

Of the comet discovered by Dr. Tempel at the Observatory of Arcetri, near Florence, on October 2, the following elements by Dr. Schur are also from Prof. Winnecke :—

Perihelion passage June 27·970 M.T. at Berlin.

Longitude of perihelion	83 30'0
" " ascending node	184 17'8
Inclination	64 54'2
Log. perihelion distance	0·00994
Motion—retrograde.		

On June 28 the comet was in R.A. 5h. 51m., N.P.D. 34°·4, distant from the earth 1·71; on August 1 in R.A. 4h. 47m., N.P.D. 38°·8, distance 1·35; and on September 3 in R.A. 2h. 36m., N.P.D. 55°·4, distance 0·79, so that an earlier discovery might have been expected.

The places subjoined are from these elements for 12h. G.M.T. :—

	R.A.	N.P.D.	Distance from the Earth.	Distance from the Sun.
	h. m.			
Oct. 18	... 23 5'5	... 112 54	... 1'241	... 2'036
" 20	... 23 2'0	... 113 48		
" 22	... 22 58'9	... 114 37	... 1'350	... 2'084
" 24	... 22 56'0	... 115 20		
" 26	... 22 53'5	... 115 58	... 1'462	... 2'132
" 28	... 22 51'3	... 116 31		
" 30	... 22 49'4	... 117 2	... 1'577	... 2'180
Nov. 1	... 22 47'7	... 117 29		
" 3	... 22 46'3	... 117 54	... 1'695	... 2'227

BIOLOGICAL NOTES

BORING POWER OF MAGILUS.—We have received from Mr. Charlesworth a preliminary note giving briefly a result of his study of the genus *Magilus*, the remarkable testaceous gasteropod that is found immersed in the large hemispherical corals of the genus *Meandrina*. The current belief, as set forth by Sowerby, Owen, Woodward, and other authorities in molluscan biology who have treated of this coral-inhabiting mollusc, is that *Magilus* in its young state effects a lodgment in a crevice of a *Meandrina*, and that as the coral enlarges, the *Magilus* extends the margins of the mouth of its shell in the form of a cylindrical corrugated tube, the growth of this tube and of the coral proceeding together *pari passu*, and consequently that there is no penetration of the coral by the *Magilus* at all. Mr. Charlesworth, however, finds that *Magilus* not only drives through solid masses of coral in any direction with apparently the same facility that the bivalve *Teredo* tunnels masses of wood, but he finds that it even surpasses *Teredo* in its power of suddenly reflecting its shell and returning to the point from which it commenced its advance; and this bending back of the shell upon itself is not accomplished in such natural cavities as frequently prevail in large corals of the *Meandrina* genus, but in the solid mass of the coral.

GREAT VITALITY OF ANTS.—Several interesting observations have been made by the Rev. H. C. McCook on the endurance of extremes of heat and cold by ants. This year a formicary of *F. pennsylvanica* was cut from an oak bough and exposed out of doors to the rigour of a mountain winter, and survived. A number were dropped separately upon ice, and were found alive after forty-eight hours, each in a little depression. *F. rufa* was found active in its formicary at 34° F., sluggish at 30°. The extreme of heat seemed also to be endured by *F. pennsylvanica*; they did not suffer at all from the heat of stones walling in a camp fire, having been driven into this position out of a burning stump. A community of agricultural ants (*M. molefaciens*) lived in a mound upon which some smiths in Texas made their fires for heating waggon tires. Numbers of ants were seen at work by Dr. Lincecum, cleaning out the entrance to their city, before the entire extinction of the fire just used for heating tires. They had learnt all about the fire, and knew how to work in

and around the dying embers without injury. A quantity of mason ants (variety of *F. rufa*) observed by Mr. McCook were accidentally flooded under five inches of water, and they appeared to be quite dead, and floated about in this condition for many hours. But subsequently most of them recovered full activity. In Texas Mr. Lincecum found that the agricultural ants are seen in great numbers in wells, forming a sort of floating mass as large as an orange, clinging together. In this condition they get drawn up in the bucket, and though they may have been in the water a day or two, they are all found alive. Yet individuals cannot survive under water more than six minutes; and life in these balls can only be preserved by the mass revolving, either by the continued struggles of the individual insects, or by an instinctive and orderly movement of the outer tier of ants (*Proc. Acad. Nat. Sci. Philadelphia, 1877, p. 134*).

THE STRIPED MULLET.—This fish, so abundant off the coast of North Carolina, seems to suffer from several serious drawbacks, which would appear to threaten its extinction. It moves through the water so slowly that a man may easily walk as fast. The young fry suffer from a disease which gradually destroys the sight, and great numbers perish; they are also much infested with parasitic worms. To counterbalance these destructive agencies, the female has an enormously distended roe.

THE MEDITERRANEAN FLORA.—From personal observations in Italy and Greece, with the aid of literature bearing on the subject, M. Fuchs comes to the conclusion that the so-called Mediterranean flora, so far as represented by evergreen woody plants, and plants of the sage, thyme, lavender, and rosemary order therewith always associated, occurs, at least in France, Italy, Greece, Southern Russia, and Northern Asia Minor, exclusively on calcareous formations, while soils with little or no lime (granite, gneiss, flysch, sandy and muddy alluvia of rivers) in the whole of that region, and south to Sicily and Morea, bear exclusively deciduous foliaceous trees, and in general, a vegetation hardly differing from the ordinary central European flora. We are not, however (M. Fuchs says), to conceive the phenomenon as if the former class of plants required the lime as nutriment; the correct view rather is, that the southern evergreen flora is better able to press northwards on the drier and warmer calcareous formation, than on the damper and colder clayey soil. And he finds support of this view in the fact that, in the Azores, Madeira, and the Canary Islands, with a truly subtropical climate, an evergreen shrub vegetation closely agreeing with the Mediterranean flora flourishes on various soils indifferently, even on basaltic and trachytic rocks. The same appears to be the case in Algiers.

FOX TALBOT

HAD the photographic art never been invented, Mr. W. H. Fox Talbot, whose death we recently recorded, would have a claim to take a good rank as a scientific investigator. In the popular estimation his work in connection with photography is what alone gives him a claim to remembrance; but we are sure there are many of our readers who must be familiar with writings by him in various departments of science. He was indeed in many respects a wonderful man, and a glance at the Royal Society Catalogue will show that he has left behind him a great amount of varied work. In mathematics, in physics, in chemistry, in astronomy, in botany, in archæology, in literature, Fox Talbot at various periods of his life did substantial work, and in addition filled faithfully and liberally the responsible position of an English country gentleman on his estate of Lacock Abbey, Wiltshire.

Fox Talbot was the eldest son of Mr. William Davenport Talbot, his mother being a daughter of the Earl of Ilchester. He was born in February, 1800, and received his early