days only. The following orbit by Mr. Hind is founded on positions between February 8 and March 11 :—

Perihelion Passage, 1877, January 19·18369, G.M.T.

Longitude of Perihelion	200 4 18·0	M. Eq.
,, Ascending Node ...	187 15 7·0	1877·0
Inclination to Ecliptic...	27 5 24·1	
Log. Perihelion Distance	9·9071303	

Motion—retrograde.

There seems to be no sensible deviation from the parabola.

BIOLOGICAL NOTES

NEW WORK ON BIRDS.—We have received the prospectus of a new work by Dr. A. B. Mayer, Director of the Royal Zoological Museum of Dresden, to be entitled "Abbildungen von Vogel-Skeletten," in which he signifies his intention to publish, in parts, figures of the skeletons of rare or little-known birds. Each part is to contain ten plates of large quarto size, one of which, representing the skeleton of the extremely uncommon parrot from New Guinea, *Dasyptilus pecqueti* (Lesson) accompanies the prospectus. It is a photo-lithograph, and differs materially from any other which we have seen in one important particular, namely that the bones of one side only are depicted, which is a great advantage, as it prevents the confusion unavoidably associated with the representation of the whole structure. The illumination of each bone and the focus of every part is most satisfactory, more so in many respects than any drawing could possibly be. Short commentaries, with measurements, will accompany each plate. It is proposed that Part I. shall contain figures of *Loriculus cuiacissi*, *Charmosyna josephinæ*, *Meropogon forsteni*, *Paradisea papuana*, *Cicinnurus regius*, *Manucodia chalybea*, *Ptilopus speciosus*, *Otidiphaps nobilis*, and *Gallus bachiva* (from Celebes). In the series is also to be included the skeletons of the several domestic pigeons and fowls. We hope that Dr. Mayer will have a large subscription to this valuable addition to ornithological literature.

THE BODY-CAVITY IN THE HEAD OF VERTEBRATES.—It has hitherto been regarded as a point of distinction between the mouth, throat, and gill region of vertebrates, and the rest of the trunk, that in the former no splitting of the body wall took place in early development, while in the trunk the body-wall becomes sharply separated from the contained viscera, and a cavity arises between them, part of which is the peritoneal cavity. Mr. Balfour (*Jour. Anat.*, April, 1877) has announced the discovery in sharks of a head-cavity on either side of the throat, dividing the growing tissue into an inner and an outer wall. When the visceral clefts (future gill-slits, &c.) appear, they subdivide these cavities into smaller ones. The head-cavity even grows forwards as far as the eye, and ultimately there is a series of cavities : (1) a premandibular, (2) a mandibular, (3) a hyoid, (4) a series in the branchial arches. These cavities ultimately atrophy, but their walls become developed into muscles, and they answer to the muscle-plates of the rest of the body. Thus this discovery gives information of a most valuable kind as to the segmental relations of the head to the rest of the body, besides furnishing a glimpse of a primordial condition in vertebrates which had till now remained unknown.

FISH-EATING BIRDS.—Mr. Joseph Willcox has recorded an interesting observation on the crow blackbirds of Florida (*Quiscalus purpureus*). Standing on the bank of a river in Florida, he noticed a commotion among a congregation of crow blackbirds, which were anxiously looking into the water. A large bass was pursuing its favourite food, the small fry, and the latter, in their frantic efforts to escape, jumped out of the water, and many of them fell on the land. The blackbirds, evidently experts at the game, immediately pounced upon the small fish, and swallowed them before they could get back into the water. (*Proc.* Acad. Nat. Sci., Philadelphia. 1877.)

ANTS' DOMESTIC ANIMALS.—Prof. Leidy (Philadelphia) has observed colonies of *F. flava* in possession of several kinds of insects at once. A comparatively small assemblage of them had three groups, an aphis, a coccus, and the larva of an insect, apparently coleopterous. The aphides were kept in two separate herds, and these were separated from a herd of cocci. In a larger colony of ants there was a collection of aphides occupying the under part of one margin of a stone, for ten inches long by three-quarters of an inch wide. A distinct group of cocci, closely crowded, filled a square inch. They all appeared to be carefully attended to by the ants.

A WHALE IN THE MEDITERRANEAN.—M. P. J. Van Beneden has made a short communication to the Académie Royale de Belgique, published in that Society's *Bulletin*, with reference to a letter by M. Capellini, on a true whale captured in the Mediterranean Sea, near Taranto. The Italian author suggests the new specific name *Balæna tarantina*, but M. Van Beneden much more reasonably thinks it most probable that it is a stray specimen of *B. biscayensis*.

THE LATE MR. GASSIOT

WE last week announced briefly the death of Dr. J P. Gassiot, and now give some account of the principal scientific results obtained by him. Mr. Gassiot, partner in the firm of Martinez Gassiot and Co., wine merchants, Mark Lane, first devoted his spare time to electrical experiments about the year 1838. An Electrical Society was formed about that time in which he took an active part. At one of the meetings it was observed that when the two copper wires forming the poles of a powerful voltaic battery were crossed and drawn asunder so that the voltaic arc passed between them, the positive terminal became heated to incandescence, while the negative remained comparatively cool. This excited great interest in Mr. Gassiot's mind and led him to make several experiments, but without thoroughly explaining the phenomenon. In the course of these experiments he procured powerful batteries, first of Daniell's construction, then of Grove's, and ultimately a large water battery.

It had been observed by many writers (principally Continental) that while the dynamic and chemical effects of the voltaic battery increased in intensity in proportion to the increasing chemical action in the cells of the battery, the static effects, such as the repulsive action in a gold leaf or pith ball electroscope, the spark, the power of charging a Leyden phial, &c., were more intense when the battery was charged with water and had consequently but a feeble chemical action in the cells. This anomaly puzzled electricians much, and though sought to be explained by various hypotheses, was a great stumbling-block in the way of the chemical theory of the voltaic battery.

Mr. Gassiot had been led to attach great value to good insulation between the cells of the battery, and he procured to be made a Grove battery (the most powerful chemical battery known) of 100 glass cells, all having long glass stems, and separated from each other. This battery gave very powerful chemical results, and a voltaic arc of great brilliancy ; but, what was of the greatest importance, he found that with this battery the static effects, or effects of tension, were greater than those of an equally-sized water battery. The puzzling anomaly was thus explained : the reason why the chemical battery had seemed inferior in tension to the water battery was that from the effervescing liquids, the close approximation of