
**PRELIMINARY LISTS OF THE ORGANIC REMAINS OCCURRING
IN THE VARIOUS GEOLOGICAL FORMATIONS COM-
PRISED IN THE SOUTH-WEST QUARTER-SHEET
MAP OF THE EASTERN TOWNSHIPS OF
THE PROVINCE OF QUEBEC.**

BY

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(Reprinted from Annual Report, Geological Survey of Canada, Vol. VII., New Series.)

APR 23 1896

APPENDIX

PRELIMINARY LISTS OF THE ORGANIC REMAINS OCCURRING IN THE
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The following formations are included in this Appendix, in ascending order:—

Potsdam sandstone.

Calciferosus formation.

Chazy formation.

Phillipsburg series (= Fort Cassin rocks).

Quebec City formation.

Trenton, including Black River.

Utica.

Lorraine.

Silurian, including Lower Helderberg and possibly older.

Devonian, including *Cauda-galli* Grit and Corniferous?

The fossil remains enumerated in this Appendix are grouped by localities under each formation, and under each locality, they are arranged in zoological order.

POTSDAM SANDSTONE.

I. Beauharnois, Que., County of Beauharnois (Geological Survey collection):—

1. *Protichnites septemnotatus*, Owen.
2. " *octonotatus*, Owen.
3. " *latus*, Owen.
4. " *multinotatus*, Owen.
5. " *lineatus*, Owen.
6. " *alternans*, Owen.

II. Ste. Anne, Jacques Cartier County, Que.; (Geological Survey collection):—

1. *Scolithus Canadensis*, Billings.

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CALCIFEROUS FORMATION.

III. Ste. Anne, Jacques Cartier County, Que.; collectors, Logan Richardson, M. Ramsay, Murray and Ami (Geological Survey collection):—

Hydroida :

1. *Stromatocerium calciferum*, Dawson.

Brachiopoda :

2. *Lingula Irene*, Billings.

Gasteropoda :

3. *Pleurotomaria gregaria*, Billings.
4. *Murchisonia Anna*, Billings.

Cephalopoda :

5. *Orthoceras ordinatum*, Billings.

Ostracoda :

6. *Leperditia Anna*, Jones.

IV. Ste. Anne, Jacques Cartier County, Que. (Dawson collection; Peter Redpath Museum of McGill University, Montreal):—

Brachiopoda :

1. *Orthisina grandæva*, Billings.

Gasteropoda :

2. *Pleurotomaria Anna*, Billings.
3. " *Laurentina*, Billings.
4. *Murchisonia Anna*, Billings.

Cephalopoda :

5. *Orthoceras*. (Several species.)

V. Beauharnois, Que., Chateauguay County, and Norton's Creek, Beauharnois County, Que.; collector, Richardson, 1851 and 1853 (Geological Survey collection):—

1. *Palæophycus tubularis*, Hall.
2. " *Beauharnoisensis*, Billings.
3. *Camerella calcifera*, Billings.
4. *Ecculiomphalus Atlanticus*, Billings.
5. *Ophileta complanata*, Vanuxem (= *Ophileta compacta*, Salter).
6. *Pleurotomaria calcifera*, Billings.
7. *Bathyrus conicus*, Billings.

VI. Beauharnois, Que., Beauharnois County (Peter Redpath Museum collection):—

1. *Ophileta complanata*, Vanuxem (= *O. compacta*, Salter).

VII. Ormstown, quarry one mile west of village, Chateauguay County; collector, Mr. T. N. Walsh (Peter Redpath Museum):—

Brachiopoda :

1. *Orthis* sp.

Gasteropoda :

2. *Ophileta complanata*, Vanuxem.
3. " *disjuncta*, Hall.
4. *Pleurotomaria*, sp.
5. *Murchisonia*, sp.

Cephalopoda :

6. *Lituites*, sp.
7. *Endoceras Becki* (?), Billings.

VIII. St. Eustache, Two Mountains County, Que.; collectors, Murray and Richardson (Geological Survey collection):—

Brachiopoda :

1. *Lingula Mantelli*, Billings.

Cephalopoda :

2. *Orthoceras Montrealense*, Billings.

IX. Phillipsburgh, Que.; R. W. Ells, 1890 (in buff-weathering dolomite):—

Echinodermata :

1. *Palæocystites* sp., allied to *P. tenuiradiatus*, Hall.

Brachiopoda :

2. *Orthis Minna*, Billings.

Gasteropoda :

3. *Subulites*, sp.
4. *Ophileta complanata*, Vanuxem.
5. (?) *Raphistoma proavium*, Whitfield.
6. *Murchisonia Anna* (?), Billings.
7. " *gracilens* (?), Whitfield.
8. " (?) *confusa*, Whitfield.

Trilobita :

9. *Amphion Salteri*, Billings.
10. *Cheirurus*, sp. indt.

CHAZY FORMATION.

X. St. Dominique, Quebec; R. W. Ells, 1890 (from a dark gray semi-crystalline limestone, weathering yellowish brown—at times arenaceous):—

Echinodermata :

1. Crinoidal or cystidean fragments.

Zoophyta :

2. (?) *Columnaria incerta*, Billings.

Bryozoa (?) :

3. *Solenopora compacta*, Billings.
4. Branching monticuliporoid, not determined.

Brachiopoda :

5. *Orthis acuminata*, Billings.
6. *Orthis Porcia* (?), Billings. (In the arenaceous strata.)

Gasteropoda :

7. Obscure specimen, not determined.

Trilobita :

8. *Ampyx Halli*, Billings.
9. *Asaphus canalis*, Conrad.
10. *Asaphus*, cf. *A. platycephalus*, Stokes. (= *Isotelus gigas*, deKay.)

XI. St. Dominique, Quebec; W. E. Deeks, 1891:—

Hydrozoa :

1. (?) *Strephochetus*, sp.

Echinodermata :

2. *Palæocystites tenuiradiatus*, Hall.*
3. Crinoidal or cystidean fragments.

Bryozoa :

4. Branching monticuliporoidea.

Brachiopoda :

5. (?) *Orthis pigra*, Billings.
6. *Orthis platys*, Billings.
7. " *costalis*, Hall.
8. " sp. indt.

Gasteropoda :

9. *Pleurotomaria*, cf. *P. Laurentina*, Billings.
10. " (*Raphistoma*) *Crevieri*, Billings.
11. *Raphistoma planistria*, Hall.
12. " *lenticulare* (?), Sowerby.
13. *Trochonema umbilicatum*, Hall.
14. *Ophileta*, cf. *O. complanata*, Vanuxem.
15. *Bucania*, sp.

Also *Bolboporites Americanus*, Billings.

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Pteropoda :

16. (??) *Hyalithes*, sp.

Trilobita :

17. *Ampyx Halli*, Billings.
 18. *Remopleurides*, n. sp.
 19. *Bathyurus*, sp.
 20. *Bathyurus*, cf. *B. Angelini*, Billings.
 21. " *extans*, Hall or allied species.
 22. *Asaphus canalis*, Conrad.
 23. *Ilænus globosus* (?), Billings.
 24. *Amphion* or *Cheirurus*, sp.

XII. St. Dominique, Quebec. List of species recorded by Mr. Billings in "Geology of Canada," p. 206, 1863.

Bryozoa :

1. *Ptilodictya fenestrata* (MS?).

Brachiopoda :

2. *Strophomena alternata*, Conrad.
 3. *Orthis platys*, Billings.
 4. " *borealis*, Billings.

Pelecypoda :

5. *Vanuxemia Montrealensis*, Billings.

Gasteropoda :

6. *Pleurotomaria Crevieri*, Billings.

Trilobita :

7. *Ampyx Halli*, Billings.

XIII. St. Dominique, Quebec; T. C. Weston, 1879, and James Richardson, date not given:—

Echinodermata ?

1. *Bolboporites Americanus*, Billings.

Brachiopoda :

2. *Orthis platys*, Billings.
 3. " (*Hebertella*) *borealis*, Billings.

Gasteropoda :

4. *Pleurotomaria (Raphistoma) Crevieri*, Billings.

Trilobita :

5. *Ampyx Halli*, Billings.
 6. *Asaphus marginalis* (?), Hall. (? = *A. canalis*, Conrad).

XIV. Two miles south of Abbotsford, Papineau Range Road, Abbotsford, Quebec; W. E. Deeks, 23rd June, 1891:

Zoophyta :

1. *Streptelasma* (?), sp.

Echinodermata :

2. *Blastoidocrinus carchariædens*, Billings.
3. *Bolboporites Americanus*, Billings.
4. Crinoidal or cystidean fragments, not determined.

Bryozoa :

5. *Stictopora glomerata*, Hall. A form resembling that figured by Hall in vol. i., Pal. N.Y., 1847, from the Chazy limestone.

Brachiopoda :

6. *Leptæna, fasciata*, Hall. Probably a *Rafinesquina*.
7. *Orthis (Hebertella) borealis*, Billings.
8. " or *Zygospira* sp., too imperfect for determination.

Gasteropoda :

9. *Metoptoma Montrealensis*, Billings.
10. *Raphistoma planistria*, Hall.
11. *Pleurotomaria calyx*, Billings.
12. *Maclurea*, sp.

Trilobita :

13. *Asaphus canalis*, Conrad.
14. *Harpes* or *Trinucleus* sp., shewing sculptured outer margin of cephalic shield.

XV. Grande Ligne Quarries, Que. ; W. E. Deeks, 27th June, 1891.

Hydrozoa :

1. *Stromatocerium* or *Cryptozoon*, sp.

Echinodermata :

2. *Blastoidocrinus carchariædens*, Billings.
3. *Paleocystites tenuiradiatus*, Hall.
4. " sp.
5. Cystidean fragments, undetermined.

Bryozoa :

6. *Stictopora*, sp., cf. *S. glomerata*, Hall.
7. *Amplexopora* (?), sp., or other genus of branching monticuliporoid.
8. *Dicranopora*, sp.
9. *Solenopora* or *Cryptozoon*, sp.

Brachiopoda :

10. *Leptæna*, sp.
11. *Orthis (Hebertella) borealis*, Billings.
12. " *platys* (?), Billings.
13. " *Porcia*, Billings.
14. " probably *O. (Dalmanella) perveta*, Conrad.

15. *Rhynchonella plena*, Hall.
16. *Atrypa* († *Zygospira*) *acutirostra*, Hall,
17. *Triplesia*, sp.

Gasteropoda :

18. *Metoptoma*, sp.
19. *Pleurotomaria calyx*, as of Billings.
20. *Raphistoma planistria*, Hall.

Pteropoda :

21. (†) *Hyalithes*, sp.

Cephalopoda :

22. *Endoceras velox*, (= *Orthoceras velox*, Billings.
23. *Orthoceras bilineatum*, Hall.

Trilobita :

24. *Bathyurus spiniger*, Billings.
25. *Asaphus canalis*, Conrad.
26. *Illænus arcturus*, Hall.
27. " *globosus*, Billings.
28. " *Bayfieldi*, Billings.

Ostracoda :

29. *Leperditia Canadensis*, v. *nana*, Jones.

XVI. Island of Montreal, Que. ; Thos. Curry, 1888. (Specimens sent to the Geological Survey Dept. for identification—the property of the Peter Redpath Museum of McGill College, Montreal) :—

Echinodermata :

1. *Malocystites Murchisoni*, Billings.
2. " sp.
3. *Palæocystites tenuiradiatus*, Hall.

XVII. Bord à Plouffe, Que. ; W. E. Deeks, 6th July, 1891.

Bryozoa :

1. *Intricaria*, sp.
2. Branching *Monticuliporoids*.

Brachiopoda :

3. *Orthis* (*Hebertella*) *borealis*, Billings.
4. " *platys*, Billings.
5. " *Porcia*, Billings.
6. " sp.
7. (?) *Rafinesquina alternata*, (= *Strophomena alternata*, Conrad *et auct.*
8. *Orthis* or *Strophomena*, sp. indt. Too imperfect for identification.

Trilobita :

9. *Remopleurides* sp.
10. *Asaphus*, sp., portion of cephalic shield.

Ostracoda :

11. *Leperditia*, sp., a rather large form for the Chazy formation.

XVIII. St. Martin Junction, Que.; W. E. Deeks, 7th March, 1891:—

Echinodermata :

1. *Blastoidocrinus carchariædens*, Billings.
2. *Malocystites Murchisoni*, Billings.
3. *Palæocystites tenuiradiatus*, Hall.

Bryozoa :

4. *Callopora* or *Calloporella* sp. Bryozoary, consisting of two kinds of zoecia, one, larger and regularly disposed in rows; the other, minute mesopores filling intervening spaces.

5. *Dicranopora* (?), sp.
6. *Stictopora glomerata* (?), Hall.
7. Frondescant forms of *monticuliporoidea*.
8. Ramose or branching *monticuliporoidea*.

Brachiopoda :

9. *Lingula*, sp. cf. *L. Huronensis*, Billings.
10. *Orthis* (*Hebertella*) *borealis*, Billings.
11. " *platys*, Billings.
12. " *disparilis*, Billings.
13. *Rafinesquina fasciata* or *alternata*. Same form occurs in the Chazy of L'Orignal, Ont.
14. *Rhynchonella plena*, Hall.

Gasteropoda :

15. *Raphistoma planistria*, Hall.

Trilobita :

16. *Remopleurides* (?) sp.
17. *Bathyurus*, sp., cf. *B. Angelini*, Billings.
18. *Asaphus*, sp., fragments of head shield and pleuræ of axis and thorax.
19. *Illænus*, cf. *I. globosus*, Billings.
20. " sp. indt.
21. *Cheirurus*, sp. indt.
22. *Lichas* (?) sp.
23. *Harpes*, sp.

XIX. Joliette, Que. The following species were collected by N. J. Giroux in 1891, close to the bridge over L'Assomption River, near the Canadian Pacific railway station.

Echinodermata :

1. *Palæocystites tenuiradiatus*, Hall.

Bryozoa :

2. Monticuliporoidea; requiring microscopic sections before identification.

Brachiopoda :

3. *Lingula*, sp. indt.
4. *Orthis* (*Hebertella*) *borealis*, Billings.

Gasteropoda :

5. *Pleurotomaria* *Crevieri* (?), Billings.
6. *Raphistoma* *planistria*, v. *parvum*, Hall.
7. (?) *Bucania* *sulcatina*, Emmons.

Cephalopoda :

8. *Orthoceras* (?), sp. indt.

XX. Joliette, Que. "Industry Village" of "Geology of Canada," 1863, p. 133.

Gasteropoda :

1. "*Pleurotomaria* *staminea*, Hall.
(= *Raphistoma* *stamineum*, Hall.)

XXI. Island of Montreal, Hochelaga County, Que.; collectors, Logan, Billings, Richardson and Bell (Geological Survey collection):—

Hydroida :

1. *Stromatocerium* *rugosum*, Hall.

Cystoidea and Blastoides :—

2. *Malocystites* *Murchisoni*, Billings.
3. " *Barrandei*, Billings.
4. *Blastoidocrinus* *carchariædens*, Billings.
5. *Palæocystites* *tenuiradiatus*, Hall.
6. *Glyptocystites* *Forbesi*, Billings.
7. *Bolboporites* *Americanus*, Billings. This is probably a portion of the interior of one of the cystoidea so prevalent in these rocks.

Crinoidea :

8. Crinoidal columns.

Bryozoa :

9. *Monotrypella* *undulata*, Nicholson.
10. *Stenopora* *patula*, Billings.

Brachiopoda :

11. *Lingula* *Belli*, Billings.
12. *Rafinesquina* *alternata*, (Conrad).
13. *Orthis* (*Dalmanella*) *perveta*, Conrad.
14. " " *subæquata*, Conrad.
15. " " *gibbosa*, Billings.

16. *Orthis Porcia*, Billings.
17. " *disparilis*, Billings.
18. *Rhynchonella plena*, Hall.

Pelecypoda :

19. *Vanuxemia Montrealensis*, Billings.

Gasteropoda :

20. *Metoptoma Montrealensis*, Billings.
21. *Pleurotomaria immatura*, Billings.
22. " *calyx*, Billings.

Vermes :

23. *Serpulites splendens*, Billings.

Trilobita :

24. *Sphaerexochus parvus*, Billings.

XXII. Island of Montreal, Que. ; outcrops of the Chazy formation. Peter Redpath Museum collection :—

Cystoidea :

1. *Bolboporites Americanus*, Billings.
2. *Palæocystites*, sp.
3. *Palæocystites tenuiradiatus*, Hall.
4. *Malocystites Murchisoni*, Billings.

Blastoidea :

5. *Blastoidocrinus carchariædens*, Billings.

Crinoidea :

6. *Rhodocrinus asperatus*, Billings.

Bryozoa :

7. *Phylloporina aspera*, Hall.
8. *Monticulipora* (?), sp.

Brachiopoda :

9. *Orthis platys*, Billings.
10. " (*Hebertella*) *imperator*, Billings.
11. " (*Dalmanella*) *perveta*, Conrad.
12. *Rhynchonella plena*, Hall.

Gasteropoda :

13. *Pleurotomaria*, sp.

Trilobita :

14. *Sphaerexochus parvus*, Billings.

XXIII. Caughnawaga, Laprairie County, Que. ; Peter Redpath Museum collection :—

Echinodermata :

1. Crinoidal or cystidean fragments.
2. *Blastoidocrinus carchariædens*, Billings.
3. *Bolboporites Americanus*, Billings.

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Gasteropoda :

4. *Raphistoma stamineum*, Hall.

XXIV. Caughnawaga, Laprairie County, Que. ; collectors, Logan, Billings and Richardson (Geological Survey collection) :—

Cystoidea :

1. *Glyptocystites Forbesi*, Billings.

Brachiopoda :

2. *Orthis acuminata*, Billings.

PHILLIPSBURG SERIES.

XXV. Road between Phillipsburg and St. Armand, County of Missisquoi, Que. ; collected by R. W. Ells, J. F. Whiteaves and W. E. Deeks, 1890 :—

Echinodermata :

1. Crinoidal or cystidean fragments.

Brachiopoda :

2. *Lingula*, sp. indt.
3. *Orbiculoidea*, sp. nov. (?)
4. *Orthis* (?) *Armanda*, Billings.
5. *Orthis Electra*, Billings.
6. " *Minna*, Billings.
7. *Hemipronites* (?) , sp. indt.
8. *Triplesia lateralis*, Whitfield.
9. " *calcifera* (?) , Billings.

Gasteropoda :

10. *Pleurotomaria Missisquoi*, Billings.
11. " sp. nov. (?) , non *P. Hortensia*, Bill., nor *P. Hortensia*, Billings, as of Whitfield, but closely related.
12. " *difficilis*, Whitfield.
13. " *Beekmanensis*, Whitfield.
14. " sp. with alation along the outer edge of the body volution.
15. " sp. allied to *P. Missisquoi*, Billings.
16. *Murchisonia*, sp., cf. *M. Vesta*, Billings.
17. " *Missisquoi*, Billings.
18. *Bellerophon Palinurus*, Billings.
19. *Lophospira Cassina*, Whitfield.
20. " (?) sp. indt.
21. *Holopea Cassina*, Whitfield.
22. " *arenaria* (?) , Billings.

23. *Holopea*, sp. indt.
24. *Euomphalus circumliratus*, Whitfield.
25. " sp., cf. *E. calciferus*, Whitfield.
26. *Ophileta complanata*, Vanuxem.
27. *Ecculiomphalus volutatus*, Whitfield.
28. *Raphistoma stamineum*, Hall (? = *Pleurotomaria docens* or calyx, Bill.
29. " sp. indt., No. 1.
30. " sp. indt., No. 2.
31. *Maclurea ponderosa*, Billings.
32. " sp.
33. *Subulites obesus*, Whitfield.
34. (?) *Calaurops lituiformis*, Whitfield.

Cephalopoda:

35. *Endoceras*, sp. nov. (?)
36. *Orthoceras Missisquoi*, Billings.
37. " *Brainerdi*, Whitfield.
38. " *explorator*, Billings.
39. " *Cataline* (?), Billings.
40. " *Lamarcki*, Billings.
41. " *bilineatum*, Hall (as of Whitfield).
42. *Litoceras*, sp., cf. *L. Whiteavesi*, Hyatt, (= *Nautilus versutus*, pars. Billings.
43. " sp.
44. *Nautilus* (?) sp. A large form. Exact generic relation not definitely ascertained.
45. *Schroederoceras Eatoni*, Whitfield.
46. " " var. *Cassinensis*, Whitfield.
47. *Eurystomites Kelloggi*, Whitfield.
48. " sp. indt.

Trilobita:

49. *Agnostus Galba*, Billings or a nearly related species.
50. *Remopleurides affinis*, Billings.
51. *Bathyrurus Saffordi*, Billings (abundant).
52. " sp., probably a new species, closely related to *B. marginatus*, Billings.
53. " *conicus*, Billings. (Not the *Bathyrurus conicus* of Whitfield.)
54. " sp., cf. *B. Cordai*, Billings.
55. " sp., with a long and fairly stout terminal spine at the extremity of the caudal shield; a much larger species than *B. caudatus*.
56. *Bathyurellus expansus*, Billings.
57. " *glandicephalus*, Whitfield.

58. *Asaphus canalis*, Conrad.
59. *Illænus simulator*, Billings.
60. " sp. Too imperfect for identification.
61. *Cheirurus*, sp.
62. *Lichas*, sp., cf. *L. Champlainense*, Whitfield.

Ostracoda :

63. *Leperditia*, sp. indt.

XXVI. Boundary line, lot 122, east of St. Armand P. O., 150 yards west of road to mill, Missisquoi Co., Que. Collectors: R. W. Ells and W. E. Deeks, 1891.

1. (?) *Solenopora compacta*, or *Girvanella*, sp.

Echinodermata :

2. Crinoidal fragments.

Brachiopoda :

3. *Orthis*, sp. indt.
4. " sp. with acutely rostrate umbo.
5. " sp. No. 3, not determinable.
6. Strophomenoid shell, with thread-like striæ, at the beak which widen out anteriorly into coarse angular costæ.
7. *Triplesia*, sp.

Gasteropoda :

8. *Pleurotomaria*, sp. indt.
9. *Ophileta*, sp., cf. *O. complanata*, Vanuxem.
10. " sp.
11. *Raphistoma* or *Trochonema*, sp.

Cephalopoda :

12. *Orthoceras Missisquoi* vel *O. furtivum*, Billings.

Trilobita :

13. *Dolichometopus* (?) sp.
14. *Bathyurus*, sp., probably a new species.
15. " *Saffordi*, Billings.
16. *Asaphus canalis*, Conrad, or a very closely related species.
17. *Cheirurus* or *Amphion*, sp.

Ostracoda :

18. *Leperditia*, sp.

XXVII. Bedford, Que., lot 20, range VI., tp. of Stanbridge, Que. J. F. Whiteaves, 1878.

Brachiopoda :

1. *Lingula*, sp., probably a new species.
2. *Orbiculoidea*, n. sp.
3. *Orthis Minna*, Billings.

Gasteropoda :

4. *Bellerophon Palinurus*, Billings
5. *Maclurea ponderosa*, Billings,

Trilobita :

6. *Agnostus Galba* (?), Billings.
7. *Remopleurides affinis*, Billings.
8. *Bathyurus Saffordi*, Billings.
9. " *breviceps* (?), Billings.
10. *Bathyurellus expansus*, Billings.
11. *Illænus simulator*, Billings.

Ostracoda :

12. *Leperditia*, n. sp.

NOTE.—There are also fragments of what appear to be a *Cheirurus* or *Amphion* and a cast of the larger or body volution of a large gasteropod probably a *Holopea* or *Pleurotomaria*.

XXVIII. Phillipsburg, Que.; Billings, &c. (Geological Survey collections.)

The following species were described by Mr. Billings from the Phillipsburg limestones as follows :—

Echinodermata :

1. *Palæocystites tenuiradiatus*, Hall. Pal. Foss., vol. I., p. 63.

Brachiopoda :

2. *Orthis* (?) *Armanda*, Billings, *ibid.*, p. 303.

Gasteropoda :

3. *Pleurotomaria Postumia*, Billings, *ibid.*, p. 91.
4. *Murchisonia Hyale*, Billings, *ibid.*, p. 33.
5. *Pleurotomaria Missisquoi*, Billings, *ibid.*, p. 191.
6. *Ophileta abdita*, Billings, *ibid.*, p. 189.
7. *Maclurea ponderosa*, Billings, *ibid.*, p. 239.
8. *Metoptoma Niobe*, Billings, *ibid.*, p. 37.

Cephalopoda :

9. *Nautilus Pomponius*, Billings, *ibid.*, p. 26.
10. *Cyrtoceras Aristides*, Billings, *ibid.*, p. 316.
11. *Orthoceras repens*, Billings, *ibid.*, p. 312.
12. " *Catulus*, Billings, p. 313.
13. " *Missisquoi*, Billings, p. 314.
14. " *Cato*, Billings, p. 315.
15. " *Cataline*, Billings, p. 315.
16. " *Sayi*, Billings, p. 315.
17. " *Tityrus*, Billings, p. 316.

Trilobita :

18. *Dikelocephalus Missisquoi*, Billings, p. 199.

Besides the above Phillipsburg fossils recorded by Billings, Prof. Whitfield also records the occurrence of *Cryptozoon Steeli*, Brainerd and Seely, in Bull. Am. Mus. N. Hist., vol. III., No. 1, p. 6, 1890.

XXIX. One mile and a half east of Phillipsburg, Que. ; purchased from George Hogle, Esq., 1890.

Brachiopoda :

1. *Orthis*, sp. indt.

Gasteropoda :

2. *Pleurotomaria*, sp.

Cephalopoda :

3. *Orthoceras*, cf. *O. furtivum*, Billings.
 4. " sp.
 5. " sp., cf. *O. Tityrus*, Billings.

Trilobita :

6. *Bathyurus*, sp., cf. *B. Saffordi*, Billings.

XXX. Lot 22, Con. VI., Stanbridge, Que. ; R. W. Ells, 1890.

Echinodermata :

1. Crinoidal fragments.

Brachiopoda :

2. *Lingulella*, sp. nov.
 3. *Discina*, sp. nov.
 4. *Orthis Corinna*, Billings.
 5. " *Armanda*, Billings.
 6. " cf. *O. Minna*, Billings.
 7. " sp. nov.
 8. " " sp. indt.
 9. *Leptella decipiens* (?), Billings.
 10. " sp.
 11. *Strophomena Aurora* (?), Billings.
 12. " sp. nov. With prominent thread-like radiating lines, between which can be seen numerous and concentrically arranged wrinkles or rugæ resembling those of *Strophomena (Leptagonia) rhomboidalis*, Wilckens, and *Strophomena Stephani*, Barrande.
 13. *Porambonites*, sp. nov., or other rhynchonelloid brachiopod, whose affinities are not as yet ascertained.

Gasteropoda :

14. *Pleurotomaria*, sp.
 15. *Clisospira curiosa*, Billings.

Cephalopoda :

16. *Orthoceras Missisquoi*, Billings.
 17. " sp.

Cirripedia :

18. *Turrilepas*, sp. nov. No. 1. Opercular valve of a species of *Turrilepas* with coarsely-marked raised or prominent concentric lines of sculpture when seen under a magnifying lens.

19. *Turrilepas*, sp. nov. No. 2. Opercular valve marked by very fine, closely-arranged, concentric lines. Both species (18) and (19), Nos. 1 and 2 of this collection—are distinct from *Turrilepas Canadensis*, Woodward, described by Dr. Henry Woodward* from the Utica of Ottawa, Canada.

Trilobita :

20. *Agnostus*, sp. nov.
 21. " *Galba*, Billings, or n. sp.
 22. (?) *Dikelocephalus*, sp. (pygidia).
 23. (?) *Dolichometopus*, sp.
 24. *Remopleurides affinis*, Billings.
 25. *Bathyurus Saffordi*, Billings.
 26. " *Nero* (?), Billings, or a very closely related form.
 27. " sp.
 28. *Bathyurellus expansus*, Billings.
 29. " *validus* (?), Billings.
 30. *Asaphus Huttoni* (?), Billings.
 31. " *canalis* (?), Conrad
 32. *Illænus consimilis*, Billings.
 33. " *arcuatus*, Billings.
 34. " *incertus*, Billings.
 35. " *simulator*, Billings.
 36. " *tumidifrons* (?), Billings.
 37. *Cheirurus prolificus*, Billings.
 38. " *Vulcanus* (?), Billings.
 39. " sp.
 40. *Lichas Jukesii*, Billings.
 41. *Harpides desertus*, Billings.
 42. *Harpes Granti*, Billings.

XXXI. Lot 22, Con. VI., Stanbridge, Que. Collection made by R. W. Ells, J. F. Whiteaves, and W. E. Deeks, in 1891.

The following additional species to list from preceding locality were noted :—

Bryozoa :

1. Zoarium somewhat resembling that of *Intricaria*.

*Geol. Mag., vol. VI., p. 271, London, 1889.

Gasteropoda (?):

2. *Clisospira curiosa*, Billings.

XXXII. One mile south of Bedford, Que., R. W. Ells, 1890.

Gasteropoda :

1. *Maclurea ponderosa*, Billings.

XXXIII. Stanbridge, Que., J. F. Whiteaves, 1890.

Gasteropoda :

1. *Pleurotomaria*, sp.
2. *Maclurea ponderosa*, Billings.

Trilobita :

3. *Bolbocephalus* (?), sp. indt.

XXXIV. Three-eighths of a mile north of Mystic Station, C.P.R., Stanbridge, Que., R. W. Ells and W. E. Deeks, 1890.

Brachiopoda :

1. *Leptæna* (*Plectambonites*), sp.
2. *Orthis* (?), *Armanda*, Billings.
3. *Orthis Minna*, Billings.
4. " sp. indt., No. 1.
5. " " No. 2.

Gasteropoda :

6. *Maclurea ponderosa*, Billings.

Cephalopoda :

7. *Orthoceras* sp. Annulations distinct, showing transverse lines of growth developed and preserved on the test of the shell.

Trilobita :

8. (?) *Remopleurides*, sp.
9. *Asaphus*, sp., cf. *A. canalis*, Conrad.
10. *Illænus*, sp., cf. *I. fraternus*, Billings.
11. " *tumidifrons*, Billings.
12. " sp. indt.
13. *Cheirurus Polydorus*? Billings.
14. " (?) sp. indt.

XXXV. Between Bedford and Farnham, Que. (Mystic station), Dr. R. W. Ells, 1890.

Brachiopoda :

1. *Trematis* or *Lingula*, sp. indt.
2. (?) *Acrotreta*, sp. indt.
3. *Eichwaldia*, sp.
4. *Skenidium* (?) sp.

5. *Orthis apicalis*, Billings.
6. *Triplesia radiata*, Whitfield.

Pteropoda :

7. *Conularia plana*, Whitfield. Or a closely related species.

Cephalopoda :

8. *Cyrtoceras*, sp.
9. *Orthoceras*, sp.

Trilobita :

10. *Bathyrurus*, sp.
11. " *Cordai*, Billings.
12. " *Saffordi*, Billings.
13. *Æglina*, sp.
14. *Amphion Westoni*, Billings.
15. " or *Cheirurus*, sp.
16. *Proëtus micropyge* ? Corda. Or a closely related and new species.

Ostracoda :

17. *Primitia cristata* ? Whitfield.

XXXVI. One mile and a quarter east of Phillipsburg, north of the road to St. Armand, Que. Dr. Ells, Mr. J. F. Whiteaves, and Mr. W. E. Deeks, August 11th, 12th, 13th and 14th, 1890.

Hydrozoa :

1. *Stromatocerium* or *Cryptozoon*, sp.

Brachiopoda :

2. *Leptæna* ? sp. indt.
3. *Orthis*, sp., cf. *O. Minna*, Billings.
4. " *Corinna*, Billings.
5. " *Armanda*, Billings.
6. " *Electra*, Billings. (= *Dalmanella Electra*.)
7. " n. sp.
8. (?) sp. indt.
9. *Triplesia calcifera*, Billings.
10. " *radiata*, Whitfield.
11. " sp.

Gasteropoda :

12. *Pleurotomaria Missisquoi*, Billings.
13. " *vagrans* ? Billings.
14. " cf. *P. difficilis*, Whitfield.
15. " *Beekmanensis*, Whitfield.
(? = *P. Calcifera*, Billings.)
16. *Murchisonia*, sp. No. 1.
17. " sp. No. 2.

18. *Helicotoma*, sp.
19. *Bellerophon*, sp.
20. *Tryblidium pileolum*, Whitfield.
21. *Platyceras acutum*, Whitfield.
(= *Tryblidium acutum*, Whitfield.)
22. *Ecculiomphalus (Phanerotinus) intortus*, Billings.
23. " sp. indt.
24. *Ophileta bella*, Billings. (*Euomphalus* proper).
25. *Calaprops lituiformis*, Whitfield.
26. *Fusispira*, sp. indt.

Cephalopoda :

27. *Orthoceras*, sp., cf. *O. bilineatum*, Hall, also *O. Cataline*, Bill., Fig. 5, Bull. Am. Mus., N.H., vol. III., pl. 2.
28. *Orthoceras*, n. sp.
29. " sp.
30. " *Lamarcki*, Billings, or a closely related species.
31. " *Cataline*, Billings.
32. " *furtivum* (?), Billings.
33. *Cyrtoceras*, sp., cf. *C. Raei*, Whitfield.
34. " *Kirbyi* (?), Whitfield.
35. " (?), sp.
36. *Gyroceras*, sp., No. 1.
37. " (?) sp., No. 2.
38. *Lituites Farnsworthi*, Billings.

Trilobita :

39. *Asaphus canalis*, Conrad.
40. " sp.
41. *Nileus*, sp. indt.
42. *Bathyurus Saffordi*, Billings.
43. *Bathyurellus expansus* (?) Billings.
44. *Bolbocephalus Seelyi*, Whitfield.
45. *Ilænus*, sp.
46. *Cheirurus*, sp.

XXXVII. Lot 21, range VI., Stanbridge, Quebec; Ells and Deeks, 1890.

Hydrozoa :

1. *Hyalostelia* (?) sp. Rod-like spicule (?) of a palæozoic sponge related to this genus, if not the same.
2. *Cryptozoon*, sp., cf. *C. Steeli*, Brainerd and Seely (n. sp.)—Bull. Am. Mus. Nat. Hist., vol. II.

Brachiopoda :

3. *Leptaena* (*Plectambonites*) sp.; a large form.
4. *Orthis Evadne* (?), Billings.
5. " sp. indt.
6. " sp. No. 1.
7. " sp. No. 2.
8. *Triplesia radiata*, Whitfield.
9. " *calcifera*, Billings.
10. " *cf. T. lateralis*, Whitfield.

Gasteropoda :

11. *Pleurotomaria* (?) sp., not sufficiently well preserved to ascertain definitely.

Trilobita :

12. *Bathyurus Saffordi*, Billings.
13. " sp., *cf. B. quadratus*, Billings.
14. " sp.
15. *Illænus*, sp.

XXXVIII. Stanbridge, Que., probably lot 20, range VI.; described and recorded by E. Billings in "Palæozoic Fossils," vol. i, pp. 301-335.

Brachiopoda :

1. *Orthis Corinna*, p. 302.
2. " *Minna*, p. 303.
3. *Camerella breviplicata*, p. 304.
4. " *polita*, p. 305.
5. " (?) *costata*, p. 305.

Gasteropoda :

6. *Murchisonia Missisquoi*, p. 307.
7. *Bellerophon Palinurus*, p. 311.
8. *Ophileta bella*, p. 310.

Trilobita :

9. *Asaphus* (?) *curiosus*, p. 318.
10. *Bathyurellus expansus*, p. 318.
11. *Amphion Westoni*, p. 321.
12. " *convexus*, p. 323.
13. *Cheirurus Glaucus*, p. 323.
14. " *Vulcanus*, p. 324.
15. " *prolificus*, p. 325.
16. *Remopleurides affinis*, p. 325.
17. *Illænus simulator*, p. 327.
18. *Harpes Granti*, p. 326.

19. *Illenus incertus*, p. 332.

20. *Lichas Jukesii*, p. 335.

QUEBEC (CITY) FORMATION.

XXXIX. Lot 19, range II., Stanstead, Que. Collected by H. M. Ami and R. W. Ells, 1886, in a cutting on the main road, on the eastern side of Lake Memphremagog, about 100 yards north of the entrance to the grounds and residence of the late Sir Hugh Allan. Determined by Dr. Charles Lapworth.

Graptolitoidea :

1. *Diplograptus foliaceus*, Murchison (= *Diplograptus pristis*, Hall.)
2. *Dicellograptus*, sp., allied to *D. Forchammeri*, Geinitz.
3. " *divaricatus*, Hall.
4. *Climacograptus perexcavatus*, Lapworth.
5. *Corynoides calycularis*, Nicholson.
6. *Dicranograptus* sp. (?)

XL. Lot 7, range XV., Magog, Que. Collected by H. M. Ami and R. W. Ells, 1886, about 150 yards south of the forks of the road along the west side of Lake Memphremagog. Determined by Dr. Charles Lapworth.

Graptolitoidea :

1. *Dicranograptus ramosus*, Hall.
2. *Diplograptus angustifolius*, Hall.
3. " *foliaceus*, Murchison.
4. " *perexcavatus*, Lapworth.
5. *Climacograptus bicornis*, Hall.
6. " *cœlatus*, Lapworth.

XLI. Castle Brook, Willard's Mill, lot 5, range XV., township of Magog, Que. Collections made here by Dr. R. W. Ells and W. E. Deeks, 1890, and by H. M. Ami assisted by H. B. Cushing, 1894.

1. *Leptograptus*, sp. indt.
2. *Dicellograptus*, probably n. sp.
3. *Dicranograptus ramosus*, Hall.
4. *Climacograptus bicornis*, Hall.
5. " " var. *scalaris*.
6. " n. sp.
7. *Diplograptus foliaceus*, Murchison.
8. " *angustifolius*, Lapw.
9. *Glossograptus ciliatus*, Emmons.
10. *Corynoides*, sp.

XLII. Bolton. A small collection—marked "loose"—probably from lot 6, range XIII. of Bolton, west side of Lake Memphremagog, Que.

1. *Climacograptus bicornis*, Hall.
2. *Diplograptus foliaceus*, Murchison.
3. " *angustifolius*, Lapw.

XLIII. Drummondville, Que. Collected by a member of the Geological Survey Staff, 1863. In a rusty weathering indurated graptolitic shale.

1. *Leptograptus*, sp.
2. *Dicellograptus sextans*, Hall.
3. *Climacograptus*, sp., cf. *C. bicornis*, Hall.
" " " var. *scalaris*.
4. (?) *Dendrograptus simplex*, Walcott.
5. *Leptobolus*, sp., or a closely related genus of small brachiopod, too imperfectly preserved and irregularly compressed to be identified with certainty.

XLIV. Farnham Centre, Lot 26, Range I, Que. ; T. C. Weston, 1872. In a dark blue indurated limestone, weathering brown.

1. Obscure specimen of what appears to be *Bolboporites Americanus*, Billings.

Bryozoa :

2. *Pachydictya*, sp. A diminutive form of the genus.

Brachiopoda :

3. *Lingula*, sp., cf. *L. Iole*, Billings, or allied species. This form may eventually prove to be a *Schizambon*.

4. Small *Orthis*-like or leptænid shell, with two distinct kinds of longitudinal costæ. Fifteen (15) larger radiating costæ from the beak to the outer margin, and smaller and more numerous costæ between these larger ones—usually four in number between two of the larger costæ counted along the outer margin. Genus and species not determined. A diminutive form allied to *Leptæna*.

5. *Orthis*, sp., resembling *O. delicatula*, Billings.

Trilobita :

6. *Ampyx Halli*, Billings. Very small form. Cephalon, .5 mm in breadth, and .85 mm. in length.

XLV. Farnham, Que., Lot 26, Range I. ; J. Richardson, 1861. In a dark blue indurated brown weathering limestone.

Brachiopoda:

1. Oboloid shell. Generic relations obscure.
2. *Leptæna*, sp. A smooth variety which resembles *L. sordida*, Billings, and *L. lævissima*, McCoy, in "Synopsis of Silurian fossils of Ireland," p. 27, pl. iii, fig. 7, 1846. A. *Leptella*.
3. *Leptæna*, sp., cf. *Orthis quinquecostata*, McCoy, p. 33, pl. iii, fig. 8 of "Synopsis of the Silurian fossils of Ireland," McCoy, 1846, and subsequently described as *Leptæna quinquecostata*, McCoy. Length of hinge line in Farnham specimen = 1.25 mm. Possibly *Leptella*.
4. *Leptæna*, sp. Probably a *Plectambonites*, like *P. sericea*, (Sowerby).
5. *Strophomena*, sp., resembles very closely "*Orthis undulata*, McCoy" in his "Synopsis of the Silurian fossils of Ireland," p. 36, pl. iii, fig. 22, 1846.
6. *Strophomena*, cf. *S. Aurora*, Billings, but much smaller, apparently a diminutive form with coarse and fine striæ alternating.
7. *Orthis*, sp. cf. *O. Electra*, Billings. With rather strong radiating costæ. This form appears to be a true *Dalmanella*.
8. *Orthis*, cf. *O. delicatula*, Billings.
9. " sp., indt.
10. *Rhynchonella* or *Camerella* (*Triplesia*). Too imperfect for identification.

Cirripedia:

11. *Turrilepas* (?), sp.

Trilobita:

12. *Triarthrus*, sp.; cf. *T. Fischeri*, Billings, or *T. Angelini*, Linnarsson.
13. *Ampyx Halli*, Billings.
14. Asaphus- or Illænus-like fragments, too imperfect for determination.
15. *Lichas* (?), sp. An obscure portion of the cephalic shield of a trilobite resembling this genus.
16. *Dalmanites*, sp., of the type of *Dalmanites callicephalus*, Green.

Ostracoda:

17. *Leperditia*, or *Beyrichia*, sp.

XLVI. Lot 41, ranges V. and VI., West Farnham, Que.; T. C. Weston, 1876. (Two collections, *A* and *B*).

A—In light-coloured rock and shales.

Gasteropoda:

1. Cast of the interior of a gasteropod, probably a *Pleurotomaria* or *Holopea*.

2. *Ophileta* (?) *bella*, Billings. Referable to the genus *Euomphalus*.
 3. *Lophospira* (?), sp. indt. Portion of the last or body volution of a large gasteropod, cf. *Lophospira* Cassina, Whitfield.
 4. *Maclurea*, sp.
- Trilobita*:
5. *Illænus* or *Asaphus*, sp. Too imperfect for identification.

B—In black rusty-weathering shales.

Echinodermata:

1. Crinoidal or cystidean fragments.

Brachiopoda:

2. *Leptaena* (?), sp. indt.
3. *Orthis*, sp. Too fragmentary for identification.

Trilobita:

4. *Bathyurus*, sp. A very diminutive form.

XLVII. Lot 41, Range V., Farnham, Que.; J. Richardson, 1861. In a compact, light-coloured limestone, made up of small irregularly-rounded pellets showing oolitic structure.

Gasteropoda:

1. *Bucania*, sp. Probably a new species. Not *Bellerophon* Palinurus. Umbilicus open with fairly sharp keel on back.
2. *Maclurea*, sp., cf. *M. ponderosa*, Billings. A very small but tolerably perfect cast of a species of *Maclurea*, in characters and proportions agreeing with *M. ponderosa*, Billings.

XLVIII. Lot 32, range III., Farnham, Que.; J. Richardson, 1861. Farnham Centre, Que.; T. C. Weston, 1872. In black, rusty, weathering and wrinkled shale.

Graptolitoidea:

1. Fragments of graptolite, genus and species undeterminable showing the hydrothecæ only on one side of the polypary. There are visible some sixty (60) hydrothecæ in the space of five (5) centimetres—two and two-thirds ($2\frac{2}{3}$) inches. The shale resembles that of Castle Brook, Lake Memphremagog.

XLIX. Road, Farnham Centre to Cowansville, $2\frac{1}{2}$ miles west of Cowansville, lot 26, range VI., Dunham, Que.; R. W. Ells, 1890. In a very coarse and hard bluish-gray limestone.

Echinodermata:

1. Crinoidal or cystidean fragments.

Brachiopoda :

2. *Leptæna* (*Plectambonites*) sp. Fragment.
3. *Orthis*, type of *Dalmanella testudinaria* Dalman. A very small and diminutive form.

Trilobita :

4. *Asaphus* or fragment of asaphoid trilobite.
5. *Illænus*, sp., pygidium, not unlike the pygidium of *Illænus* Bayfieldi, Billings. Note—Also an obscure bryozoary allied to *Ptilodictya*.

L. Allan's Corners, Que. ; R. W. Ells, 1890.

Echinodermata :

1. Crinoidal fragments similar to those found in preceding locality (lot 26, R. VI., Dunham, Que.).

Bryozoa :

2. *Ptilodictya*, sp., or allied genus.

Brachiopoda :

3. *Leptæna* (*Plectambonites*) sp. like *P. sericea*, Sowerby.
4. *Leptæna decipiens*, Billings. (= *Leptella decipiens*, Hall).
5. *Orthis* (*Dalmanella*) *testudinaria*, Dalman.
6. *Triplesia*, sp., cf. *T. calcifera*, Billings. A small and diminutive variety of the above.

Trilobita :

7. *Asaphus*, sp.
8. *Dalmanites*, sp.

LI. Lot 26, range I., East Farnham, Que. ; Geological Survey collection.

The following notes were prepared by the late Mr. E. Billings.

"The fossils of the Farnham limestones are for the most part in a fragmentary condition, and not determinable specifically. The following genera have, however, been recognized :—

"1. *Graptolithus*. A species closely resembling *G. bryonoides* of the Lévis.

"2. *Ptilodictya*, like *P. acuta* of the Trenton. This genus is unknown below the Chazy.

"3. *Stenopora*. This genus ranges from the Lévis upwards.

"4. *Orthis*. Ranges from the Menevian upwards.

"5. *Leptæna*. One species, *L. decipiens*, occurs in the Lévis.

"6. *Ampyx*. Ranges from the Lévis upwards.

"7. *Dalmanites*. Not known below the Trenton.

"8. *Lichas*. Lévis upwards.

"9. *Triarthrus*. Lévis upwards.

"10. *Trinucleus*. Not known below the Trenton.

"11. *Agnostus*. Occurs in the Lévis and older rocks in America. In Europe, somewhat higher.

"The following are the peculiarities of this collection:—

"The genera of trilobites characteristic of the Lévis are absent. The genera (of trilobites) that do occur, are those of the higher rocks. The brachiopoda are more like those of the Trenton than those of the Quebec group. *Ptilodictya* and *Stenopora* are also types that had their greatest development after the general fauna of the Lévis became extinct. The graptolite is of a type characteristic of the Lévis and of the Skiddaw slates. The *Agnostus* is one of a type that ranges from the Lower Silurian downwards.

"The most curious character is that of the two genera (*Agnostus* and *Graptolithus*) which are common in the Lévis, and represented by full-sized individuals. But all those characteristic of the higher rocks are minute. The trilobites when perfect were mostly not more than three or four lines in length. This may be thus accounted for. It is known that on their first appearance many genera and even families consist of only very small species. The Trenton forms at Farnham, therefore, may be the ancestors of the species that afterwards came in. The fossils thus far collected, at this locality, furnish no evidence whatever that the rock is older than the Lévis, but rather that it is a stage more recent than the limestone of Point Lévis and Phillipsburg."

"E. B."

LII. Clarenceville, Que., range III., one mile and a half west of village, on the road from Lacolle, Que.; R. W. Ells and W. E. Deeks, 12th June, 1891. (Range III., Township of Foucault, Que., between Richelieu River and Missisquoi Bay.)

Graptolitoidea :

1. *Diplograptus foliaceus*, Murchison.
2. " *angustifolius*, Hall.
3. " *pristis* (?), Hisinger (as of Hall).
4. *Dicranograptus ramosus*, Hall.
5. *Climacograptus bicornis*, Hall.

LIII. Lot 20, range V., Stanbridge, Que.; about half a mile north of road to North Stanbridge, R. W. Ells, 1890. In a dark grayish-blue pyritiferous limestone.

Graptolitoidea :

1. *Diplograptus*, sp. An obscure graptolite referred with some doubt to the genus *Diplograptus* showing hydrothecæ, about ten (10) in the space of one centimetre.
2. Graptolite. A number of stipes which appear to show hydrothecæ only on one side of polypary, not determinable.

Brachiopoda :

3. *Lingula*, sp., of the type of *L. Irene*, Billings.
4. (?) *Obolus*? *Murrayi*, Billings.
5. *Lingula*, cf. *L. Quebecensis*, Billings, young individuals.
6. *Leptella*, sp. Like *L. decipiens*, Bill., or closely related thereto.
7. *Orthis*, sp. of the type of *O. delicatula*, Billings, but distinct when compared with Newfoundland specimens of *O. delicatula*. There are seen to be from 12 to 14 radiating lines with smaller ones intercalated.
8. *Orthis* (*Dalmanella*) sp. indt.
9. " sp. indt. A small form with ten (10) rather fine costæ of the type of *O. Ella*.

Gasteropoda :

10. *Euomphalus*, sp. The same form occurs in the Champlain Market rocks, Quebec City.
11. *Scenella* or *Metoptoma*, sp.

Pteropoda :

12. *Hyalithes* or *Coleoprion*, sp.

Trilobita :

13. Bathyrus-like trilobite, small head shield only preserved.
14. *Asaphus*, sp. Eye of *Asaphus* or closely related genus.
15. *Ilænus*, sp. indt. pygidium.
16. " sp. Too imperfect for identification.

Ostracoda :

17. *Isochilina* or *Polycope*, sp. indt.

LIV. Shore, Missisquoi Bay, three-eighths of a mile south of Phillipsburg, Que. R. W. Ells, August, 1890.

Graptolitoidea :

1. *Climacograptus*, n. sp. (?)
2. " *bicornis*? Hall.
3. ? *Dicranograptus* sp.

TRENTON FORMATION.

BLACK RIVER DIVISION.

LV. Pointe Claire, Island of Montreal, Que.; collectors, Logan, E. Billings and G. Barnston, jr. (Geological Survey Museum, Ottawa):—

Zoophyta :

1. *Columnaria Halli*, Nicholson.

Pelecypoda :

2. *Cyrtodonta subcarinata*, Billings.

Gasteropoda :

3. *Pleurotomaria Arachne*, Billings.

Cephalopoda :

4. *Actinoceras Bigsbyi*, Stokes.

Trilobita :

5. *Bathyurus extans*, Hall.
6. *Encrinurus vigilans*, Hall.

LVI. Pointe Claire, old quarries for stone in piers of Victoria bridge, Jacques Cartier Co., Island of Montreal, Que. Peter Redpath Museum collection, McGill University, Montreal.

Hydroida :

1. *Stromatocerium rugosum*, Hall.

Zoophyta :

2. *Tetradium fibratum*, Safford.

Bryozoa :

3. *Pachydietya acuta*, Hall.

Brachiopoda :

4. *Trematis Montrealensis*, Billings.

Pelecypoda :

5. *Cyrtodonta Huronensis*, Billings.
6. " sp.

Gasteropoda :

7. *Murchisonia perangulata*, Hall.
8. *Helicotoma larvata*, Salter.

Cephalopoda :

9. *Orthoceras multicameratum*, Hall.
10. *Gonioceras anceps*, Hall.

Ostracoda :

11. *Primitia leperditioides*, Jones.

Trilobita :

12. *Bathyurus extans*, Hall.
13. *Encrinurus vigilans* (?), Hall.

LVII. One-eighth of a mile above the ferry, St. Vincent de Paul, Isle Jésus, Laval Co., Que. Collected by Dr. R. W. Ells and Mr. J. F. Whiteaves, 1895. Determined by Mr. Whiteaves in September, 1895.

Plante :

1. *Licrophycus Ottawaënsis* (?), Billings.

Hydroïda :

2. *Stromatocerium rugosum* (?), Hall.

Zoophyta :

3. *Tetradium fibratum*, Safford.
4. *Columnaria Halli*, Nicholson.
5. *Streptelasma corniculum*, Hall.

Bryozoa :

6. *Pachydietya acuta*, Hall.

Crinoïdea :

7. *Glyptocrinus*, stem fragments.

Brachiopoda :

8. *Strophomena incurvata*, Shepard.

Pelecypoda :

9. *Cyrtodonta Huronensis*, Billings.

Gasteropoda :

10. *Murchisonia gracilis*, Hall.

Cephalopoda :

11. *Goniceras anceps*, Hall.
12. *Actinoceras Bigsbyi*, Stokes.
13. *Cyrtoceras*, several species.
14. *Orthoceras* “

TRENTON DIVISION.

LVIII. St. Dominique, Que. Higher beds, W. E. Deeks, 19th June, 1891.

Echinodermata :

1. Crinoidal or cystidean fragments.

Bryozoa :

2. *Prasopora Selwyni*, Nicholson* (= *P. lycoperdon*, Vanuxem).
3. Other species of Monticuliporoids requiring micro-sections.

Brachiopoda :

4. *Discina* or *Trematis* sp. Too imperfect for determination.
5. *Orthis* (*Dalmanella*) *testudinaria*, Dalman.
6. *Orthis tricenaria*, Conrad.
7. “ sp.
8. *Platystrophia biforata*, Schlotheim, var. *lynx*, Eichwald.

*Micro-section 2137, Geol. Surv. Can., prepared by Mr. T. C. Weston.

9. *Strophomena incurvata*, Shepard, Hall.
10. *Rafinesquina alternata* (Conrad), Emmons.
11. *Plectambonites sericea*, Sowerby.

Cephalopoda :

12. *Orthoceras* (?) sp.

Trilobita :

13. *Trinucleus concentricus*, Eaton.
14. *Calymene senaria*, Conrad.
15. *Asaphus*, sp.

LIX. St. Dominique, Que. ; T. C. Weston, 1879, and J. Richardson, date not given. The rock is a sub-crystalline limestone traversed in many directions by white veins of calcite.

Bryozoa :

1. *Prasopora* Selwyni, Nicholson.
2. (?) *Monotrypella Trentonensis*, Nicholson.

Brachiopoda :

3. *Orthis tricenaria*, Conrad.
4. *Platystrophia biforata*, Schlotheim, var. *lynx*, Eichwald.
5. *Strophomena incurvata*, Shepard.
6. *Rafinesquina alternata* (Conrad), Emmons.
7. *Plectambonites sericea*, Sowerby.

Trilobita :

8. *Asaphus platycephalus*, Stokes.
(= *Isotelus gigas*. DeKay.)
9. (?) *Encrinurus vigilans*, Hall.

LX. St. Pie, Que. ; Thos. C. Weston, 1879. In a dark gray impure limestone with white veins of calcite. Not classified :—*Solenopora compacta*, Billings.

Bryozoa :

1. *Prasopora* Selwyni, Nicholson.
2. (?) *Monotrypella Trentonensis*, Nicholson.

Brachiopoda :

3. *Orthis* (*Dalmanella*) *testudinaria*, Dalman.
4. *Platystrophia biforata*, Schlotheim, var. *lynx*, Eichwald.
5. *Rafinesquina alternata* (Conrad), Emmons.
6. *Plectambonites sericea*, Sowerby.

Gasteropoda :

7. *Bellerophon bilobatus*, Sowerby.
8. *Murchisonia gracilis*, Hall.

Trilobita :

9. *Calymene senaria* ?, Conrad.
10. *Asaphus platycephalus* ?, Stokes.

LXI. Papineau Road range, two miles south of Abbotsford, Que., one-eighth of a mile west of railway between Abbotsford and L'Ange Gardien ; R. W. Ells. Two collections.

A.

Echinodermata :

1. Crinoidal fragments.

Bryozoa :

2. *Prasopora Selwyni*, Nicholson.
3. *Pachydictya acuta*, Hall.

Brachiopoda :

4. *Lingula riciniformis* ?, Hall.
5. *Orthis* (*Dalmanella*) *testudinaria*, Dalman sp.
6. *Platystrophia biforata*, Schlotheim, var. *lynx*, Eichwald.
7. *Rafinesquina alternata* (Conrad), Emmons.
8. *Plectambonites sericea*, Sowerby.

Cephalopoda :

9. *Endoceras proteiforme*, var. *tenuistriatum*, Hall.
10. *Orthoceras bilineatum*, Hall.

Trilobita :

11. *Trinucleus concentricus*, Eaton.
12. *Calymene senaria*, Conrad.
13. *Asaphus platycephalus*, Stokes.

B.

LXII. Papineau Road, two miles south of Abbotsford, Que., near railway crossing ; R. W. Ells, 1890. In a black unevenly bedded and somewhat indurated limestone :—

Brachiopoda :

1. *Plectorthis plicatella* (*Orthis*), Conrad.
2. *Dalmanella testudinaria* (*Orthis*), Dalman.
3. *Orthis tricenaria*, Conrad.

LXIII. Highgate Springs, Vermont (near Canadian boundary line). H. M. Ami and R. W. Ells, 1883.

Bryozoa :

1. *Pachydictya acuta*, Hall.

2. *Prasopora Selwyni*, Nicholson.
3. Other monticuliporoidea requiring micro-sections.

Brachiopoda :

4. *Orthis (Dalmanella) testudinaria*, Dalman.
5. *Orthis (Plectorthis) plicatella*, Conrad.
6. *Orthis (Dinorthis) pectinella*, Emmons.
7. *Rafinesquina alternata* (Conrad), Emmons.
8. *Strophomena incurvata*, Shepard.
9. *Rhynchotrema inaequalis*, Castelnau.
(= *Rhynchonella increbescens*, Hall.)
10. *Plectambonites sericea*, Sowerby.

Gasteropoda :

11. *Bellerophon bilobatus*, Sowerby.
12. *Raphistoma lapicida*, Salter.

Pteropoda :

13. *Conularia Trentonensis*, Hall.

Cephalopoda :

14. *Orthoceras arcuoliratum*, Hall.
15. 16. *Orthoceras*, two species as yet undetermined.

Trilobita :

17. *Trinucleus concentricus*, Eaton.
18. *Calymene senaria*, Conrad.
19. *Asaphus megistos*, Locke.
20. *Harpes Ottawaensis*, Billings.

LXIV. Mile-End Quarries, &c, Island of Montreal, Hochelaga County, Que. Classified list of species compiled from various sources.

Asteroidea :

1. *Edrioaster Bigsbyi*, Billings.

Cystoidea :

2. *Pleurocystites squamosus*, Billings.
3. " *exornatus*, Billings.
4. *Glyptocystites Logani*, Billings.
5. " " var. *gracilis*, Billings.
6. " *multiporus*, Billings.

Crinoidea :

7. *Dendrocrinus acutidactylus*, Billings.
8. " *proboscidiatus*, Billings.
9. " *cylindricus*, Billings.
10. *Heterocrinus Canadensis*, Billings.
11. " *tenuis*, Billings.

12. *Archæocrinus pyrifomis*, Billings, sp.
 13. *Cleiocrinus grandis*, Billings.

Bryozoa :

14. *Subretepora reticulata*, Hall (= *Intricaria reticulata*, Hall, of former reports).
 15. " *Dawsoni*, Ulrich.
 16. *Protocrisina exigua*, Ulrich.
 (= *Gorgonia*? *perantiqua*, Hall.)
 17. *Phylloporina Trentonensis*, Nicholson.
 18. *Pachydictya acuta*, Hall.
 19. " *triserialis*, Ulrich.
 20. *Phænopora incipiens*, Ulrich.
 21. *Nematopora ovalis*, Nicholson.
 22. *Arthronema tenue*, James sp.
 23. *Amplexopora superba*, Foord.
 24. *Prasopora Selwyni*, Nicholson.

Brachiopoda :

25. *Lingula quadrata*, Eichwald.
 26. " *Kingstonensis*, Billings.
 27. " *riciniformis*, Hall.
 28. " *Progne*, Billings.
 29. " *Daphne*, Billings.
 30. " *Philomela*, Billings.
 31. *Schizotreta Pelopea*. (= *Discina Pelopea*, Billings).
 32. *Orbiculoidea lamellosa*, Hall (= *Discina Circe*, Billings).
 33. *Trematis terminalis*, Emmons.
 34. " *Montrealensis*, Billings.
 35. *Orthis (Plæsiomys) subquadrata*, Hall.
 36. " (*Dalmanella*) *testudinaria*, Dalman.
 37. " (*Dinorthis*) *pectinella*, Emmons.
 38. *Platystrophia biforata*, var. *lynx*, Eichwald.
 39. *Rafinesquina deltoidea*, Conrad sp.
 40. " *alternata*, (Conrad) Emmons.
 41. *Plectambonites sericea*, Sowerby.
 42. *Rhynchotrema inæquivalvis*, Castelnau.
 43. *Zygospira recurvirostra*, Hall.
 44. " *deflecta*, Hall.
 45. *Anastrophia hemiplicata*, Hall.

Pelecypoda :

46. *Avicula Hermione*, Billings.

47. *Modiolopsis carinata*, Hall.
48. " *fabia*, Conrad.
49. *Ctenodonta dubia*, Hall.
50. " *nasuta*, Hall.
51. " *astartæformis*, Salter.
52. *Ambonychia bellistriata*, Hall.

Gasteropoda :

53. *Ecculiomphalus Trentonensis*, Conrad.
54. *Cyrtolites compressus*, Emmons.
55. *Bellerophon bilobatus*, Sowerby.
56. *Trochonema umbilicatum*, Hall.
57. *Cyclonema Montrealense*, Billings.
58. " *Hageri*, Billings.
59. *Holopea symmetrica*, Hall.
60. " *Nereis*, Billings.
61. *Subulites subfusiformis*, Hall.
62. *Metoptoma Trentonensis*, Billings.
63. *Conularia Trentonensis*, Hall.
64. *Murchisonia gracilis*, Hall.
65. *Pleurotomaria Americana*, Billings.

Cephalopoda :

66. *Orthoceras strigatum*, Hall.
67. " *bfineatum*, Hall.
68. *Cyrtoceras Juvenale*, Billings.
69. " *macrostomum* (?), Hall.
70. *Endoceras proteiforme*, Hall.
71. " " *var. lineolatum*, Hall.

Vermes :

72. *Serpulites dissolutus*, Billings.
73. *Cornulites flexuosus*, Hall.

Trilobita :

74. *Trinucleus concentricus*, Eaton.
75. *Calymene senaria*, Conrad.
76. *Cheirurus pleurexanthemus*, Green.
77. *Asaphus platycephalus*, Stokes (= *Isotelus gigas*, DeKay).

Ostracoda :

78. *Leperditia Canadensis*, var. *nana*, Jones.

LXV. Joliette, County of Joliette, L'Assomption River, Que.; collector, H. M. Ami, 1881.

Graptolitoidea :

1. *Diplograptus*, cf. *D. putillus*, Hall.

(146 J)

Bryozoa :

2. *Pachydictya acuta*, Hall.
3. " sp. indt.
4. *Ptilodictya maculata*, Ulrich.
5. *Monotrypella Trentonensis*, Nicholson.
6. *Prasopora Selwyni*, Nicholson.
7. *Amplexopora Canadensis*, Foord.
8. *Solenopora compacta*, Billings. (Zoological affinities in question.)

Crinoidea :

9. *Glyptocrinus ramulosus*, Billings.

Brachiopoda :

10. *Orthis (Plectorthis) plicatella*, Conrad.
11. " (*Dalmanella*) *testudinaria*, Dalman.
12. *Rafinesquina alternata*, (Conrad) Emmons.
13. *Plectambonites sericea*, Sowerby.

Pteropoda :

14. *Conularia Trentonensis*, Hall.

Gasteropoda :

15. *Cyclonema bilix*, Hall.
16. *Trochonema umbilicatum*, Hall.
17. *Pleurotomaria Progne*, Billings.

Cephalopoda :

18. *Endoceras proteiforme*, Hall.
19. " *multitubulatum*, Hall.

Vermes :

20. *Serpulites dissolutus*, Billings.

Trilobita :

21. *Calymene senaria*, Conrad.
22. *Asaphus platycephalus*, Stokes.
23. *Illænus*, cf. *I. Milleri*, Billings.
24. *Cheirurus pleurexanthemus*, Green.

LXVI. Joliette, Canadian Pacific Railway quarry, between the two bridges on L'Assomption River, Joliette County, Que.; collector, N. J. Giroux, October, 1892:—

Graptolitoidea :

1. *Diplograptus* or *Climacograptus*, too imperfect for identification.

Bryozoa :

2. *Amplexopora* or *Batostoma* sp.
3. *Pachydictya acuta*, Hall.

4. *Ptilodictya maculata*, Ulrich.
5. *Solenopora compacta*, Billings.

Brachiopoda :

6. *Lingula Philomela* (?), Billings.
7. " or *Discina* sp., too imperfect for identification.
8. *Orthis (Dalmanella) testudinaria*, Dalman.
9. *Orthis tricenaria* (?), Conrad.
10. *Rafinesquina alternata* (Conrad), Emmons.
11. *Strophomena incurvata*, Shepard.

Pteropoda :

12. *Conularia quadrata*, Walcott, or allied species.
13. " *Trentonensis*, Hall.

Trilobita :

14. *Acidaspis spiniger*, Hall.
15. *Cheirus pleurexanthemus*, Green.
16. *Asaphus platycephalus*, Stokes.
17. *Illænus Milleri*, Billings.

UTICA FORMATION.

XLVII. Clarenceville, Que., range IV., ridge east of the village;
R. W. Ells and W. E. Deeks, 12th June, 1891.

Spongiae :

1. ? *Cyathophycus reticulatus*, Walcott.

Graptolitoidea :

2. *Climacograptus*, sp.
3. *Orthograptus quadrimucronatus*, Hall.

Cephalopoda :

4. *Endoceras proteiforme*, Hall.
(? = *Orthoceras lamellosum*, Hall).

Trilobita :

5. *Triarthrus* sp., cf. *T. glaber*, Billings.
6. " *Becki*, Green.

LXVIII. Lacolle, Que., half a mile east of the village, in river along
side of road to Grand Trunk station. R. W. Ells and W. E. Deeks,
12th June, 1891.

Graptolitoidea :

1. *Climacograptus*, sp. Same form also occurs at Holland Patent,
N. Y., and is referable to *C. bicornis*, Hall, by most writers.

2. *Diplograptus mucronatus* (?), Hall.

Brachiopoda :

3. *Plectambonites sericea*, Sowerby.

Trilobita :

4. *Triarthrus Becki*, Green.

LXIX. Lacolle, Que.; one-eighth of a mile west of the Richelieu River bridge, 12th June, 1891. R. W. Ells and W. E. Deeks.

Graptolitoidea :

1. *Orthograptus quadrimucronatus*, Hall.

Trilobita :

2. *Triarthrus Becki*, Green.

LXX. Montreal ; below piers, at low water, north end of Victoria Bridge, Point St. Charles. Collector, Thos. Curry, 1891.

Graptolitoidea :

1. *Dendrograptus simplex*, Walcott.
2. *Reteograptus ? Eucharis*, Hall.
3. *Orthograptus quadrimucronatus*, Hall.
4. *Climacograptus Scharenbergi* (?) Lap.

Cephalopoda :

5. *Endoceras proteiforme*, Hall.

Trilobita :

6. *Triarthrus Becki*, Green.

LXXI. Montreal, Que.; also collected by Thos. Curry, on the western extremity of St. Helen's Island, and at low water in the harbour, from blocks obtained in dredgings by Public Works Department.

Graptolitoidea :

1. *Climacograptus* sp.
2. *Leptograptus flaccidus*, Hall.
3. *Diplograptus* sp.

Brachiopoda :

4. *Leptobolus insignis*.
5. *Orthis (Dalmanella) testudinaria*, Dalman

Vermes :

6. *Cornulites immaturum*, Hall.

Cephalopoda.

7. *Orthoceras lamellosum*, Hall.

LORRAINE FORMATION.

LXXII. Chambly, Que. W. E. Deeks, 1890.

Echinodermata :

1. Crinoidal fragments.

Graptolitoidea :

2. (?) *Orthograptus quadrimucronatus*, Hall.

Brachiopoda :

3. *Pholidops subtruncatus*, Hall.
4. *Rafinesquina alternata*, (Conrad) Emmons.
5. *Streptorhynchus Trentonensis*, Winchell and Schuchert.
6. *Leptæna* (*Plectambonites*) *sericea*, Sowerby. Two varieties of this species occur in the collection.
7. *Rhynchotrema inæquivalvis*, Castelnau, sp.
8. *Zygospira Headi*, Billings.

Pelecypoda :

9. *Pterinea demissa*, Conrad.
10. *Lyrodesma pulchellum*, Emmons.
11. *Orthodesma pholadis* (?), Conrad.
12. *Modiolopsis curta*, Hall.*
13. " *faba*, Conrad.
14. *Ambonychia* (*Byssonychia*) *radiata*, Hall.

Gasteropoda :

15. *Bellerophon bilobatus*, Sowerby.
16. *Murchisonia gracilis*, Hall.
17. " *Milleri*, Hall.

Trilobita :

18. *Calymene*, sp. indt.
19. *Illænus*, sp. indt.
20. *Proëtus*, sp.

LXXIII. St. Hyacinthe, Que. ; W. E. Deeks, 1891 :—

Echinodermata :

1. Crinoidal stems and fragments.

Hydromedusæ :

2. (?) *Sagenella ambigua*, Walcott, parasitic on the shell of an orthoceratite.
3. *Orthograptus quadrimucronatus*, Hall.

*Also *Clidophorus planulatus*, Conrad, and a species of *Climacograptus*.

Bryozoa :

4. Monticuliporoidea, requiring micro-sections.

Brachiopoda :

5. *Lingula*, sp. indt.
6. *Orthis* (*Dalmanella*) *testudinaria*, Dalman.
7. *Leptaena* (*Plectambonites*), sp.
8. *Rhynchotrema inaequalis*, Castelnau.
9. *Zygospira modesta*, Say.

Pelecypoda :

10. *Clidophorus planulatus*.
11. *Nucula levata*, Hall.
12. *Modiolopsis curta*, Hall.
13. " *faba*, Conrad.
14. " *modiolaris* (?), Conrad.
15. *Lyrodesma post-striatum*, Emmons.
16. *Orthodesma pholade*, Conrad.

Gasteropoda :

17. *Cyrtolites ornatus* (?), Conrad.
18. *Bellerophon bilobatus*, Sowerby.
19. *Trocholites*, sp.

Cephalopoda :

20. *Endoceras proteiforme*, Hall, probably *Orthoceras lamellosum*, Hall.

Trilobita :

21. *Trinucleus*, sp. Portion of the ornamented border around the cephalic shield.
22. *Triarthrus*, sp., cf. *T. Becki*, Green.

LXXIV. Yamaska River, one mile and a half below the mouth of Servailles River, near St. Hyacinthe, Que. N. J. Giroux, 1890.

Echinodermata :

1. Crinoidal columns and other fragments.

Hydromedusæ :

2. (?) *Alecto* or other related genus.

Brachiopoda :

3. *Lingula*, sp.
4. *Pholidops subtruncatus*, Hall.
5. *Orthis* (*Dalmanella*) *testudinaria*, Dalman.
6. *Orthis* (*Dinorthis*) *pectinella*, Conrad.
7. *Orthis* (*Plectorthis*) *plicatella*, Hall.
8. *Rafinesquina alternata*, (Conrad) Emmons.

9. *Strophomena Trentonensis*, Winchell & Schuchert).
10. *Plectambonites sericea*, Sowerby.
11. *Rhynchotrema inaequalvis*, Castelnau.

Pelecypoda :

12. *Modiolopsis*, sp.
13. *Ambonychia* (*Byssonychia*) *radiata*, Hall.

Gasteropoda :

14. *Cyrtolites*, sp.

Cirripedia :

15. *Turrilepas* (?), sp.

Trilobita :

16. *Trinucleus concentricus* (?), Eaton. Possibly a new form.
17. *Triarthrus* (?), sp. indt.
18. *Calymene senaria*, Conrad.
19. *Asaphus megistos*, Locke.

LXXV. Rougemont, Que. ; Thos. Curry, 1872.

Echinodermata :

1. Crinoidal fragments.

Brachiopoda :

2. *Lingula curta* (?), Hall.
3. *Pholidops subtruncatus*, Hall.
4. *Orthis* (*Hebertella*) *occidentalis*, Hall.
5. (*Dalmanella*) *testudinaria*, Dalman.
6. *Plectambonites sericea*, Sowerby.
7. *Rafinesquina alternata*, (Conrad) Emmons.
8. *Strophomena nitens*, Billings.
9. *Zygospira* Headi, Billings.

Pelecypoda :

10. *Orthodesma parallelum*, Hall.
11. *Clidophorus planulatus*, Conrad.
12. *Orthodesma pholade* Hall.
13. *Pterinea demissa*, Conrad.

Gasteropoda :

14. *Bellerophon bilobatus*, Sowerby.
15. *Cyclonema* ?? sp. indt.
16. *Cyrtolites ornatus*, Conrad.

Trilobita :

17. *Calymene senaria*, Conrad.
18. *Asaphus* sp.

LXXVI. River des Hurons, Que. T. Curry, 1872.

Pelecypoda :

1. *Ambonychia* (*Byssónychia*) *radiata*, Hall, sp.
2. *Pterinea demissa*, Conrad.
3. *Modiolopsis modiolaris*, Conrad.
4. " *anodontoides*, Conrad.
5. " *pholadiformis*, Hall.
6. *Clidophorus planulatus*, Conrad.
7. *Orthodesma parallelum*, Hall.

Trilobita :

8. *Triarthrus Becki*, Green.
9. *Asaphus megistos*, Locke.

SILURIAN FOSSILS.

LXXVII. North Stoke, Que. H. M. Ami and R. W. Ells, 1886.
(Not previously published. S. E. Sheet.)*Zoophyta :*

1. *Favosites Gothlandicus*, Lamarck. The corallites in these specimens measure a trifle over two (2) millimetres each, five corallites in the space of a little over ten millimetres. The largest corallites measure three (3) millimetres.

2. *Favosites*, with much smaller corallites than sp. No. 1, cf. *F. Helderbergia*, Hall. Aperture or breadth of each corallite about one millimetre, or ten corallites in the space of one centimetre.

3 *Syringopora*, sp. indt.

4. *Zaphrentis*, sp. About forty (40) radiating lamellæ in the circumference of the polyp.

Echinodermata :

5. Crinoidal fragments. Both large and small fragments, probably referable to two distinct species.

Brachiopoda :

6. Obscure markings like the spiral supports of *Atrypa reticularis*.

7. Obscure cast of *Spirifera*, cf. *S. Niagarensis*, but smaller than Ontario or New York representatives of that species.

Gasteropoda :

8. *Straparollus*, sp. Three volutions—one large and two much smaller. Shows also the nepionic stage of the shell, &c., with measurements as follows:—

- (1.) Embryonic shell, 1 mm. across.
- (2.) 1st volution 3 " "
- (3.) 2nd " 8 " "
- (4.) 3rd or body volution 15 mm. across.

The specimen is preserved as a mould of the exterior or possibly as a mould of the cast of the interior of the shell.

LXXVIII. "Georgeville," Que.; A. Webster, 1879 :—

Zoophyta :

1. Halysites catenularia, Linnæus.
2. Favosites Gothlandicus, Lamarck. A tolerably well preserved specimen, showing the mural pores, &c.; resembles the form occurring near Tuck's Landing, Sargent's Bay, on the west side of the lake.
3. Favosites, sp., cf. *F. favosus*, Goldfuss. With exceptionally large corallites.

4. Zaphrentis, sp.

Echinodermata :

5. Fragments of crinoidal columns.

LXXIX. Capt. Gully's point, opposite Owl's Head, Lake Memphremagog, Que.; Ells, 1890.

Hydroïda :

1. Stromatoporoid (undetermined).

Zoophyta :

2. Favosites Gothlandicus, Lamarck.
3. " with smaller corallites, and resembling *F. Helderbergiæ*, Hall.

LXXX. Round Island, Lake Memphremagog, Que.; Ells, July, 1890 (in a dark gray glossy pyritiferous calc-schist; obscure fossils).

1. Stromatopora, sp.
2. Heliolites, sp. Very imperfectly shown.
3. Favosites, sp. indt.

LXXXI. Knowlton Landing, Que.; Ami, 1886, (now known as Tuck's Landing P.O., Que.), Sargent's Bay, Lake Memphremagog, Que. :—

Plantæ :

1. Psilophyton, sp.

Zoophyta :

2. Favosites Gothlandicus, Lamarck
(154 J)

Bryozoa :

3. Polypora or Monticuliporoid.

Brachiopoda :

4. Rhynchonella, sp.; type of *R. Wilsoni*, Sowerby.

LOWER HELDERBERG DIVISION.

LXXXII. St. Helen's Island, St. Lawrence River, opposite Montreal (Dawson collection; Peter Redpath Museum of McGill University):—

Besides numerous fragments of crinoidal columns, &c.

Zoophyta :

1. Favosites, cf. *F. Gothlandicus*, Lamarck.
2. " resembling *F. Helderbergiae*, Hall.
3. " ? sp. indt.
4. Pachypora ? sp.
5. ? *Zaphrentis* sp. No. 1.
6. " sp. No. 2.
7. Undetermined cyathophylloid coral.

Bryozoa :

8. Callopora or Calloporella sp.
9. Polypora, cf. *P. perangulata*, Hall.
10. Fenestella (?) sp. indt.
11. Ptilodictya ? sp.

Brachiopoda :

12. Chonetes, cf. *C. melonica* or n. sp.
13. Orthis, probably *Orthis* (*Rhipidomella*) *eminens*, Hall.
14. *Orthis* (*Rhipidomella*) *oblata*, Hall.
15. " resembling somewhat *Orthis* (*Orthostrophia*) *strophomenoides*, Hall.
16. *Strophonella punctulifera*, Conrad.
17. " *cavumbona*, Hall.
18. *Strophodonta varistriata*, Conrad, showing tendency towards var. *arata*.
19. *Strophodonta varistriata*, Conrad. Var. This form is more strongly arcuate than the type specimens figured.
20. ? *Strophodonta Becki*, Hall or *Streptorhynchus Woolworthianum*, Hall.
21. *Leptagonia rhomboidalis*, Wilckens.
22. Strophomenoid shell resembling somewhat *Streptorhynchus radiatum*, Vanuxem.

23. *Spirifera concinna*, Hall.
 24. " " (large variety).
 25. " *cf. S. Cumberlandiæ*, Hall.
 26. " n. sp. (?); also another of the type of *S. arenosa*, Conrad.
 27. " *cycloptera*, Hall.
 28. " sp. with from eighteen to twenty costæ on each side of the mesial sinus. General appearance very much like *S. pennata* (= *S. mucronata*), not quite so arcuate and the concentric lines of growth are not so strongly lamellose or rugose.
 29. *Spirifera, cf. S. perlamellosa*, Hall.
 30. *Atrypa reticularis*, Linnæus.
 31. *Trematospira multistriata*, Hall, or closely related species.
 32. ? *Leiorhynchus*, sp. indt. Unlike *L. multicosstum*, Hall.
 33. *Rhynchonella abrupta*, Hall.
 34. *Rhynchonella, cf. R. acutiplicata*, Hall.
 35. " *æquivalvis* (?), Hall, possibly a *Rensselaria*.
 36. " *formosa*, Hall. Since referred to the genus *Stenoschisma*.
 37. " *nucleolata*, Hall.
 38. " *nobilis*, Hall. One of the specimens found in conjunction with this species bears a strong resemblance to *R. Campbellana*, Hall.
 39. *Rhynchonella pleiopleura* or *multistriata* of Hall.
 40. *Rhynchonella ventricosa*, Hall.
 41. *Eatonia sinuata*, Hall, or a closely related species.
 42. *Pentamerus galeatus*, Dalman.
 43. " *pseudogaleatus*, Hall.
- Pelecypoda* :
 44. *Pterinea*, sp., *cf. P. textilis*, Hall. A small variety.
- Gasteropoda* :
 45. *Platyostoma depressum*, Hall.

DEVONIAN FOSSILS.

LXXXIII. Sargent's Bay, Lake Memphremagog, west side. Collected by H. M. Ami, 1894.

Spirophyton cauda-galli, Vanuxem. This plant is sometimes referred to the genus *Taonurus*, and as a rule characterizes a special horizon in the Helderberg Mountains of New York State and elsewhere. It has been met with in Eastern Quebec and New Brunswick. At this locality the flag stones on which this species occurs abundantly

are inclined at right angles to the horizon along the side and bed of a small stream which flows into the bay about three-quarters of a mile above Tuck's Landing.

LXXXIV. Owl's Head, Lake Memphremagog, Que. From the Devonian limestone "belts" referred to by Sir Wm. Logan and Mr. E. Billings in the "Geol. of Canada, 1863," p. 436.

Hydroida :

1. *Stromatopora concentrica*, Goldfuss.

Zoophyta :

2. *Favosites Gothlandicus*, Lamarck.
3. " *basalticus*, Goldfuss.
4. " *polymorpha*, Goldfuss.
5. *Zaphrentis*, sp. indt.
6. *Heliophyllum*, sp. indt.
7. *Diphyphyllum arundinaceum*, Billings.
8. *Syringopora Hisingeri*, Billings.

Echinodermata :

9. Crinoidal fragments.

Geological Survey Department,
Ottawa September 20th, 1895.