

Toronto Field Naturalists' Club

M A Y M E E T I N G S

Monday, May 4, 1953 at 8.15 p.m. . . .

at the

ROYAL ONTARIO MUSEUM

Annual Meeting and election of officers.

Speaker: Dr. F.H.Montgomery,
Associate Professor of Botany, Ontario
Agricultural College, Guelph.

Subject: "A rendezvous with Spring",
Illustrated with Kodachromes.

ROTUNDA DISPLAY

Botanical Specimens by Jim Simon
and Dr. Fletcher Sharp.

For information about any of the coming outings, please consult your "Spring Outings" folder, sent out with the last Newsletter.

The Federation of Ontario Naturalists have arranged a meeting at Point Pelee on Saturday May 9 and Sunday, May 10. Go down the night before. Accommodation at Aviation Inn or Pelee Lodge. Rendezvous at Boat House at the end of the Point, on Saturday at 8 a.m.

The Federation of Ontario Naturalists have changed their office from King Street to 187 Highbourne Road, Toronto 12. Telephone HU. 9-4694.

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The Secretary requests that the custom of sending in annual fees by mail, which was so successfully begun last year, should be continued, as it greatly relieves the congestion at the desk at meetings. All cards dated "September 1953" will be honoured for Audubon Screen Tour Tickets.

Secretary - Mrs. J.B.Stewart,
21 Millwood Road,
Toronto 12, Ont.

Fee \$2.00 per year.

HAVE YOU MADE YOUR APPLICATION FOR NATURE CAMP YET?

Toronto Field Naturalists' Club.



Number 116

April 1953.

The Effects of Solunar Influence or Stimulus on
Bird Behaviour * By Dr. L.F. Barnett

"As I write I have before me a copy of the Solunar Tables for the year 1953. And the question is of what benefit or utility can these be for a group of ornithologists. Usually the initial reaction when Solunar Tables are mentioned is for the hearer to smile knowingly to himself and shake his head at another crack-pot idea or even in some cases to become violently angry and to cry out against an attempt to put over on him what he considers quackery, if not absolute fraud.

This is especially so at the present moment because of the publicity which has been given to the famous or infamous Christie case of recent attention in London, England, in which the influence of the moon was presented as being a prominent factor in the commission of the crimes. Reporters seized on this item, and there have appeared in the newspapers and magazines, historical summaries going back to antiquity, recounting the popular beliefs and misconception which have been held down through the ages as to the effect of the influence of the moon on all living things.

*Editorial Note. In a very interesting address to the Toronto Ornithological Club on April 9th, Dr. L.F. Barnett of St. Augustine's Seminary presented his ideas on the use of the Solunar Tables in connection with bird watching. Long used by fishermen these tables may well provide a useful guide for bird and animal observers as to the daily rythmn of activity amongst nature's creatures. Such application is, though, still in the stage of study and experimentation. It is hoped that a good many observers will make use of the tables and try to see if they do present a clue to daily activity periods. Should they prove to do so the bird watchers would certainly have an instrument of great assistance. Solunar Tables may be procured at most sporting stores and some book stores.

I hardly need to declare that I am not acting in any way as an agent in the promotion of any commercial enterprise, but the fact is simply that I do honestly feel that there is something of real objective value in the Solunar Tables with which you should be acquainted. I ask you then to put aside momentarily any prejudices or preconceived opinions and to bear with me, as I seek to unfold for you something of the genesis and the nature of the Solunar Theory, and to present to you some observational data, from which I believe some valid practical conclusions may be drawn.

You are well aware that early morning and evening are normal periods of activity for wildlife and you take advantage of this fact as an aid in making observations. Most probably you have also experienced the situation whereby suddenly, at other times of the day, there is marked activity which continues for a variable length of time and then just about as quickly ceases. These periods of activity would have to be stumbled upon by luck unless there were a way to predict and determine in advance their occurrence. This is what is accomplished by the Solunar Tables.

Ordinarily one becomes acquainted with the tables through an interest in the sport of fishing since they were primarily and originally developed for that purpose. Necessarily then in seeking to give an exposition of them reference will be made to fishing but the extension to all living things will afterwards become readily apparent. It was so in my own case. I have used the Solunar Tables for some fifteen years in fishing and, I might add, with very marked success, and during these latter years I have applied them to the observation of bird activity. Thus if first of all we go fishing, I promise that ultimately we shall do some birding.

The Solunar Theory as it is known today had its inception some twenty years ago on an extremely hot July day in the marshes of the St. John's river in Florida. John Alden Knight, an ardent fisherman, had spent a fruitless morning casting, and had knocked off for an early lunch. His guide became restless and finally impatiently said, "Hurry up with that lunch. We'll miss the good fishin' if we sit here much longer." "What makes you think they'll rise in this heat," Knight asked him. "They'll rise all right," the guide replied, "Moon's down about noon." "What's that got to do with it," he was asked. "Never mind about that" answered the guide, "just take my word for it. These fish are goin' on the feed pretty quick now." Pressed for some explanation the guide then related how his grandfather, a market hunter and fisherman in South Georgia had told him that the time to go for fish or game was when the moon was directly overhead or directly underfoot.

John Alden Knight was immediately impressed for always since boyhood he had wondered about the manner in which fish would bite ravenously at some times of the day and ignore the choicest offerings at other times of the same day. He had often sought an answer from older and more experienced fishermen, the net result being a mass of conflicting misinformation. There just might be something in this idea expressed by the guide. Accordingly he bolted down his lunch and

went fishing again under the broiling rays of the July sun. The report in his own words reads: "Never in my wildest dreams have I seen such bass fishing as we had that day. There were almost three hours of hysteria. How many fish we caught and released I do not know. Certainly more than we had ever caught before. That evening we hung on the boat house scales that part of our catch we had brought out with us: nine large-mouthed bass that totalled seventy-eight pounds."

This startling and most satisfactory experience caused him to investigate further the validity of the guide's prediction and its basis. There thus began years of observation and experiment. It is extremely interesting to follow him step by step as he records the trials, the errors and the final production of a systematic schedule but a brief summary should be sufficient for our present purpose.

He learned that with the moon up moon down theory, at some times of the month the feeding periods arrived right on schedule but at other times there was considerable variation. Years of salt-water fishing had taught him that the best feeding time for salt-water fish was at low tide. Basing his schedule then on the times of the tides, he found that it came closer to the actual feeding schedule. Since tides were caused by the sun and the moon, in order to facilitate description the theory was given a name. He combined the words "Solar" and "Lunar", and thus was the Solunar Theory born.

He wrote about it in 1935 in articles which appeared in "The Sportsman", "Field and Stream" and "Outdoor Life", and when inquiries came to him as to how the schedule could be obtained, he began the publishing of the Solunar Tables.

Further research was made on the cause of the tides - the gravitational pull of the moon and the sun - and the resultant of the two forces as directly applied to a particular longitude produced a more satisfactory table: More study brought him to a knowledge of the effect of the barometer, of atmospheric pressure, and of the existence at all times in the atmosphere of tiny electrical particles called ions and of the experiments which demonstrated the beneficial effects of the negatively charged ions on living things, and the baneful effects from those positively charged. He was introduced into the examination of terrestrial magnetism, and came to the tentative conclusion that ions and their known effects were very probably the solution as to the true causes of the effects of both barometric fluctuations and Solunar influences on the lives and habits of all living creatures.

Failing in health due to overwork he had to resign his position with a bank, and he tells us that since his sole source of income thereafter would come from the sale of Solunar Tables and articles written for outdoor magazines, that it was imperative for him to pin down the Solunar schedule so that it could not miss. For this purpose daily observations were necessary and since good fishing grounds were distant from his then home in Orange, New Jersey, he adopted the expedient of observing all wildlife -- song birds, squirrels, rabbits and so on.

From his screened verandah he was able to keep track of what went on in a large vacant lot behind his home, and he discovered that the activity among the wildlife was as indicative as that in a trout stream or a lake. From these observations he learned of what he designated as "physical lag" or delayed reaction. That is, he found that promptness of reaction seemed to vary in direct proportion to the order of development, or in other words, the higher the degree of development the slower that creature is to react to the stimulus. The first sign of activity was manifest with the insect life, then fish. With birds, and small animals, the delay was even longer than with game fish. Dogs, cows, deer, the larger predatory animals and finally human beings reacted on an even more delayed schedule than the lesser creatures.

After years of intensive study, constant observation and experiment he writes; "With the various changes in the Solunar Theory since its inception, miscalculations and revised methods of computing the Solunar schedule, with the resultant inaccuracies, it may seem strange that any credence is placed in it at this time by anybody. On second thought, however, the reason is obvious. In the first place, the average Solunar period is about an hour and a half or two hours in duration. That fact in itself leaves a certain amount of latitude for miscalculation. Then, too, adverse temperatures, unsettled barometric conditions, low water, high water, and many other factors all have their effects on the timing of the schedule. On an ideal day, the fish respond early and continue their activity for as much as three and a half hours. With unfavourable conditions, the activity period may be confined to a sharp flurry of feeding, lasting only twenty minutes. It is an extremely variable thing; one that cannot be pinned down to a set schedule of absolute minutes.

John Alden Knight is extremely honest in his presentation. He is the first to declare that he does not know exactly how, but only that his theory does work. He makes no exaggerated claims but simply declares that the present manner of calculating the schedule comes about as close to the true schedule as it is possible to come without knowing the absolute cause, which is so well hidden, and at present at least so intangible and indefinite; and concludes that when and if the actual cause of these activity periods is known definitely so that it can be isolated, measured and timed, then the Solunar theory can be reduced to the enviable status of an absolute science. Until that time comes the Solunar Tables will give a forecast of the probable periods of activity on any given day.

So much for the Solunar theory as a theory, its history, and its gradual laboured formation. I have dwelt upon it at some length because I felt it necessary to present it in its proper perspective. John Alden Knight has made many personal observations for years. His files are filled with correspondence from observers in all parts of the United States, Canada, and many other countries. The Solunar Tables are now read by literally millions, and relied upon by them. They form a syndicated feature in some one hundred newspapers, and locally are found in the Telegram in the column "Outdoors with Pete McGillen". I have myself made many observations, and checked the

findings of others. It ought then to be interesting and enlightening to recount some of the results in reference to bird behaviour.

John Alden Knight reports "It is an absorbing study to observe the effects of Solunar influence on birds. Not all of them respond alike and care should be taken in forming conclusions. Nevertheless the effects do manifest themselves and the careful observer will have no difficulty in spotting them". He found especially during his convalescence when his own activity was limited to his home that it was not difficult to know when a Solunar period was in progress. Many times his wife Beth would come to the porch and say "You don't need a trout stream to check up on your Solunar Tables. Just listen to the birds singing their little heads off". This bird song was always accompanied by a great amount of fluttering and flying about. The lawn would be covered with feeding birds, and now and then a rabbit or two would come over to sample the garden.

One letter to him contained the following account "I've slipped into a patch of woods and sat down when seemingly there wasn't a living thing in the woods. This breathless silence would continue until the Solunar period would come in. Then rather gradually the whole woods would come to life. Birds would begin to sing and move around, squirrels would go on the move, evidently in search of food".

My own field of observation has been principally twofold. For some twenty summers I have spent part of July and August in Northern Ontario on the shore of the North Arm of Lake Temagami. Time after time I have been sitting quietly reading in utter stillness, with not a movement of any kind to be heard or seen. Suddenly there would be the sound of activity. Every tree held more than its quota of warblers and vireos. The thrushes would come out of hiding and burst into song, accompanied by the oven birds. The jays would scream and ravens cruise overhead. The ruffed grouse would bring her brood, feeding almost to my feet. Everything in nature manifested joy and it was good to be alive. I would go to get my binoculars, and at the same time check my Solunar Tables. I hardly needed to do so because invariably it was a Solunar period.

In my earlier years in the North I was interested in the Solunar Tables only as an aid in fishing. They proved so effective for me in this regard, that the Indian guides in the district before taking out a fishing party would frequently come to me and ask when the Solunar periods would occur on that day, and then make sure to be in an advantageous fishing spot at those times, and later report to me the success of their undertaking. So much so that I brought with me each year extra copies of the Solunar Tables which I gave to these Indian guides and which they used to great advantage.

This experience in fishing made me gradually conscious of the application of the Tables to bird watching, so that I was able to plan my own activities and expeditions in observing the birds to gain the best possible advantage by knowing beforehand when I could expect their greatest activity.

Mr. Knight records that in several letters from users of the Solunar Tables that mention was made of the coincidence of bird activity and the Solunar periods. The writers had discovered that the birds did show up on schedule as the Tables said they would. One man from Baltimore wrote "It's a mighty nice thing to be able to announce to dinner guests that at 2.30 that Sunday afternoon seven pairs of cardinals would be on the feeding shelf and then to have them be there - all fourteen of them - at the specified time."

One winter Mr. Knight himself set up a feeding shelf outside the dining room window. "It was interesting" he says "to note the manner in which the shelf was patronized. If food should be put out first thing in the morning it was all gone within the hour. That was to be expected. Early morning is a normal, daily feeding period with birds just as it is with fish. On the other hand, if we allowed the shelf to remain empty until morning was well advanced, then the food stayed there untouched, until the next Solunar period arrived. Very seldom did a Solunar period pass without having the shelf picked clean of every crumb."

My second and ordinary field of observation is at St. Augustine's Seminary located in Scarborough on the Kingston Road. It is an area of some 140 acres extending roughly from Chine Drive, Stop 14-A to Stop 16, and south to Lake Ontario. At the foot of Chine Drive on the western boundary there is a little wooded gully, while on the east a much more extensive ravine. Between these are fields and meadows, an ideal location for observation. In the past three years, with not too experienced observers, the check list for the property records 162 species. The last entry is that of a ruffed grouse which on Tuesday morning of this week flew into one of our windows, shattering it completely, and unfortunately bringing about its own death. I wish I could report that this took place during a Solunar period, but it did not. However, making use of a major Solunar period on May 11th, 1951, there were identified on the property in just over three hours, 51 species; and on May 15th of the previous year 69 species were observed throughout the day.

In the little gully at the foot of Chine Drive there is erected a feeding station, and my own observations during this past winter showed that while there might be an occasional visitor at other times, that during a Solunar period, the tray was continually patronized by practically every species in the vicinity.

This past winter also a Carolina wren made this gully its home. Sometimes I would not see it for ten days or longer, with consequent wondering as to whether it was surviving. On such occasions I would plan my trip to coincide with a Solunar period, and time after time the wren would appear from hiding to give me assurance of its presence.

Game birds particularly, seem to react to Solunar stimulus, and I can agree with Mr. Knight when he says, "Ring-necked pheasants were found to leave the swamps and heavy cover, and move to higher ground in search of food during Solunar periods. The same held true for grouse and

quail, and the observation was made that during these periods the birds seem to lose a great share of their natural caution, and one can get closer to them".

You have all seen the gulls resting very quietly along the break-water, and then suddenly they will all take off. If you were to check you would find that a Solunar period was in progress, that they sensed the smaller fish would be moving about, and that it was feeding time for them.

What about weather conditions and their effect on Solunar influence? I have found that a heavy rain is bad. On the other hand a light rain though it be steady and prolonged will often even increase the activity at least for many species. An east wind is usually adverse; a light wind produces no noticeable lessening. A very high wind will ordinarily reduce activity except for example, in the case of the hawks. When the wind was in the right quarter, I have found the hawks over our property putting on some of their best displays during Solunar periods. Naturally, when the barometer is falling there will be a restriction of activity.

Someone may say, "Why should I worry about Solunar Tables? I go afield when I can get away from work or home. I stay as long as I can, and I observe all the time I'm out. What good does it do me to know about Solunar periods". I can only apply the answer given by Mr. Knight. What is forgotten is that the hours of a day afield are somewhat flexible. Usually a man can start a bit earlier or go home a little later, thereby taking advantage of a Solunar period which otherwise he would miss. In addition the day takes in many other things, eating lunch, driving from place to place, possible car repair, all sorts of things. If one knows in advance when to expect the greatest activity that day has to offer, then he can arrange other matters so that he will take full advantage of Solunar periods.

On Sunday morning, November the 16th last year, shortly after ten I met Jim Baillie, and some other members of this Club in the little gully on the western edge of our property. They left sometime after 10.30, but I remained to continue my observing. A major Solunar period was due to begin about eleven o'clock. Where Jim and the others were at this time I do not know. Probably driving along a road entirely barren of birds. I was in a favourable location and shortly after eleven there appeared a flock of some fifteen red crossbills which began to feed in the hemlocks. I was able to watch them for about half an hour. This was my only fall sight of them last year. I have seen them three times in the past couple of months in the same location and always with one exception during a Solunar period. On one of these occasions I was treated to the sight of two pairs of them on the ground for a period of about ten minutes, searching through the leaves for hemlock cones, holding them with their feet, and extracting the seed. One female finding difficulty; flew up with the cone, and lodged it in the crotch of a small sapling, and then proceeded with ease to complete the operation.

I think we can conclude that the Solunar Tables will be a benefit

to observers by pointing out in advance, the probable periods of greatest activity. They will aid in seeing a rare species whose presence is known or suspected. They will enable the photographer to obtain better shots. Those who are in a favourable location, knowing in advance when a Solunar period is due, may be able to slip out more frequently for an hour or so at that time much to their advantage. It may be that the Solunar Tables should form part of the standard equipment of the bird watcher. In a word they will add to your enjoyment and knowledge in the prosecution of your hobby or your science."

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This very open winter has not been a very good one for owners of feeding stations. Birds do not concentrate about such stations in winter as a rule unless forced to do so by want. This winter the light snowfall and lack of cold weather put little or no pressure on most birds. Hence the lack of birds that most station owners found on their trays. I suppose this lack also accounts for the fact that the Newsletter received only one reply to the request for accounts of observations at feeding stations. That even in a poor feeding station winter there is still much of interest to be expected is, however, revealed in this one report. Mrs. Naomi LeVay who sent in the report on February 29th can hardly be said to have had a blank winter around her feeding station. She writes, "Although this has not been a particularly eventful season for us, on a good day, such as January 30th for instance, we had juncos, jays, chickadees, white-breasted nuthatches, cardinals, downy and hairy woodpeckers in the garden, as well as two goldfinches and twenty pine siskins which visited our white birch tree. Apparently this has been a pine siskin year, as they have been coming here since early autumn. At that time some of the siskins would come down on the lawn to feed off the fallen birch seeds and I found them quite approachable. I was able to get within five feet of one pair and they seemed quite unconcerned with my presence.

Redpolls visited us once early in the winter, also attracted by the birch seeds, and a purple finch was seen one day eating the fruit of the snowberry bush. A sparrow hawk makes fairly regular visits to the garden, as if to keep the birds on their toes. It seems to know the particular dense shrub where the sparrows roost and always swoops low over this spot causing a considerable outcry among the birds. A starling in our neighbourhood, who must be a real practical joker, has learned to imitate the "killy-killy" of the sparrow hawk. I wonder if it fools the birds as well as it did me the first time I heard it.

On January 29th a roving flock of cedar waxwings alighted for a moment in our birch. As this flock took off towards the ravine it was joined by another score or so of the birds from a nearby garden, making altogether a flock of about forty individuals.

A wintering flicker has spent most of the month of January in our ravine, and has been observed feeding on sumac, but has not come

to our garden for suet as we hoped it would."

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A report of some of the highlights of last year's (1952) birding, as drawn up by Arnold Dawe for the Records Committee of the T.O.C. is included as a suggestive guide to possibilities for the present season. Mr. Dawe writes, "There were certain observations of particular importance. These included the first Black-throated loon record for Lake Ontario, made at Frenchman's Bay on May 15th by J.L. Baillie, Bud Knapp and L. Sinclair. A Black-throated gray warbler at Glendon Hall, Toronto, on December 7th by Bristol Foster, is the first Ontario record for this species. An Orange-crowned warbler at Hogg's Hollow, found on December 28th, is the first winter record.

Other records of interest: a wintering Catbird was seen in Cedarvale on January 6th by R.M. Saunders. Brownheaded chickadees of the fall invasion remained to winter at several places. A Myrtle warbler was found at Oriole in February, and a new early nesting date for the Great horned owl, February 9th, was established, also at Oriole.

An Oregon Junco remained at Pickering from early December to well into April, observed by J.M. Speirs.

April weather was unusually mild but migration progressed normally. A number of warblers and other species arrived around May 3rd to 8th. A spectacular migration occurred at Pt. Pelee on May 10th. Thousands of white-throated and white-crowned sparrows were seen with over 150 other species. A Bell's vireo was included in this list on May 11th, seen by R. Scovell.

A Kentucky warbler was found at Glen Stewart Park, Toronto, May 18th by Derek Beacham. It remained till May 21st.

A number of Brant were seen along Lake Ontario from May 17th to 26th.

A nest of the Clay-coloured sparrow was found with 4 eggs at Craighleith on June 3rd by George Francis.

A great number of forest tent caterpillars in the north were apparently responsible for an abundance of Black-billed cuckoos; and it was thought also responsible for the disappearance of a Phoebe's nest and Chipping sparrow's nest at W. W. Smith's cottage.

E. Stark found an Osprey's nest with two young at Paudash Lake July 28th.

A large variety of species and high numbers made the fall migration most interesting. Shorebirds were particularly noticeable, 17 species being seen at Leslie Street on August 17th. Buff-breasted sandpipers, Wilson's Phalarope, Hudsonian Godwit and Stilt sandpipers were a few of the rarer ones reported during the season. Many Golden plover were

seen in late September.

Among the gulls a Little gull turned up on August 10th on the Humber, and a Franklin's gull at the same place on August 30th. These stayed at least until September 26th. On November 10th a Glaucous gull was seen at Sunnyside by F. Bodsworth.

A Little blue heron was observed at Eastbourne, September 2nd - 4th, and a Chat at Terra Cotta, August 23rd - 27th, both by R. M. Saunders.

Myrtle warblers were unusually plentiful. Canada geese and Blue geese were reported a number of times. Siskins and Redpolls were common in early November, dwindled in numbers later, then became numerous again. A late Red-eyed vireo was seen in Cedarvale; November 9th - 10th, and a late Chestnut-sided warbler at Rouge Hills, October 19th. At Centre Island, November 11th O.E. Devitt found a Purple sandpiper. November 30th a Kumlien's gull was seen at Ashbridges Bay. A small flight of Brunnich's murrelets occurred on eastern Lake Ontario at Kingston and Apple Hill. Four late Ruby-crowned kinglets were seen December 6th and 7th.

Among the other late fall visitors have been Surf scoters, Red-throated loons, Snowy owls, Evening grosbeaks, Cedar waxwings, Hoary redpolls and Oregon juncos. Carolina wrens were reported locally at different places throughout the year."

R. M. Saunders,

Editor.