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Nota di contenuto	I Physiological and Ultrastructural Aspects of “Salt-Transporting Tissues” Studies -- Homeostatic Function of Integuments and Nephridia in Annelids -- Control of the Extracellular Fluid Osmolality in Crustaceans -- Osmotic and Ionic Regulation in Saline Water Mosquito Larvae -- Chloride Secretion by the Chloride Cells of the Isolated Opercular Epithelium of Marine Fish -- Control of the Blood Osmolarity in Fishes, With Reference to the Functional Anatomy of the Gut -- Transport Properties of Fish Urinary Bladders in Relation to Osmoregulation -- The Contrasting Roles of the Salt Glands, The Integument and Behavior in Osmoregulation of Marine Reptiles -- Regulation of NaCl and Water Absorption in Duck Intestine -- II Biophysical and Biochemical Aspects of “Salt-Transporting Tissues” Studies -- Cellular Energy Metabolism and its Regulation in Gills of Fish and Crustacea -- Regulatory Functions of Na++K+-Atpase in Marine

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Sommario/riassunto	Published by the American Geophysical Union as part of the Lecture Notes on Coastal and Estuarine Studies Series, Volume 9.A wealth of information on osmotic and ionic reaulation in Estuarine and Marine Animals has been accumulated over the past decades. Beyond early studies of whole-animal responses to changes in environmental salinities, efforts have been made later on to identify, to localize and to characterize the organs and structures responsible for the control of the characteristics of the cell's environmental fluid. When considering the problem of cell volume control in animals facing media of fluctuating salinities, we are indeed dealing with two different categories of mechanisms. A first one is concerned with the control of the osmolality of the intracellular fluid, hence with the processes directly implicated in the maintenance of cell volume and shape. They have been extensively described in several recent review papers.