

anatomy and classification of the bats of Asia. The author tells us in the work under notice, which is the summary of the results of his investigation, that he was led to the special study of the Chiroptera from a desire to write a descriptive catalogue of the species of bats preserved in the Indian Museum at Calcutta. Finding, however, that but few species were not therein contained, the author, much to the advantage of his fellow-zoologists, determined to incorporate an account of all the Asiatic forms, the result being that he has presented us with a complete Monograph of the Asiatic Chiroptera.

Further, there being but four species of bats found in Europe which are not also Asiatic, these are also described in footnotes, which still further increases the value of the volume, making it, in fact, a monograph of the Asiatic and European Chiroptera.

There are a hundred woodcuts, mostly original illustrating the configuration of the head and nasal appendages of the most characteristic of the 122 species described; and the work in its letterpress and size corresponds with the valuable catalogues of the zoological collections in the British Museum.

Mr. Dobson divides the order primarily into the Megachiroptera and Microchiroptera, these sub-orders corresponding to the Frugivorous and Insectivorous Bats as usually described. The former of them are arranged in two groups—the Pteropi, with the tongue short and the molar teeth well developed; and the Macroglossi, with lengthy tongues and molars scarcely elevated above the gums.

With reference to the Microchiroptera two branches are assumed to have diverged from the ancestral forms (Palæochiroptera) of the order; one of these, the Vespertilionine Alliance, includes the Vespertilionidæ, Nycteridæ, and Rhinolophidæ; the other, the Emballonurine Alliance, the Emballonuridæ and Phyllostomidæ. This important division is shown to be based upon several well-marked anatomical characters, the members of the Vespertilionine Alliance having the tail always contained within the interfemoral membrane, which it never perforates; the first phalanx of the middle finger extended, during repose, in a line with the metacarpal bone; the premaxillary bones rudimentary, and consequently the incisors small; and the hair scales imbricated, the tips of the scales being arranged in an oblique line, not terminating in acute projections. In the members of the Emballonurine Alliance, on the other hand, the tail, if present, generally perforates the interfemoral membrane; the first phalanx of the middle finger is more or less completely folded forwards, during repose, upon the superior or inferior surface of the metacarpal bone; the premaxillæ with the incisor teeth are large; and the hair-scales are arranged in a transverse series, the tips of the scales nearly always terminating in acute projections.

The character of the hair-scales is one which Mr. Dobson has investigated with special care, and he has submitted his specimens—from more than forty genera—to the inspection of Dr. J. D. Macdonald, who has confirmed his generalisation, except with reference to *Mintopterus* and *Mystacina*, the one otherwise recognisable as an intermediate form, and the other quite peculiar as far as its hair is concerned.

Although the Fruit-bats are included in a separate sub-

order, in other words, though they are assumed to have developed “from a group of Palæochiroptera distinct from that from which the Vespertilionine and Emballonurine alliances have sprung,” nevertheless, Mr. Dobson considers that they have affinities with that section of the latter group from which the Emballonuridæ are derived. This we cannot quite understand. May not the retention of a second index phalanx in *Rhinopoma*, and of well-developed incisors in the Phyllostomidæ be but a want of divergence from the Palæochiropterous type in the branch on which they are placed? a similar absence of modification in the independently-developed Pteropinæ being followed by a similar result as far as structure is concerned. This would, however, have no effect upon the independence of the pedigree-lines of the two groups, and would not make them blend in any parts of their course.

Mr. Dobson lays stress, in his definition of the sub-family Phyllorhininæ on the union of the ilio-pectineal spine with the antero-inferior surface of the ilium, forming a large preacetabular foramen. This unique arrangement, discovered by Mr. Dobson himself, is one which has scarcely attracted the attention of osteologists to the extent which it deserves.

The descriptions of the species are detailed and extremely precise; the synonymy is full, at the same time that the tables of measurements as well as those of specific distinctions will be found invaluable. The work, as a whole, is one of the most important recent additions to zoological literature.

LETTERS TO THE EDITOR

[The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts. No notice is taken of anonymous communications.]

Sun-Spots suspected to be Identical with an Inter-Mercurial Planet

- 1875, Feb. 22^d 0^h.—One very minute spot was seen near the first limb. Not seen afterwards (on Feb. 23^d 0^h), others seen.
- 1875, Aug. 30^d 1^h.—A circular spot of intense blackness was seen near the second limb.
- 1875, Aug. 30^d 23^h.—Not seen, perhaps from clouds; other spots seen.
- 1876, March 7^d 0^h 30^m.—After a careful search only one very small spot was seen. This was without penumbra, but surrounded by bright faculæ (the drawing represents it as circular).

Transits of the Spot and the Limbs of the Sun.

	h.	m.	s.
⊙ 1 ∟	23	29	47.7
Spot	29	59	0
⊙ 2 ∟	31	57.8	Cloudy afterwards.

Not visible March 9^d 0^h 30^m, though another spot appeared in quite another part of the sun.

Observations of the spots on the disk of the sun are made regularly every day (excepting Sundays) when the sky is clear by Mr. F. Bellamy, and the above are notes which were made by him at the times of observation.

ROBERT MAIN

Radcliffe Observatory, Oxford

Erratum in Mr. Wallace's Address

PLEASE allow me to point out an error in my address as given in your issue of September 7 (vol. xiv. p. 407). Instead of “*Pelargonium* of Kerguelen's Land” read “*Pelargonium* of Tristan d'Acunha.” This oversight was pointed out to me by Dr. Hooker in time to be corrected in the “Address” as published by the Association.

ALFRED R. WALLACE