

explained. Thus, the right ascensions on plate i. are on the average by 0°0475 greater than the values deduced from plate ii.—The Arachnides collected by G. Potanin in Mongolia in 1876-1879, by E. Simon (in Latin). Part i. Aranae and Opiliones; forty-one species are mentioned and described, nineteen being new species.—Do the spurs of the Carpathians penetrate into European Russia? by General A. Tillo (in Russian). The question is answered in the negative. Supan and Lehman, in Kirchoff's "Länderkunde von Europa," trace the limits of the Carpathians outside the boundaries of Russia; so also the Russian geologists, Barbot-de-Marny and Karpinskiy, did not see continuations of these mountains either in Poland or in Russia. The new hypsometrical map, now compiled by the author on a larger scale (27 miles to the inch), confirms this view.—New or little known Ixodidae in the museum of the St. Petersburg Academy, by A. Birula (in Latin). Eight new species are described and figured on two plates.

Memoirs (Trudy) of the Kharkoff Society of Naturalists, vol. xxvii., 1892-93.—Obituary of I. Th. Levakovsky, by A. Guroff, with a portrait.—Researches into the crystals of kermesite and uranotil, by P. P. Piatnitzky.—The Algæ of the bays and peat-bogs of the Dnieper, in the government of Poltava, by M. Alexenko. This flora is poor, the *Cladophora*, *Confervee*, *Enteromorpha*, and *Ulothrix* prevail, while Desmidiaceæ and Protococoidæ are very rare; 371 species are mentioned.—The flora of the Central Caucasus, by I. Akinieff, part i. (see Notes, vol. lli. p. 304).—On the part played by hydrocarbons in the inter-molecular respiration of higher plants, by W. Palladin. It had been shown by Diakonoff (*Ber. d. deut. bot. Ges.*, 1866) that certain fungi give up carbonic dioxide during their inter-molecular breathing, only when the surrounding feeding medium contains a substance capable of fermenting. It was desirable to verify whether the same is true with higher plants, but the difficulty was in the fact that the cellular sap always contains glucose, which itself is capable of fermenting. By a series of experiments on etiolated leaves, the author now confirms Diakonoff's conclusions for higher plants as well.—Short preliminary notes in the Addenda. Vol. xxviii., 1893-1894.—Geological description of Kharkoff town, with map and profiles, by P. Poustovitov.—On the part played by the secondary parallel chains in the grouping of forests and steppes in West Caucasus, by A. Krasnoff. An answer to G. Akinieff's criticisms.—Materials for the Algæ flora of the government of Kharkoff, by M. Alexenko; 407 species are described.—Preliminary report on a geological excursion in the government of Kherson, by P. Piatnitzky.—Biological observations, by W. Taliev. A series of various observations of facts relative to the life of plants, which have hitherto attracted but little or no attention, chiefly relative to fertilisation, colouration, movements of plants, and heliotropism in connection with the affluence of sap.—On the flora of the basin of the Chakva, by A. Krasnoff, being a preliminary report of a botanic excursion into the province of Batum, containing an excellent general description of the vegetation, poor in species, but attaining a luxurious development of the individuals.—On the lichens of the neighbourhoods of Kharkov, by W. Tschernov; fifty-five species are described.—Chemical studies on the seeds of *Myristica fragrans*, by W. Palladin, being a note on a special substance which is found in several seeds, but neither in the leaves or in the twigs, and which is now studied in Prof. Schultze's laboratory at Zurich.—Preliminary report on botanical researches in the Verkhnednieprovsk district of Ekaterinoslav, by I. Akinieff; twenty-six species, new for South Russia, have been discovered.

SOCIETIES AND ACADEMIES.

PARIS.

Academy of Sciences, August 12.—M. Marey in the chair.—Observations of planets made at Marseilles Observatory, by M. Coggia. The observations were made with the 0.26 m. equatorial, and for the planets BZ and CA (Charlois).—On algebraical surfaces which admit a continuous group of birational transformations, by M. Paul Painlevé.—On a special microscope for the observation of opaque bodies, by M. Ch. Fremont. The novelty in the microscope described, consists essentially in the method used for obtaining vertical illumination of the object, applicable with high powers. A concave mirror is arranged obliquely inside the microscope tube to reflect downwards a beam of light entering at a side aperture in the tube. The light passes through a prism which reduces the rays to parallelism

with the axis of the microscope and then through the lenses of the objective to the object. The concave mirror and the prism are pierced centrally by a conical tube along which travel the rays of light from the object, the image being formed and magnified by the eye-piece in the usual way. M. Marey remarked on the great use the new modification would have in the chronographic study of the movement of microscopic beings.—On some melting and boiling points, by M. H. Le Chatelier. From the experiments made, it is probable that the melting point of gold determined by M. Violle to be 1045°, is a little low. The error is certainly not more than 20°, and the results so far obtained would not justify the alteration of the pyrometer scales in actual use.—On certain potassium derivatives of quinone and hydroquinone, by M. Ch. Aste. A number of potassium derivatives are described, concerning which it is stated: the action of metals on quinone, together with the existence of oxy-potassium compounds yielded by quinone and hydroquinone (to be described in a coming paper) confirm the diketonic nature of quinone. The formation of these compounds and the passage of some of them from the hydroquinone to the quinone series, allow a formula to be given to quinone clearly expressing its diketonic character and accounting for its numerous reactions.—A theorem concerning the separation of the roots of numerical equations of every degree, by M. Teguor.—A white rainbow, by M. E. Kern. A lunar rainbow observed at 10 p.m. August 5.

BOOKS, PAMPHLET, and SERIALS RECEIVED.

BOOKS.—British Birds: W. H. Hudson (Longmans).—Lectures on Elementary Navigation: Rev. J. B. Harbord (Potter).—Polyphase Electric Currents and Alternate-Current Motors: Prof. S. P. Thompson (Spon).—Transactions of the Australasian Institute of Mining Engineers, Vol. 2 (Adelaide).

PAMPHLET.—The Recent Evolution of Surgery: A. P. Gould (K. Paul). SERIALS.—Journal of the Chemical Society, August (Gurney).—Proceedings of the Physical Society of London, August (Taylor).—Bulletin of the American Mathematical Society, July (New York, Macmillan).—Natural History of Plants: Kerner and Oliver, Part 15 (Blackie).—Bulletin de l'Académie Royale des Sciences, &c., de Belgique, 65^e Année, No. 6 (Bruxelles).—Astrophysical Journal, August (Chicago).—Royal Natural History, Part 22 (Warne).

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