and upwards. These sections have also given the life-history of important rocks and rock-structures, and furnished serial examples of the metamorphoses by which the dense hard "blue-stone" is gradually altered into a soft, brilliantly coloured agate-like sandrock. (I have presented a somewhat extensive series of these to the British Museum (Natural History).)

PLIOCENE.—Beds of this age have been cut through, showing deposits of beautiful red-yellow loam, fifty feet thick, now lying at various altitudes, from a little above O.D. up to more than five hundred feet. These overlie a series correllatable with those of Piltdown. The underlying flint gravel is very much panned and of an orange-red colour, so familiar in East Anglia. The basement original sand is now indurated into a sandstone, requiring heavy steel tools to work it, in which were found worked flints. This, I think, is the first time worked flints have been found in a dense tertiary sandstone; naturally, the flints have undergone a great deal of alteration since they were chipped.

PLEISTOCENE.—The latest revelation has been made in the forming of battered-down lawn-tennis courts, upon the adjoining hillsides, and overlying the loam. The most southern court is cut out of chalky boulder marl, very white in colour. The associated boulders were often between two and three feet long, and consist of various gneisses, schists, granites, and numerous volcanic and metamorphic rocks; and sedimentary rocks foreign to the locality; and palæozoic and mesozoic fossils and rocks. The upper part of this big boulder drift was associated with immense worked flints, especially Wealden "flints," bulbed facets sometimes reaching one hundred square inches. The smaller implements are of well-known Mousterian types. In the overlying material came the orange-red-brown implements which I regard as of Aurignacian age. The latter occur by thousands on certain hill-tops and valley shoulders in a quartzite drift full of glacially striated and faceted foreign rocks, originating in the destruction of just such glacial drift as is now revealed. Above these came quantities of the productions of the Hastings Kitchen Midden men. My esteemed colleague, Mr. Lamplugh, informs me that a similar drift has been reported to him from another locality. It now appears certain—if there be such a thing as a certainty—that glacial conditions reached even beyond our present shore line, and probably extended over the Great South river, as is shown by similar deposits near the French coast.

W. J. LEWIS ABBOTT.

Zoological Nomenclature: Thirty-five Generic Names of Mammals.

THE following generic names of mammals (with genotype in parentheses) have been submitted to the International Commission on Zoological Nomenclature for inclusion in the Official List of Generic Names.

The Secretary will delay final announcement of the votes on these names until January 1, 1925, in order to give to any zoologists who may desire the opportunity to express their opinions.

Alces Gray, 1821, 307 (*alces*); *Arvicola* Lac., 1799, 10 (*amphibius*); *Ateles* Geoffr., 1806, 262 (*paniscus*); *Bison* H. Smith, 1827, 373 (*bison*); *Bradypus* Linn., 1758a, 34 (*tridactylus*); *Canis* Linn., 1758a, 38 (*familiaris*); *Capra* Linn., 1758a, 68 (*hircus*); *Cebus* Erxl., 1777, 44 (*capucina*); *Cervus* Linn., 1758a, 66 (*elaphus*); *Cholœpus* Ill., 1811, 108 (*didactylus*); *Condylura* Ill., 1811, 125 (*cristatus*); *Cricetus* Leske, 1779, 168 (*cricetus*); *Crocidura* Wagl., 1832, 275 (*leucodon*); *Cystophora* Nills., 1820, 382 (*cristata*); *Dasyprocta* Ill., 1811, 93 (*aguti*); *Didelphis* Linn., 1758a, 54 (*marsupialis*); *Erethizon* F. Cuv., 1822, 432 (*dorsata*); *Felis* Linn., 1758a, 41 (*catus*); *Gulo* Pallas, 1780, 25 (*gulo*); *Halichœrus* Nills., 1820, 376 (*grypus*); *Lepus* Linn., 1758a, 57 (*timidus*); *Lynx* Kerr, 1792, 32 (*lynx*); *Mus* Linn., 1758a, 59 (*musculus*); *Myrmecophaga* Linn., 1758a, 35 (*tridactyla*); *Nasua* Storr, 1780, 35 (*nasua*); *Ovibos* Blainv., 1816, 76 (*moschatus*); *Phyllostomus* Lac., 1799, 16 (*hastatus*); *Procyon* Storr, 1780, 35 (*lotor*); *Putorius* Cuv., 1817, 147 (*putorius*); *Rangifer* H. Smith, 1827, 304 (*tarandus*); *Rhinolophus* Lac., 1799, 15 (*ferrum-equinum*); *Rupicapra* Blainv., 1816, 75 (*rupicapra*); *Sciurus* Linn., 1758a, 63 (*vulgaris*); *Sorex* Linn., 1758a, 53 (*araneus*); *Vespertilio* Linn., 1758a, 31 (*murinus*).

C. W. STILES.

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von Zeipel's Red Star near M 37.

THE very red star in the outlying regions of Messier 37 referred to in the Astronomical Column of NATURE of June 14, p. 870, was brought to our attention some years ago by Prof. v. Zeipel as an object of unusual interest.

Three polar comparison photographs in March and September 1921 gave a mean photovisual magnitude of 12·86, in exact agreement with v. Zeipel's result in *Astr. Nach.* 5288. Two polar comparisons made with ordinary plates on September 6 and 8, 1921, gave for the photographic brightness 17·75 and 17·95 respectively. The latter values are not very trustworthy, because the images were near the limiting magnitude of the plates; but the mean, 17·85, should be within 0·2 of the true photographic magnitude on the international scale.

The provisional colour index is, therefore, 5·0 mag. The ratio of the integrated intensity of the photovisual region of the star's spectrum (approximately λ5000 to λ6000) to that of the region to the violet of λ5200 is accordingly about 100 times the corresponding ratio for an Ao star.

FREDERICK H. SEARES.

Mount Wilson Observatory,
Pasadena, California, July 25.

A Biological Study of Radiation.

THE review of the second edition of our book, "Radium, X-rays, and the Living Cell," under the above title in NATURE of July 26 cannot pass without comment from us. One out of the two columns devoted to this review is a dissertation by the reviewer on the avoidance, by suitably directed regime and feeding, of the ills that fall to the lot of civilised man, including complaints such as cancer, dyspepsia, gastric and duodenal ulcer, gallstones, appendicitis, etc. We think that the natural inference of your readers will be that we have been writing on these matters; but we have neither written on this subject, nor do we subscribe to the opinions of the reviewer. Our efforts in producing the second edition of this book have, as in the first edition, been devoted to bringing together the chief experimental facts which have been ascertained of the effects which the rays from radium and X-rays have upon living organisms, and discussing very briefly any generalisations which may be possible on these facts.

HECTOR A. COLWELL.
SIDNEY RUSS.

Cancer Research Laboratories,
The Middlesex Hospital, W.1,
July 29.