Insights into the foraging Ecology of Azores Cetaceans: results from the MISTIC SEAS III project

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The Azores archipelago is located at the North Atlantic ridge within the Macaronesia region, and area of high biodiversity, including various cetacean species. Up to date dietary information is scarce and focused on two species: sperm whale and Sowerby's beaked whale [1,2].

We present the most comprehensive cetacean diet study for this region to date based on stomachs collected during 1996-2021 from three pelagic dolphins (common, striped, and Atlantic spotted dolphin) and four deep divers (pygmy sperm, sperm, Blainville's beaked, and Cuvier's beaked whales)

Samples

27 cetaceans from (at least) seven species

9 *Delphinus delphis* (Dd)
7 *Stenella coeruleoalba* (Sc)
1 *Stenella frontalis* (Sf)
4 *Kogia breviceps* (Kb)
1 *Physeter macrocephalus* (Pm)
1 *Mesoplodon densirostris* (Md)
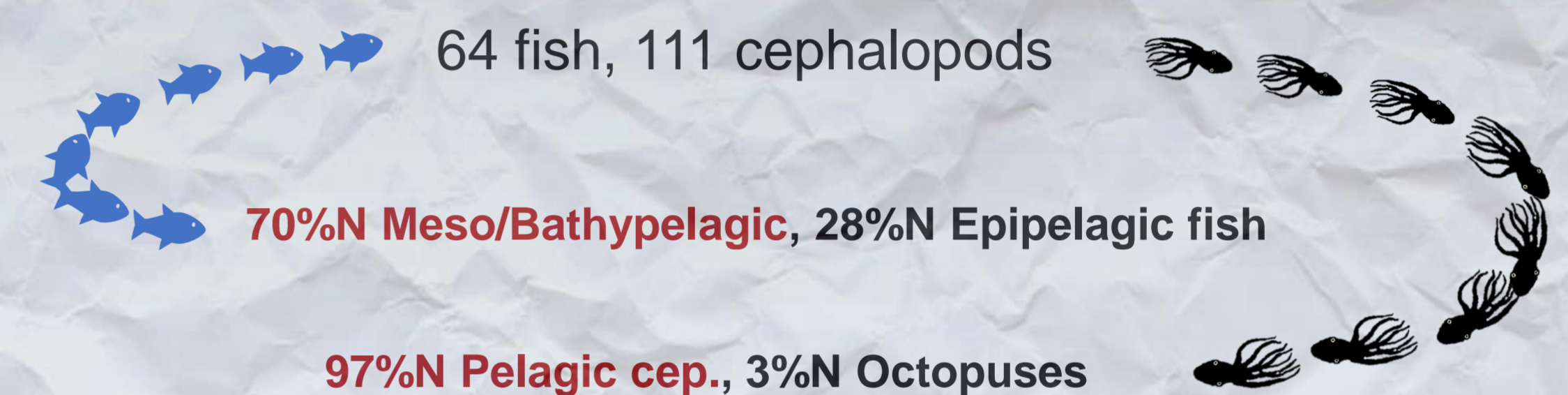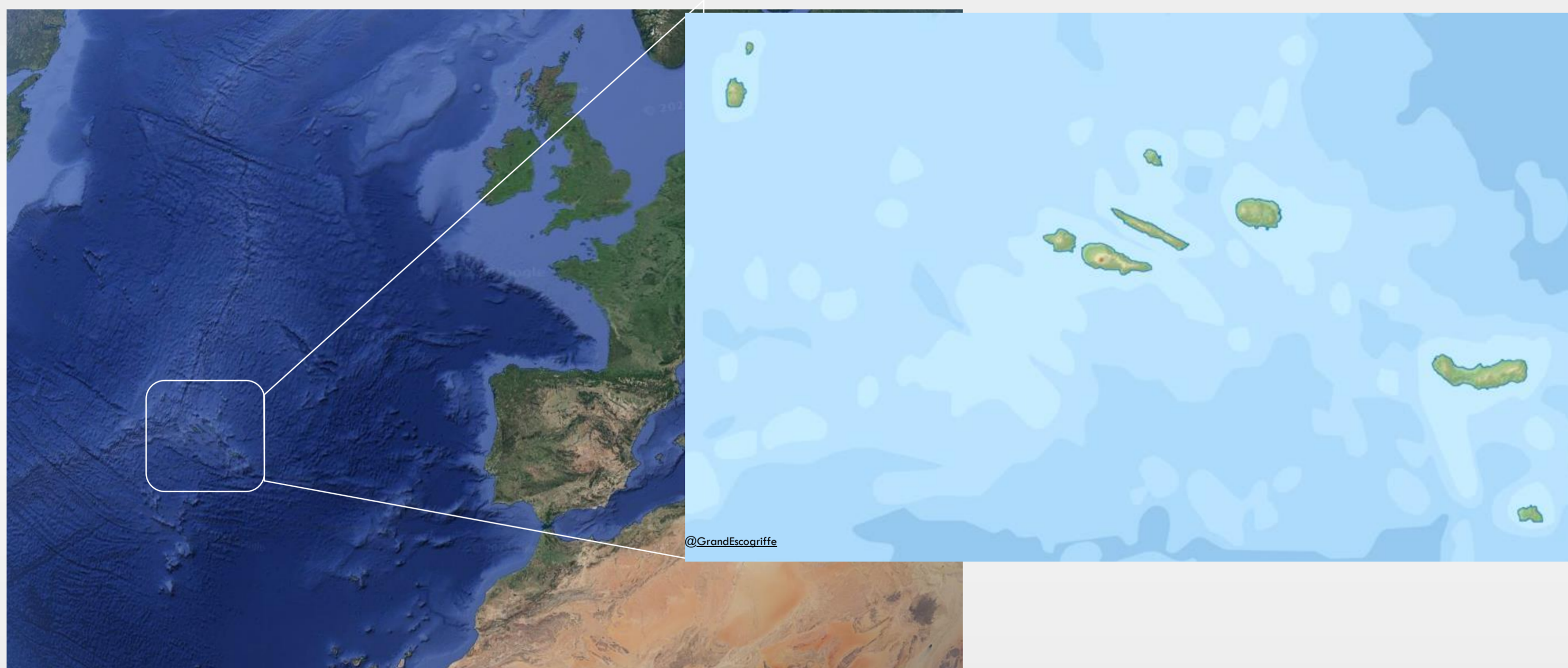3 *Ziphius cavirostris* (Zc)
1 Ziphiidae

Prey

64 fish, 111 cephalopods

70%N Meso/Bathypelagic, 28%N Epipelagic fish

97%N Pelagic cep., 3%N Octopuses

Table 1. Percentage by number of different prey categories in stomach contents of cetaceans from the Azores

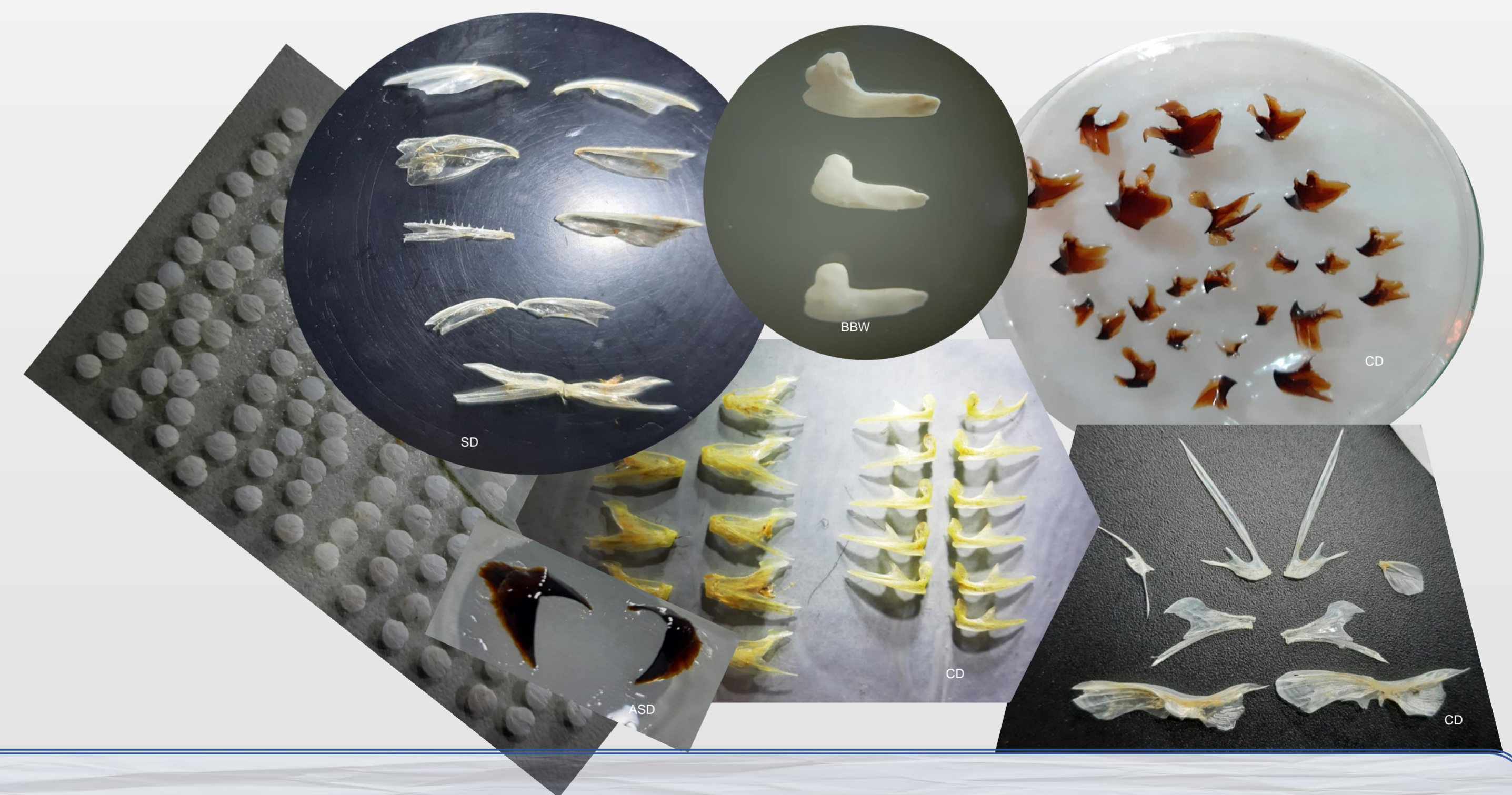| Species	Benthic fish	Pelagic fish	Mesopelagic fish	Benthic cephalopod	Pelagic cephalopod	Crustacean	Number of prey
Dd		13.6	31.8		50.0	4.6	44
Sc		11.8	32.4	2.9	52.9		34
Sf	3.6	25.0	50.0	3.6	17.9		28
Kb			10.8	2.7	86.5		37
Pm					100.0		1
Md		33.3	66.7				3
Zc					100.0		29
Ziphiidae					100.0		1

Diet preferences (χ²)

Zc, Pm and Kb prefer cephalopods (P<0.005)

Sf and Md prefer fish (mainly deep sea fish) (P<0.005)

Conclusions

Azores cetaceans feed mainly on deep-sea fish and cephalopods. These species presented a similar dietary pattern as in in other Atlantic regions. These local data are relevant for the construction of food-web models in Macaronesia to obtain reliable indicators for the MSFD.

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