

ments are caused, at least for the greater part, rather by unequal growth on the two sides, the result of differences in light, temperature, and turgescence.—(*Flora*, 1873, Nos. 28, 29).

THE Jardin des Plantes at Paris has just received from the Philippine Islands ten living vampire bats. Their bodies are as large as pigeons, their wings extending a foot and a half, making their total expansion between three and four feet. They sleep the greater part of their time, and notwithstanding the bloodthirsty propensities ascribed to them, these Chiroptera of the Philippines are a simple fruit-eating race.

THE ravages of the new and formidable insect-pest, known to entomologists as *Phylloxera vastatrix*, are exciting the gravest apprehensions in all the vine-growing districts of France and Germany. The Austro-Hungarian Government has published an ordinance forbidding the introduction within the frontiers of the monarchy, of vines having the roots attached to them, or of grapes, if packed in vine leaves; and the Imperial Government of Germany has, it is said, in contemplation to adopt a similar policy with regard to the importation of vines and grapes from North America, which is known to be the native habitat of the *Phylloxera*, or from France, in which the noxious insect is believed to have become thoroughly established. Its history and mode of propagation have been described in a carefully-written résumé by M. Planchon, in the 1st February number of the *Revue des deux Mondes*; and from this report it would appear that it was noticed as early as 1854 in the State of New York, by Asa Fitch, who gave it the name of *Pomphigus vitifoliae*, but seems to have had no suspicion of its destructive propensities. After being made the subject of repeated observations by different entomologists, and being deemed to receive various names in accordance with the different sexual and local conditions under which it first presented itself for observation, Messieurs Labinau and Planchon, while engaged officially in investigating the causes of a new vine disease in France in 1860, convinced themselves of the identity of the protean forms under which the vine-destroyer had manifested itself, which we are henceforth to recognise under the name of *Phylloxera vastatrix*. The rapidity of its progress through France and Portugal is truly marvellous; in the former country it has two special foci of destruction—viz., in the south-east and in the Bordelaise; and in the latter a widely-extending centre at Oporto. America is the undoubted source of the evil, and in every instance where the insect has appeared its presence may be traced to the direct agency of plants imported from the American Continent. A commission has been entrusted by the French Government with the task of trying to discover the agents which nature or science can contribute to its extermination; and, according to Mr. Riley, of St. Louis, the roots of the infected vines may be made to propagate the antidote to their own bane in the form of a little white acarus, which thrives and multiplies on the eggs of the phylloxera, and has received the name of *Tyroglyphus phylloxaræ*. It remains to be seen whether this enemy provided by nature, or the chemical agents suggested by M. Planchon, will prove of any avail; or whether it may not be necessary, as the latter writer seems to infer, to eradicate all old plants and introduce new stocks of American vines, which seem to enjoy an immunity from the ravages of the *Phylloxera* in its worst form. At all events the peril is imminent, and, unless a remedy can speedily be discovered, there seems to be no ground for hoping that any of our vine-growing districts can be kept secure from the invasion of this insect and from consequent eventual destruction.

WITH regard to the ten-lined potato bug described in our last issue, a letter has been received from the Privy Council Office, in answer to a communication from the Central Chamber of

Agriculture, to the effect that, according to the American official reports, it does not appear that the eggs or larvae of the Colorado beetle have been or are deposited or conveyed in the tuber of the potato, and, therefore, there is considered to be no reason to prevent the importation of seed potatoes from America into the United Kingdom, until the case is proved to be otherwise.

In the course of his lectures during the present term at the Clarendon Laboratory, Oxford, Prof. Olifton has exhibited a very interesting series of photographs of interference and diffraction phenomena. The photographs were obtained by receiving the shadows, &c., on prepared plates instead of an ordinary screen, and they were then projected on the screen of the lecture-room by means of a lime-light, the impression produced on the sensitive plate being in some cases magnified to 2,500 diameters. The diagrams included interference phenomena produced by Fresnel's prism, diffraction bands bordering the shadows of a straight edge and an angular aperture, the internal interference bands in the shadow of a wire and a needle, the shadow of a small circular disk, and the phenomena presented by light which has passed through a small circular hole. The Professor stated his belief that similar photographs had never previously been made available for lecture-room purposes.

THE journals announce a heavy hailstorm upon Mount St. Gothard. Professor Kammgott of Zürich analysed some of the hailstones and obtained crystals of a pure white, consisting of chlorate of sodium—sea salt. More singular still were the hailstones observed by Professor Eversmann at Kasan, containing crystals of iron pyrites, produced no doubt from the disintegration of some granitic rock, and taken up by a tempest into the clouds.

A NEW minor planet has been found by Professor Peters in America, making a total of 135 of these small bodies discovered up to the present time. By a very liberal arrangement on the part of the Atlantic and other telegraph companies concerned, messages announcing such discoveries are transmitted free, and accordingly the details were in this case communicated without loss of time to the principal European observatories, thanks to which, two determinations of the planet's place were secured on this side of the Atlantic, so that there is now no fear of this planet being lost as soon as found, a catastrophe which has already happened more than once in similar cases.

*Naturforscher* (March 7) narrates the exhumation, by M. Rivière, of a human skeleton of the diluvial age from the caverns of Brouasé-Roussé at Ventinglin near Mentone. The cavern is from 27 to 28 mètres above the sea-level and 12 mètres deep. The ground is covered by a reddish conglomerate to a depth of rather more than a metre, beneath which were large blocks of stone apparently heaped up about the entrance. Among these blocks were the first traces of human habitation. Scattered about were bones of the genera *Cervus* and *Capra*, with shells of *Patella* and *Mytilus*, and a few stone implements. At a depth of 3.75 mètres beneath this upper habitation was found in February 1873 a second, with numerous remains of animals, which placed its age beyond doubt, and in the midst of them a human skeleton. The remains included bones of *Ursus spelæus*, *Das primigenius*, the horse, hyæna, marmot, and several species of stag, but no reindeer, as well as numerous remains of birds and of land and marine Mollusca. The implements belong to the earliest stone-age, and are in no case polished; some of the smaller ones are made of quartzite or felsite. The human skeleton is not in so good a state of preservation as the one previously discovered by M. Rivière near Mentone, in 1872; it lay stretched on its back, and its height must have been 2 or 2.05 mètres (i.e. a little over 6½ feet); the bones were all coloured red by iron, and the skeleton was

covered by a layer of earth containing iron, which M. Rivière suggests had been brought for the purpose of burial. The skeleton appears to have certainly belonged to the earlier stone age, about the close of the epoch of the cave bear and *Rhinoceros tricharhinus*.

THE Zoological Society of London have just made an important addition to their collection in the shape of a Javan rhinoceros (*Rhinoceros sondaicus*), which was received from Java on Saturday last, and is the first animal of the species ever brought alive to Europe. There were already representatives of three species of these huge animals in the Society's gardens. This makes a fourth, and renders the series nearly complete, only two other rhinoceroses being certainly known to exist. The Javan rhinoceros occupies the "stall" in the new elephant house, rendered vacant by the decease of the old Indian female rhinoceros.

THE correspondent of the *Times* writes from Naples on the 8rd instant as follows:—

"Vesuvius has been making some demonstrations since last Sunday week, just sufficient, perhaps, to justify the predictions of Professor Palmieri. 'On the 22nd ult., says Cozzolino, the guide, in a report which he has sent to me, 'we felt several shocks of earthquake without being able to detect the direction from which they came. On the following day I went up Vesuvius, and found the new crater, which was formed in 1872, at least a portion of it corresponding to the Observatory, thrown into the air. This was the more apparent from a quantity of "basaltic" stones on the borders of the mountain, which had been ejected from that cone. The part of the cone which has suffered has disclosed many fissures of great depth.' This slight eruption, however, if so it may be called, has not produced any results of importance. The mountain still smokes, and at times sends forth considerable volumes, awaking expectations of something more serious, and then the column falls as if Vesuvius had expended all its power. It is evidently in a state of great agitation, for strong detonations are heard at times, and severe shocks felt. One watches Vesuvius with greater interest from the contrast which the snows on its summit present with the hot vapour which rises constantly, and the burning lava which boils at no great depth. Whether we shall have a grand display, which is equivalent to a great disaster, or whether the mountain will fritter away its force in petty demonstrations, not even our Professor can tell; but enough is to be seen to constitute a remarkable phenomenon. It may have been a consequence of other than volcanic causes that about the same time as these shocks were felt; the road from Castellamare to Sorrento was again obstructed by the fall of huge fragments of the mountains which hang over it in one direction. These obstructions, indeed, occur almost annually to the great annoyance of the public, and though the heavy rains we have lately had may reasonably be supposed to have had some effect, it is equally reasonable to suppose that the subterranean action which is now considerable in this neighbourhood may have lost its assistance. Communication by rail between Capri and Vietri also was interrupted the week before last for a day or so, as the road was washed away by the heavy rains. These are, however, trifles only of a temporary character."

THE fiftieth anniversary of Professor Poggenдорff's connexion with the valuable chemical journal known to all chemists under the name of *Poggenдорff's Annalen*, was commemorated by the presentation to him at Berlin, on March 7, of an electric chain, possessing the peculiarity of being composed of silver and gold Prussian coins of the realm. The Italian Government marked its sense of the services rendered to science by the able and indefatigable German chemist, by expressing officially its sympathy with the objects of the Berlin festival, and presenting him, in the name of the King of Italy, with an Itali an order of merit.

THE Geological Survey of the Western States of America, for which Congress has voted a sum of 10,000 dollars, promises to yield the most interesting and important results, more particularly, as it is asserted, in reference to the Evolution Theory, which we are informed will derive special