Coping with salt without salt glands: Osmoregulatory plasticity in three species of coastal songbirds (ovenbirds) of the genus Cinclodes (Passeriformes: Furnariidae)

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We investigated the phenotypic plasticity of renal function in three South American coastal passerine Cinclodes (ovenbirds) differing in the proportion of marine prey they consume. Individuals were acclimated to two regimes of salinity for 15 days, and then the maximal urine-concentrating ability (U max), hematological parameters and kidney morphology of each specieswere determined. The proportion of kidney mass occu pied by medullary tissue, the number of medullary cones in the kidneys, plasma osmolality and Umax differed among the three species, supporting the hypothesis of an adaptation for excretion of the high salt load in the strictly marine C. nigrofumosus. Our results indicate that species of Cinclodes are able to modify the proportion of medullary tissue and the Umax. In addition, we found interspecific differences in the magnitude to which these osmoregulatory parameters can be modified. The greater ability to modify the osmoregulatory features in the migrant species C. ousta