Theriodontia of the Carnivora, and so on. The author bases his theory mainly upon palæontological evidence, but the ordinary zoologist will find it difficult to believe that such highly specialised mammalian features as the development of hair, the allantoic placenta, and the habit of suckling the young have been evolved many times over, and yet always in conjunction with one another.

The third part of the second volume of Dr. J. W. Spengel's "Ergebnisse und Fortschritte der Zoologie" contains two useful summaries. The first, by Mr. H. F. Nierstrasz, deals with recent additions to our knowledge of the Chitons, which has enormously increased during recent years. The second, on the physiology of the facetted eye, by Mr. Reinhard Demoll, is based almost entirely on Exner's classical, but no longer very recent, work on the compound eyes of crustaceans and insects. The problem presented by these eyes is an extremely complex one, and really lies in the domain of the student of physical optics rather than that of the zoologist. On the whole, it appears that the Müllerian theory as to their mode of action still holds the field, but that this theory is not equally applicable to all cases.

REPORTS ON ICE IN SEAS AND OCEANS.

THE report on the state of the ice in the Arctic seas during 1909, published by the Danish Meteorological Institute, possesses more than usual interest on account of Admiral Peary's remarkable sledge journeys in the spring of that year. It summarises the conditions for each month, so far as known from reports supplied by traders to those parts, with maps for April–August inclusive. The state of the ice was unfavourable in Barents Sea and round Spitsbergen, while in the Greenland Sea and Denmark Strait the ice boundary was much more westerly than usual. The coasts of Iceland were almost free of ice, but much was observed off Newfoundland and on the Trans-atlantic steamer routes. On the south-east of Greenland and in the North American archipelago conditions were very favourable; in the Bering Sea they were about normal, and in the Beaufort Sea rather favourable, especially towards the middle of the summer. It is inferred that the amount of ice along the south-east of Greenland will be somewhat small in 1910, and that favourable conditions along the south-west coast of Greenland may result during the summer of this year.

From statements made on the useful monthly meteorological charts for the North Atlantic and Indian Oceans for April last, issued by authority of the Meteorological Committee, it appears that ice was scarce in the Southern Ocean during 1909. Up to about the middle of March last reports of only forty bergs passed in that year were received by the Meteorological Office; half these related to a position midway between New Zealand and Cape Horn. A later chart, however, states that from December, 1909, they commenced to be rather frequently reported. Tables referring to the bergs met with in previous years show that lengths of six to thirty miles are not uncommon, while some thirty of those sighted in that ocean in the last quarter of a century were 800 feet or above in height. Up to the present time, the report states, the birthplace of the largest of the bergs (1000 to 1500 feet in height) has not been definitely settled.

THE INTERNATIONAL HORTICULTURAL CONGRESS.

THE International Horticultural Congress at Brussels, April 30 to May 3, was attended by a large number of representatives, including delegates from the important horticultural societies. The meetings took place in the Salle des Fêtes in the grounds of the Great Exposition, at that time in a very incomplete state. Among the various subjects discussed was that of horticultural nomenclature. While there has been a general desire on the part of the more scientific horticulturists to conform to the rules of botanical nomenclature agreed upon at the International Botanical Congress at Vienna in 1905, it was felt that certain details which were not discussed at Vienna, but which were of special interest to horticulturists, should be definitely settled. The congress was unanimous in agreeing to adopt the Vienna rules of nomenclature, with necessary additions in the case of horticultural varieties and hybrids. It was agreed that the names of horticultural varieties, expressed, in accordance with the rules, in the vulgar tongue, must remain fixed when used in other languages than the one in which they were originally employed. When possible, the name should consist of a single word, and never of more than two, or at most three, words. To ensure valid publication a description of the variety must be drawn up in Latin, English, French, German, or Italian.

As regards garden hybrids, it was agreed that the specific name may be expressed in Latin, or in a vulgar tongue and written in Roman characters; if possible it should be a single word, but, at any rate, not more than three words. Various suggestions had been made as to the system of nomenclature for artificial hybrids in which two, three, or more genera are involved. In the case of bi-generic hybrids, the general custom was confirmed of forming a Latin generic name by the combination of the names of the parents; the specific name, also in Latin form, is to be separated from the generic by the sign of hybridity, thus, *Laeliocattleya* × *Smithii*. For plurigeneric hybrids the recommendation of the Royal Horticultural Society of London was adopted, namely, the use of a conventional generic name, derived from that of some person of distinction, with the termination *ara*, *e.g.* Lawrenceara.

The programme of the congress also included a visit to the Royal park and conservatories at Laeken, and to the new colonial gardens and plant-houses. The latter contain many plants of interest from the Congo.

LOWELL OBSERVATORY PHOTOGRAPHS OF THE PLANETS.[1]

THE pictures which I have the honour of showing to-night represent the results of the new planetary photography originated at Flagstaff in 1903–5, and now beginning to be successfully copied elsewhere, notably this last summer by M. le Comte de la Baume Pluvinel and M. Baldet in France, who from the summit of the Pic du Midi de Bigorre succeeded themselves in getting imprints of the canals of Mars. Although the method was originally designed to exhibit the markings of what is practically our nearest neighbour in space, it has since been applied to the other planets with an outcome as surprising as it is satisfactory. Little details which one would not have supposed could sit still long enough for their pictures to be taken stand out unmistakably on the plates, the faint equatorial wisps of Jupiter offering a good example of such tractability, though by no means the most remarkable.

That the canals of Mars should be made to write their own signatures on a photographic plate was the occasion of the invention of the process, which, after long and patient study by my assistant, Mr. Lampland, they were finally induced to do. To his marvellous feat the best tribute was that of Schiaparelli, who, after recognising the canals on the print sent him, wrote me in wonder that photography could be made to do such work, "I would never have believed it possible." Since then further improvement has been reached, to which almost every member of the staff has contributed. The process is based upon what our visual study of the planets has taught us to be the crux in the matter—the all-importance of definition. For this reason the older celestial photography, which furnishes such beautiful pictures of the stars and nebulæ, was here impotent. This will be realised when one considers that the whole disc of a planet could be put inside the image of a single star. For a like cause reflectors cannot be employed, for with them all faults, instrumental or atmospheric, are magnified three-fold over those of a lens. They may give imposing-looking pictures, but the finer detail is lost, a fact which is evident at once to an expert. Now it is in the registration of this finer detail that the accomplishment lies, and which from a scientific point of view marks its importance.

Study of the conditions leading to definition has made these photographs possible, just as lack of such study alone makes possible the scepticism one sometimes hears.

[1] A discourse delivered at the Royal Institution on April 8 by Prof. Percival Lowell.