

XIII. *Extract of two Letters from M. Messier, of the Royal Academy of Sciences, and F. R. S. to M. de Magalhaens, on a new Comet: Translated by Dr. Bevis, F. R. S.*

Read Jan. 24, and Feb. 1, 1771. PLEASE, Sir, to inform the Royal Society, that I discovered a new Comet, the 10th of Jan. instant, 1771, about eight o'clock in the evening; it was between the head of Hydra and the Little Dog, over the parallel of Procyon. The position whereof I determined by comparing it with that star, and the star δ in Hydra. The observations are as follow :

		h	m	s	
1st Obs.	The 10th of Jan. 1771, at	10	16	45	true time.
	Right Ascens. of the Comet	121°	47	16	
	North Declination	5	21	15	
2d Obs.	Same night at	21	19	5	
	Right Ascens. of the Comet	120	24	31	
	North Declination	6	4	46	

From which observations it appears, that in $3^h 2' 20''$ of time its motion in right ascens. was $1^\circ 22' 45''$ and $43' 31''$ in declination: this comet was perceived by the bare eye. In the telescope its nucleus is bright, of a whitish complexion, and not very well defined, surrounded with an atmosphere several minutes wide, with a faint tail 5 or 6 degrees long. Its apparent motion among the fixt stars contrary

trary to the order of signs, from the equator towards the North pole.

This makes the twelfth Comet I have discovered and observed in thirteen years past.

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WITHOUT what I had done the 10th of January for determining the position, and forming any tolerable conjecture of the direction of the motion of the comet, it would have been impossible for me to have found it afterwards; for from the 10th to the 16th the sky was every night quite clouded, during which the light of the comet had extremely abated, and its motion decreased, insomuch that between the 16th and 17th of January the sky clearing, I sought for it two hours, without finding it; but though with little hopes of seeing it, I sought for it in Perseus and Andromeda. After a world of useless pains and look-outs, at length I saw it again, between the horns of the Bull, of a very feeble light: and it was necessary to be acquainted with the heavens as well as I was, to find where it was; nor have any of our astronomers, as far as I can yet learn, succeeded in their attempts. I observed it January 10th, 16th, 17th and 20th, on which last day it was extremely close to the planet Mars, less than a minute of time, both in right ascension and declination, and its light so languid as to be in a manner extinguished by that of Mars. Without that excellent telescope which you procured for M. le President de Saron, I should not have perceived it with any of my instruments. Here follow my observations, which may possibly turn out the only good ones, and which I intreat you to lay before the Royal Society.

1771	True Time.	R. Ascension	No. Declin.	
	h ' "	° ' "	° ' "	
Jna. 10	8 44 24	122 27 46	5 4 37	Estimate position to δ Hydræ.
	10 16 45	121 47 16	5 21 15	} Determined position by a \ast of the 7th mag. then unknown, as also by δ Hydræ.
	10 46 31	121 35 31	5 36 51	
	12 48 58	120 49 16	6 1 47	By the same \ast of Hydræ, repeated.
	13 19 5	120 24 31	6 14 46	By Procyon.
16	7 16 4	84 3 17	22 39 21	By ζ the South horn of the Bull.
	7 41 39	84 1 32	22 40 51	By the same.
17	6 27 35	80 41 58	23 45 25	} By Flamsteed's 121 of Taurus and the 163 of La Caille.
	6 40 34	80 40 28		
	7 2 37	80 37 13	23 46 51	By the same.
	7 21 23	80 35 28		By the same \ast .
20	8 18 30	72 52 2	25 55 25	By a \ast of the 8th mag. observed on the merid.
	8 18 30	72 52 25	25 55 28	By the planet Mars.
	8 56 49	72 47 47	25 56 47	By the above \ast of the 8th mag.
	8 56 49	72 48 17	25 56 46	By the planet Mars.
	9 19 24	72 47 17	25 57 3	By the above \ast of the 8th mag.
	9 19 24	72 47 32	25 57 4	By Mars.

Such are my observations, from whence M. Pingré has deduced the following Elements of its orbit.

Ascending \oslash	3. 18 42 10
Indication of the orbit	31 25 55
Place of the perihelion	8. 28 22 44
Log. of the perihel. dist.	9,722833

Passed the perihel. the 22d of November, 1770, at 22^h 5' 48" M.T. at the royal observatory, motiou retrograde. He adds, "that this comet resembles none of those whose elements are determined, on comparing its motion with the places of its Perihel and \oslash : it is easy to see, that it was impossible to discover it at Paris before the year 1771; and it may even be added, that it must frequently have passed in the Sun's neighbourhood, imperceptible to the Northern parts of the Earth."