A Preliminary Study of the Fresh Water Protozoan Fauna of Mount Desert Island

B. W. McCashland
University of Nebraska

Although Procter (Biological Survey of the Mount Desert Region 1933) has described the occurence of the Foraminifera in waters about Mount Desert Island and Unger (Bull. M.D.I.B.L. 1941) has reported on the fresh water protozoa found in Beaver Lake, apparently no records are in existence concerning the general nature of the protozoan fauna in the several fresh water lakes and ponds on the island. During the month of June, 1954, protozoa were identified in samples of water collected from fresh water bodies on the island. It was the intention to determine, generally, what protozoan forms were present and their approximate distribution.

Following is the list of collection points.

1. Mount Sargent Pond - East edge
2. Jordan Pond - north end at entrance of Deer Brook
3. Jordan Pond - south end
4. Long Pond - south end near road
5. Upper Hadlock Pond - south end above creek draining to (6)
6. Lower Hadlock Pond - north end below creek entrance
7. Asticou Pond - south end near road
8. Bubble Pond - north end above creek draining to (9)
9. Eagle Lake - north end
10. Breakneck Pond (South) - north end above drain to (11)
11. Breakneck Pond (North) - east edge
12. Halfmoon Pond - south edge
13. Witch Hole Pond - north end
14. Lake Wood - north end
15. Aunt Betty Pond - east edge
16. The Tarn - north end
17. The Bowl - east edge
18. Round Pond - south end above stream flowing to (19)
19. Great Pond - north end below stream from (18)
20. Ripple Pond - north end above stream flowing to (21)
21. Somes Pond - south end below stream from (20)
22. Little Round Pond - east edge
23. Echo Lake - east edge
24. Hodgdon Pond - south end above stream flowing to (25)
25. Seal Cove Pond - north end below stream from (24)

The genera and species observed (arranged alphabetically by classes) are listed below. Numbers indicate points from which the forms were observed.

MASTIGOPHORA

SARCODINA

CILIATA

Gonostomum sternuum 20
Halteria grandinella 1, 11, 15, 16, 18, 21, 24
Kalia acrobates 1
Lacrymaria olor 20
Lagnyophrya simplex 17
Loxocephalus sp. 24
Malacophrys rotans 4
Monochilium frontatum 8, 10, 20
Ophyrdium ectatum 17
Oxytricha bifaria 1, 4, 14
Oxytricha fallax 20
Oxytricha setigera 5, 8, 19, 24, 25
Paramecium aurelia 7
Paramecium bursaria 13, 16, 17, 20, 24
Paramecium caudatum 7
Paramecium multimicronucleatum 9
Paramecium trichium 2, 3
Paranassula microstoma 18
Penardiella crasa 13
Pithothorax ovatus 2, 19
Plagiopyla nasuta 2, 20
Platynematum sociale 9
Pseudoprorodon farctus 21
Psilotricha sp. 7, 10
Saprophilus agitatus 17
Spastosoma viride 2, 5
Spirostomum ambiguum 6, 7, 11, 13, 21
Spirostomum filium 12
Stentor coeruleus 13, 18
Stentor igneus 1, 15
Stentor niger 17
Stentor polymorphus 13, 17
Stongylidium sp. 20
Trachelius ovum 7
Trichodina sp. 14
Uroleptus sp. 12
Urotricha agilis 3, 9, 23, 25
Vaginicola amorpha 14
Vorticella campanula 1, 5, 6, 14, 23, 25
Vorticella convallaria 4, 11, 24
Vorticella microstoma 14, 22

Adrenalin Diuresis in the Spiny Dogfish, Squalus acanthias

Wallace McCrory, Albert Biggs, Saul Boyarsky*,
Alvin Rieck and Robert Soley
University of Pennsylvania, New York University,
Marquette University and Yale University

Clarke (Bull., M. D. I. B. L., 1932, 1936) demonstrated that Adrenalin causes a diuresis in *Squalus acanthias*, which is characterized by a marked increase in urea clearance and urea U/P ratio with no change in the sucrose clearance. The nature of this diuresis was re-examined using inulin as a measure of glomerular filtration rate, and freezing point depression as a measure of osmotic pressure. Male dogfish were catheterized and injected intramuscularly with 600 mg. inulin. Urine was collected in a rubber balloon tied to the catheter and blood by percutaneous tail puncture. After two control periods, 1 mg. of Adrenalin chloride (Parke, Davis and Co.) was injected into the tail muscles. Urine and plasma were collected for 2 to 5 periods.

Data from 6 fish showed that:

1) Urine volume increased in 5 fish 1-4 fold over control values.
2) Filtration rate rose in 3 of 5 fish in which it was measured.
3) Osmotic clearance increased in all fish tested, the maximal increase being 3-fold.

* USPHS Postdoctorate Fellow