

ASTRONOMICAL NOTES.

[Edited by George A. Hill.]

Comet α , 1892.

THE following ephemeris of comet α , 1892, is from a hyperbolic orbit computed by Father G. W. Searle of the Catholic University, and is based upon observations made on March 10, March 29, and April 22, and represents very closely an observation made by Father Searle on the morning of May 6. The epoch is for Greenwich midnight:—

	R.A.			Dec.	log Δ .	Br.
	h.	m.	s.			
May 12	23	5	17	+ 28	5.3	0.1270
13		8	0	28	39.9	
14		10	42	29	13.7	0.1329
15		13	22	29	46.9	
16		16	1	30	19.4	0.1387
17		18	38	30	51.3	
18		21	14	31	22.5	0.1444
19		23	48	31	53.1	
20		26	20	32	23.2	0.1499
21		28	50	32	52.7	
22		31	19	33	21.6	0.1553
23		33	47	33	49.8	
24		36	13	34	17.4	0.1606
25		38	37	34	44.6	
26		40	59	35	11.3	0.1657
27		43	19	35	37.4	
28		45	38	36	3.0	0.1707
29		47	55	36	28.1	
30	23	50	11	+ 36	52.7	0.1756

Winnecke's Periodic Comet.

Ephemeris continued from No. 482 of *Science*:—

	R.A.			Dec.	
	h.	m.	s.		
May 17	11	10	3	+ 44	29
18		8	50	44	27
19		7	39	44	24
20		6	28	44	21
21		5	19	44	17
22		4	9	44	13
23		3	0	44	9
24		1	50	44	5
25	11	0	40	44	0
26	10	59	30	43	55
27		58	18	43	49
28		57	5	43	44
29		55	50	43	38
30		54	33	43	32
31		53	13	+ 43	25

Bright Streaks on the Moon.

Professor Holden in No. 22 of the Publications of the Astronomical Society of the Pacific calls attention to an interesting question in regard to the system of bright streaks on the moon, which radiate from the craters Tycho, Copernicus, Kepler, and others. These streaks, as he says, are well known objects, and are depicted upon the maps of the moon made by Lohrmann, Beer, and Maedler and Schmidt. Professor Holden offers to place at the disposal of any one who has the time to devote to the research, glass-positives of the moon taken with the great telescope. What is desired is to compare the photographs with the best maps to see if these bright streaks shift as the moon's age varies, or if they are

fixed. Professor Holden's kind offer should be accepted by some one who has the time to give the subject careful consideration, as it is not at all difficult and only needs a good supply of patience.

Astronomy and Astro-Physics for May.

Astronomy and Astro-Physics for May contains some very interesting papers. Professor W. H. Pickering describes the mountain station of the Harvard College observatory at Arequipa, Peru, at an attitude of 8,055 feet above the sea. Professor Pickering states that a power of 1,140 on the 13-inch telescope has been used upon Venus in the daytime, that power showing the planet to a decidedly better advantage than 812. The phases of Jupiter's satellites are readily observed as they enter the shadow of the planet, a phenomenon very seldom seen in low altitudes. Professor Pickering sums up the advantages derived from his station in these words, "What we see here depends not, as elsewhere, upon the condition of the air, but only upon the size and quality of the telescope employed."

Mr. J. A. Brashear gives a sketch of the life of G. B. Clark, the great optician. Mr. T. J. J. See links together the history of the color of Sirius. Professor Barnard gives the result of his successful attempt to photograph Swift's comet. Mr. Monck writes on the Spectra and Proper Motion of Stars, and Professor Vogel, on the Motion of Nova Aurigæ in line of sight. Mr. Cortie has Some Recent Studies on the Solar Spectrum. Solar Photography at the Kenwood Astro-Physical Observatory is treated by Professor Hale, and Professor Pickering writes on The Nova in Aurigæ. Other interesting papers follow, besides news and notes of interest to astronomers. Professor Payne and Professor Hale have made a most interesting number in the one that is now before us, and we hope that their endeavors will not be abridged in the future.

IS IT DANGEROUS TO SPRAY FRUIT-TREES WITH SOLUTIONS OF POISONOUS SUBSTANCES IN ORDER TO PREVENT DEPREDATIONS FROM DESTRUCTIVE INSECTS?

THE following report of experiments made to determine the amount of copper and arsenic adhering to fruit that had been sprayed with Bordeaux mixture and other compounds is taken from Bulletin 17 of the Hatch Experiment Station of the Massachusetts Agricultural College at Amherst.

Grapes.

During the early autumn the Board of Health of New York City condemned several carloads of grapes as dangerous to the public health and ordered them destroyed, because they were slightly disfigured with the Bordeaux mixture which had been used by the growers to prevent mildew and rot. This caused a "scare" among the dealers and consumers and a serious fall in prices, which affected the market more or less for the rest of the season. To determine positively the amount of copper adhering to the grapes grown in the college vineyard, two lots of fruit, of ten pounds each, were selected, one from vines sprayed with the Bordeaux mixture throughout the season, and which were very badly disfigured, and the other from vines that were treated with the Bordeaux mixture up to the middle of June, then with two applications of the ammoniacal carbonate of copper, and which were not in the least disfigured.

An analysis of these two samples was made at the State Experiment Station. In the first, sample No. 1, there was