

FEATURE ARTICLES

AN EXPERIMENTAL FIELD STUDY OF THE FUNCTION OF CRESTED AUKLET FEATHER ODOR

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Abstract. During the breeding season, female and male Crested Auklets (*Aethia cristatella*; Alcidae) emit a pungent citruslike odor from their plumage. Previous experiments showed that captive birds oriented toward sources of the natural odor and toward isolates of its major constituents, cis-4 decenal and octanal, and avoided a noxious odor. In a blind experiment we manipulated odor on 12 life-sized, realistic Crested Auklet models (6 males, 6 females) to test for a social or sexual preference for the odor isolates in a natural setting. Based on the quantified behavior of 555 males and 280 females that approached the models at a breeding colony, we found no evidence for a sexual preference for models with added odor. Female auklets that approached male models with artificially added odor were no more likely to perform sexual displays than females that approached control models with less odor. Fewer males approached female models but the effect was the same: males that approached female models with artificially added odor were no more likely to perform sexual displays. However, males approached scented male models more closely and for longer duration than they approached control male models, and females approached scented male models more closely. Our findings confirm previous experiments with captive birds and further suggest that Crested Auklets' plumage odor serves at least a general social function.

Key words: *Aethia cristatella*, *Alcidae*, *Crested Auklet*, *chemical communication*, *plumage odor*, *sexual selection*, *social signal*.