EXPLANATION OF THE PLATES.

Plate VII.

Fig. 1. *Tarantula lævifrons*, sp. n. Carapace and chela, × 1½.
Fig. 1 *a*. Ditto. External view of upper edge of tarsus.
Fig. 2. *Tarantula azteca*, sp. n. Carapace and chela, × 1½.
Fig. 3. *Tarantula macrops*, sp. n. Carapace and chela, × 1½.
Fig. 3 *a*. Ditto. Lateral view of anterior end of carapace.
Fig. 4. *Tarantula Whitei* (Gerv.). Carapace and chela, × 1½.
Fig. 4 *a*. Ditto. External aspect of tarsus.
Fig. 5. *Tarantula Gervaisii*, sp. n. Carapace and chela, × 1½.
Fig. 5 *a*. Ditto. External aspect of tarsus.
Fig. 6. *Tarantula pulchripes*, sp. n. Carapace and chela, × 1½.
Fig. 6 *a*. Ditto. External aspect of tarsus.
Fig. 7. *Tarantula Thorellii*, sp. n. Carapace and chela, × 1½.
Fig. 8. *Tarantula tessellata*, Pocock. Penes of male protruding between genital operculum and second sternite.
Fig. 8 *a*. Ditto. Lower side of genital operculum of female.

Plate VIII.

Fig. 1. *Heterophrynus cervinus*, sp. n. Right chela, nat. size.
Fig. 2. *Titanodamon Johnstonii*, sp. n. Nat. size.
Fig. 2 *a*. Ditto. Genital operculum and second sternite, to show bud-like appendages.
Fig. 2 *b*. Ditto. Anterior half of carapace from above, to show frontal process.
Fig. 3. *Phrynichus Jayakari*, sp. n. Carapace and chela, × 1½.
Fig. 4. *Phrynichus Phipsoni*, sp. n. Carapace and chela, × 1½.

XXXVIII.—*Abnormal Variability in the Antennal Characters of* Cosmophila erosa, *Hübn.* By Arthur G. Butler, Ph.D. &c.

The structure of the male antennæ in moths has very frequently been used as the sole character for distinguishing genera. Mr. Hampson, however, has decided to regard all characters found only in one sex as of secondary importance, and consequently has degraded all genera which can only be separated when both sexes are known, or by the male sex apart from the female, to the rank of sections (or subgenera).

Antennal structure frequently differs widely in species which unquestionably are very nearly related, as, for instance, in *Bombycia*, the males of *B. viminalis* having the antennæ strongly pectinated, whereas in *B. persimilis*, which has the same pattern and coloration, they are serrate-fasciculated.

The genus *Cosmophila*, according to Guenée, has the

antennæ sometimes filiform and slightly pubescent, sometimes very distinctly furnished with thick hairs, serrate and pubescent. Of *C. erosa* he says "*Antennes filiformes*," thus giving one the impression that in *C. xanthindyma*, *indica*, and *auragoides* they are not so. Of *C. xanthindyma* he says, "Les antennes du mâle sont nettement et fortement ciliées." The four supposed species separated by M. Guenée have precisely the same variations in form, pattern, and coloration; but at one time I believed that *C. erosa* and *C. xanthindyma* could be separated by antennal characters. Mr. Hampson, however, assured me that these also varied.

In the Museum series we have fifty-seven examples of the genus, twenty-five of which are males possessing antennæ, the result of an examination of which is as follows:—

1. *Antennæ finely ciliated.*

Two specimens from St. Domingo and one from Venezuela.

1 *a*. *Less finely ciliated.*

One from São Paulo.

2. *Serrate-fasciculated.*

Two from Alabama, one from Australia.

3. *Pectinated.*

One from Alabama, one from Aden, one from Kulu, one from South India, one from Ceylon, four from Java.

3 *a*. *Strongly pectinated.*

One from Solun, one from the Nilgiris, one labelled simply N. India, one from Java, one from Ceylon, one from Moreton Bay, one from Fiji, and one from the Marquesas Islands.

So far as our specimens show, the ciliated type of antenna would appear to be confined to South America, but it is connected with the pectinated type of the Old World by the intermediate serrate-fasciculated type of the United States and Australia. Indeed there is not the slightest doubt that the variation in the structural characteristics of the antennæ in this widely distributed and abundant species are individual and have no significance, so that the supposed four species of M. Guenée, as well as Walker's *Cirrœdia variolosa* and *C. edentata*, represent nothing more than sports of one variable species.

The colour-variations of *C. erosa* range from light to dark, from brightly to dull-coloured, the New-World examples, as a rule, having paler secondaries than those from the Old World; but even this character is by no means constant, the hind wings being sometimes almost white, sometimes golden ochreous, sometimes again smoky grey with white-tipped fringes; the dark lines on the primaries never seem to vary, only the ground-colouring, and this varies to an extraordinary degree; so that from the same locality and collection one may receive specimens having these wings of a nearly uniform golden ochreous tint, or divided into two nearly equal light and dark areas, always, however, showing the same silvery spot in the cell and dark (sometimes nearly black) transverse irregular lines.

Cosmophila erosa is the only species at present known to me which exhibits this abnormal variability of antennal structure, unless it should turn out that I was correct in referring the Indian specimens of *Bombycia* (since named by Mr. Hampson *B. persimilis*) to *B. viminalis*. This is just possible, but, judging from the constancy of our European examples in this particular, not probable.

The fact nevertheless that any one species of moth is capable of such marvellous inconstancy in the structure of the male antennæ seems quite to justify Mr. Hampson in regarding peculiarities in these organs as of secondary importance when confined to one sex, and should make all lepidopterists hesitate to use them alone for distinguishing new genera.

XXXIX.—*Description of a new Species of* Vespertilio *from China*. By Oldfield Thomas.

Among a collection of small mammals from Foochow, South China, presented to the National Museum by Mr. C. B. Rickett, occur two specimens, one in spirit and the other a skin, of a very striking new species of bat, which may be termed

Vespertilio (*Leuconoë*) *Ricketti*, sp. n.

General Characters.—Size large. Fur short. Feet and claws enormously developed.

Detailed Characters.—Fur soft, close and velvety. Muzzle well-clothed, set with bristly whiskers, very much as in *V. mystacinus*. Hind legs, both above and below, clothed to