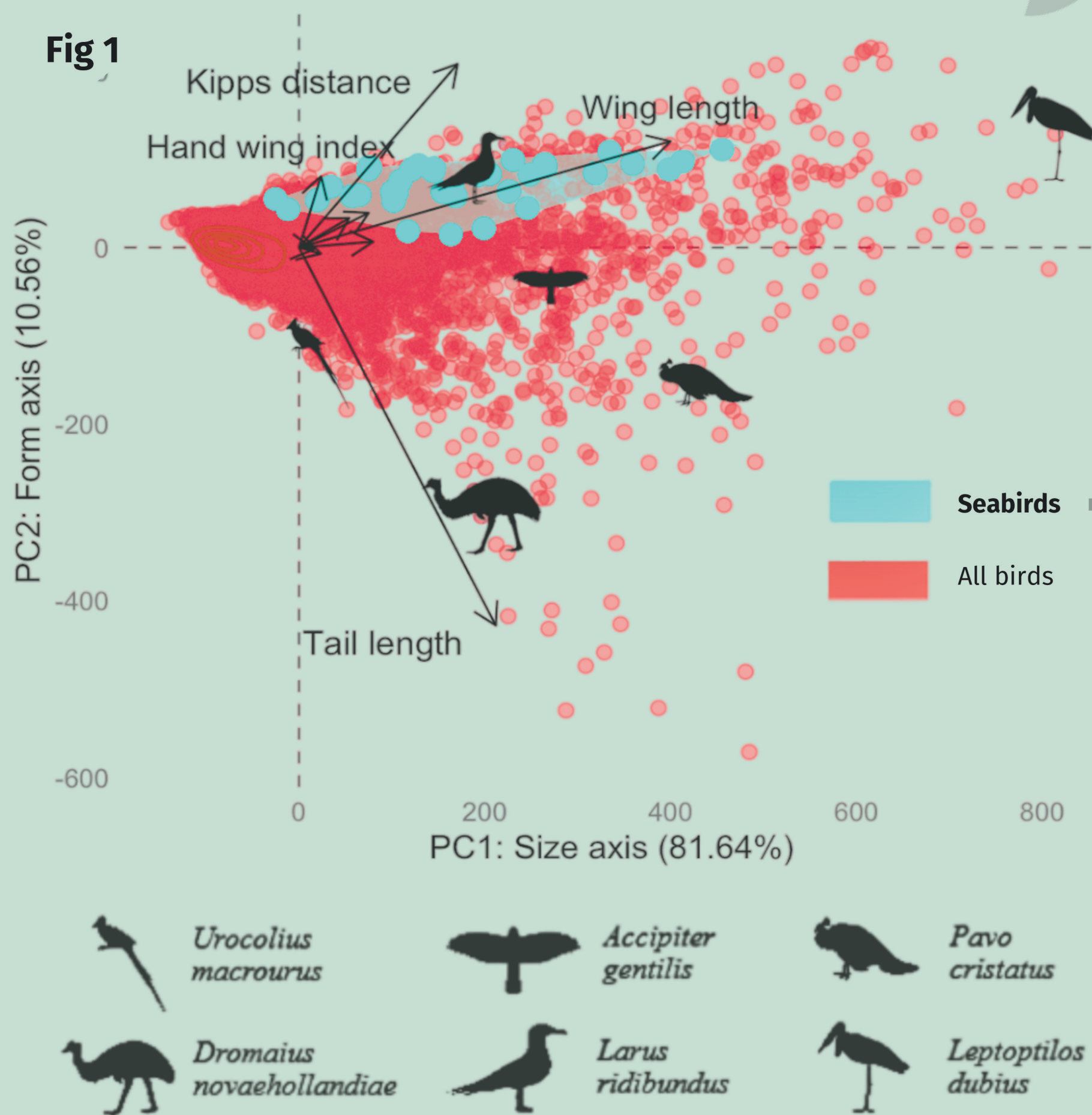


NORTH ATLANTIC SEABIRDS

MORPHOLOGY OF LIFE HISTORY TRAITS

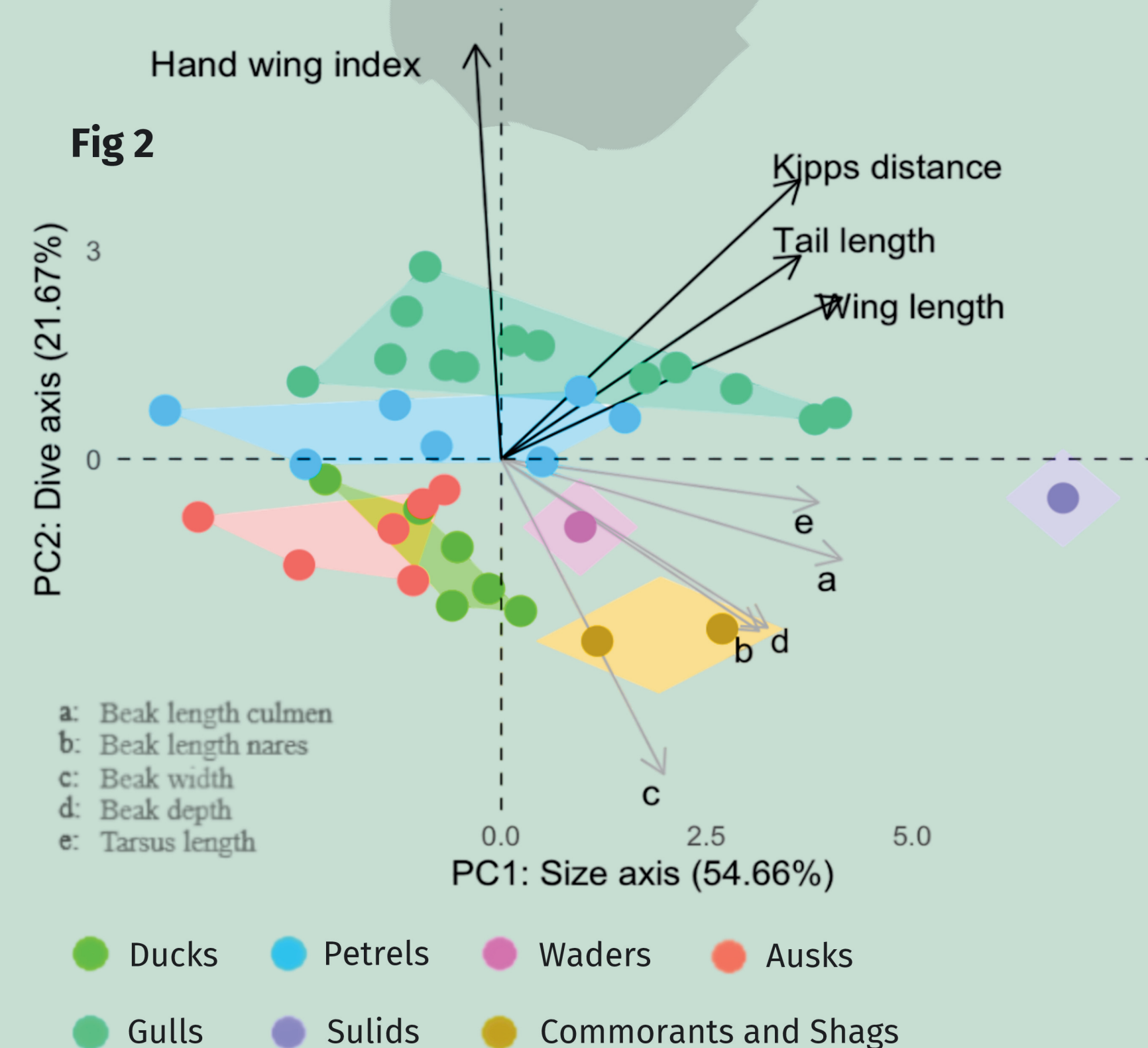


Nina Srebro, Linnea Thomassen, August Wennberg, Viljar Storvik and Eirik Skogstad



Trait space
Mapping bird morphology (fig. 1) using principal component analysis, we can see how seabirds differ in terms of morphology from the rest of the avian taxa.

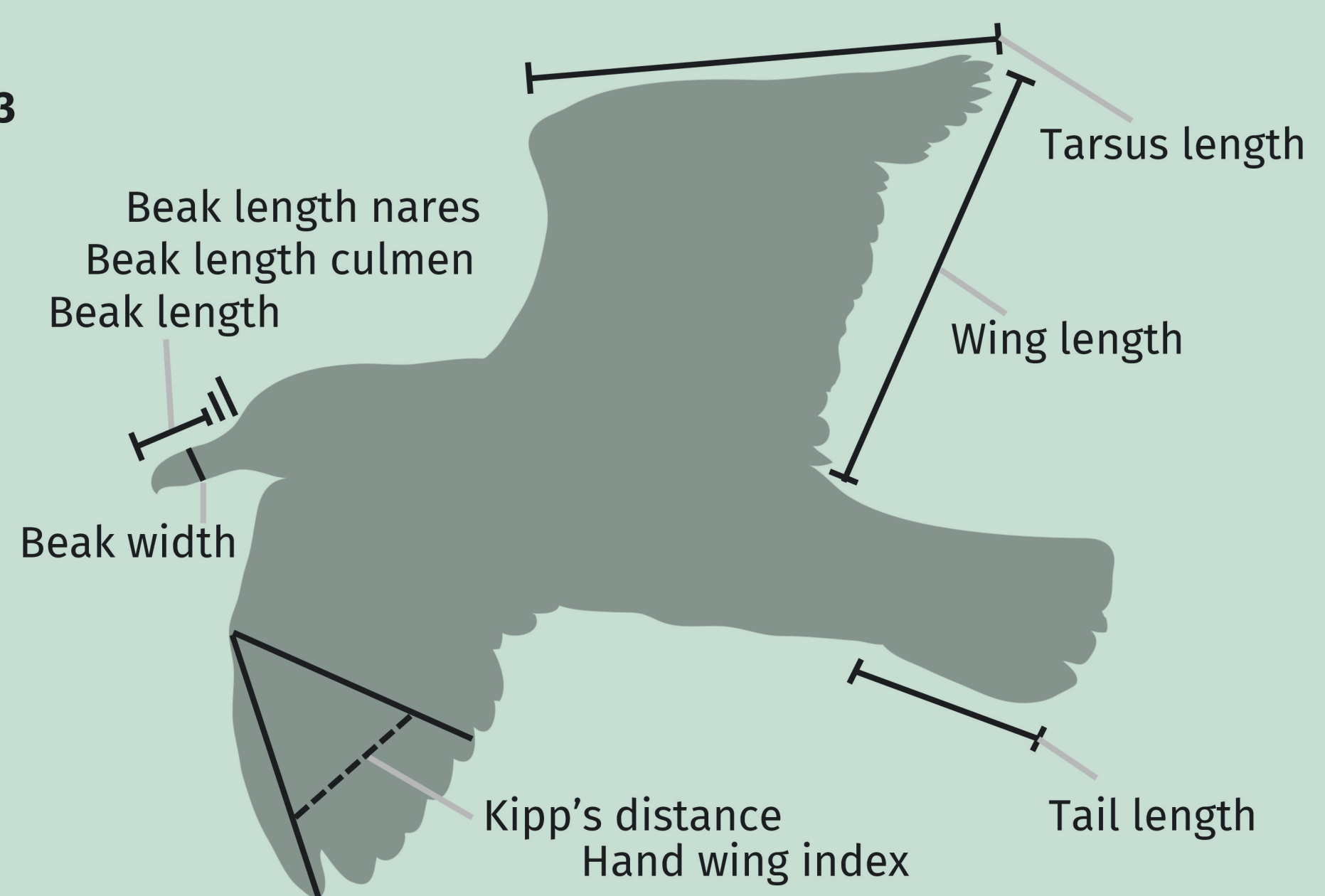
Running a PCA on the selected north Atlantic seabirds (fig. 2) reveals the main components of variation, namely size and hand wing index; dive type. Independent PC analysis based on AVONET samples.



How morphology links to ecological traits

There is missing trait based research on north Atlantic seabirds in the literature, and exploring and visualising the relation between ecological traits and morphology has had little coverage. In the last couple of years, seabird populations have shown an alarming negative trend. In our research we analyse correlations between the PC results, which uses the morphological measurements shown in Fig. 3, together with our own dataset of ecological traits containing endangerment status across four geographical locations, feeding habits, flight mode, taxonomical family and more.

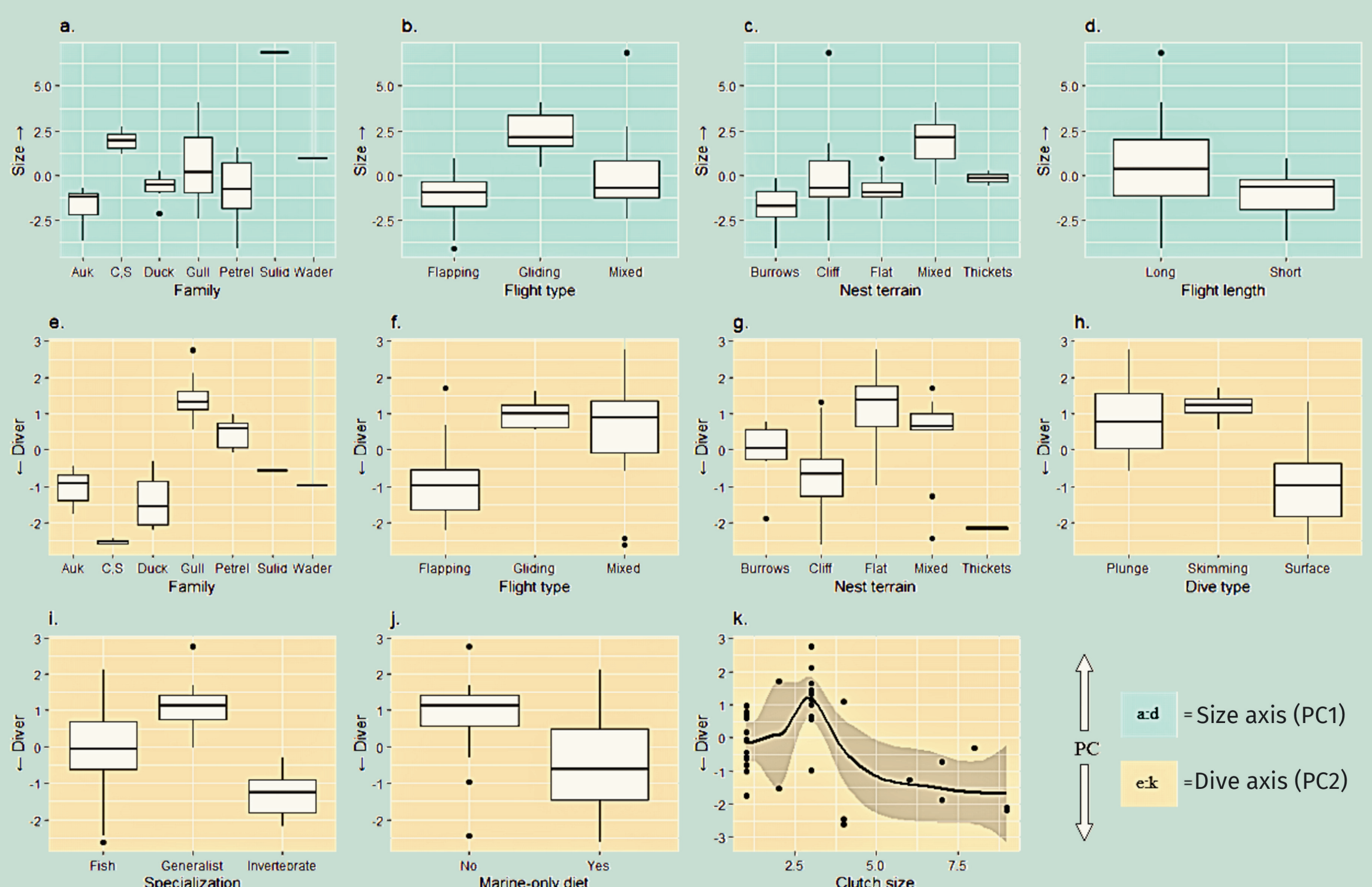
Fig 3



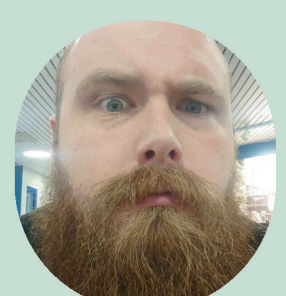
Multiple correlations identified!

Morphological traits does in fact explain many ecological traits and can even reveal evolutionary trade-offs in north Atlantic seabirds. Of these correlations, statistically significant results are expanded upon through boxplots (Fig. 4) Size seems to explain a large proportion of variation in both global and seabird trait space, but seabirds differ in their secondary component, where hand-wing index is the leading factor.

Fig 4



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V. S.



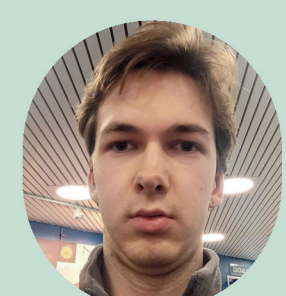
N. S.



L. T.



A. W.



E. S.