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

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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.

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### MASTIGOPHORA

Astasia klebseii 19, 22 Bodo edax 13 Chilomonas paramecium 1, 3, 12, 16, 20 Chrysidella schaudinni 5, 10 Chrysocapsa paludosa 10 Clamydomonas globosa 11 Cryptochrysis communata 4, 5, 22 Cryptoglena pigra 6, 17 Cryptomonas ovata 2, 4, 9, 10, 11, 13, 14, 15, 16, 18, 19, 25 Dinobryon sertularia 7, 16 Distigma proteus 22 Eudorina elegans 10, 13, 17 Euglena agilis 22, 24 Euglena gracilis 10 Euglena phacoides 15 Euglena viridis 2 Glenodinium sp. 8, 9, 10, 17, 20, 21 Gleomonas ovalis 13 Gonium pectorale 16 Gymnodinium sp. 10, 16, 17, 18 Gymnodinium aeruginosum 14 Gymnodinium fuscum 16, 18, 24 Gymnodinium palustre 5, 20 Heteronema acus 22 Mallanomonas sp. 21 Mastigosphaera gobii 14 Monas socialis 2 Ochromonas ludibunda 16, 21 Oikomonas termo 2, 3, 20 Peranema trichophorum 11 Peridinium sp. 2, 3, 6, 8, 9, 11, 12 13, 14, 15, 18, 20, 24, 25 Peridinium divergens 15 Peridinium wisconsinense 12 Phacus acuminata 17 Phacus pleuronectes 2 Streptomonas cordata 17 Syncrypta volvox 14 Synura adamsi 4, 5, 7, 13, 24, 25 Synura uvella 2, 3, 4, 5, 6, 7, 12 13, 14, 16, 18, 24, 25 Trachelomonas hispida 5 Trachelomonas varians 19 Uroglena volvox 7 Volvox aureus 4, 17 Volvox globator 4, 7, 10, 11, 12, 15, 16

#### SARCODINA

Acanthocystics aculeata 5 Actinosphaerium eichorni 12 Arcella discoides 13, 14, 15, 16, 18, 22 Arcella mitrata 22 Arcella vulgaris 15 Centropyxis aculeata 3, 11, 17, 22, 25 Corycia coronata 13, 15 Cyphoderia ampulla 18 Difflugia constricta 18 Difflugia oblonga 1, 2, 3, 4, 5, 6, 10, 11, 12, 13, 16, 17, 18, 19 20, 24, 25 Difflugia urceolata 25 Elaeorhanus cinta 23 Euglypha sp. 12, 22 Heleopera sp. 12, 22 Heterophrys glabrescens 14 Heterophrys miriopoda 2, 4, 20 Nebela sp. 14 Parmulina cyathus 3 Phryganella sp. 1 Raphidocystis tubifera 13, 20 Sphenoderia lenta 18

#### CILIATA

Amphileptus claparedei 13 Balladyna elongata 13 Blepharisma lateritum 25 Bresslaua vorax 5, 12 Chiliophrya labiata 1 Coleps bicuspis 15 Coleps octospinus 13, 16, 20, 22 Colpidium campylum 22 Cyclogramma trichocystis 25 Dileptus americanus 1, 18 Dileptus anser 10, 13, 15, 24 Disematostoma butschlii 15, 20 Enchelydium fusidens 14, 24 Frontonia sp. 15 Frontonia leucas 2, 7, 14, 16 Glaucoma scintillans 7

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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

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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.
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