

Predator recognition during nest defence by Arctic tern (*Sterna paradisaea*)



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- Arctic tern vigorously defends its nest against many intruders including human, fox and even polar bear.
- Nest defence includes physical attacks and may last for a long time which is very energy-consuming.
- Arctic terns should consider which intruders are really dangerous.



Hypothesis

Arctic terns attack only predators from which only nest predators and only familiar predators.

Methods

Dummies set 2 m away from the solitary nest on Svalbard archipelago, Longyearbyen

Dummies

- common eider (*Somateria mollissima*) – common, harmless to nest, may eventually scrunch the eggs
- great black-backed gull (*Larus marinus*) – common nest predator
- peregrine falcon (*Falco peregrinus*) – not occurring in Svalbard, predator of adults
- common raven (*Corvus corax*) – not occurring in Svalbard, nest predator
- human (*Homo sapiens*) – common, frequently disturbs nests, occasionally destroys nests

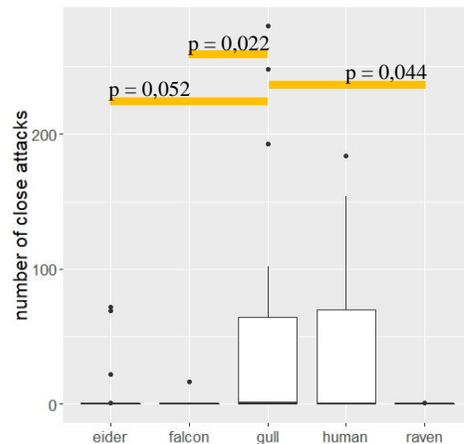


Fig. 1: The effect of the presented dummy on the number of attacks within 30 cm from the dummy with significant posthoc (Tukey HSD). LMM, Chi = 15.052; DF = 4; p = 0.005.

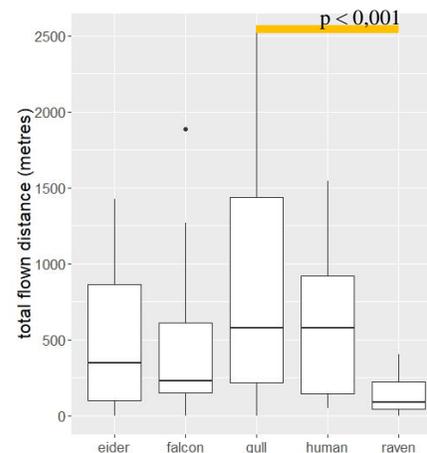


Fig. 2: The effect of the presented dummy on the total flown distance (m) with significant posthoc (Tukey HSD). LMM, Chi = 16.446; DF = 4; p = 0.002

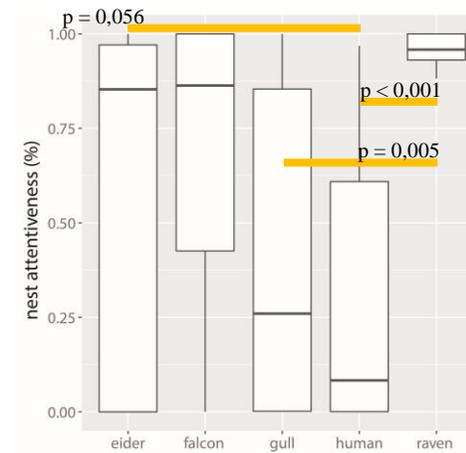


Fig. 3: The effect of the presented dummy on the percentage of the time, each nest was occupied (%) with significant posthoc (Tukey HSD). LMM, Chi = 17.139; DF = 4; p = 0.002.

Conclusions

Gull and human is commonly attacked, even physically **VS.** eider and falcon are perceived as potentially threatening, terns guard nest **VS.** raven is perceived completely harmless; terns incubate all nests during the entire experiment.

→ Arctic tern recognizes particular predators and adjusts its nest defence behaviour to the threat they represent. Svalbard population of Arctic terns seems not to recognize raven as a nest predator, due to long isolation and thus no experience with it.

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