

**SPECIES-SPECIFIC VULNERABILITY OF CAPTURE STRESS IN ENDEMIC
AND/OR THREATENED WITH EXTINCTION CONGENER SPECIES**

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Management measures proposed to reduce bycatch impacts, such as compensatory release, are promising tools for elasmobranch conservation. However, the stress of capture and handling may reduce the efficiency of these practices. On the coast of Paraná, incidental capture by artisanal fleet has great impact on local populations. An aggravating fact is the occurrence of endangered and/or endemic species in the region. Still, congeneric species with different conservation status are regularly caught, posing an extra challenge for conservation, since differences in stress responses may occur among congeners species. In that way, this study aimed to determine the physiological responses on the congeners *Rhinoptera bonasus*/*R. brasiliensis* and *Pseudobatos percellens*/*P. horkelii*. Sampling was performed in the municipality of Matinhos. The stress markers analyzed in plasma were urea, phosphorus, lactate, chloride and pH. For *Rhinoptera* spp., only *post-mortem* samples were analyzed. *R. brasiliensis* presented higher concentrations of phosphorus and lower concentrations of chloride compared to *R. bonasus*, but none of the analyzed parameters showed a significant difference, indicating that both respond to lethal stress similarly. For *Pseudobatos* spp. dead and live animals were analyzed. For dead animals of *P. horkelii*, higher plasma phosphorus concentrations were detected when compared to *P. percellens*. Among live *Pseudobatos* spp., no significant differences were found. *P. horkelii* showed higher concentrations of urea, chloride and lactate, while *P. percellens* showed greater variation in phosphorus, lactate and pH values, indicating greater tolerance and survival. When compared live and dead animals, *P. percellens* showed significantly higher lactate concentrations in dead animals. However, *P. horkelii* showed higher values in dead animals for phosphorus. These data indicate that there is specificity of stress responses, *P. horkelii* showed higher sensitivity than *P. percellens*, and this should be further considered in management plans, e.g. when fished by bycatch, *P. horkelii* must be released immediately, to avoid serious physiological damage that could lead to irreversible loss of homeostatic balance.

Keywords: Bycatch; Endemism; Endangered species; Capture Stress.