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EARLY STAGES OF PALEARCTIC LEPIDOPTERA, IX.*

By E. P. WILTSHIRE, F.R.E.S.

The following observations and photographs were made in Cyprus, Iraq, and Iran (Persia).

RHOPALOCERA, HIPPARCHIIDAE (Satyridae).

Pararge roxelana, Cr. (Plate Fig. 13.)

Other larvae of this genus hitherto known (e.g., *P. aegeria*, L., and *megera*, L.) have small globular heads, but this species has a large bicornuate head reminiscent of earlier genera in the family.

Larva, green with pale and dark green stripes. Head with two points; two similar anal points. White lateral stripes accentuate these four points. Dorsal line, dark green, double, with broad pale green edge. Stiffer hairs thereon. Elsewhere the hairs are downy. Spiracles, pale green, obscure. Foodplant: grass.

Pupa, green with white lines edging inner margin of wing-case and shoulder, also leading up laterally to cremaster. Abdomen with yellow-white subdorsal points. Suspended by tail without girdle. Pupal period (in Cyprus in April-May):—15 days.

HETEROCERA, NOTODONTIDAE.

Cerura leucotera, Stich.

It is now possible to name the larva from Tehran (Plate I, fig. 13) in my fifth article in this series (*Journ. Bombay N.H.S.*, XLIII, April 1943), as *leucotera*, Stich. I think, however, that this may be a synonym of *petri*, Alph. It will be noticed that the larva does not resemble the *C. syra* larvae illustrated on the same plate, which goes to suggest that these " *interrupta* " forms are in fact specifically distinct. The Tehran species adult varies in both sexes, and the spring generation is more heavily marked than the summer broods. The forewing band may be " interrupted " or complete in the male.

NOCTUIDAE.

Catamecia deceptrix, Stgr. (Plate Fig. 17.)

Larva, grey or brown, sometimes orange at the somital joints, with a conspicuous black or brown dorsal chain consisting of (1) a heavy double streak on the anterior part of each somite, and (2) a lighter Y mark, forking forwards, with not very divergent arms, behind it. The

*The previous article in this series appeared in *Ent. Rec.*, *58* (June 1946).

chain, in fact, resembles that of *Hoplodrina ambigua*, Schiff., except that it is not accompanied by other oblique dorsal shades. In general aspect the larva rather recalls *Polyphaenis propinqua*, Stgr. (see my first article in this series for a description and photo thereof, *Ent. Rec.*, XLIII, Plate III, fig. 11). A clear interruption of the chain occurs in the middle of each somite, separating part (1) from part (2), which are, however, united across the somital joints (base of 2 to top of 1). Subdorsal lines, interrupted, formed of grey pencilling and connected by grey-pencilled shades on each somite with the arms of the dorsal Y-mark. Dots, black. Spiracles, ochreous, black-rimmed, or black, placed on an interrupted, ill-defined blackish line with a white lower edging which tends to form upward waves on the somital joints. Underside, less pigmented. Head, small, grey-brown, pencilled with a darker central stripe and lateral mottlings. Behind and above it, a broad thoracic plate, sloping forward to the head like a receding forehead. This plate is marked with the subdorsal and dorsal lines in whitish and pairs of dots on either side of them. All feet, pale greyish.

Pupa, in a hard-cemented cocoon, subterranean. Pupation does not follow immediately this cocoon is built; aestivation is long, the insect remaining below ground from late March till late November at Basra (Iraq).

Foodplant: *Lycium barbareum*. I have found the larvae much more numerous than the adult.

It is interesting to note that the types of both *C. deceptrix*, Stgr., and *Boarmia tenuisaria*, Stgr., were discovered in the same season and placed in Palestine by Bacher (see *Iris*, XII, 1899), and that I found these two species closely associated in S. Iraq. They have the same foodplant, the same phenology, and belong to the same biocoenosis (*Lycietum* in hot desert oases in Jordan valley and S. Iraq). For the early stages of *B. tenuisaria* see my seventh article in this series (*Ent. Rec.*, LVI, Plate IV, p. 114). Recently I have seen a ♂ *tenuisaria* from Arabia (20.ii.46, Hinna); the species may therefore be bi-voltine.

Owing to the bombardment of the British Museum in 1944 my living pupae from the larva described above were mislaid there, but circumstantial evidence of the larva's identity with the *deceptrix* adult taken at Abu Jozeh, near Basra, is overwhelming. The fact, however, that my identification of the larva is only circumstantial must be mentioned.

Catocala diversa, Hübn. (see Plate, Figs. 15 and 16.)

Larvae of this species from S. Europe have been described in Spuler, Blaschke, and Seitz, perhaps all from one original description. The species has not been previously recorded from Persia. The adult, however, reared by me from a larva very different from the above descriptions is absolutely identical with adults from S. Europe which I have examined and with figures of *diversa* in Spuler and Seitz. I have, therefore, to record this species for the first time from Iran, and also to describe the form of larva which I have observed there.

Larva, pale grey, of usual *catocaline* construction, with a creamy-white, black-edged spot on the dorsal protuberance on somite 8, this somite being blackish-suffused. Dorsal line, double, pale, irregular.

Fine dots and linear freckles, not conspicuous. Two points on somite 11. A bristly fringe along legs. Head, with two black dots connected by a pale transverse bar. (Fig. 16 shows an immature, fig. 15 a mature larva (the same).)

Foodplant, *Quercus*. Habitat, Pireh-Zan oak-woods, 7000 ft., Fars.

A larva full-grown in vi. produced an adult on 2.vii.

The difference in the Persian larval form from the European is chiefly one of colouring. It is a " drier " form, according with a drier habitat, and if not an individual variation seems to be a parallel with the " drier " race of *Dryobotodes protea* (subsp. *incolorata*, Warr.), which inhabits the same oak-woods, though in this case it is the adult which, in Persia, is lighter grey and without greenish or yellow colouring. The difference in both cases may be regarded as an example of procrypsis, for the oak trunks in the Zagros woods are without lichens, etc., and subject to more continuous sunshine.

Geometridae.

Dyscia (=*Scodionia*) *simplicaria*, Rebel. (Plate Fig. 14.)

Larva, long, robust, greyish white, with a pale dorsal horn or spur on somite 10 and two smaller points on somite 11. Dorsal line, blackish on the thoracic somites, thereafter pale and broader with pencilled black edging, interrupted on the somital joints by a dark spot and a swelling. On either side is a dark field (dorsal area) containing black pencillings and pale streaks which narrow it on each somite. Similar wavy pale markings and dark pencillings on either side. On somite 4 two setae are enlarged to form dorsal warts; elsewhere the setae are black. Spiracles, black-rimmed. Foodplant, *Thymus capitatus*, one of the dominant dwarf shrubs of the Cyprus landscape. It feeds at night.

The cocoon is formed on the surface of the earth. Pupal period, in spring, 19 days.

There must be two broods, for Rebel's type, taken at the same altitude as my Kyrenia specimens (i.e., on the coastal plain) was taken in autumn. I found the adult very common at light in March and April but was evidently then rather late to find the larvae; I only found one. There may also be a midsummer brood, but I think the species more probably bi-voltine. In that case there may or may not be a summer diapause in an early stage; it would most probably be in the pupal stage in late summer, though this would contrast with the first brood's cycle. The foodplant flowers in June and is probably rather dry later in summer.

Pyralidae, Phycitinae.

Nephopteryx diplocapna, Meyr.

Larva, about one inch long; pale green, with grey-mottled dorsal area and yellow-brown head. Dorsal line, defined by a paler green edging. Somital joints, paler green dorsally. Spiracles, fine, grey-rimmed.

Foodplants, *Quercus*, *Fraxinus*. Habitat:—Zagros woods.

The larva is full-grown in May in the South Zagros at 6000-7000 ft., and the adult hatches in early June (Fars, S.W. Iran).