

OUR ASTRONOMICAL COLUMN

MINOR PLANETS.—The number of discoveries in the group of minor planets during the year 1879 is *twenty*, against *twelve* in the preceding year, so that there is no present indication that we are getting to the end of them. Elements more or less approximate have been calculated for seventeen out of the twenty new ones, but no one of the orbits has any peculiarity. We subjoin their ordinal numbers, names so far as published, discoverers and dates of discovery, with their magnitudes at the time.

192	Nausikaa	Palisa	Feb. 17	11
193	Ambrosia	Coggia	Feb. 28	12
194	Proce	Peters	March 22	10.5
195	Euryclea	Palisa	April 28	12
196	Philomela	Peters	May 17	10
197	Arete	Palisa	May 21	12
198	Ampella	Borrelly	June 13	11
199	Byblis	Peters	July 9	11
200	Dynamene	Peters	July 27	11
201	Penelope	Palisa	Aug. 7	10.5
202	Chryseis	Peters	Sept. 23	11
203	Pompeia	Peters	Sept. 27	11
204	Callisto	Palisa	Oct. 8	12
205	...	Palisa	Oct. 13	12
206	Hersilia	Peters	Oct. 15	11
207	...	Palisa	Oct. 17	12
208	...	Palisa	Oct. 21	13
209	Dido	Peters	Oct. 22	11
210	...	Palisa	Nov. 12	11
211	...	Palisa	Dec. 10	10.5

The elements will be found in Nos. 109-127 of the *Circular zum Berliner Astronomisches Jahrbuch*.

THE MELBOURNE OBSERVATORY.—The fourteenth Report of the Board of Visitors to the Observatory, presented to the Governor of Victoria, with the Report of the Government astronomer for the year ending June 30, 1879, has been received. The great reflector is stated to be in capital working order, but unexpected difficulties have been met with in placing the results of work with it before the astronomical public, this work consisting mainly of drawings of nebulae in Sir John Herschel's catalogue. Fifty-four of the smaller nebulae and clusters contained in it have been observed and compared, and the great majority found to agree well with the Cape descriptions. "Some, however, have considerably changed, whilst others are completely altered in appearance." Five nebulae described by Herschel have not been found after careful search. The drawing of the great nebula around η Argus made in March, 1875, still accurately represents its appearance. Observations of the trifold nebula No. 4355 were made on ten nights for comparison of those by Holden and Trouvelot with the Washington refractor. Stress is laid upon the need of a transit-circle of increased capacity, and it is understood that the Government propose a vote for this purpose.

THE BIELA COMET METEORS.—Contrary to what had been anticipated by more than one astronomer who has given special attention to the subject, from present information it would appear that the earth passed the descending node of Biela's comet at the end of November last, without encountering any portion of the meteoric swarm, which, in November, 1872, was moving in its orbit. The earth would reach the node on the morning of November 28, or perhaps earlier; the comet attains its least distance from our track thirty-two hours after its nodal passage, or, with Michéz's orbit of 1866, in about heliocentric longitude, $67^{\circ} 19'$.

URANOMETRIA ARGENTINA.—Within the last week we have received this very important work from the Director of the Cordoba Observatory, Dr. B. A. Gould. Some account of it was lately given in this column from an article in the *Buenos Ayres Standard*, but we shall revert to it at an early date. Its publication will form an epoch in southern sidereal astronomy.

THE CLOSE BINARY 85 PEGASI.—We learn from Mr. Burnham that his recent measures fully establish the physical connection of the close components of this star. A mean of five nights' measures gives:

1879.46 ... Position $284^{\circ}6'$... Distance $0''75$.

The earlier mean result being:

1878.7 ... Position $274^{\circ}0'$... Distance $0''67$.

For the stars A and C Mr. Burnham finds:

1879.9 ... Position $28^{\circ}7'$... Distance $15''40$.

BIOLOGICAL NOTES

A BLIND ISOPOD.—For some years past, Prof. Forel, of the Academy of Lausanne, has been engaged in investigating the animal forms to be met with in the great depths of the Lake Lemán. These researches have been published from time to time since 1869 in the *Journal of the Vaudois Society of Natural History*, and the series is apparently brought to a close in the recently published number of the journal in which he sums up the general results, and enumerates no less than seventy-six species of animals described as discovered in the Lake at depths of from 100 to 300 metres. Among these is one new blind form, closely related to our own very common fresh-water Isopod called *Asellus aquaticus*. When drawn up from the water it is found constantly associated with *Niphargus puteanus*. It is of a whitish colour, through which the brownish-coloured alimentary canal is easily perceptible. When placed in an aquarium it lives but a short time. The organs of vision are only rudimentary. The species comes near to *A. cavaticus*, and has been named by H. Blanc *A. forellii*.

NOTES ON CRUSTACEA.—Dr. P. P. C. Hoek of Leiden has published some very interesting results of his investigations among the smaller crustacean forms made at the Netherlands Zoological Station. One series of notes are devoted to the anatomy and systematic descriptions of the species of Caprellidæ met with, viz., *Podairius typicus*, Kröyer, *Caprella linearis*, Lin., and *Leptomera pedata*, Abilgaard. Another series treats of several species of Corophidæ. Those met with were: *Corophium crassicornis* (Hoek confirms Norman's statement that the *C. Bonellii* of Bate and Westwood is the female of this species); *C. longicornis*, *Cerapus difformis*, *Podocerus falcatus*, *Orthopalmus Terschellingi*, nov. gen., nov. sp. (this new genus belongs to the sub-family Podocerinæ), and *Amphitoe littorina*. A third series is devoted to an account of *Orchestia cavimana*, Heller, found by Dr. Noman at Zalt-Bommel, a town in the province of Gelderland. It is more than 80 kilometres from the sea; the water is not brackish, but the amphipods were not even found in the neighbourhood of a stream, but in a walled-in garden some slight distance therefrom, in a corner of which, under some flower-pots, and while in search for onisci, the species was taken. It would appear to be the same as the one described by Heller as found on Olympus by Dr. Kotschy, at a height of some 4,000 feet, in moist spots in the neighbourhood of a spring. Mr. Noman found the species in the same locality again in August last (1879). The distribution of some of the other species of *Orchestia* is also referred to. Series four treats of some insufficiently-known Gammaridæ, such as *Atylus swammerdammi*, *Calliopius leviusculus*, *Melita obtusata*, *Cheiroceratus brevicornis*, n. sp., *Ampelisca aquicornis*. Series five gives some short anatomical remarks on Gammaridæ. These researches are illustrated by six plates, and form portion of the *Reports of the Netherlands Zoological Station*.

PTYALINE AND DIASTASE.—Physiologists have differed in opinion as to the action of the gastric juice on ptyaline and on diastase. While some hold that the saliva is destroyed in the gastric juice, others maintain that it continues, in the stomach, its action on starch. Recent researches by M. Defresne (*Comptes rendus*) appear to throw light on the subject; they prove, on the one hand, that the saliva is paralysed in pure gastric juice, whereas with mixed gastric juice, containing only organic acids, saccharification proceeds as well as in the mouth. Ptyaline, then, like pancreatin, is an excellent reagent for demonstrating the difference between mixed and pure gastric juice. The latter, as M. Defresne has proved, owes its acidity to hydrochloric acid, combined doubtless with leucine; the former to organic acids, probably combined also with azotised matters. Ptyaline and diastase, therefore, are not two identical substances, from a physiological point of view. Ptyaline saccharifies the starch in mixed gastric juice, as well as in the mouth; it is only paralysed an instant in pure gastric juice, and then recovers its action in the mixed gastric juice and in the duodenum. Diastase or maltine is irrecoverably destroyed in hydrochloric solutions or in pure gastric juice, and after having passed into the mixed juice it is profoundly altered; for, if it still dissolves starch, it no longer saccharifies it.

EXISTENCE OF THE CHAMOIS IN THE ABRUZZI.—A recent communication of Mr. C. J. Forsyth-Major to the *Bulletin of the Club Alpino Italiano*, records the occurrence of the Chamois (*Rupicapra tragus*) on the Gran Sasso d'Italia in the Northern