Recent changes in the population structure of the mackerel icefish (*Champsocephalus gunnari*) reveal the potential for alternative dynamic states for a species with strong life history plasticity

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The mackerel icefish (*Champsocephalus gunnari*) is one of the most common fish on the shelves around the islands in the subantarctic. It shows a high level of variability in life history characteristics, with populations separated by relatively small distances showing distinct growth rates and reproductive patterns. One striking feature of the population dynamics of this species in the Indian Ocean is a pattern of single, abundant year classes dominating the population, persisting for c. 4 years before disappearing and being replaced by another abundant cohort. This results in dramatic changes in the biomass of these populations, causing challenges for predators and ecosystem-based fisheries management in the region. However, annual surveys around Heard Island and the McDonald Islands revealed that this pattern broke down between 2010 and 2013, with up to 5 moderately abundant year classes present simultaneously. Hypotheses as to how these alternative population dynamics may arise and persist, including the influence of competition between cohorts, reproductive costs and variability in local environmental conditions on this population of icefish will be discussed.