

adequately explain the origin of these "Rohr" deposits, since the formation of the hydrous sulphate is only possible during the very early days of the crystallising season. The alternative explanation here put forward is that the anhydrous sulphate has crystallised, along with the chloride, throughout the salt season and that its partial separation from the latter in the form of "Rohr" at the bottom of the pan has been brought about by several factors operating together. These include:

(a) The tendency of the sulphate to form relatively small dense crystals and for these to find their way to the bottom of the pan by the mechanical action of stirring or "ridging".

(b) The tendency of the solution to become supersaturated in respect to sulphate and for this excess sulphate to crystallise at the bottom of the pan through density diffusion and where the temperature may be lower.

(c) The tendency of the chloride to crys-

tallise as spongy "boxes" which float on the surface and eventually form a crust or layer.

(d) The removal of the salt crop and the replenishment of the pan with unsaturated well brine which dissolves out the chloride from the bottom sulphate layer, and allows the above process to be repeated again and again.

If this view is correct, a careful study of the practice at Didwana might yield information which would be of value in enabling the controlling factors to be so adjusted as to yield a still better separation of chloride and sulphate.

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## NEPHRIDIA OF EARTHWORMS

IN a series of four memoirs recently published in the *Quarterly Journal of Microscopical Science* (Vols. 83 and 84), Prof. K. N. Bahl of the University of Lucknow, whose previous work on the nephridia of earthworms is so well known, has further added to our knowledge of this subject. In the first memoir he gives an account of the nephridia of the genus *Eutyphœus*, in which three kinds of minute nephridia—septal, integumentary and pharyngeal—can be distinguished. Of these the first two kinds open to the exterior, while the tufts of pharyngeal nephridia open into the lumen of the pharynx. He next describes the interesting nephridia of the genus *Hoplochætella* which possesses large septal nephridia resembling those of *Lumbricus*, besides minute integumentary and tufted pharyngeal nephridia. The septal nephridia are remarkable in that they do not open separately to the exterior, but into a pair of longitudinal canals running along the parietes through the greater part of the body of the worm; these canals discharge their contents into the gut at its posterior end. The second memoir deals with three examples of multiple funnels. The South

American giant earthworm *Thamnodrilus crassus* possesses nephridia, each of which possesses as many as *thirty four* functional funnels; the nephridium of *Hoplochætella* has one large functional and 18 to 24 vestigial funnels; while the funnel of the nephridium of *Lampito* has two or three masses of cells, looking like embryonic funnels, on the neck of the single functional funnel. In the third memoir the nephridia of the different regions of the body of *Pontoscolex corethrurus* are described. This worm exhibits a very interesting condition of branching and division of the nephridia—in fact, the holonephridia are here "caught in the act of dividing up" into meronephridia, but the division is never complete, as even when hundreds of meronephridia are formed, as in the anteriormost pair of nephridia, they open to the exterior by a single bladder-like duct. In the fourth memoir the author describes the occurrence of the "enteronephric" type of nephridial system in *Megascolex cochinchensis*, a type already discovered by him in four other genera of earthworms. The four memoirs form a very important contribution to our knowledge of the excretory system of the Oligochaeta. B. P.