

## **Penguin-borne video loggers emphasize the ecosystem role of jellyfish across southern oceans**

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Jellyfish and other pelagic gelatinous organisms (“jellies”) are receiving increased attention because ongoing environmental perturbations cause these animals to rapidly bloom, with severe ecological and socio-economic consequences. However, their significance as providing matter and energy to the upper trophic levels in the oceans remains extremely difficult to quantify because of methodological challenges to determining predation on jellies. Miniaturized animal-borne video data loggers now enable feeding events to be monitored from a predator’s perspective. We gathered a substantial video dataset from four species of non-jelly-specialist predators (penguins), across regions of the southern oceans (i.e. south of 30°S). We found nearly 200 cases of attacks on jellies by all four species, at all localities. Our findings emphasize that jellies may actually represent a widespread, but currently under-represented trophic link across southern oceans, even for energy-demanding endothermic predators. We explore several hypotheses that may help explaining the benefits of such interactions for the penguins, and put these in perspective of marine ecosystem processes.