levels were measured and compared with the control group (water). Statistical analysis was performed with one-way ANOVA, followed by student T test using Minitab 17.0 software. The length of the reproductive cycle was  $4.89 \pm 0.21$  days and  $4.37 \pm 0.16$  days for the control and test group rats, respectively. No significant changes were noticed in the length of the cycle nor were there any difference in vaginal cytology in test and control group rats. There were no significant difference in both estrogen and progesterone levels between control and test group animals. This may be as a result of low bioavailability of AQSPA due to its high molecular weight profile. In addition, this may also be due to an inadequacy of the dose or time duration that AQSPA was administered.

### KEY WORDS

*Cocos nucifera* inflorescence, Menorrhagia, Proanthocyanidins and Progesterone.

### Author for Correspondence:

Chayanika Padumadasa,  
Department of Chemistry,  
Faculty of Applied Sciences, University of Sri  
Jayewardenepura, Gangodawila,  
Nugegoda 10250, Sri Lanka.

Email: [chayanikapadumadasa@yahoo.com](mailto:chayanikapadumadasa@yahoo.com)

### INTRODUCTION

Proanthocyanidins are secondary metabolites that belong to a class of polyphenolic compounds called flavonoids. The occurrence of proanthocyanidins in nature is extremely diverse. That is they exist as dimers, trimers, higher oligomers or polymers consisting of flavan-3-ol units. The most common flavan-3-ol units are (+)-catechin, (-)-epicatechin, (+)-gallocatechin and (-)-epigallocatechin<sup>1</sup> (Figure