

V.—PHENOLOGICAL OBSERVATIONS MADE AT SEVERAL STATIONS  
IN EASTERN CANADA DURING THE YEAR 1894.—COM-  
PILED BY A. H. MACKAY, LL.D., HALIFAX.

(Read 13th May, 1895.)

The observations conducted under the auspices of the Botanical Club of Canada for 1894 are more complete and extended than those published the previous two years. The observers to be credited with this work at the various stations are the following:

*Yarmouth, N. S.*—Miss Antoinette Forbes, B. A.

*Shelburne, N. S.*—Mr. Angus McK. Swanburg.

*Halifax City, N. S.*—Mr. Harry Piers.

*Musquodoboit Harbor, N. S.*—Rev. Jas. Rosborough.

*Berwick, N. S.*—Miss Ida Parker.

*Wolfville, N. S.*—Prof. A. E. Coldwell, M. A.

*Port Hawkesbury, C. B.*—Miss Louise M. Paint.

*Antigonish, N. S.*—Prof. MacAdam, M. A.

*Pictou, N. S.*—Mr. C. B. Robinson, B. A.; Mr. W. A. Hickman.

*Wallace, N. S.*—Miss M. E. Charman.

*Charlottetown, P. E. I.*—Principal J. MacSwain.

*Grand Harbor, Charlotte Co., N. B.*—Mr. Henry D. Perkins.

*Richibucto, N. B.*—Miss Isabella J. Caie.

*Dalhousie, N. B.*—Mr. Alex. Ross, B. A.

*Winnipeg, Manitoba.*—Rev. Wm. A. Burman, B. D.

Tables B. and C. are given merely as specimens of inductions which can be made from Table A, or the series of such tables for a few years.

TABLE A.—PHENOLOGICAL OBSERVATIONS FOR 1894

*Giving the day of the year (by number) of the first appearances of each column of the table below. Last day of Jan., 31; Feb., 59; Sept., 273; Oct., 304; Nov., 334; Dec., 365.*

Number.	PHENOMENA.	Yarmouth, N. S.	Shelburne, N. S.	Halifax, N. S.	Musquodoboit Har- bor, N. S.	Berwick, N. S.
1	Alder. Shedding pollen.....	113	107	112	119	119
2	Aspen ".....	120	120	112	119	123
3	" Leafing out.....	140	140	137	134	147
4	Red Maple. Flowering.....	120	118	137	134	115
5	Hepatica. ".....	112	124	137	137	128
6	Adder's Tongue Lily. Flowering.....	114	124	133	138	138
7	Mayflower. ".....	69	104	74	110	...
8	Dandelion. ".....	112	124	137	137	132
9	Strawberry, (wild). ".....	114	124	133	138	126
10	" (cultivated). Ripe Fruit.....	156	167	167	167	162
11	Cherry, (cultivated). Flowering.....	142	121	155	155	140
12	" " Ripe Fruit.....	142	121	155	155	196
13	Wild Red Cherry. Flowering.....	142	121	155	155	132
14	Indian Pear. ".....	138	131	142	149	...
15	" Ripe Fruit.....	138	131	142	149	...
16	Apple, (cultivated). Flower.....	144	144	144	162	143
17	Oaks. Flowering.....	175	175	175	175	152
18	Hawthorne. Flowering.....	168	156	170	170	159
19	Lilac. ".....	163	163	169	170	153
20	Raspberry, (wild). Fruiting.....	211	211	211	211	196
21	Wheat, (Spring). 1st sewing.....	211	211	211	211	...
22	" " Harvesting.....	211	211	211	211	237
23	Song Sparrow. 1st Appearance.....	90	90	90	90	98
24	American Robin. ".....	60	79	74	74	61
25	Spotted Sandpiper. ".....	144	144	144	144	124
26	Swallow. ".....	109	109	116	116	110
27	Kingfisher. ".....	118	118	133	133	112
28	Hummingbird. ".....	137	137	137	137	136
29	Night Hawk ".....	144	144	144	144	140
30	Wild Ducks. First Birds.....	100	100	100	100	100
31	" First Flock.....	68	68	68	68	100
32	" Migrating South.....	258	258	258	258	258
33	Wild Geese. First Birds.....	337	337	337	337	337
34	" First Flock.....	82	82	82	82	337
35	" Migrating South.....	337	337	337	337	337
36	Frogs' heard.....	96	106	112	112	108

IN THE ATLANTIC PROVINCES AND WINNIPEG.

*leaf, flower, fruit, bird, &c., at each of the several Stations, above Mar., 90; April, 120; May, 151; June, 181; July, 212; Aug., 243;*

Number.	Wolfville, N. S.	Southern Nova Scotia.	Port Hawkesbury, N. S.	Antigonish, N. S.	Pictou, N. S.	Wallace, N. S.	Northern Nova Scotia.	Nova Scotia.	Charlottetown, P. E. Island.	Grand Harbor, Charlote, N. B.	Richibucto, N. B.	Dalhousie, N. B.	New Brunswick.	Atlantic Provinces.	Winnipeg, Manitoba.
1	114	135	112	109	118.6	116.3	108	119	113.5	114.9	121	121.1	121		
2	121.5	130	116	123	122.2	118	118	122	120	121.1	121	121.1	121		
3	143.5	155	150	152.5	148	144	144	144	146	146	134	132	134		
4	120	140	132	123	120	128.7	126.3	126	136	129.1	129.1	129.1	129.1		
5	116	122	127	127	127	124.5	124.5	124.5	124.5	124.5	124.5	124.5	124.5		
6	133	135.5	129	129	132.2	133	133	133	133	132.6	132.6	132.6	132.6		
7	112	93.8	121	117	110	115	115.7	104.7	124	115	117	116	111.2		
8	130	128.6	138	127	131	137	133.3	130.9	131	135	133	133	131.9		
9	133	123	140	136	128	137	135.2	131.6	144	131	135	132	132.6		
10	161.6	186	171	178.5	170.	167	173	170.	167	173	170.	170.	170.		
11	140	140	156	153	149	152.6	146.3	153	153	155	155	155	150.6		
12	196	213	213	213	213	204.5	204.5	209	209	209	209	209	206.7		
13	145	141.6	154	151	152.5	147.	147.	157	157	156	156.5	151.8	140		
14	139	140	153	152	151	152	146.	138	138	153	145.5	145.7	140		
15	223	223	223	223	223	223	223	223	223	223	223	223	223		
16	149	149.5	165	152	152	150	154.7	152.1	161	155	158	155.	155.		
17	157	161.3	161.3	161.3	161.3	161.3	161.3	161.3	161	155	158	155.	161.3		
18	159	163.6	163.6	163.6	163.6	163.6	163.6	163.6	169	169	169	164.6	141		
19	157	162.4	167	161	159	162.3	162.3	168	161	164.5	163.4	163.4	141		
20	203.5	213	213	213	213	208.2	208.2	206	206	202	204	206.1	206.1		
51	237	237	237	237	237	237	237	237	237	237	237	237	237		
22	237	237	237	237	237	237	237	237	237	237	237	237	237		
23	70	86	104	37	71	79.	79.	96	96	250	250	243.5	106, 131		
24	77	70.2	87	82	60	76.3	73.2	96	96	250	250	243.5	237		
25	134	146	127	136.5	135.2	135.2	135.2	100	100	100	100	86.6	87.5		
26	126	114	130	118	124	119.0	119.0	153	153	144.1	144.1	144.1	105, 112		
27	121	158	115	136.5	128.7	128.7	128.7	107	107	149	128	123.5	147		
28	137	136.6	150	149	149.5	143.0	143.0	157	157	157	157	150.	128.7		
29	142	188	163	175.6	175.6	158.8	158.8	152	152	152	152	155.1	150.		
30	100	100	100	100	100	100.	100.	100	100	100	100	100.	145		
31	84	84	84	84	84	84.	84.	84	84	84	84	84.	100		
32	258	263	263	263	263	260.5	260.5	326	326	326	326	293.2	106		
33	77	68	67	70.6	70.6	70.6	70.6	89	89	89	89	79.8	100		
34	82	95	95	95	95	95.	95.	98	98	98	98	96.5	102		
35	337	340	350	345	341.	341.	341.	111	111	111	111	341.	102		
36	111	106.6	125	113	119	112.8	112.8	111	111	116	113.5	113.1	113		

TABLE B.

AVERAGE OF DATES COMMON TO THE TABLES FOR THE YEARS 1892,  
1893 AND 1894.

SPECIES COMMON TO TABLES OF 1892, 1893 AND 1894.	Average date Nova Scotia, 1892.	Average date Nova Scotia and New Brunswick, 1893.	Average date N. S. and N. B., 1894.	Normal for 3 years.	Normal ordin- ary date.
Alder, flower.....	102	114	115	110	20th April.
Aspen, " .....	131	123	139	131	11th May.
Maple, " .....	123	130	128	127	7th "
Dog-tooth Violet, flower.....	135	136	132	134	14th "
Mayflower, " .....	98	108	108	105	15th April.
Strawberry, " .....	129	133	132	131	11th May.
Cherry, (cult.), " .....	146	142	149	146	26th "
" (wild), " .....	150	144	150	148	28th "
Indian Pear, " .....	145	144	146	145	25th "
Apple, " .....	146	146	154	149	29th "
Hawthorn, " .....	163	160	163	162	11th June.
Lilac, " .....	154	160	163	159	8th "
Song Sparrow .....	99	115	84	99	9th April.
Robin .....	96	94	82	91	1st "
Swallow.....	106	119	122	116	26th "
Kingfisher .....	128	137	129	131	11th May.
Humming Bird .....	143	159	148	150	30th "
Night Hawk.....	150	144	156	150	30th "
Wild Goose .....	54	88	80	74	15th March.
Frog .....	105	113	113	110	20th April.

TABLE C.

SOUTHERN, COMPARED WITH NORTHERN NOVA SCOTIA.

(TEN COMMONLY OBSERVED PLANTS, 1894.)

	Average date, Southern Stations.	Average date, Northern Stations.
Alder, first flowering.....	114.	118.9
Red Maple, " .....	124.	128.7
Mayflower, " .....	93.8	115.7
Dandelion, " .....	128.6	133.3
Strawberry, (wild), first flowering... ..	128.	135.2
" (fruit) .....	161.6	178.5
Wild Red Cherry, flowering.....	141.6	152.5
Indian Pear, " .....	140.	152.
Apple, " .....	149.5	154.7
Lilac, " .....	162.4	162.3
Average dates of the ten .....	134.35	143.18
Finding the Difference .....		134.35
<i>Days</i> , Average, Southern Stations are in advance } of Northern Stations..... }		8.83

That is, vegetation, as judged from the ten species above, is nearly *nine* days earlier in the South of the Province than in the North.