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Quantification of flavonoid content in *Ziziphus oenoplia* (L.) Miller (“Eraminiya”) whole fruit and seed grown in the wet zone of Sri Lanka

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Ziziphus oenoplia (L.) Miller, commonly known as “Eraminiya” in Sinhala is a fruit-bearing plant predominant in Sri Lanka’s Wet zone. It has many medicinal values for removing toxins from the human body. Flavonoids are secondary metabolites that are associated with a variety of health benefits including antioxidant and anti-inflammatory activities. Flavonoid content in the fruits and seeds of *Ziziphus oenoplia* (L.) Miller is undiscovered, and this study was conducted to quantify the flavonoid content in whole fruit and seed found in Sri Lanka’s Wet zone. The colorimetric method was used for the determination process. Yellow-green and black fruits at the four-month post-flowering stage were collected, covering each district of the wet zone. Nearly 150 g of fruits were taken from each district to get a representative sample of 1 kg. The seeds were separated from the fruits. Macerated samples were kept at room temperature in 80% methanol for 24 hours and the extract was filtered (Whatman No1.). 5% NaNO₂ solution was added and allowed for 5 minutes. 10% AlCl₃ solution was introduced, and after 6 minutes, 1 M NaOH solution was combined. It was diluted with 4 mL of distilled water and measured its absorbance at 510 nm wavelength against a reagent blank. The results were expressed in milligrams of catechin equivalent (CE) per 100 g of fresh weight (mg CE/100 g fw) of the sample. According to the comparative and statistical analysis, the *Ziziphus oenoplia* (L.) Miller fruit contained 229.723 ± 0.037 mg CE/100 g fw. The seed contained 153.301 ± 11.301 mg CE/100 g fw. It showed a significant difference between the flavonoid content of fruit, and seed (p < 0.05). These findings can be utilized to increase these of *Ziziphus oenoplia* (L.) Miller fruits and seeds, as well as to produce numerous Ayurvedic medicinal preparations. This supports further research into the antioxidant capabilities of *Ziziphus oenoplia* (L.) Miller. This study highlights the need of examining multiple plant sections when assessing flavonoid content.

Keywords: Antioxidants, Colorimetric method, Flavonoid content, Wet zone, *Ziziphus oenoplia* (L.) Miller

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