subjects, while a few, like Mr. Warde Fowler's notes on the birds of the Somme Valley, supplement the history of native species in other lands, the remainder having no particular connection with the county. Especial interest attaches to Mr. S. F. Harmer's note on the occurrence of the well-shrimp (*Niphargus*) near Norwich ; and likewise to Mr. J. H. Gurney's account of the distribution of the Bearded Tit. Various specialists bring the lists of the Norfolk fauna and flora up to date. And those who study economic zoology will be interested in the notes of Mr. G. H. Harris on the herring fishery of 1898. So far as the Yarmouth boats were concerned, this appears to have been a practical failure. It was not that the catch was always bad ; but, whatever the catch, prices were forced down by the poor quality of the fish. And this is mainly attributed to the mild season, herrings being never of high quality in warm weather.

AMONG recent papers in the *Journal of Applied Microscopy*, Mr. Charles J. Chamberlain's series of articles on " Methods in Plant Histology " will be useful to teachers and students of practical botany. The last articles contain illustrated accounts of the principal families of algæ with methods of preparing for observation. One of these methods is, however, capable of improvement. To place specimens in a 10 per cent. solution of glycerine, and allow the solution to evaporate till it is of the consistency of pure glycerine would be unnecessarily tedious. It is simpler and equally efficacious to place the specimens in water in a small receptacle of parchment paper, and float the latter on glycerine, the change of density taking place through the paper by osmosis instead of by evaporation.

A VERY clear photographic group of official members of the recent Dover meeting of the British Association, together with members of the French Association and the Belgian Geological Society, has been sent to us by the photographers, Messrs. Lambert Weston and Sons, of Dover, from whom copies may be obtained. In the majority of instances the individuals portrayed can easily be identified.

THE additions to the Zoological Society's Gardens during the past week include a Rhesus Monkey (*Macacus rhesus*, ♀) from India, presented by Mrs. J. Adams ; ɭa Black-faced Spider Monkey (*Ateles ater*) from Eastern Peru, presented by Mr. Claude P. Landi ; a Common Chameleon (*Chamaeleon vulgaris*) from North Africa, presented by Mr. A. H. Ryan ; a Red-cheeked Souslik (*Spermophilus erythrogenys*), four Eversmann's Sousliks (*Spermophilus altaicus*), four Altai Sousliks (*Spermophilus mugosaricus*) from Western Siberia, a Common Seal (*Phoca vitulina*), British, a Common Cormorant (*Phalacrocorax carbo*, var.), European, an Emu (*Dromaeus novae-hollandiae*), three Long-necked Chelodines (*Chelodina longicollis*) from Australia, an Uvæan Parrakeet (*Nymphicus uvaeensis*) from the Island of Uvea, a Rosy Parrakeet (*Palaeornis rosa*) from Burmah, a Four-lined Tree-frog (*Polypedates quadrilineatus*) from the East Indies, a Westerman's Eclectus (*Eclectus westermani*) from Moluccas, deposited ; six Glossy Ibises (*Plegadis falcinellus*), bred in the Gardens.

OUR ASTRONOMICAL COLUMN.

COMET GIACOBINI (1899 *e*).

Ephemeris for 12h. Berlin Mean Time.

1899.	R.A.			Decl.		Br.
	h.	m.	s.			
Oct. 19	...	16	57 8	...	+0° 46′·4	
21	...	17	0 3	...	1 19·0	... 0·71
23	...		2 59	...	1 51·2	
25	...		5 55	...	2 23·0	... 0·66
27	...		8 52	...	2 54·5	
29	...	17	11 49	...	+3 25·6	... 0·62

A circular from the Centralstelle at Kiel informs us that owing to an error in one of the published observations, there is some doubt as to the correct elements of this comet. In consequence of this the above ephemeris may not be quite accurate, but, as according to the latest observation recorded, it is less than one minute in R.A. and two minutes in Decl. in error, it will be useful for searching purposes. The comet is travelling to the north-east through Ophiuchus, a little south of the second mag. star *a* Ophiuchi.

HOLMES' COMET (1899 *d*).

Ephemeris for 12h. Greenwich Mean Time.

1899.	R.A.				Decl.		
	h.	m.	s.		°	′	″
Oct. 19	...	2	53 1	...	+48	49	51
20	...		51 57	...	48	54	5
21	...		50 51	...	48	57	56
22	...		49 44	...	49	1	25
23	...		48 36	...	49	4	30
24	...		47 27	...	49	7	13
25	...		46 17	...	49	9	33
26	...	2	45 7	...	+49	11	29

This comet is now in the middle of Perseus, being nearly on the line joining β and γ Persei, about two thirds of their distance from the former.

OPPOSITION OF JUPITER, 1899.—*Astronomische Nachrichten* (Bd. 150, No. 3596) contains the results of several observers' work on the planet during the last opposition of 1899 April 25. M. J. Comas Solá, of the Catala Observatory, gives a planispheric map of the markings observed by him with a Mailhat objective of 22 cm. aperture, from February 18 to July 8. Tables are given showing the various rotation periods obtained from observations of spots in different zones, a summary of which is as follows :—

Mean velocity of spots on south ⎫ =9h. 50m. 23·35s.
border of equatorial zone ... ⎭ (from 22 spots)
Mean velocity of spots on north ⎫ =9h. 50m. 15·25s.
border of equatorial zone ... ⎭ (from 9 spots)
∴ mean equatorial velocity ... =9h. 50m. 20·76s.

This, compared with Denning's mean velocity for 1898, 9h. 50m. 23·6s., would indicate an acceleration since the spring of 1897.

Measures of the " red spot " gave a period of 9h. 55m. 41·85s. Herr Ph. Fauth also gives a planispheric drawing showing the details observed from May 30 to June 13, with a Pauly objective of 17·8 cm. aperture.

Mr. A. Stanley Williams, of Brighton, gives his observations of the "red spot" made during the period March 13 to June 16 with a 6½-inch reflector. The period found is given as 9h. 55m. 42·65s. from 229 rotations (March 13 to June 16). He finds the spot to be a little shorter now than it was in 1887 (31°·7 instead of 34°·7).

LAW CONNECTING MOTIONS IN PLANETARY SYSTEM.— M. Ch. V. Zenger, of Prague, has recently put forward the results of work he has been engaged on for some years past, and a part dealing with the relations existing between the "time of a planet's revolution" and its position in the solar system appears in the *Bulletin de la Soc. Ast. de France*, October 1899, pp. 431-434. He finds that the orbital movements of the planets and also of some periodical comets have a simple law connecting them with the time of the sun's rotation. If "r" is the time of *rotation* of the central controlling body, then " R," the time of *orbital revolution* of the planet, is given by the relation $R = n\dfrac{r}{2}$; where "n" is a whole integer, different for each body.

Taking Faye's value for the solar rotation = 25·2 days, $\dfrac{r}{2}$ = 12·6 days, and the author gives the following data :—

	Mercury	Venus	Earth	Eros	Mars	Jupiter	Saturn	Uranus	Neptune
N=	7	18	29	51	54	344	854	2436	4776
R=	88·2d.	226·8d.	365·4	642·6	680·4	4344·4	10765·4	30693·6	60177·6.

Between the earth and Eros, the author mentions the possible existence of a hitherto unknown planet for which $n = 40$, and the period of revolution of which would therefore be about 500·4 days.

Several tables are also given showing the conformation of the satellites of the various planets to a similar relation, and the author considers the whole as helping to confirm his electrical theory of the solar system.