



# N.B. NATURALIST

10 (2) JUNE, 1980



N. B. FEDERATION OF NATURALISTS / FEDERATION DES NATURALISTES DU N.-B.  
277 Douglas Avenue, Saint John, N. B., Canada E2K 1E5 Tel. 673-1196

The federation was formed in 1972 in order to

- develop an understanding interest in nature among amateur naturalists
- serve as a means of communication and cooperation among nature-oriented groups and individuals
- promote ecologically sound policies and programs of resource management
- foster public awareness of the relationships between man and nature.

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Barry King, editor

Advice to Contributors

Preferred articles are those from one-half to two pages in length, having relevance to the natural history of New Brunswick. Authors of potentially longer articles are invited to contact the editors. Drawings and cover illustrations should be in black ink and in the same size and proportions they would occupy in the N.B. Naturalist. Observations for "Nature News" should be submitted promptly after March 15, May 31, August 15 and November 15, or more frequently.

Aux Naturalistes Francophones

Nous avons besoin d'articles en français, aussi de volontaires qui voudraient écrire des résumés en français des articles en anglais.

Memberships - Subscriptions

Mail to Janice Dexter, 956 Dever Road, Saint John West, N.B. E2M 4J3. Annual fees: \$3 (individual or family), \$1 (students to age 18), \$3 (libraries).

Correspondence

Re the N.B. Naturalist to editor, N.B. Naturalist, 277 Douglas Ave., Saint John, N.B. E2K 1E5. Articles and reports are always welcome.

Re federation policies and programs to Mary Majka, Mary's Point, Albert Co., N.B.

FROM THE PRESIDENT



Dear naturalist friends,

Through the years I have been watching our New Brunswick Federation of Naturalists grow. Recently, I have been somewhat disturbed by the decline of interest and membership. At our executive meetings we have tried to find out why. There seem to be a number of reasons, some connected with the individual clubs. As your incoming president I would like to find out more about each naturalists' club and the reasons that lie behind its success or failure. Perhaps it is time to take stock and examine our aims and the direction in which we are heading.

Perhaps we should widen our scope and look at groups and individuals whose interests are similar. In our province many people today enjoy the outdoors, hiking, skiing, scuba diving, canoeing or fishing. Many grow flowers or keep gardens. All of those New Brunswickers could benefit by our knowledge and concern for nature and I am sure many would join our clubs if we just made an effort.

The concern for a safer, better environment, especially among our young people, is profound. Many would become members if they realized that it's not necessary to be able to identify birds or plants to take part in our field trips or attend our meetings.

In the coming year I would like to visit each club to discuss my concerns with you.

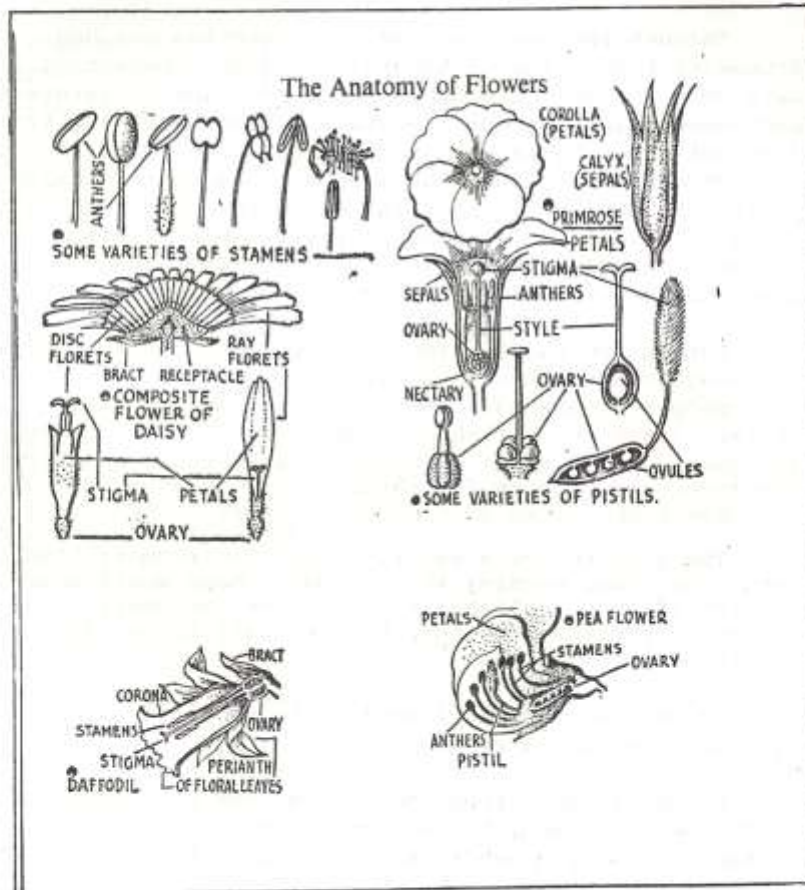
Please think already now how we can strengthen or re-establish our clubs, how we can serve our communities by perhaps conducting public walks, talking to other groups

or assisting in community planning.

I look forward to this year and the challenge ahead so that in 1983, when hopefully we will be hosting the Canadian Nature Federation, the New Brunswick Federation of Naturalists will be a strong, well-functioning group.

Have a pleasant autumn. Hope to see many of you soon.

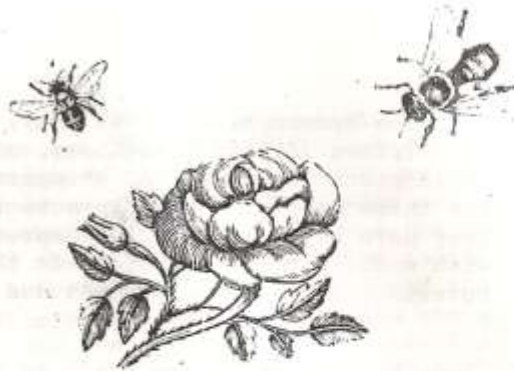
Mary Majka





## INSECT POLLINATION

Barry King



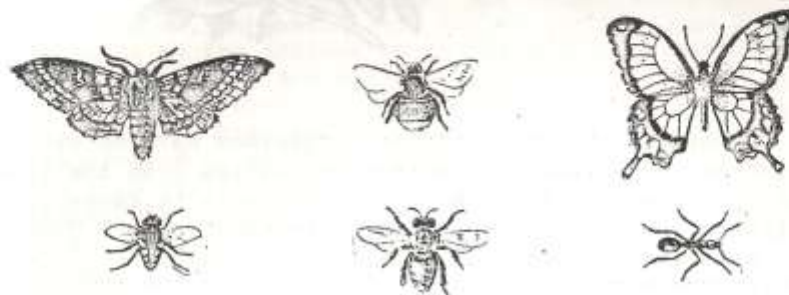
Plants which are stationary organisms have developed different mechanisms of transferring pollen from one individual to the ovule of another. This process is known as cross-fertilization. This form of fertilization is more desirable than self-fertilization as it allows the exchange of genetic material between individuals. This permits the species to adapt to changing conditions since it has more readily a pool of genetic characteristics to draw upon.

Many flowering plants have developed mechanisms to discourage self-fertilization. Darwin in 1902, noted that in some flowers, the pollen from the same flower acted as a poison on the stigma; it is almost certain that those flowers would never yield a single self-fertilized seed.

Many angiosperms (flowering plants) are self-fertile and those which do not often undergo self-fertilization have mechanisms other than the self-sterility as noted by Darwin. One of these mechanisms is having different maturation rates for the stigma (female) and the anthers (male). The production of the anthers lower down in the flower than the stigma is another method of discouraging self-fertilization.

Flowering plants are cross-fertilized by several different methods, such as, wind, water, rain, birds, bats, and insects! One of the most highly specialized methods of cross-fertilization in plants is insect pollination called entomophile. The insects in their search for nectar and pollen pick up and transport pollen from one flower to another.

The Hymenoptera (bees, ants, wasps, sawflies, horntails), the Diptera (flies, mosquitoes, gnats and midges) and the Lepidoptera (butterflies, skippers, and moths) constitute the three main groups of insects involved in pollination. They have become specially adapted for exploring flowers with modifications appearing in their eyes, legs, body covering, mouthparts, stomach and wings.

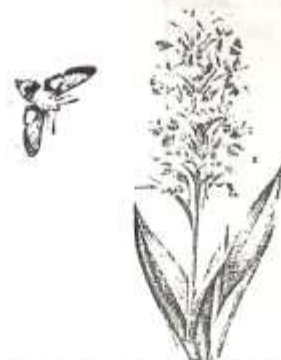


Many flowers are constructed specifically for pollination by insects and without their aid would produce no seed. The orchids are most obviously adapted for this method of fertilization. Insect pollinated flowers possess all the attributes of size, color, scent and form which those pollinated by the natural agents of wind and water lack. They have conspicuous flowers composed of petals but sepals or a brush of stamens may replace them and give a flower-like form, as in the common bunchberry or high bush cranberry. The petals are colored, scented and arranged to give various patterns which are easily remembered by pollinating insects. It has been found that insects choose the most promising and most structurally accessible flower types for their visits. This means that they can recognize food plants as definite flower types and restrict their activities to certain promising flower types.

Insect pollination is a special type of natural selection exercised by insects in search of better food plants. Pollen is collected from definite plants and transferred to selected individuals of the same species. The insects are acting as plant breeders, guided by their instincts, selectively fertilizing plants with certain qualities producing better food plants, which are marked at the same time by more precise combinations of color and symmetry.

Insects and flowers are mutually interrelated in evolution. Many positive relationships exist between insect structure and flower structure and these make it obvious that they are interdependant. These relationships are evident when looking at the vision of insects and the color of flowers, the depth of the corolla tube and the length of the insect tongue, the nutrient needs of insects and the nutrient value of the flower, the flower shape and the shape and size of the insect, and the strength of the insect in relation to the texture of the flower. These relationships make it possible for only certain insects to explore some flowers, thus restricting the flowers' possible pollinators. It, however, also increases the chances that pollen will be transferred to another flower of the same species because of the high yield these flowers provide as a result of their restrictive natures. Flowers have been designated as "bee", "moth", and "butterfly" flowers as a result of their relationships.

The purple fringed orchid (*Habenaria psycodes*) is designed in such a way that only long tongued insects can reach the nectar in the long tail-like nectary. The two pollinia, containing the pollen, are held in two anther cases, and each pollinia is attached to a sticky disk that protrudes below its case. The stigma lies between and behind the anther, in the throat of the flower. The clearwing moth hovers in front of the floret, unrolls its long tongue and thrusts it into the nectary. As he drinks, his tongue touches one or both sticky disks, which clasp it firmly. As he backs away, the pollinium is pulled from its pocket. So the moth drinks from a new flower, the pollinium inevitably bumps into the stigma and sticks there thus pollinating it.



The color vision of bees operates on a three color circle made up of yellow, blue, and ultra-violet. Bees find their flowers by sight, determining whether or not it is worth a closer look. Alighting is usually determined by the scent of the flower, if the scent is familiar or



attractive it acts as a short range signal. At this point factors such as scent guides, nectar guides, tongue guides and taste come into play.

Nectar guides are present in many flowers which are insect pollinated. They may take the form of blotches, streaks or spots, either darker in color than the rest of the petal, or a different contrasting color. Fox-glove has deep, purple spots, winged with white on the lower side of the bell. Wood Sorrel has purple-pink streaks on white which heads the insect to the flowers' nectar.



Flowers may also stimulate behaviour in insects to accomplish cross-fertilization. Some flowers imitate enemies, thus eliciting aggressive attack from the insect. Others imitate a female insect and therefore do not offer food but stimulate the mating instinct. The males deceived by the flowers unconsciously pollinate them. Several species of the orchids *Cryptostylis* and *Ophrys* are visited and pollinated by male wasps for their striking resemblance to the female of this insect.

When you next visit your garden look for some of the things discussed in this article.

I find it fascinating and often quite surprising to see how intricately tied organisms are to each other and how subtle these mechanisms can be. Insects are a very important medium through which plants accomplish cross-fertilization. The plants and insects in many cases could not survive without the other.





# field trips



## Montreal Botanical Gardens and Floralties Tour

Gayl Hipperson

It was a flower-full long weekend in August for the twenty-three people who made the trip to Montreal to visit the Botanical Gardens and the International Floralties. A Saturday spent roaming the grounds and greenhouses of the Botanical Gardens, Canada's finest and the third largest in the world, was a fitting introduction to Sunday's visit to Ile Notre-Dame and the Floralties. Guided tours of each filled the mornings and left a better-oriented group to leisurely explore further after lunch.

Glowing reports from people who had seen the Floralties earlier in the season were confirmed. Canada has excelled in her first opportunity to host this international horticultural exposition: the island built for Expo '67 in the middle of the St. Lawrence has indeed been turned into a floral parkland. From the formal French gardens, meticulously laid out in curving beds to the friendly 'city park' with benches and children's play area contributed by the United States, from the spectacular Belgian roses and begonias, massed by single variety in rectangular beds to the informal English country garden with plants delightfully mixed by color and size, every turn of the head brought a new and equally beautiful perspective into view. A municipal entry by the City of Laval, and the winner of the commercial competition, the W.H. Perron Ltd. entry were, without doubt, landscape gardening at its best. We left with heads and notebooks crammed with ideas for new arrangements and varieties to try at home.

The owners of 16 pairs of feet screaming for relief from two days and many miles of walking were only too glad to sit for the morning of the last day in Montreal and take a bus tour of the city. By afternoon, though, they were ready to join the diehards who had been off and running since breakfast. It was a three hour blitz of as many shops as we could get into before train time and a return to the less strenuous pace and cool climate of the Maritimes.

# nature news.

David Christie

Before commencing discussion of the more interesting recent nature observations I must apologize for the errors that escaped my proofreading in the December edition of "Nature News". There is no new reporter named Fred Tuly at Andover (Coltsfoot flowers, p. 64). Apologies to Fred Tribe whose name got mixed up by the typist. Also George Stirrett (p. 58) is one of the federation's honorary members, not Fredericton's. His interesting nature column in The Cataract Weekly is continuing on a regular basis, as is Harry Walker's column in Miramichi Weekend. Finally, Brian Dalzell's Great Blue Heron arrived at Grand Manan on March 14, not March 1 (p. 60).

Many readers have probably heard that I am not working at the New Brunswick Museum now. I resigned as curator and head of the natural science department at the end of March and am now associate curator and in the museum perhaps two or three times a month. Stan Gorham is there as acting department head and Gayl Hipperson is assistant curator. Nature observations should still be sent to the museum where the function of preserving data on the natural history of New Brunswick is continuing as before. I will be consulting the information there for each issue of "Nature News". If you want to reach me quickly write RR#2, Albert, N.B., E0A 1A0, or phone 882-2100. I still receive correspondence at the museum but it may be a couple of weeks before I get it.



## Mammals

An all white, albino Gray Squirrel has attracted quite a bit of attention in Fredericton. Dan Keppie reports seeing it on the UNB campus several times during September and Paul Chalifour saw it near the cathedral for two weeks up till October 5. Probably Melvin Moore knows it better than anyone, for Peter Pearce tells me that Melvin found where the squirrel lives in a hollow tree outside his Brunswick Street home.

A 40 to 45 foot long Finback Whale that washed ashore at Cap Bimet in mid December attracted a large number of spectators and got TV and newspaper coverage. There was no indication of why it died. Perhaps it had become trapped in shoal waters.

A seemingly confused 300 pound Gray Seal left the muddy waters of the Petitcodiac on April 7 and started overland towards Main Street in Moncton. Was he trying to reach Northumberland Strait? Eventually city employees and Department of Natural Resources rangers succeeded in restraining the protesting seal in a net and dumping it back into the river.

#### Birds

Good news about the endangered Peregrine Falcon comes from New England. For the first time in over ten years there was a considerable increase in sightings last fall. A good number were immature birds. In New Brunswick only five observations reached me: one at Little Ridge, Albert Co., September 8th (Mary Majka), one at Cape Jourimain September 26 (Colin MacKinnon), one at Miscou Point on Thanksgiving weekend (Hal Hinds and Dan Brien), one chasing shorebirds at Mary's Point October 8 (DC) and another there October 28 (Mary Majka). Undoubtedly there were other sightings too. This spring Peregrines were included in the late April hawk movement: Mike Majka saw two passing Mary's Point April 26th and one the following day.

The fall of 1979 brought one of the largest flights of Yellow-billed Cuckoos since the early 1960s. Brian Dalzell saw individuals five times between August 25th and October 27th on Grand Manan and Reg Newell reports many sightings on Machias Seal Island in August and September. Other observations were made at East Saint John (Cecil Johnston), Lakewood Heights (phone call to museum), Hampton (Bruce Bosence), Saint John West (Molly Smith), Maugerville (DC), Hammond River (Jim Wilson), Dark Harbour (Daryl Linton), Wilson's Beach (Norm Famous) and Miscou Point (Hinds).

Passage of the remains of Hurricane David September 6-7 brought hundreds of Sooty Terns to New England and a few Bridled Terns to Rhode Island but the only suggestion that any of those birds reached New Brunswick was a frustratingly brief glimpse Cecil Johnston had of a dark-backed tern at Deer Island Point September 20th. The bird resembled a Bridled Tern but, despite much searching, it could not be found again. Either species would be new for the New Brunswick list.



A sampling of the later shorebirds came in observations November 11th at three locations: one Am. Golden Plover, thirty-nine Black-bellied Plovers, one Greater Yellowlegs, four Pectoral Sandpipers, seventeen White-rumps, twelve Dunlin and one Sanderling at Mal Baie Nord on Miscou Island (Peter deMars); one Black-bellied Plover and two hundred fifty mixed Dunlin and Sanderling at Mary's Point (DC); and eighteen hundred Dunlin at Rockport (Stu Tingley).

The fall and early winter were relatively mild and quite a few species were reported late, even into early winter, for instance two immature Gannets at Cape Tormentine December 12th (Tingley), a Green Heron at Castalia November 3rd (Dalzell), an Am. Woodcock with a broken wing and no choice but to be late at Ferry Road December 14th (Terry Vickery), a Black-billed Cuckoo at Ingalls Head October 24th, two Common Nighthawks at Bancroft Point October 23rd and a Black-throated Green Warbler there November 13th (all by Dalzell), a Gray Catbird at Campobello Island December 22nd (Kathryn Russell), a Hermit Thrush at Alma December 19th (Deichmann) and a Cape May Warbler at Stoney Creek December 6th (Mary Fownes et al.)

Harry Walker collected numerous sightings of a late group of five Cattle Egrets on the Miramichi. They were first found at Newcastle November 12th (Leonard Morrison). One was found dead near Domtar's creosote plant by Ronnie Houlston on December 1st and the remaining four were seen with cattle at Millerton December 2-5 (Boyd Carnahan). Another late Cattle Egret was at Gagetown November 29th (reported in FFNC newsletter). These fall birds tend to be immatures. An adult was apparently seen in the Jemseg area this spring (Peter Pearce et al.).

The number of Cardinals reported was one of the most noteworthy phenomena of the winter. They were the legacy of a big flight, noticed in Maine as early as October but not in New Brunswick till mid November, which probably followed a very successful nesting season in northeastern parts of the Cardinal's breeding range. The majority of reports reaching me came from the Saint John and Fredericton areas. Most people saw single birds but at least three feeders in widely separated parts of the Saint John area had pairs (Audrey Sparks at Ketepec, Odna McCarlie at Millidgeville and Reg Anderson at Anderson Drive). Three birds were reported in northern N.B., a male at Mrs. Robert Finnemore's feeder at Odell, 6 miles NE of Arthurette, from December through at least early February (various observers), a female at Nordin on the Miramichi from

December 7th through the winter (Sybil Anderson) and a male at Newcastle in early December (Don Adams). Two wandering birds were seen in late spring, a female at Seal Cove May 14th (Geraldine Nelson) and a singing male at Quispamsis June 1st (Johnston).

Most finches remained in the same general abundance through the winter as they had been at the time of the Christmas Bird Counts, although Evening Grosbeaks became more prominent at bird feeders after mid January. Wilma Miller reports lots of Pine Siskins at Nictau during January but generally they were scarce, and redpolls remained almost non-existent.

Rudy Stoczek supplied good details of his sighting of a male House Finch with two Purple Finches at his Fredericton feeder on March 12th. At about the same date Frank Gilmore independently identified a male House Finch, perhaps the same bird, at his feeder in a different part of Fredericton. On the evidence supplied I feel that House Finch can now be added to the list of New Brunswick birds. There had been one previous return in the late summer at Kouchibouguac (Roger Burrows).

Brant seem to be regular winter residents at White Head now. Nancy Small writes that at least 200 wintered there this year. Harlequin Ducks are probably present each winter in small numbers around the offshore ledges of the Bay of Fundy but few are seen in the areas frequented by most bird watchers. A good spot may be at the Head Harbour Light on the NE end of Campobello, where Norm Famous saw three males and two females on March 2nd. Two species of ducks usually farther south in winter were a male N. Shoveler at Saint John West January 20th and February 21st (Johnston) and a female Gadwall at St. Andrews January 4th (Tingley).

Rough-legged Hawks were conspicuous in the Fredericton-Jemseg area during the winter. David Miles saw them often, up to about six a day during late January. In addition to the Sackville and Riverside-Albert Christmas Count reports of Gyrfalcons, one was at Moncton in the first week of January (Dalzell), a dark bird at Saint John Jan. 15 (Wilson), an intermediate bird at Saint John West February 1st and 7th (Ruth Spatz and a caller to the museum), one at Sisson Ridge March 12th (Marion Landauer) and a white bird at Nictau in early April (Bill Miller). This is an unusual number of reports for one winter.

The Ospreys reported on the Christmas Counts were more surprising. In search of further details I received a few more specifics. The Fredericton area bird December 16th was seen by Bev Schneider over open water at Curry's Mountain. The Pennfield birds (three!) December 27th were reported by Ralph Eldridge along the Letang River estuary. In Grand Manan there were a number of sightings leading up to the Christmas season, namely one at Grand Harbour November 30th (Dalzell), one to two fishing in The Thoroughfare from late November until December 13th (Lloyd and Marg Ingalls) and one in mid December (Allison Naves, fide Pearce).

The record numbers of Mourning Doves seen on the Christmas Counts followed an autumn season in which they were "much commoner than usual" in the N.B.-N.S. border region (Tingley) and peaked at thirty at Bancroft Point October 20th (Dalzell). At one especially favoured bird feeder the doves increased from 7 on October 16th, to 33 in the first week of December, 44 on December 31st and declined slightly to 38 on January 20th (Howard & Kim Mann at Gondola Point). Most wintering birds were reported near the bay but two were at Douglas January 22nd (Cunningham).

Belted Kingfishers in winter were single birds at Back Bay February 4th (fide Lena Morehouse) and at South Branch, Kings Co., (Deichmann) and St. Martins (Ted Sears) on February 10th; also on Eastport-Campobello Christmas Count. The one at White Head March 23rd (Small) may have been a spring migrant.

Winter records of Long-eared Owls are few in New Brunswick so I was pleased on February 29th when an owl I was called to identify in Saint John West turned out to be that species. The bird was sitting on a piece of driftwood in Mr. and Mrs. Robert Fowler's garden but, harried by crows, it did not stay around very long. At least three Short-eared Owls were seen on the marsh at Harvey, Albert Co., January 5th (Deichmann).

In at least some areas it was apparently a good winter for Blue Jays. Stu Tingley called them "very abundant" in the N.B.-N.S. border region during fall and early winter and Nancy Small saw "more than the usual number" from October 10th through mid April at White Head. There was a prominent migration of Blue Jays at Mary's Point May 17-26 (DC).

Scattered small flocks of Bohemian Waxwings were reported from the three largest cities during the winter and there was one large flock of 78 counted at Moncton February 11th (Mike



Majka). In northern counties, eleven or more were at Carron Point Road in East Bathurst January 11 (deMarsh) and two at North View near Plaster Rock February 2nd (Erwin Landauer).

Stu Tingley reports that Yellow-rumped Warblers survived the winter in the Cape Tormentine area. He saw a lot still there in early spring and found that it was difficult to find any Bayberries left from the exceptional crop of early winter. One Yellow-rump was still doing well on feeder fare at Alma February 13th (Doris Hatt) and another was seen at Maces Bay March 9th (Wilson and Johnston).

An Eastern Meadowlark was at Pennfield February 1-5 (Morehouse) and an early migrant at Rothesay March 18th (Fred Brock).

What would you call Barn Swallows on February 29th? Spring migrants? Accidentals, for sure! Mrs. Rudy Stoczek saw six birds fly past her house in Fredericton and is certain they were Barn Swallows despite the unbelievable date. It recalls the report in The Birds of New Brunswick that 15 remained at Cape Spencer until February 15, 1949, also the bird reported at Chipman in winter 1975/76.

Considerable numbers of certain waterbirds migrate up the New Brunswick shore of the Bay of Fundy in spring. On a good day an observer stationed on a promontory jutting out into the bay may see several thousand birds passing, especially scoters and elders. Cecil Johnston noted a strong flight of scoters (including all three species) past Point Lepreau on April 19th while in Albert County about 2000 scoters flew by Fundy Park in two hours April 25th (Henrik Deichmann and Barry Spencer) and 1050 by Mary's Point in 1.1 hours April 26 (DC). More interesting to Hank and Barry was seeing 95 Common Loons, in small groups of up to 15, migrating at the same time.

A few other spring returns reported were Great Blue Heron at West River March 17 (Hatt) and Sheffield March 30th (Harold Hatheway); Am. Bittern at Daniel's Marsh, Albert Co., on April 3 (Mike Majka); Canada Geese at Oak Point March 10th (Don Lane) and in the border region March 17 (Tingley); Whimbrel (unusual in spring) at White Head April 13-14 (Smalls); Waterside April 20th (Moncton Nat. Club), and Mary's Point May 7 (8 birds!, Mike Majka); Greater Yellowlegs at White Head (Smalls) and Mary's Point April 13th (DC); Ruby-throated Hummingbird at Saint John April 20th (Gayl Hipperson) and Saint John West May 10th (Molly Smith); Horned Lark at Oromocto February 23rd (Mrs. Heans) and Gagetown March 3rd (Melvin Moore).

Some birds are common in one part of the province but unexpected in others. Among those during recent months were a Greater Shearwater flying up Chignecto Bay at Cape Enrage October 4th (Mary Majka), a Red Phalarope on McLaren Pond in Fundy Park October 11-12 (DC & Spencer), a pair of Brant on the Saint John River at Upper Kent May 10 (Landauer) and a Black Scoter at Two Brooks in the Tobique Valley April 13th (both by Landauer). Leo Martin was surprised to see three Leach's Storm-Petrels from a wharf in Northumberland Strait in late April. It is more often in fall that we find a few near shore but April is the time they are returning to their breeding ground.

I will simply list many of the records of rarer species reported during the last nine months: Snowy Egret at White Head October 14-19 (Ed Fletcher), Red Head Marsh for about a week from April 14 (Wilson et al.), Saints Rest Marsh in mid May and on June 12 (Johnston), and Maugerville May 24 (NBFN field trip); Louisiana Heron at Saints Rest May 22 (Johnston), Snow Goose at White Head October 19 (Fletcher), Grassy Island October 24 (Lane), and Portage (Britt Brook) Lake for three days in early November (flock of about 85!, Bill Miller); King Eider at Mary's Point March 30 (DC and Majkas); Cooper's Hawk at Oak Bay February 26 (Nellie Ross) and Saint John West April 20 (Johnston); Little Gull at Western Passage August 26, Wilson's Beach September 11 (both by Famous) and Deer Island Point September 20 (Johnston and Evan Smith); four Caspian Terns at Waterside April 20 (Moncton Nat. Club) and (the same?) four at Mary's Point May 3 (DC and Mike Majka); immature Red-headed Woodpeckers at Bancroft Point October 17, North Head Nov. 20 (both by Dalzell) and Upper Sackville Nov. 3 (Bill Prescott); Northern Three-toed Woodpecker at Salmon Beach February 8 (deMarsh).

Western Kingbird at Fundy Park HQ September 10 (Deichmann), Bancroft Point September 28 (Dalzell) and in southern Albert County about November 5 (Roger Burrows, fide Tingley); two Roughwinged Swallows at Harvey, May 10 (the first Albert Co. record, DC); Brown Thrasher at Mary's Point October 11 (Mary Majka) and Saint John West from mid November to late December (two birds until the 14th, Bud Crandall); Eastern Bluebird at Elgin April 14 (Deichmann) and a pair at Alma April 18th (DC); House Wren at Mary's Point October 10 (DC), Blue-gray Gnatcatcher at Grand Manan September 2nd (Peter Vickery) and Mary's Point May 13 (DC);

Yellow-throated Vireo at Sackville for two days in early November (Mr. and Mrs. Ralph Howe, fide Tingley) and at Fredericton May 15 (Congratulations, Peter Pearce, on the occasion of your 300th New Brunswick species!); Yellow-breasted Chat at Ingalls Head (Dalzell), Fundy Park and Mary's Point (DC), all on Oct. 11, and at Saint John November 16th (Page).

Orchard Oriole at Seal Cove May 13-14 (Nelson); male Western Tanager at Gondola Point about September 2nd (Manns); Indigo Bunting at Mary's Point Oct. 10-11 (DC), Salmon Beach April 30 (deMarsh), Saint John West May 12 (Maizie Melvin), Seal Cove May 13-14 (male) and May 27 (female; Nelson) and Renforth May 23rd (Mrs. Stewart); Dickcissel at Alma October 24th-25th (Les and Norma Gray), Fredericton till mid January (Owen Washburn), and Saint John February 13-March 1 (DC); Rufous-sided Towhee at Kennebecasis Park November 16 (John Todd) and a pair at Milford in Saint John from about November 1st to at least April 9th (Mr. and Mrs. Stan Winslow, fide Johnston); Field Sparrow at Gondola Point for a week till at least October 16th (Manns) and at Mary's Point January 7 (DC and Mary Majka).

#### Plants

Did you ever look for late fall flowers? Quite a number can be found, with some searching, especially around towns where plants that were cut down in the summer are still trying to produce flowers and seeds and also where there are many sheltered, warm niches around buildings. Hal Hinds made a special effort to find flowers in November and between the 1st and 15th was surprised to be able to discover 94 species in bloom in the Fredericton area. Even more surprising was that five of them are apparently new discoveries in the province, namely, Crepis biennis (a species of hawksbeard), Lamium hybridum (Cut-leaved Henbit), Linum bienne (a species of flax), Malva rotundifolia (Roundleaved Mallow), and Veronica polita (a speedwell). All those are non-natives, as were many of the others. Many late flowering plants belong to the Compositae family (32 species) and included 5 asters and 5 goldenrods. Other prominent families were the mustards (11 species), grasses (8), legumes (7) and figworts (7). Marjorie Gray reported Dandelion, Yarrow, Stinking Mayweed, Sow Thistle,



Beggars-ticks and Tansy in bloom at Woodstock November 5th: all of them were also on Hal's list. At Mary's Point Dandelions and Shepherd's-purse were flowering as late as November 28th (DC and Mary Majka). If there isn't snow or exceptionally cold weather, one can even find a few wildflowers in December.

Late Bulletin: A new and unexpected bird species was discovered by Davis Finch and a group of American birders at Castalia Marsh June 30th. The Little Stint, a Eurasian counterpart of the Least Sandpiper, but with black legs, paler, more rufous upper parts and less prominently streaked breast, was present till at least July 4th.



Editors Note: Nature News is perhaps one of the most important parts of this natural history publication. The News plays several roles - it involves members directly and enhances communication within the Federation. It keeps members posted on rare or unusual sightings as well as providing a rundown on trends in the natural history of this province. Its most valuable contribution however is that it preserves records that would otherwise go undocumented or be forever lost in some naturalist's field notes. We need your contributions. Perhaps one member of each club would like to serve as recording naturalist for his or her region. And remember, we are interested in all natural history observations, not just those concerning birds. Contributions should be addressed to:

Nature News  
Dept. of Natural Science  
New Brunswick Museum  
277 Douglas Avenue  
Saint John, N.B.  
E2K 1E5

# announcements.

## N.B. FEDERATION OF NATURALISTS

### Annual Meeting

The theme for the Federation's annual meeting held in Fredericton May 23-25 was the forest ecology of New Brunswick. The meeting was held in beautiful Odell Park where Peter Pearce led an early morning bird walk and Hal Hinds a botany walk.

Birds were more easily heard than seen because the leaves were well expanded on the trees. Great Crested Flycatchers and Scarlet Tanagers commanded much of the attention and a pair of Black-capped Chickadees were excavating a hole for their nest in a birch stub. Trilliums, violets and many other flowers were still conspicuous. Participants from outside the Fredericton area were especially fascinated with the masses of Cuckoo-flowers in meadowland in and near the city. It is a European cress, more showy than its diminutive relative, our native Bitter Cress.

The field trips and Saturday evening talks were the highlight of the program. Dr. Gordon Baskerville, newly appointed assistant deputy minister of the Department of Natural Resources, discussed the difficulties of carrying out effective resource management. After many years as a forest scientist he has concluded that science cannot give the answer for good management. What people expect from the resource and what they perceive as suitable management complicate decision-making. We think that one person is in charge but in fact there are many people involved since forestry decisions affect the environment, employment and the other social conditions, industrial development and the financial situation of the province. The system tends to have too much inertia to be able to change direction easily. The people who are supposed to be in control are often just being carried along by the system rather than leading it.

Dr. Baskerville hopes that he will be able to develop methods and structures by which his department can be more sensitive and adaptable to changing needs. Regarding the future he said that in about 20 years there will be problems in supplying sufficient wood for the mills in certain areas of the province. However, there are many areas of young growth that will be harvestable in about 40 years.

Jane Spavold, second speaker of the evening, discussed acid rain. She summarized the problem that has existed in northern Europe for years and is becoming increasingly serious in North America. Jane, who works for the Department of the Environment, is beginning to gather information on the acidity of precipitation in New Brunswick. The granitic region of southwestern York County and western Charlotte County, the area with least capacity of its soils and waters to neutralize acidity, has been singled out for special study. Research here is just beginning.

During the annual meeting there were various reports about federation activities most of which have been publicized in the last two issues of the N.B. Naturalist. Janice Dexter presented the audited statement of the federation's finances as of December 31, 1979, when the balance was \$569.04, as well as a current statement showing a balance of \$842.59. Paid up 1980 memberships were 165 and library subscriptions 10. \$300.00 is deposited in a special account for youth and/or sanctuary programs.

David Christie reported that because no nominations had been received by mail, the officers and director proposed by the nominating committee were elected by acclamation, namely Mary Majka, president; Vernon Goodfellow, vice-president; Janice Dexter, treasurer; and Wilma Miller, director-at-large. (Since that time Gayl Hipperson has agreed to serve as Secretary.) A hearty vote of thanks was extended to Harry Walker for his work as president of the federation during the past two years.

Saturday evening concluded with a preview of the first of the W.A. Squires natural history programs - an excellent series of slides accompanied by a taped narrative (including frog calls) of the amphibians of New Brunswick. This program, prepared by Michael Burzynski, is the first of a series to be prepared by the federation and made available on loan through the New Brunswick Museum. Volunteers, writers and photographers are required.

David Christie



#### Acadia Forestry Station Tour - May 24

Turning off Route 10 into Acadia Forest Experiment Station we were greeted by the odd sight of trees with bags over the ends of their upper branches. The bags, on selected vigorous spruces, protect female flowers so that controlled pollination can be accomplished by introducing pollen from other selected trees into the bags. The seeds subsequently produced are used in growing seedlings with superior characteristics.

Ron Hallett, greenhouse specialist with the Canadian Forestry Service, met us to show other experiments in tree improvement and testing. In the greenhouse, cuttings from selected trees are being rooted to produce clones. Other cuttings from the tops of tall trees are grafted onto seedlings to establish seed trees in the "breeding garden." These cuttings retain their seed producing characteristic so that breeding work can be done at ground level rather than at great height and in many scattered areas of the forest.

Many native and exotic trees are being tested in plantations at Acadia. The ones that grow well in these trials are likely to be used for planting in commercial forestry operations. At Acadia, after a clearcut in mixed woods, a herbicide had been used to kill suckers on the hardwood stumps in order to reduce competition for the planted spruce seedlings. There was surprisingly little effect on the ground flora. Dalibarda, often known as Dewdrop, was especially abundant there.

One impressive plantation we visited was a trial of Japanese Larch from 20 locations throughout its range, plus two sources of Tamarack and three of European Larch. Twelve years after planting, the Japanese trees were taller and bigger in diameter than the native and European species. The largest provenances were 8.7-8.8 m tall whereas the better native trees were 7.7 m. Damage by porcupines proved serious for all these larches, requiring stove pipe protection around the trunks of the best trees.

The experiments being carried out at Acadia Forestry Station suggest the way that commercial forestry will evolve in coming decades - to extensive planting of superior provenances, hybrids and exotics, coupled with use of herbicides, fertilizers, and insecticides to protect the investment in expensive seedlings. As such forms of intensive silvi-

culture become more widespread the value of parks, ecological reserves and other natural areas as wild forests where all forms of life, not just crop trees, can survive in natural conditions will become more and more important.

David Christie

#### Hawk Migration Studies

There was very little response to my plea for volunteers to observe hawk migration (N.B. Nat. Dec. 1979). Henrik Deichmann, Barry Spencer, Dr. M. Majka and I made some systematic observations at Fundy Park and Mary's Point April 25-28 and Peter de Marsh reported a concentration at Miscou Island May 11.

Observing for 120 minutes in the mid and late afternoon of April 25 Hank and Barry saw a total of 40 hawks flying up the bay past Fundy Park. I had resolved to spend all day April 26 and 27 (a hawk watch weekend in New England) at Park Headquarters to count all the hawks that passed, but because of wet weather I watched for only 3½ hours on Saturday. During the first hour, as the weather cleared somewhat, only one Sharp-shinned Hawk flew by but from noon to 3:30 pm, when visibility became poor again, 64 birds of prey were counted, the small falcons and Accipiters flying very low whereas the larger Buteos and Osprey flew higher, up to about 250 m overhead.

Dr. Majka and I observed off and on, when weather permitted, at Mary's Point, seeing hawks at the rate of from 5 to 15 an hour, enough to be interesting. I hadn't planned a hawk watch at the point on April 28 but noticing a few hawks in the early morning I went out at 8 am to have a look. The weather had cleared overnight, bringing an impressive flight, 96 birds in the first hour and 20 in the second. The majority were Broad-winged Hawks. I believe that the flight was shifting northward away from the shore to take advantage of thermal updrafts as the air warmed. The earlier birds had been low overhead whereas the later ones were circling 500 m high to the north of my position.

During these observations along the Albert County coast the following were counted: 2 Goshawks, 66 Sharp-shins, 7 unidentified Accipiters, 4 Red-tails, 99 Broadwings, 7 Rough-legs, 15 Marsh Hawks, 44 Osprey, 3 Peregrines, 6 Merlin and 17 Kestrels. There should be good hawk watching in other areas too, as indicated by Peter deMarsh's report from Miscou Island of 33 Kestrels, 1 Merlin, 1 Sharp-shin, 7 unidentified small hawks, 4 Marsh Hawks and 3 unidentified Buteos.

The Hawk Migration Association of North America has asked me to promote organized hawk watching in the Maritimes this fall. In New England September 6-7, 13-14 and 20-21 and October 4-5 and 25-26 have been chosen as watch weekends. Observations for any date are welcome but I am trying to organize a special effort to have people watch on September 6 and 7.

Get together with a friend or members of your local club and plan a hawk watch in your area. Choose a location with good visibility, especially somewhere you have seen a few hawks migrating in the past. Southwest Head, Chamcook Mountain, Steeves Mountain, Mount View, Miscou Island, or hills along any of the major valleys might be good. Write to me for report forms and instructions - David Christie, New Brunswick Museum, 277 Douglas Avenue, Saint John, N.B. E2K 1E5.





## News from N.B. Clubs



### Saint John Naturalists Club

The Saint John Naturalists Club has enjoyed a spring and summer full of interesting meetings and outings. Field trip season opened with the annual midnight ramble up to Brown's Flat to hear the spring chorusing frogs and indulge in a bit of voyeurism at the watery mating rituals going on in the ditches and ponds. A wagon ride courtesy of the City of Saint John Parks and Recreation Department through Rockwood Park was but a prelude to a walk in the same neck of the woods to see the profusion of Yellow Lady's Slippers blooming in early June. Another double treat was not one but two invitations to explore acres of privately owned woods and meadows at Westfield - the first when the woods were full of refreshing water! Following our long-standing tradition of two years, the annual meeting was passed off as an outing to a member's camp on the Saint John River (guaranteed to bring people who wouldn't be caught dead at an annual meeting out in droves). The highlight of the season was without doubt the trip to The Wolves, islands off the Fundy coast en route to Grand Manan. We still don't know what we did to deserve a cloudless sky, hot sun, gently rolling Bay of Fundy, plus picture-postcard scenery and birds on every branch.

If you have anything for inclusion in "News from the Clubs" please send to the editor:-



Barry King  
N.B. Museum  
277 Douglas Avenue  
Saint John, N.B.



# back page

Gayl Hipperson

Named after its flashing white banner of a tail, the white-tailed deer is probably the best-known mammal in New Brunswick's forest. Practically everyone has met its placid stare then watched the animal turn and bound away, its namesake waving high as a warning to other deer.

White-tailed deer are active at dawn and again at dusk. They are solitary animals, but often band together or yard in the winter, trampling the snow down in a favorite feeding area. Cedar swamps are their usual winter haunts and white cedar the mainstay of their winter diet. Deer are browsers, clipping grasses, twigs, and buds neatly off between their lower incisor teeth and toothless bony upper palate.

Although does with antlers have been found, normally only the buck deer bears antlers. Popular opinion has it that counting the points on the antlers will tell the age of the deer, but tooth wear is a much more reliable indicator. A five year old buck has an average of twelve points, but then the antlers often just get thicker and heavier, with no additional points. In old age, the number of points may even decrease.

The antlers develop from May to August. In September, the velvet (the soft skin rich in blood vessels) is rubbed off, leaving the buck crowned with a stately rack of polished bone to joust with rival males in the mid-October rut. The antlers are shed by the middle of winter, an abundant source of calcium for gnawing mammals like porcupines, squirrels, hares and mice.

The young (usually twins) are born in May or June, and left hidden by their mother for the first month. Scentless for a week or so after birth, they lie quietly, their spotted coats blending with the sun dappled forest floor, virtually undetectable by predators.

Deer like open woodland with plenty of leafy undergrowth. Forest edges, glades, stream thickets and mixed woods suit them better than dense stands of conifers and mature forests where the food has grown out of reach and the shade discourages new growth on the forest floor.

Logging, burning and partial clearing of the land for agriculture has created much favorable deer habitat. There were undoubtedly fewer deer in the mature, undisturbed forests of the past. In New Brunswick, there was a great increase in white-tailed deer beginning in the mid 1800's, probably linked to the abandonment of farms and the regrowth of burned or lumbered areas.

The white-tailed deer was an important source of meat and hides for the Indians and early settlers. Today, it is the most important big game animal in North America. Millions are taken by hunters each year, but still, this graceful, familiar animal continues to thrive.

