British Museum (Natural History)

EXOTIC MOTHS

SERIES No. 47.

5 Cards in Colour

Set E 31 One Shilling

EXOTIC MOTHS

(a) Paida pulchra (b) Pseudospiris paidiformis
(c) Pais nyassana

Natural size

British Museum (Natural History)

Produced by W. F. Sedgwick, Limited

POST CARD

THIS SPACE MAY BE USED FOR CORRESPONDENCE

(FOR ADDRESS ONLY)

EXOTIC MOTHS

(a) Clethrophora distincta (b) Careades hemichlora
(c) Careades rubricosa

Natural size

BRITISH MUSEUM (NATURAL HISTORY)

E 173

Produced by W. F. Sedgwick, Limited

POST CARD

THIS SPACE MAY BE USED FOR CORRESPONDENCE

(For Address Only)

EXOTIC MOTHS

(a) Hyperthaema perflammans (b) Amastus adela
(c) Automolis chrysomelas

Natural size

BRITISH MUSEUM (NATURAL HISTORY)

E. 171

Produced by W. F. Sedgwick, Limited

POST CARD

THIS SPACE MAY BE USED FOR CORRESPONDENCE

(For Address Only)

EXOTIC MOTHS

(a) Attatha regalis (b) Attatha attathoides
(c) Donuca orbigera

Natural size

British Museum (Natural History)

Produced by W. F. Sedgwick, Limited

POST CARD

THIS SPACE MAY BE USED FOR CORRESPONDENCE

(FOR ADDRESS ONLY)

EXOTIC MOTHS

(*a*) *Eugraphia splendens* (*b*) *Exyra rolandiana*
(*c, d*) *Exyra ridingsii*

Natural size

BRITISH MUSEUM (NATURAL HISTORY)

Produced by W. F. Sedgwick, Limited

POST CARD

THIS SPACE MAY BE USED FOR CORRESPONDENCE

(For Address Only)

EXOTIC MOTHS

Series No. 47.

In this series the first card shows three beautiful South American moths of the family Arctiidæ, the second three African moths of the family Agaristidæ, and the remaining three cards moths of various sub-families of the family Noctuidæ occurring in different parts of the world. Practically nothing is known of the life histories of some of these moths, but the last three moths on the last card of the series have most interesting habits in the caterpillar stage.

E 171 (a). *Hyperthæma perflammans*. This species of striking colour and pattern is found in Peru. Most of the related species, of which up to the present seven are known, are South American, but one inhabits Costa Rica. The early stages are not known.

E 171 (b). *Amastus adela*. This Brazilian moth is remarkable for its range of variation. Some specimens have the fore wings predominantly black, with the spots entirely orange, and the hind wings black without spots, whilst others have the spots on both wings much enlarged and mostly white so that the white appears to predominate. The specimen shown is intermediate between the two extremes. The variation is apparently as great as that of our common Garden Tiger Moth, which belongs to the same family.

E 171 (c). *Automolis chrysomelas*. The group to which this beautiful species belongs contains a large number of moths of the most striking and varied colours and patterns, all inhabiting Central and South America. Although every year new species are discovered, very little advance is made in the knowledge of the early stages of these attractive insects.

E 172 (a). *Paida pulchra.* The Agaristidæ, the family of which this moth is a member, are found in most of the tropical regions of the world, but perhaps to a greater extent in Africa than elsewhere. The moths of this group fly by day, and many of them possess patches of silvery blue scales on the fore wings, a feature displayed only slightly by *Paida pulchra* and *Pseudospiris paidiformis,* and apparently not at all by *Pais nyassana.* Nothing is known of the early stages.

E 172 (b). *Pseudospiris paidiformis.* This is a very differently shaped Agaristid, with a pattern and coloration resembling in many respects those of *Paida pulchra.* Its life history is unknown.

E 172 (c). *Pais nyassana.* The same combination of colours exists in this species, but in this case the yellow is not very prominent ; these colours are a feature of a number of African Agaristidæ.

E 173 (a). *Clethrophora distincta.* This Noctuid of the sub-family Westermanniinæ shows a most remarkable contrast in the colours ; it is a native of Japan and North India.

E 173 (b). *Careades hemichlora.* There occur in New Guinea and the neighbouring islands some robust and finely coloured Noctuidæ, of the same sub-family as the preceding species, several of which have the females very different from the males in appearance ; in most cases the male has an oblique line as seen in this figure, while the female has the markings like those of the next figure, *Careades rubricosa.*

E 173 (c). *Careades rubricosa.* In this case the female has been selected so as to show the transverse markings, which are very different from those of the male, the latter resembling those of the male in the previous figure ; the male of *Careades rubricosa,* however, bears a much closer resemblance in its general coloration to its female, than is the case in some other species.

E 174 (a). *Attatha regalis.* The sub-family Catocalinæ, one of the larger sub-families of the Noctuidæ, consists of a large variety of forms ranging from small

moths of as little as one inch in expanse, to large moths having an expanse of five or six inches. Some are dull, sombrely coloured species, whilst others are often strikingly marked and vividly coloured. *Attatha regalis* is a species which appears to combine both these features. It is found in South India, Ceylon, Burma, Tenasserim, Siam, and the Philippines, and, occasionally occurs with the hind wings yellow.

E 174 (b). *Attatha attathoides*. This is an African species bearing a general resemblance in its scheme of pattern and coloration to the one previously figured. It will be noticed that its hind wings are yellow, which is usual in this species.

E 174 (c). *Donuca orbigera*. This somewhat more strikingly marked example of the Catocalinæ of Australia presents another feature which is found in the pattern of a number of species of this group, namely, the eye-spots in the fore wing. Another noticeable characteristic is the bright coloration of the abdomen.

E 175 (a). *Eugraphia splendens*. This pretty little moth is shown as a typical example of the Noctuid sub-family Erastriinæ, which comprises a large number of small moths of somewhat similar appearance. The present species is a native of South America. The two following belong to the same group.

E 175 (b). *Exyra rolandiana*. This beautiful little North American moth is of great interest because of its remarkable association throughout its life history with the Pitcher Plant *Sarracenia purpurea*. Not only is the moth protected through the similarity of its colour to that of the pitcher, but the larva protects itself from the attacks of various enemies by closing the mouth of the pitcher in which it lives with a closely spun, silken web, below which it feeds on the inner surface of the pitcher without piercing or rupturing the wall. Accidental tearing of the pitcher-wall is repaired by the caterpillar, and, if placed in a cut section of a pitcher, the larva promptly

spins a web over both ends. It will be evident that the tiny newly-hatched caterpillar is incapable of spinning a web large enough to cover the pitcher mouth. So, in order to provide itself with a safe shelter, it selects an unopened pitcher, and cuts one or more narrow encircling grooves on the inside below the yet unopened lips. The portion of the pitcher above the groove quickly dies, contracts and hardens, forming a tough protecting cap. In this closed chamber the larva spends the winter. Another species, not shown here, constructs in the same way a closed feeding chamber, but, having fed therein for some days, it then becomes strong enough to change to a larger pitcher, which it quickly closes with a silken web. It hibernates in one of several species of this pitcher plant, the pitchers of which remain green and more or less unwithered throughout the winter.

E 175 (c and d). *Exyra ridingsii*. Two different forms of this species are shown, to indicate the extent to which it varies. The pitcher plant (*Sarracenia flava*), in which the caterpillar of this species lives, is characterized by a deeply incised groove in the throat of the pitcher. The newly hatched larva of *Exyra ridingsii* creeps to this groove, and constructs over a portion of it a shelter of silk and corky frass particles, beneath which it lives for a few days, feeding on the portion of the pitcher thus covered; no other species constructs such a shelter. In order to have a suitable shelter for hibernation it constructs a chamber of débris, grass and silk in the basal portion of the pitcher, in which it must remain until new *Sarracenia flava* pitchers appear in the spring. In this pitcher plant there are no tender, unopened pitchers in the late summer, hence the necessity for a different method of preparation for hibernation.