

in their true positions of passing near the several radiant-centres, but directed upwards and downwards alternately, for each radiant-point in turn, so as not very sensibly to confuse each other. The lines are also drawn of such lengths as to show by ending at different border-lines of the diagram, at what date, or approximate date (for the few Perseids' paths noted on July 20, 23, 25-6, 28, and 31, and on August 4 and 6 are referred to the nearest special dates, by their line-lengths, only) in July or August any path-line was observed. In this way the progress of the radiation is either visible in its main outline at a glance, or any special peculiarities and features of it may be studied closely in detail.

It may thus be noted easily that although not dying out for some days longer, the activity of shower I. was chiefly confined to the first week (up to July 27) of the watch; while the meteors of shower II., first appearing only on July 30, continued, with a maximum on August 2, to show themselves brightly up to August 3; and that little was to be seen of the main stream of η -Perseids (shower IV.) until August 2-3, when it was still inconspicuous, but when a precursor limb of it, the intermediate shower III., was about as active beside shower II. as it again became afterwards on August 8, but more feebly on August 9, beside the plentiful displays then going on, of the showers IV. and V. from η Persei and B, C Camelopardi.

The offshoot as it seemed of the main shower's radiation, at the latter place, showed like the main stream itself, but slight signs of its existence, either in July or later, until August 6, when four of six meteors (all Perseids), seen in an hour, diverged very distinctly from a point thus first well indicated near B, C Camelopardi. On the nights of August 8 and 9 it appeared to form an almost equally intense companion-shower to the η -Perseids; and as it seems to conform well in its position to the straight onward line of motion of the other Perseid centre-points, and to add apparently another link-step to the regular earlier stages of a chain-like progression, it might have been expected, had the nights of the 10th and 11th of August not been such unfavourable ones for noting any further changes in these loci of divergence, that with the expiration of the η -Perseid shower IV., the accompanying stream V. from B, C Camelopardi, would perhaps survive it, or else would on some later night reappear with a new and naturally much weaker maximum agreeing with its theoretically proper apparition-date.

Some future years' clear skies, it may be hoped will allow the after-showers of Perseids, already very clearly and distinctly traced by Mr. Denning, to be seen and noted in not less splendid weather than that which so well and continuously displayed the phases of the preceding showers' appearances in the present year.

Several exceptionally bright meteors; and some smaller ones presenting specially remarkable features of appearance, were noted in my watch, which, together with the real paths obtained from corresponding observations at other places of some of the shooting-stars and fireballs of its list, would furnish me with a sufficient abundance of interesting notes to fill another letter. But the subject of the latter meteors will be discussed more satisfactorily and completely in a general review of the collected observations which Mr. Denning and Mr. Corder are conducting; and satisfactory descriptions of the former meteors would involve more searches among known radiant-points, with full deductions of their radiant-centres for the 167 sporadic meteors of my list, than I have yet attempted, to summarise correctly the points of leading and rather novel interest which were presented by the radiations of some of the more particularly striking meteors. I must forego, therefore, a review of features of interest, and of real path conclusions which some of the individual meteors offered very attractively for description, although I felt at first much prompted to describe them; in order to place their discussion in the hands of those much better and more surely able than myself to judge of their importance, who in combination with Mr. Denning undertook the arduous task of collecting and the necessarily much slower and more dilatory task of abstracting and collating all these numerous descriptions.

A. S. HERSHEY.

Observatory House, Slough, September 21.

A Colony of Highly Phosphorescent Earth-Worms.

IN the sheltered westward corner of a small grass-plot in this city there is a colony of highly phosphorescent earth-worms. The annelid is round, pellucid, slender, of a faint yellowish tint, is about two inches long, and is not flattened behind. I have

been unable to distinguish segmentation. The worm is entirely luminous. The phosphorescence has precisely the bright greenish colour of the light emitted by the glow-worm. The light is under control. When in glow its secretion is luminous, as is seen in its trail and in the phosphorescence imparted to the hands when handled. It is said by the owner of the grass-plot that the casts are luminous. This is a point I have had no opportunity of observing.

At night the slightest irritation suffices for lighting-up. I captured one in a small clod of turf, to transplant in my grass-plot. The very slightest pressure of the clod, which I should have thought inappreciable, brought on a manifestation of light. On nights when not on the crawl and not otherwise visible, a favourite expedient is to stamp on the ground to get them to come to the surface. The worms in response at once rise to the surface and light up, as though it were possible for them to show fight, instead of, like other worms, scampering away.

The spot colonised is far from humid, but the worms are more active in wet than in dry weather. The worm is new to this place, and, as far as my researches go, it has not been observed westward in Wales. It seems to me to be an instance of *Lumbricus phosphoreus*, but it hardly agrees with the published description of that organism. I want to avoid depleting the colony, or putting any of the inmates to torture, but I could at least furnish a specimen.

J. LLOYD-BOZWARD.

Worcester, September 27

Appearance of a Noddy in Cheshire.

THE other day, when looking through a collection of stuffed birds, I saw and obtained a specimen of the Noddy Tern (*Sterna stolidus*, Linn.). It is in immature plumage, the white on the crown being only just visible.

It was shot on the Dee marshes in winter about six years ago.

As I believe this Tern has been only twice recorded as visiting Europe, I think this specimen worth mention.

Neston, Cheshire, September 29.

F. CONGREVE.

THE ETNA OBSERVATORY.

A RECENT number of *La Nature* (No. 1262) contains an interesting illustrated account of the observatory on Mount Etna, a building which was originally designed by Prof. Tacchini for some special investigations which he had in hand. The eruption which occurred in 1886 caused much disaster, and considerably affected the building which was not restored till the year 1891. In the observatory at the present time there is an equatorial of 5.5 metres focal length, besides various meteorological and seismographical instruments. Observations are made regularly, except in the winter months. This year a very important addition will be made by the setting up of telegraph and telephone wires as far as Nicolosi, thus rendering it possible to regulate the work.

The ascent from Catania, which town lies at a distance of about 30 kilometres in a southerly direction, is made by coach as far as Nicolosi (700 metres). One proceeds then by mule as far as Casa del Bosco (1440 m.), and to the Alpine meteorological station (1890 m.); this latter place being half-way between Nicolosi and the observatory. The rest of the way is made by foot over the snow; the path, which is very rough, can be ascended by mule in the summer, but it is impossible in the winter, owing to the great accumulation of snow. The observatory is sometimes buried in the snow to a depth of two to five metres, admission being then only possible through the first-floor windows.

The disadvantages of Mount Etna as an observing station are therefore due more to the snow than to volcanic disturbances. Long periods elapse between the volcanic outbreaks, during which time the surface near the central crater and the observatory is quiet, so that even the most sensitive seismograph may be used.