Israel Journal of Entomology
Vol. XVIII (1984) pp.63-66

DISTRIBUTION AND FLIGHT PERIOD OF TWO *OCNOGYNA* SPECIES IN ISRAEL (LEPIDOPTERA: ARCTIIDAE)*

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ABSTRACT

Ocnogyna loewi is present in all regions of Israel, and occasionally in high numbers in the Coastal Plain. Males are on the wing from November to February. *Ocnogyna bellieri* was found in small' numbers in the central and northern parts of the country but was absent in the arid, semi-arid and mountain regions. Males are on the wing from February to March inclusive.

INTRODUCTION

Since 1959 light traps have been operated in various regions of Israel and many insect species have been trapped. This paper presents some of the information obtained over the years concerning two *Ocnogyna* species.

During the winter *Ocnogyna loewi* Zeller and *0. bellieri* Lederer ssp. *berytta* Staudinger moths were conspicuous in the light-trap catches Analysis of the data obtained from catches over the years at several sites in each region showed definite differences in geographical distribution and seasonal occurrence of the two species. O. *loewi* may sometimes cause damage to field and vegetable crops (Bodenheimer, 1930; Avidov & Harpaz, 1969).

METHODS

The source of light in each trap was a 160-watt mercury vapour bulb placed over a funnel with a fan to drive the approaching moths into the container attached to the funnel. DDVP-impregnated strips were used to kill the moths in the containers.

Since 1959 light traps have been installed and operated all year round for various periods in different parts of the country, (Fig. 1). Traps 1 and 2 were located in the Arava Valley, traps 3-6 in the Negev Region, trap 7 in Jerusalem (Judean Mountains) traps 9-10 in the Coastal Plain, trap 11 in the Jordan Valley, trap 12 in the Valley of Yezreel, and traps 13-14 in the Hula Valley (Upper Galilee).

*Contribution from the Agricultural Research Organization, The Volcani Center, Bet Dagan Israel No. 584-E, 1982 series.

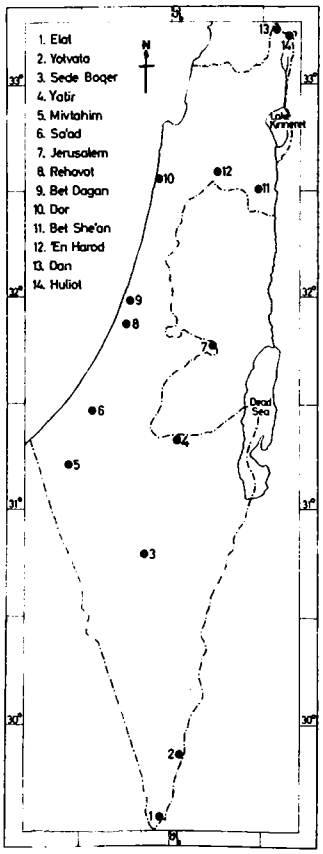

Fig. 1. Locality of traps where *Ocnogyna* spp. were caught.

RESULTS AND DISCUSSION

The numbers of moths of each of the two *Ocnogyna* species caught varied from site to site and from year to year. Annual catches (averages per 100 nights) ranged from several individuals in some years, to hundreds in other years (Table 1).

Ocnogyna loewi Zeller

The tiger moth, *O. loewi* is an Anatolian species present in Asia Minor, Syria (Seitz, 1913:77), Iraq (Wiltshire, 1957). Israel (Klein 1928), and Egypt (Wiltshire, 1948). In Iraq it is widespread in the desert foothills, in gravelly-steppe desert, and also up to considerable heights in the mountains (Wiltshire, 1957).

The males are winged, the fore wings being dark with white, broad, criss-crossing lines; the hind wings are dirty white, with olive-coloured patches. Females are wingless. The larvae are polyphagous, feeding on a variety of plants of different families. The larvae are conspicuous as they live gregariously under flat webs on low plants. After the third moult they leave the nest and scatter in search of food and may travel from wasteland to cultivated fields (Avidov & Harpaz 1969). In cultivated fields attention is

TABLE 1: NUMBER OF MALES OF *OCNOGYNA LOEWI* AND *O. BELLIERI* CAUGHT AT DIFFERENT SITES IN ISRAEL
(minimum and maximum annual averages per 100 nights)

Site	Number of years	Number of trapping nights	Number of moths	
			O.loewi	*O. bellieri*
Arava*	11	2313	4**	0
Yatir	3	888	3-33	0
Gilat	11	2955	16-84	0
Sede Boqer	5	1464	6-241	0
Jerusalem	10	2853	58-290	0
Sa'ad	2	514	4-120	0-5
Rehovot	6	1766	264-844	31-161
Bet Dagan	8	2399	27-142	7-87
Dor	14	4440	51-724	28-188
Bet Shean	2	405	39-65	4
'En Harod	18	5377	12-225	0-50
Huliot	7	1448	14-114	3-24

*Elat and Yotvata traps.
**Trapped on one night only in 11 years of trapping.

usually attracted to the larvae in March, when most of the crop damage occurs as the larvae feed on cereals, legumes, beet, cucumbers, etc. The larvae are attacked by parasitic braconid wasps and are affected by diseases which greatly reduce the numbers of those that pupate successfully. Pupation takes place in the ground in April, and the pupal stage lasts about 8 months, with adults emerging in late autumn.

O. loewi male moths were trapped at almost all sites (Table 1). In the Arava (Elat and Yotvata) only four individuals were trapped all on one night (in January 1967), and these males may have been carried south by northern winds. In the more northern traps, catches fluctuated between a few to several hundreds per 100 nights annually. The highest numbers were consistently trapped in the Coastal Plain, as compared with Jerusalem and the Inland Valleys.

O. loewi is univoltine, the moths appeared in November and catches were high in December-January, dropping in February. Single moths were sometimes trapped in October or March (Fig. 2).

Ocnogyna bellieri Lederer, ssp. *berytta* Staudinger

O. bellieri is of Anatolian origin (Seitz, 1913:78). In Iraq it inhabits the altitudinal zone of 2000-3000 ft in the mountains (Wiltshire 1957). It is not known to damage cultivated crops and is much less known than *O. loewi*. The females are wingless (Wiltshire, 1957) and only males are winged. The fore wings are dirty white gray with four lines of darker dots dominant over the background. The hind wings are tinged with rose red at the anal end.

Throughout the present study *O. bellieri* moths were trapped only in the central and northern parts of the country (Table 1). They were not trapped in the arid or semi-arid Arava and Negev. The only site in this region where *O. bellieri* moths were found was Sa'ad, situated near the Coastal Plain (Fig.1). In Jerusalem too, none was trapped, although in Iraq the moth is found in the mountains (Wiltshire 1957).

At the sites where *O. bellieri* moths were trapped, their numbers were not high fluctuating from nil or a few to tens captured annually. Only at Dor and Rehovot, both of which are in the Coastal Plain, did higher numbers occur in some years (Table 1).

O. bellieri is univoltine, male moths being on the wing from February to April, with a peak in March. Single moths were sometimes trapped in January and May (Fig. 2). According to Wiltshire (1957) males were attracted to light in Iraq during March and April.

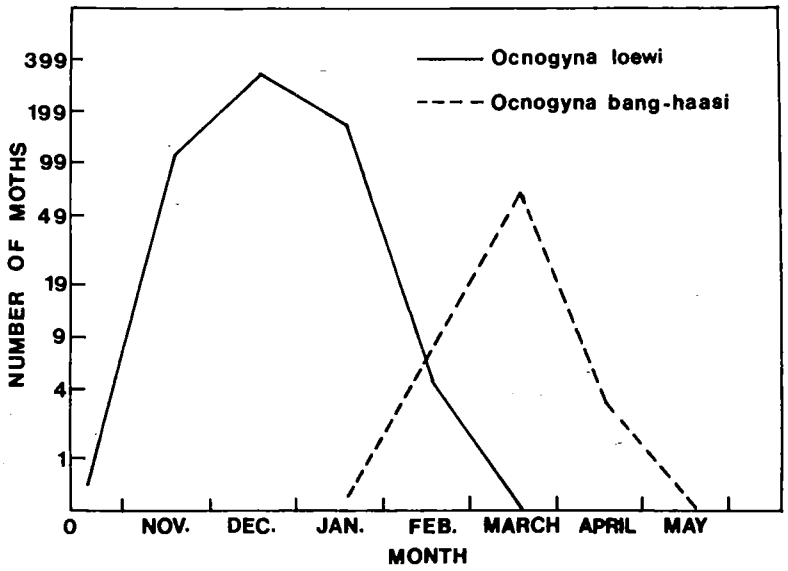

Fig. 2. Number of *Ocnogyna loewi* and *Ocnogyna bellieri* male moths caught in a light trap at Rehovot. (Averages per 10 nights for each month).

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