Black Flower Coloration in Wild *Lisianthius nigrescens*: Its Chemistry and Ecological Consequences

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The major pigments responsible for the flower color within the black flowered Gentianaceae, *Lisianthius nigrescens,* were characterized by HPLC and chemical analyses. HPLC analysis showed one major and one minor anthocyanin and 3 major and 3 minor flavone glycosides. The anthocyanins [delphinidin-3-*O*-rhamnol(1-6)galactoside and its 5-*O*-glucoside] comprised an extraordinary 24% of the dry weight of wild collected *L. nigrescens* corallas, and were accompanied in a 1:1 ratio by a range of apigenin and luteolin 8-*C*-glucosides and their 7-*O*-methyl ethers. The high levels of anthocyanins and flavones (and their co-pigmentation) is thought to account for the almost complete absorption of both UV and visible wavebands observed by reflectance photography.

Key words: Anthocyanins, *Lisianthius nigrescens*, Spectral Reflectance Analysis