Nest clustering is linked to timing of breeding but is not associated with female genetic relatedness in red-breasted mergansers (*Mergus serrrator*)

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Fine-scale spatial and temporal genetic structuring of nests is possible in colonial birds who return to breed at their natal sites, and notably in waterfowl (Anatidae). We investigated if such structuring exists in a breeding colony of red-breasted mergansers (*Mergus serrator*) located on a coastal archipelago in Kouchibouguac National Park, New Brunswick, on which nests are concealed in stands of upland vegetation. To assess whether related hens i) nest in proximity to each other and ii) initiate their nests around the same time, we genotyped 21 of 24 (88%) hens known to incubate a nest at the site in 2015 and calculated pairwise kinship coefficients from 4270-nucleotide polymorphisms. We found no evidence for spatial or temporal genetic structure on each island or across islands. Still, two pairs of females had first-degree relationships (i.e., siblings or mother-daughter) and one pair had a second-degree relationship, suggesting that at least some females exhibit natal philopatry to the islands. Nesting was relatively synchronous between hens nesting close together, and this association was strongest on the island where the earliest nests were established. Red-breasted mergansers initiating their nests at the same time may select nearby nest sites based on the availability of dense vegetation to conceal their nests, limiting opportunities for kin to nest near one another in this species.

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