

SODIUM BALANCE AND SALINITY TOLERANCE OF THE MYSID
LEPTOMYSIS MEDITERRANEA

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Since mysids are important predators of inshore fish and invertebrates in the Adriatic Sea there is good reason to investigate their osmoregulatory abilities. Leptomysis mediterranea Sars were collected from the sandy bottom in the vicinity of Rovinj during March and June 1976.

Combined stress of temperature - salinity caused a decreased tolerance in the temperature range between 14 to 25°C and salinity range 25 to 37‰.

L. mediterranea maintains sodium ion concentrations slightly above the respective ion concentrations when in 21 and 37‰ sea water. ^{22}Na rate constants are increased from 2.83 h⁻¹ in 21‰ sea water to 2.96 and 3.36 h⁻¹ in 37 and 44‰ sea water. Flux rate ranges from 0.440 μM Na mg⁻¹ h⁻¹ to 0.831 μM Na mg⁻¹ h⁻¹ in 37 and 44‰ sea water respectively. The values are one order of magnitude higher than already known sodium exchange rates in brackish and oceanic crustaceans (Lockwood and Inman, 1973).

Sodium efflux rate constants are temperature dependent. Increased sodium effluxes suggests increased diffusional permeabilities and cannot be attributed to any "leak" diffusion while the sodium pump is inoperative.

REFERENCES

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