

OUR ASTRONOMICAL COLUMN

CACCIATORE'S SUPPOSED PLANET OF 1835.—It might have been expected that long ere this, if the object twice observed at Palermo in May, 1835, were really a planet, it would have been recovered by one or other of the astronomers who have occupied themselves with the examination of the ecliptical region of the sky.

The particulars of the Palermo observations were communicated by Cacciatore to Valz in a letter dated September 19, 1836, and at an earlier period to the late Admiral Smyth, as will be known to readers of the "Cycle of Celestial Objects." Valz sent a copy of Cacciatore's letter to Schumacher, who published it in No. 600 of the *Astronomische Nachrichten*. When observing the star 503 of Mayer's catalogue with the Ramsden circle, on May 11, 1835, it was noted down that a smaller star of the eighth magnitude followed Mayer's star two seconds of time, and was about $2\frac{1}{2}'$ to the south. Such entries were frequently made by Piazzi, when observing with the same instrument, as may be seen from his catalogue, but although No. 503 occurs there, no mention is made of a star near it. On the next fine night, May 14, observing Mayer's star again, the assistant, according to custom, read out the note made on May 11: "Seguita da una altra di 8 per $2''$ circa di A.R. circa $2\frac{1}{2}'$ al sud." No star was then visible in this position even in a dark field, but one of the eighth magnitude preceded Mayer's star nine seconds of time, only $1\frac{1}{2}'$ to the south. Cacciatore says he intended to repeat the observation on the following evening, the weather promising to continue fine. Returning to the library he found that no one of the four small planets known at that time was in the observed position, and he appears to have considered the object either a planet beyond Uranus or a comet, remarking: "Onde con impazienza attendeva il dimani." But the night of May 15 proved unfavourable, rain setting in, followed by clouded skies for upwards of a fortnight, and not until June 2 could an observation be attempted, "Ma la stella era involta nel crepuscolo feci varj tentativi fuori del méridiano, non transcurai ogni mezzo per riconoscere la mia osservazione." Cacciatore says his assistants were unsuccessful on other evenings to the end of June. The search was repeated in the first five months of 1836, but to no purpose.

Valz first showed that a body with the observed positions on May 11 and 14, could not be a distant planet, as Cacciatore had conjectured, but rather a pretty near member of the minor-planet group, which, on the hypothesis of a circular orbit, might have a period of revolution of about three years, with the ascending node of the orbit in longitude $339^{\circ} 36'$ and an inclination of $3^{\circ} 22'$ to the plane of the ecliptic. In 1849 Dr. Luther repeated the calculation with the following results:—Radius of orbit, 2.1055 ; ascending node, $343^{\circ} 20'$; inclination, $3^{\circ} 37'$; period, 1,116 days; and from these elements Oeltzen computed a *zodiac* for the planet, or a table indicating with right ascension as argument, the northern and southern limits of declination (*Astron. Nach.*, No. 662). It is certain that any determination of the position of the orbit from Cacciatore's data must be open to considerable uncertainty, and hence a search for his supposed planet amongst the one hundred and eighty-eight planets now discovered would not be decisive one way or the other if confined to similarity in the position of the nodes and the inclination; places must be calculated for the epoch of Cacciatore's observation for such planets as could be possibly pass near Mayer's star. An attempt in this direction has failed to identify the object. That a minor planet which so far from opposition attains the brightness of stars of the eighth magnitude can still remain unknown to us is, to say the least, very improbable. Must we leave Cacciatore's star in the same category as those reported to have been observed by Huth in 1801 and

Reissig in 1803, to which reference has been made in this column?

THE TOTAL SOLAR ECLIPSE OF 1883, MAY 6.—In continuation of our notices of the total eclipses of the sun during the remainder of the present century, we present the elements of the eclipse of May 6, 1883:—

G.M.T. of conjunction in R.A., May 6, at 9h. 44m. 42s.

R.A.	0 ^h 43 ^m 30 ^s 52 ²
Moon's hourly motion in R.A.	38 22 ⁶
Sun's " " " " " " " " " " " "	2 25 ⁰
Moon's declination " " " " " " " " " " " "	16 11 32 ² N.
Sun's " " " " " " " " " " " "	16 37 52 ⁵ N.
Moon's hourly motion in declination	7 26 ² N.
Sun's " " " " " " " " " " " "	0 41 ⁹ N.
Moon's horizontal parallax " " " " " " " " " " " "	60 52 ⁰
Sun's " " " " " " " " " " " "	8 ⁸
Moon's true semi-diameter " " " " " " " " " " " "	16 35 ²
Sun's " " " " " " " " " " " "	15 51 ⁰

The central and total eclipse begins in longitude $156^{\circ} 1' E.$, latitude $34^{\circ} 43' S.$, and ends in $86^{\circ} 44' W.$ and $13^{\circ} 41' S.$, and the central eclipse occurs with the sun on the meridian in $147^{\circ} 4' W.$, and $9^{\circ} 11' S.$ The following are also points upon the central line:—

Long. $179^{\circ} 51' E.$ Lat. $25^{\circ} 43' S.$ Long. $137^{\circ} 44' W.$ Lat. $6^{\circ} 24' S.$
" 168 19 W. " 19 52 " 119 52 W. " 5 51
" 160 49 W. " 15 49 " 108 12 W. " 7 51 S.
" 140 51 W. " 7 7 S.

The path of the eclipse is almost wholly a sea-track, and the only probable region for obtaining observations of any value will be in the Marquesan longitudes. A direct calculation for the island Fetou-houhou or Chanel Island, with the position of the Admiralty chart, gives for commencement of totality oh. 42m. 3s. local mean time, and duration of the total phase 2m. 53s. The following are the limits of the zone of totality about the Marquesas group:—

Longitude W.	South limit, Latitude.	North limit, Latitude.
141	8 11	6 2
140	7 55	5 46
139	7 41	5 31
138	7 25	5 16

NOTES

DR. SCHUSTER, the leader of the English Government Eclipse Expedition to Siam, in 1875, sails in the White Star Line ship *Germanic* to-day to observe the eclipse of the 29th instant. Prof. Thorpe, F.R.S., accompanies him on the same errand, and will make magnetic observations over a great portion of his route. Mr. Norman Lockyer intends to sail in the *Baltic* on the 9th instant. We learn that the appropriation made by the American Government is so small that, in strange contrast to what has happened in the case of all English Expeditions since 1870, no facilities can be offered officially to observers from other countries. Still we doubt not that they will receive both welcome and aid from their *confrères*.

CAPT. MOUCHEZ has been appointed Director of the Paris Observatory. A sub-director has also been appointed, but contradictory reports have reached us as to who has been selected.

A LARGE number of foreign men of science have promised to be present at the Dublin meeting of the British Association; among the names mentioned at the last meeting of the local committee are Professors Sachs, Würzburg; C. Pierce, New York; S. H. Scudder, Cambridge, Mass.; A. S. Packard, Salem, Mass.; and Karl Koch, Berlin. The programme of excursions will be finally settled at the next meeting of the committee. Visits to almost every place of interest within easy distance of the city will be arranged for, and the