Composition of Body Fluids in Elasmobranchs.

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Some of the data published by H. W. Smith[1] concerning the composition of body fluids in the marine elasmobranchs were reexamined during this summer. The values found for pH (determined with a Cambridge pH meter), freezing points (thermistor method of Bowman[2]) and urea (urease method of Van Slyke and Cullen[3]) are as follows:

	No. Obs.	pH	Δ °C.	mosm.	Urea mM
Plasma					
Dogfish	36	7.54	1.80	991	363
Raja erinacea	3	7.25	1.72	925	365
Raja diaphanes	8	7.464	1.74	934	360
Urine					
Dogfish	36	5.87	1.641	877	98.6
Raja erinacea	3	6.10	1.51	815	20
Raja diaphanes	8	6.10	1.64	886	85
Coelomic Fluid					
Raja erinacea	3	6.0	1.72	925	343
Raja diaphanes	8	5.94	1.72	925	347
Pericardial Fluid					
Raja erinacea	3	6.28	1.76	950	273
Raja diaphanes	8	6.04	1.695	910	273
Sea Water		8.05	1.699	916	

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The results agree fairly well with Smith's data with the one possible exception that the cryoscopic activity of the serum of the skates, and to a lesser degree of the dogfish, was lower. The same was true for the sea water of Frenchmans Bay, which varied during the summer of 1952 between 905 and 935 milliosmols corresponding to a Δ of-1.63 and -1.74°C. Data on two freshly caught goosefish (**Lophius piscatorius**) confirmed the observation of Forster[4] that urine collected shortly after the fish is captured is invariably hypotonic to the plasma.

	Plasma		Urine	
	mosm	Δ°C.	mosm	Δ°C.
Goosefish 1	298	.55	250	.465
	295	.548		
Goosefish 2	311	.578	290	.54
	300	.558		

References

1. Smith, H. W., Am. J. Physiol. **98**: 279, 296, 1931.
2. Bowman, R., personal communication.
3. Van Slyke, D. D. and Cullen, G.E., J. Biol. Chem. **24**:117, 1916.
4. Forster, R. P., personal communication.

Embryological Investigation

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A limited survey of the summer-breeding crustacea of the Mt. Desert region was made for the purpose of ascertaining which form offered the most favorable material for embryological investigation. It was found that the eggs of **Gammarus locusta** have good possibilities for future experimentation. Early cleavage is holoblastic and the embryos may be removed from the brood pouch and raised in watch glasses. A series of embryos of different stages of development was preserved and is being studied histologically.