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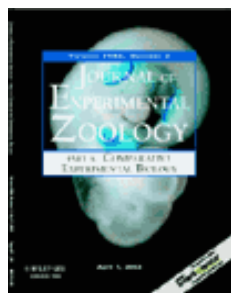



Fecal corticosterone assessment in the epaulette shark, *Hemiscyllium ocellatum*.

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The present study examined the feasibility of measuring the steroid hormone corticosterone in fecal extracts of epaulette sharks, *Hemiscyllium ocellatum*. Six immature, captive-raised epaulette sharks (four females and two males) were obtained from two different zoos and were maintained in a closed-system, 530-liter aquarium. After a one-month adaptation, fecal samples were collected daily from each animal for 33 days. Five-day sets of samples were pooled within animals to insure sufficient material for analysis. Fecal hormone extraction was achieved using repeated cycles of dichloromethane and aqueous washes. The levels of corticosterone were measured by reverse-phase high-performance liquid chromatography (HPLC). Corticosterone presence in HPLC eluent peaks from fecal extracts was determined by comparison of the elution pattern of corticosterone standard with the elution patterns of fecal extracts with and without the addition of tritiated corticosterone or exogenous, unlabeled corticosterone. Exclusive presence of corticosterone in HPLC eluent peaks presumed to be corticosterone was determined by nuclear magnetic resonance mass spectrometry. Corticosterone levels, calculated from a 10-point standard curve, ranged from 1.2 to 20.9 ng/g feces across all sharks, with 92.3% of values being ≤ 13.5 ng/g. Within individuals, the lowest average for corticosterone levels across 33 days was 2.6 ± 0.4 ng/g feces, and the highest average was 8.4 ± 2.2 ng/g feces. This study demonstrated that corticosterone was extractable from and reliably measurable in fecal extracts of epaulette sharks. This is the first evidence of this hormone in epaulette sharks and the first report of fecal corticosterone in elasmobranchs. Copyright 2003 Wiley-Liss, Inc.


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Fecal Corticosterone Assessment in the Epaulette Shark, *Hemiscyllium ocellatum*

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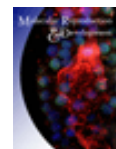
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