

## **SEX DETERMINATION OF CORY'S SHEAWATERS OFFSPRINGS ON THE STROFADES ISLANDS COLONY (IONIAN SEA, GREECE): A COMBINED MOLECULAR AND MORPHOMETRIC APPROACH**

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Information about an individual's sex is important in avian ecology and conservation. In birds, the absence of juvenile sexual dimorphism often impedes sex determination using external morphology. Moreover, since there is not a universally applicable technique for sex identification a species-specific examination using different approaches is necessary. We examined sex ratio variation in 135 Cory's Shearwaters (*Calonectris diomedea diomedea*) fledglings from the Strofades colony (Southern Ionian Sea) between 2007 and 2011. A PCR based methodology using blood samples was followed for the identification of sex. The molecular technique revealed a slightly male-biased sex ratio (52.8%) during the five consecutive breeding seasons. The significance of this finding is discussed considering random variation and ecological correlates in sub-colonies within the colony. In addition, we performed a discriminant analysis for predicting sex to fledglings by using a set of five morphometric variables (bill length, bill depth, nalopsi, head-bill length, tarsus length) and body weight. The results showed that males were significantly larger than females for all the tested variables. The combined use of those variables correctly classified 97.1% of known-sex fledglings. Moreover, the canonical discriminant analysis pointed out that bill-head length was the most discriminating variable between the sexes, followed by tarsus length, bill length, bill depth, weight and nalopsi. Therefore, bill-head length is a sufficient sex-determination measurement. As a consequence, the collection of more body measurements for a slight improvement of sex prediction is not encouraged since this will increase the

disturbance of fledglings and may have negative effects on the breeding performance.