

has been started of what information reaches contracting firms, and what is done with it at various levels. This investigation might well be extended to include architects, engineers and other research organizations. The inquiries and special investigations undertaken during the year reflect trends in the industry. Curtain walling systems were prominent, and interest is increasing in heating, heat and sound insulation, acoustics and lighting. The appendices include lists of building research publications and of films on loan.

### Radio Research

IN the years immediately prior to the International Geophysical Year, routine vertical incidence radio soundings of the ionosphere were carried out at about seventy stations, and during the International Geophysical Year both the number of sounding stations and the scope of the observing programmes were greatly increased. The experimental data, which such soundings provide, take the form of curves of equivalent height of reflexion ( $h'$ ) against frequency ( $f$ ), so-called 'ionograms'. It has always been recognized that the equivalent height of reflexion of the radio waves is often quite different from the actual height of reflexion and, indeed, in the early years of radio sounding it was shown that, in general, the experimental  $h'(f)$  curve could not yield unambiguously the true height/electron density profile. Furthermore, the calculation of true height is itself a matter of some complexity, especially when proper allowance is made for the influence of the magnetic field of the Earth. Hence it is, until recent years, that ionospheric workers have based their studies on parameters such as the critical frequency, the equivalent height and the ' $M$ ' factor—quantities which could be immediately read from the ionograms. However, the advent of the electronic digital computer has made possible the large-scale conversion of  $h'(f)$  curves into  $N(h)$  profiles, and as part of the world-wide International Geophysical Year programme a number of organizations formulated programmes for the determination of  $N(h)$  profiles for representative stations and for selected observational periods. The Radio Research Special Report No. 28 prepared by Dr. J. O. Thomas and Mr. M. D. Vickers describes in detail the electronic computer programme and method adopted as part of the British International Geophysical Year ionospheric programme (Department of Scientific and Industrial Research: The Conversion of Ionospheric Virtual Height-Frequency Curves to Electron Density-Height Profiles. Pp. v+48. London: H.M. Stationery Office, 1959. 3s. 6d. net). A useful manual method for making these calculations is described in an appendix to the report and an excellent classified list of papers on this subject is also included.

### Natural History in the Midlands

IN connexion with the centenary celebrations of the Birmingham Natural History and Philosophical Society in 1958, Mr. K. L. Kenrick has written an interesting and very readable account of the records of the Society and the story they tell. (Pp. 52. Birmingham Natural History and Philosophical Society, 1959.) The longest of these deals with the sixteen volumes of the *Midland Naturalist*, 1878-93, including brief biographical notes on leading members of the Society, as does the section dealing with the activities of the Society between the two World Wars. After the destruction of the Society's rooms at Avebury House

on October 25, 1940, activities were suspended until the end of hostilities, but the Society in 1954-55 was once more installed in the Birmingham and Midland Institute, its original home, where the Society's library, its Wynn entomological collection, the J. W. Moore collection of British butterflies and moths, a purchased entomological collection and the Archer-Overton collection of land, freshwater and marine shells are housed.

### *Equus przewalskii*

THREE short articles by A. G. Bannikov, E. Dagva and D. Tzevegmid (*Priroda*, 5, 50; 1959) deal with the Mongolian wild horse (*Equus przewalskii*) in its native habitat and in captivity. Its present habitation area is roughly delimited by 44° N. to 46° N. and 90° E. to 95° E., a small area situated on the border between Mongolia and Sinkiang. Recently a herd of wild horses has been observed along the Takhin Shara-Nuru range, but in the opinion of observers, both the area and the number of individuals are rapidly being reduced. Drastic legislation is suggested to combat the illicit hunting of these rare animals. The effects of acclimatization of the Mongolian wild horse and the hybrids are discussed in another article by I. S. Sles (*Priroda*, 5, 53; 1959).

### *Spilogale* Revised

VOL. 117, article 5, of the Bulletin of the American Museum of Natural History (pp. 229-392. New York, 1959. 2 dollars) is a taxonomic revision of the spotted skunks of the genus *Spilogale* by R. G. Van Gelder, assistant curator in the Department of Mammals. The spotted skunks are distributed over the greater part of the United States and Central America; they are black animals with a complex pattern of white markings which, although almost infinite in their variations, appear to be modifications of a single basic pattern of stripes. The older taxonomists regarded most of the variations as distinct species so that by 1906 Howell listed fourteen species and six subspecies. As a result of the present author's study of a long series of specimens (nearly two thousand), and particularly of local populations, this list is now mercifully reduced to two species, one *S. putorius* polytypic with fifteen subspecies, the other, *S. pygmaea*, monotypic. The characters and measurements of the different subspecies are discussed in detail and illustrated with excellent figures of colour pattern and skull form. The paper concludes with a discussion of the evolutionary trends of the genus in size, colour pattern and skull characters, and a consideration of the clines that occur in the populations of many areas. There is a full bibliography.

### Female-sterile Flowers in *Fuchsia*

THE production of female-sterile flowers by hermaphrodite plants of *Fuchsia procumbens* has been described and discussed by M. Holdsworth (*Trans. Roy. Soc. New Zealand*, 86, 105 (1959)). *Fuchsia procumbens* flowers annually in late summer. The brief flowering season begins and ends with the production of a proportion of imperfect flowers—some fall without opening, others open normally but have defective styles and stigmas. Continuous long-day treatment extends the flowering season and increases the number of flowers produced throughout, but this is supposed not to be directly a day-length