

additivity rule and the total heat of hydration of a hydrate. The results obtained by the authors do not substantiate such a relation. They, however, feel that there may be a relation between the deviation from additivity per molecule of water of crystallisation and the heat of hydration per mole.

The detailed discussion and results will soon be published elsewhere.

TABLE I

Substance	χ_m	χ_{H_2O}
MgSO ₄ ·7H ₂ O	135.50	11.96
MgSO ₄ ·5H ₂ O	108.70	11.39
MgSO ₄ ·H ₂ O	60.78	9.02
MgSO ₄	51.76	..
CaSO ₄ ·2H ₂ O	73.02	12.27
CaSO ₄ ·2½H ₂ O	52.97	9.00
CaSO ₄	48.47	..
ZnSO ₄ ·7H ₂ O	137.97	11.87
ZnSO ₄ ·H ₂ O	63.34	8.46
ZnSO ₄	54.88	..
CdCl ₂ ·2H ₂ O	98.68	15.43
CdCl ₂	67.82	..
SrCl ₂ ·6H ₂ O	145.31	13.54
SrCl ₂	64.05	..
Ba(ClO ₃) ₂ ·H ₂ O	112.80	9.35
Ba(ClO ₃) ₂	103.45	..
Zn ₃ (PO ₄) ₂ ·4H ₂ O	165.00	10.37
Zn ₃ (PO ₄) ₂	123.50	..
Na ₂ B ₄ O ₇ ·10H ₂ O	225.70	14.52
Na ₂ B ₄ O ₇ ·2H ₂ O	115.33	17.41
Na ₂ B ₄ O ₇ ·H ₂ O	98.69	18.19
Na ₂ B ₄ O ₇	80.50	..
BaBr ₂ ·2H ₂ O	128.28	10.64
BaBr ₂ ·H ₂ O	116.60	9.61
BaBr ₂	106.99	..
BaCl ₂ ·2H ₂ O	100.16	12.79
BaCl ₂	74.57	..
3CdSO ₄ ·8H ₂ O	292.40	14.65
3CdSO ₄	175.16	..
CdBr ₂ ·4H ₂ O	148.73	15.20
CdBr ₂	87.92	..
SrBr ₂ ·6H ₂ O	164.26	10.64
SrBr ₂	100.40	..
Na ₂ S ₂ O ₃ ·5H ₂ O	121.62	11.83
Na ₂ S ₂ O ₃	62.48	..
K ₂ SO ₄ ·Al ₂ (SO ₄) ₃ ·24H ₂ O	502.55	12.97
K ₂ SO ₄ ·Al ₂ (SO ₄) ₃	191.05	..
Al ₂ (SO ₄) ₃ ·18H ₂ O	323.20	12.78
Al ₂ (SO ₄) ₃	93.05	..

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August 21, 1948.

1. Duchemin, E., *Compt. rend.*, 1934, **199**, 571. 2. Zimens and Hedvall, *Trans. Chalmers Univ. Technol. (Gothenburg)*, 1942, **9**, 3-26. 3. Varadachari, *Proc. Ind. Acad. Sci.*, 1935, **2A**, 161. 4. Raychaurhuri, *Zeit. F. Phys.*, 1932, **7**, 393. 5. Zimens and Hedvall, *Svensk Kem. Tid.*, 1941, **53**, 12.

NOTE ON NYCTOTHERUS COCHLEARIS
NOV. SP., FROM RANA CURTIPES
JERDON

THE ciliate described here was found in the rectum of the frog, *Rana curtipes* Jerdon, collected in the forest near Castlerock (Goa frontier). Associated with it, other ciliates, such as *Nyctotherus macropharyngeus*, *Balantidium helveticum* and *Opalina ranarum* were also found. Among these associated ciliates, the individuals of the new species, scanty in number, were conspicuous owing to their large body size and were visible to the naked eye, as small white vesicles. The body form and structure of the ciliate were noted in the living condition. Total preparations made by fixing with Bouin's fluid and staining with Ehrlich's haematoxylin, were used for microscopic study.

NYCTOTHERUS COCHLEARIS NOV. SP.

The body in general outline, is somewhat three-sided. The dorsal surface is deeply convex as found in other species, but the ventral exhibits a protrusion in the middle, by which the third side is formed. The anterior and posterior poles however, are narrow and rounded. The peristomeal region being straight, looks truncated. Thus the body form resembles more or less a spoon with the handle broken off at the truncated part of the ciliate. If the ventral protrusion of the body is taken as an umbo, the form may very well be compared to a shell of a bivalve. Hence the name *cochlearis*. The long and ellipsoidal nucleus, is one of the chief characteristic features of this new species, and is situated immediately over the cytopharynx, having a ratio of length to breadth 6 length. This long nucleus occupies the whole from the antero-dorsal to the antero-ventral surface of the body. The chromatin of the nucleus constitutes a number of compactly arranged and deeply stained round bodies. The micronucleus was not noted. The wide oesophagus leads into a narrow and curved cytopharynx, which ends in the middle of the posterior half of the body. The cilia, lining the oesophagus and the cytopharynx, are long and fine. Those on the body are short. A number of small and large vacuoles representing perhaps the food-vacuoles, were seen distributed all over the cytoplasm. The contractile vacuole is single, and lies at the posterior end.

Measurements in microns:—Body (length × width) range 407-437 × 315-335; Nucleus: (length × width) 235 × 40; Nuclear