

**ANTIBACTERIAL AND ANTIOXIDANT POTENTIAL OF BRITTLE STAR
COLLECTED FROM BARANGAY DIGUISIT, BALER, AURORA**

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ABSTRACT

MEDEL, NAJA FRANCESCA S., Department of Biological Sciences, College of Arts and Sciences, Central Luzon State University, Science City of Munoz, Nueva Ecija, Philippines, **JUNE 2019, COLLECTION, IDENTIFICATION, ANTIBACTERIAL AND ANTIOXIDANT ACTIVITIES OF BRITTLE STAR COLLECTED FROM BARANGAY DIGUISIT, BALER, AURORA**

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This study evaluated the antibacterial and antioxidant potential of brittle stars methanol extract. Three species of brittle star collected along the intertidal zone of Diguisit, Baler Aurora were identified based on morphological approach using diagnostic keys. The species were identified as follows: *Breviturma dentata*, *Breviturma brevipes* and *Ophiocoma aethiops*. The antibacterial potential was evaluated using the paper disc method and zone of inhibition was measured against *E. coli* and *S. aureus*. *B. brevipes* recorded the highest diameter zone of inhibition against *E. coli* and *S. aureus* after 48 hours of incubation with $16.17 \pm 0.42\text{mm}$ and $13.85 \pm 5.55\text{mm}$ respectively. *O. aethiops* only inhibited *S. aureus* with zone of inhibition of $7.10 \pm 0.18\text{mm}$ in 48 hours and no antibacterial potential against *E. coli*, while *B. dentata* did not show inhibitory effect at all. Antioxidant property of brittle stars were evaluated using DPPH radical scavenging assay. *O. aethiops* got the highest radical scavenging activity with 35.71% among the three species of brittle stars. This was followed by *B. dentata* and *B. brevipes* having the same radical scavenging activity of 32.65%. Based on the results, the collected species of brittle stars has antibacterial and antioxidant potential.

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