

In the note-book may be kept fuller particulars of the excursions, with facts about the plants, indicated at the beginning of this article.

The following gentlemen have consented to act as secretaries for their respective counties in New Brunswick:

| | |
|--------------------------------------|-------------------------|
| J. Vroom, St. Stephen, Charlotte Co. | |
| W. S. Butler, Grand Lake, Queens Co. | |
| J. Brittain, Normal School, | } Fredericton, York Co. |
| Principal Inch, York St. School, | |
| H. F. Perkins, Fairville, | } St. John Co. |
| Austin C. Stead, St. John, | |

All communications regarding botanical work in these counties may be addressed as above. All other communications for the present may be addressed to

G. U. HAY, St. John,
Secretary for New Brunswick.

The following have been invited to act as Secretaries for their respective counties in Nova Scotia:

| |
|---|
| Miss Antoinette Forbes, B. A., Yarmouth, Yarmouth Co. |
| Prof. Coldwell, Wolfville, Kings Co. |
| Prof. Kennedy, Windsor, Hants Co. |
| Principal N. D. McTavish, Springhill, Cumberland Co. |
| Miss Ida Creighton, Halifax, Halifax Co. |

E. J. LAY, Amherst,
Secretary for Nova Scotia.

Astronomical Notes.

SUMMER AND MIDSUMMER.

"A student" is puzzled because his almanac says (1) that summer commences on June 22, and (2) that June 24 is midsummer; also because (he says) Dowden says in his Shakespeare Primer that the 'midsummer night' of the 'Dream' was the night of May 1.

The summer that begins on June 21—not June 22—is the astronomical summer, the second quarter of the tropical year. It is not the summer of nature, the summer that poets warble about, and that the man in the street and the man in the field talks about. This summer is a somewhat indefinite season, and it would be rather a difficult matter to say just when it begins, or when it ends. But science does not like indefinite notions; it prefers something clean-cut and precise, something whose beginning and whose ending can be exactly defined. When it does not find such a thing ready-made in nature it is apt to make one, or to feign one, for its own convenience.

Modern astronomy considers the summer to begin at the moment when the sun reaches its greatest distance north of the equator, and to continue until the moment when the sun's centre is on the equator. The former event happened this year on June 21 at 1h. 32m. 9s., p. m. (60° time), the latter will happen on September 23 at 4h. 13m. 25s. These, then, are the limits of the astronomical summer for the present year. There are various ways of stating those limits. One has been given already. Another is to say that

the astronomical summer runs from the time the sun enters the sign Cancer to the time he enters the sign Libra. Another, from the time the sun's right ascension is 6h. until it is 12h. Another, from the time the sun's longitude is 90° until it is 180°. Another, from the summer solstice to the autumnal equinox. But all these various forms of statement refer to the same two astronomical facts. The facts of general interest associated with these are that at and about the solstice we have our longest days, and at and about the equinox our days and nights are of equal length.

In the olden time the solstice was considered midsummer instead of the beginning of summer, both by astronomers and by the people generally; and June 24 was celebrated as Midsummer Day. How the day was celebrated may be read in many old books. A very full account of the sports and ceremonies is given in Chambers' Book of Days. But why the 24th? The solstice falls on the 21st, sometimes on the 20th, never as late as the 24th—nowadays. But it used to fall on the 24th and that is when it happened at the time when Julius Cæsar reformed the calendar. By his calendar the solstice was fixed to that date, and, according to the custom then and for long after prevailing, that was held to be the midsummer. Although the day is no longer kept as one of nature's festivals, our almanacs still preserve the remembrance of its by-gone glory by making it as Midsummer Day.

It will be not interesting to my star-gazing readers to notice how Cæsar dated the beginning and the ending of summer. According to his calendar, it began when the Pleiades could first be seen in the morning sky, and it ended when Vega set at sunrise. The dates of these events for the latitude of Rome and the time of Cæsar were May 9 and August 11. It is too late this year to seek for the date of the earlier event for this age and this latitude, but the date of Vega's sunrise setting might be determined by some early riser between the middle and the end of August.

As to Shakespeare's *Midsummer Night's Dream*, it ought to be remembered that that is a poem and a *dream*—such a dream as a poet might have on a midsummer night. In a dream, time and place count for nothing; but, even were this not so, there is no need to insist that the time of the dream is the same as the time of the actions that occur in the dream.

What Prof. Dowden says is: "The action of the play is comprised within three days, ending at twelve o'clock on the night of May-day. The notes of time given in the opening lines of the play are inconsistent with this statement, but the inconsistency is Shakespeare's own." Any one who reads the play carefully will see that the Professor's statements are quite correct.

A. CAMERON.

Yarmouth, N. S., June 26th, 1891.