METEORUS GYRATOR THUNBERG AND M. RUBENS NEES. 
(HYMENOPTERA: BRACONIDAE) NEW RECORDED 
PARASITOIDS ON CERTAIN LEPIDOPTEROUS 
PESTS IN EGYPT.

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(Manuscript received 8 December, 1990)

Abstract

Survey of the braconid parasitoids, Meteorus spp. on certain economic lepidopterous pests in Egypt was studied. Samples of the considered larval species were surveyed mainly on clover, maize and vegetable crops during April – November, 1982 and 1983. Tow different species belonging to the genus Meteorus; M. gyrator Thunberg (solitary species) and M. rubens Nees. (gregarious species) were recorded for the first time in Egypt as parasitoids on five main lepidopterous pests. The solitary species, M. gyrator was recorded on Spodoptera littoralis Boisd. (6 times) with 9.3 % parasitism, S. exigua Hb. (22 times ) with 12.2 % parasitism, Heliothis armigera Hb. ( 2 times ) with 5.0 % parasitism and Sesamia cretica Led. (8 times ) with 1.3 % parasitism.

The gregarious species, M. rubens was reared from Agrotis ipsilon Rott. (2 times) with 30.8 % parasitism, S. exigua (2 times) with 5.1 % parasitism and S. cretica (once) with 0.6 % parasitism.

INTRODUCTION

The braconid wasps, Meteorus spp. are known in the world as larval endoparasitoids of a wide range of lepidopterous pests (mainly noctuids).

Available literature showed only one record concerning M. gyrator as a larval parasitoid on the gypsy moth, Ocneria dispar L. in USSR (kotenko,1976) , while M. rubens was recorded mostly as a parasitoid of many cutworms in several countries; on Euxoa (Agrotis) segetum Schiff in USSR (Dekhtyarev, 1962); in Bulgaria (Dryenski, 1930), on E. temera; in Italy (Monaco et al., 1977.) on Lobesia batrana
schiff; in Schweiz (Baggioi, et al., 1966) and Turkey (kisakurek, 1972) and on
Agrotis ipsilon Rott. in South Korea (Kim et al., 1980) and USA (Foster and Ruesink,
1984).

In Egypt M. laeviventris was reported on Agrotis ipsilon Rott. (Bishara 1932;
El-Minshawy, 1970) and on Plutella maculipennis Curtis (Hassanean, 1985).

M. gyrator and M. rubens were observed by the authors in 1981 during a sur-
vey of the natural enemies of some lepidopterous pests in vegetables.

The present work was undertaken during 1982 and 1983 with the aim of
surveying the main lepidopterous hosts of both species and estimating their percent-
ages of parasitism. The survey concerned mainly the most economic lepidopterous
pests in Egypt i.e. Spodoptera littoralis Boisd., S. exigua Hb., Heliothis armigera Hb.
Agrotis ipsilon Rott., and corn borers in unterated fields of clover (Berseem), maize
and vegetables.

MATERIALS AND METHODS

Samples of the considered larval species were collected form clover, maize
and vegetables from the fields of Qaluobia and Fayoum Governorates, and partly
from Giza Governorate during the two successive seasons 1982 and 1983 (April-
November).

The larvae were placed individually in glass vials. The lepidopterous species
Spodoptera littoralis, S. exigua and Heliothis armigera were fed on a semi-synthetic
diet prepared in the laboratory (Shorey and Hale, 1965). Agrotis ipsilon and corn
borers were fed on fresh plants of clover and maize, respectively. The larvae were
kept under laboratory conditions until the emergence of parasitoid adults. Specimens
of emerged parasitoids were identified to the genus level by our Department of Bio-
logical Control and to the species level by the Natural History Museum in London.
RESULTS

Field survey of Meteorus species in Egypt showed only the two species, M. gyrator (solitary parasitoid) and M. rubens (gregarious parasitoid). Their abundance in the field was as follows:

**Meteorus gyrator** Thunberg

Initial occurrence of the parasitoid species in 1982 season took place on 28/4 in Qalubia Governorate. M. gyrator was encountered 8 times on clover and maize (1 on Heliothis, 5 on S. exigua and 2 on Sesamia) during a period of time that lasted from April until August. The average percentages of parasitism was clearly higher for S. exigua (11.6%) on maize than for Heliothis (3.7%) on clover or for Sesamia (3.3%) on maize. This parasitoid was obtained 10 times from maize and vegetables (7 from S. exigua and 3 from S. littoralis) during the period May-September in Fayoum Governorate. Average of the percentages of parasitism reached 12.9% for S. exigua (on maize) and 7.9% for S. littoralis (on Okra and Cabbage). In Giza Governorate, the parasitoid was found only once on S. littoralis infesting Jew's Mallow (Moloukia) on 15/6 (13.3% parasitism).

In general, the highest percentages of parasitism during 1982 season were recorded on S. exigua and S. littoralis, the lowest were recorded on Heliothis and Sesamia.

The early record of M. gyrator in 1983 season was observed in Fayoum Governorate on 20/4. During the period from April to September, the parasitoid was reared from 6 samples (1 Heliothis and 5 S. exigua) collected from clover and maize. The percentage of parasitism reached 7.7% for Heliothis on clover while it reached an average or 13.8% for S. exigua on maize. In Qalubia, the parasitoid was found 9 times on vegetables and maize (1 on S. littoralis, 3 on S. exigua and 5 on Sesamia) for a duration of two months (end of April until early July). The highest percentage of parasitism was 11.1% for S. littoralis on vegetables (mainly Okra). In maize fields, the averages of percentage parasitism were 4.2% and 0.8% for S. exigua and Sesamia, respectively. In Giza, only one record of M. gyrator was obtained in July from S. littoralis on Jew's Mallow (Moloukia) with 2.3% parasitism. In agreements with the results of the 1982 reason, the highest percentages of parasitism were recorded on S. exigua and S. littoralis and the lowest was on Sesamia.
**Meteorus rubens** Nees

This parasitoid was encountered twice in Fayoum governorate from the same sample of *S. exigua* in 1982 season. Percentage of parasitism reached 5.4 %.

In 1983 season, *M rubens* was reared from 4 samples, two from *Agrotis ipsilon* in Giza on clover, one from *S. exigua* and one from *Sesamia* on maize. The percentages of parasitism were 22.2 % and 50.0 % on *Agrotis*, 4.5 % on *S. exigua* and 0.6 % on *Sesamia*. The numbers of emerged parasitoids were in proportion to the size of host larvae. In case of *Agrotis* and *Sesamia* the number of emerged adults were 19-45 and 22/ larva, respectively, while it was 7 - 11 individuals/larva in case of *S. exingua*.

**REFERENCES**


 تسجيل جديد للطفيليات غشائية الإنجة براكونيدي على الآفات الرئيسية من حرشفية الأنجة في مصر.

أحمد حسنين الهندي ، فوزية على حسنين

معهد بحوث وقاية النبات - مركز البحوث الزراعية - الجيزة


سجل النوع الفردي على دورة ورق القطن (3 مرات) بنسبة تطور متوسطها 38.9% ، على دورة ورق القطن الصغير (26 مرة) بنسبة تطور متوسطها 48% وعلى دورة القصب الكبيرة (8 مرات) بنسبة تطور متوسطها 18.3% ، وسجل النوع الجماعي على الدورة القارضة (مرتين) بنسبة تطور متوسطها 8.0% ، على دورة ورق القطن الصغير (مرتين) بنسبة تطور متوسطها 18.0% على دورة القصب الكبيرة (مرة واحدة) بنسبة تطور 18.0%.