

ASTRONOMICAL NOTES FOR JUNE.

Short nights make June the worst month of the year for star-gazing. For the month as a whole, and for the Maritime Provinces generally, the average length of the night is only three hours. The length of daylight, twilight and night in the south of Nova Scotia and the north of New Brunswick for June 1st, June 21st and July 1st, is as follows:

SOUTH OF NOVA SCOTIA.

	June 1.	June 21.	July 1.
Daylight,	15½ hrs.	15½ hrs.	15½ hrs.
Twilight,	4½	4½	4½
Night,	4½	3½	4

NORTH OF NEW BRUNSWICK.

	June 1.	June 21.	July 1.
Daylight,	15½ hrs.	16 hrs.	16 hrs.
Twilight,	5½	6½	6½
Night,	2½	1½	1½

The long twilights are good enough for many of the star-gazer's most interesting objects, and daylight is quite sufficiently good for at least one of them.

This one is *Venus*. At the beginning of the month she rises one and three-quarter hours before the sun, and two and a half hours before at the end; and sets about the same time before sunset. She will be easily visible to the naked eye during June at any time between her rising and setting—even in the full blaze of noonday. But the eye must take some little trouble at first in finding out where to look for her. On the 1st she will be 35° W. of the sun and 11° to the South of him. On July 1st she will be 45° W. and 8° S. When you get your first noonday glimpse of her—and the nearer the 6th of June the easier this will be—note her position with respect to some convenient terrestrial object and then you'll have no trouble in finding her next noon. At the beginning of the month only a fourth of her disc is illuminated, at the end she will be a "half-moon." The naked eye won't show you this. But a large telescope is not needed. An instrument with a two-inch object glass and a power of forty is quite large enough. Less will do, but just how much less I don't know. If any of you know I wish you would tell me. If you have an instrument that will show the phases you needn't get up before sunrise to use it. You can have a better view after sunrise than before.

Jupiter is in *Sagittarius* near the handle of the Milk Dipper. At the beginning of the month he is near *Lambda Sagittarius* the middle star of the handle. Near the end of the month he will be on the handle and half-way between *Lambda* and *Mu*. On the 1st he rises about 9.20 p. m. (mean time), and about four minutes earlier each succeeding night. He is at his

best for this year during June and July, and so gives a good chance for a sight of his moons. All four of them can easily be seen with such a glass as that mentioned above. But almost any kind of a glass will show at least one. The easiest one, as a general rule, is the third (III). This one will be well placed for observation on any evening after the middle of the month except the 22nd and 29th. The best evenings for it will be the 20th, 24th and 27th.

Saturn is past his best for this year but is still a conspicuous object between *Regulus* and the Beehive, moving slowly towards the former. Its motion during the month will be about five moon-breadths. Note his position in a glass with respect to the small stars near him, and in a few evenings his motion will be quite sensible.

Uranus may be seen with a good naked eye on any clear night in June when the moon is not too bright and the street lights don't interfere. He is in line with *Spica* and *Theta Virginis*, much nearer *Theta*—so near that *Uranus* and *Theta* are easily in the field of an opera-glass. Until the 25th he is moving nearer *Theta*, after that away from it; but his motion is very slow, its total amount for the month being less than half the breadth of the full moon.

Mercury will be too difficult an object to catch during June, although at the beginning of the month he will be above the horizon for over an hour and a half after sunset.

Mars is too far off, too faint, and too near the sun. He will be of little interest to any one on the earth for the next three months at least. But just wait until next June.

The *Moon* will go her usual round this month, occulting the usual number of small stars. An eclipse and a couple of planetary occultations are also on the programme, but not for our corner of the globe. On the 14th she will occult *Jupiter*, but Mexico and the adjacent regions will get the benefit of that. On the 24th she will occult *Venus*, but to see this well one would have to be out on the southern ocean between the Cape of Good Hope and the Antarctic Circle. On the 28th she will eclipse the sun (an annular eclipse), but it will be for the benefit of South Africa chiefly. Before the end of the year our provinces may come in for a small share of these entertainments.

C.

PROFESSOR BROOKS, director of the Smith Observatory, New York, has obtained several observations of the new white region on *Saturn's* ring, and announces his discovery that the light is variable and that pulsations of the light at irregular intervals have been detected by him. This evidence of a change in *Saturn's* system is of the highest scientific interest.