

## A LIST OF PARASITES OF LEPIDOPTERA FROM ISRAEL

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A list of parasites of insects from Palestine was first published by Bodenheimer in his "Die Schaedlingsfauna Palaestinas" (1930, pp. 387-391). Information on the subject is also found in: "Prodromus Faunae Palaestinae" by the same author (1937), a recent work by Avidov (Pests of Cultivated Plants of Israel, 1961), and in a series of specific papers (see references in text).

The present paper summarizes personal observations on the parasites of local Lepidoptera (mainly Tachinidae; Kugler, 1963) together with information available from the literature and from personal communications. The list includes 81 parasites reared from 56 hosts.

The localities stated are sites of collection of the infected hosts. Material collected by the author was reared in this Department at room temperature (winter minimum, 16°C; summer maximum, 30°C) .

PAPILIONIDAEPapilio machaon L.Buquetia musca R. D. (TACHINIDAE)

Ein Gedi: maggot left caterpillar and formed puparium April 30, fly hatched May 18.

Gan Shmuel: maggot left caterpillar and formed puparium July 16, fly hatched Aug. 2.

Pteromalus puparum L. (PTEROMALIDAE)

(Bodenheimer 1930, p. 388).

Doritis apollinus Hbst.Wardarina melancholica Mesnil (TACHINIDAE)

Jerusalem: maggot left caterpillar and formed puparium April, flies hatched April following year. (Mesnil 1956, p. 482).

Dorot: maggot left caterpillar and formed puparium Febr. 29, fly hatched March 18 following year.

PIERIDAEPieris brassicae L.

Phryxe vulgaris Fall. (TACHINIDAE)

Ramat Hasharon: fly hatched March 16 (leg. Rivnay).

Apanteles (Microgaster) glomeratus L. (BRACONIDAE).  
(Bodenheimer 1930, p. 388; Klein 1932, p. 196).

Pteromalus puparum L. (PTEROMALIDAE)  
(Bodenheimer 1930, p. 388).

Anilastus ebeninus Grav. (ICHNEUMONIDAE)  
Parasite hatched Jan. (Bodenheimer 1930, p. 388).

Pieris rapae L.

Apanteles (Microgaster) glomeratus L. (BRACONIDAE)  
(Bodenheimer 1930, p. 388).

Diaeretus rapae Curt. (BRACONIDAE)  
(Bodenheimer 1930, p. 388).

Meteorus versicolor Wsm. (BRACONIDAE)  
(Bodenheimer 1930, p. 388).

NYMPHALIDAEVanessa cardui L.

Sturmia bella Meig. (TACHINIDAE)

Petah-Tikva: two flies hatched from one host pupa, one on April 24, the other on April 25.

Rehovot: fly hatched March 15 (leg. Rivnay).

Natanya: fly hatched June 26 (leg. Rivnay).

Brachymeria femorata Panz. (CHALCIDIDAE)

Ein Gedi: parasite hatched from host pupa, April 24  
(Boucek 1956, p. 228).

Melitaea trivia Rbl.

Exorista segregata Rond. (TACHINIDAE)

Gesher Hasiv: fly hatched July 11.

Danaus chrysippus L.Brachymeria albicrus Klug. (TACHINIDAE)

Jericho: parasite hatched July 22 (Boucek 1956, p. 288).

HESPERIDAECarcharodes ramses Rev.Nanoplagia sinaica Vill. (TACHINIDAE)

Rehovot: fly hatched May 21.

SPHINGIDAEAcherontia atropos L.Drino atropivora R. D. (TACHINIDAE)

Tel Aviv: 104 maggots left caterpillar and formed puparia Nov. 8, flies hatched Nov. 24; caterpillar of *A. atropos* pupated Nov. 15, 29 maggots left pupa and formed puparia Dec. 5, flies hatched Jan. 16; caterpillar pupated Nov. 15, 54 maggots hatched from pupa and formed puparia May 3, flies hatched May 15.

Petah-Tikva: caterpillar pupated Nov. 13, 43 maggots left pupa and formed puparia May 1, flies hatched May 14.

Rehovot: caterpillar pupated Oct., flies hatched May (Avidov 1962, p. 273).

Deilephila lineata livornica Esp.Drino imberbis Wied. (TACHINIDAE)

Ramla: flies hatched May 30 (leg. Brair).

Herse convolvuli L.Drino atropivora R. D. (TACHINIDAE)

Midreshet Ruppim: flies hatched Febr. 9 (leg. Bytinski-Salz).

THAUMETOPOEIDAEThaumetopoea solitaria Frr.Compsilura concinnata Meig. (TACHINIDAE)

Wadi Kuren: maggot left caterpillar and formed puparium April 11, fly hatched April 20.

Drino imberbis Wied. (TACHINIDAE)

Wadi Kuren: maggot left caterpillar and formed puparium April 9,  
fly hatched April 19.

Thaumetopoea wilkinsoni Tams.Exorista segregata Rond. (TACHINIDAE)

(Syn . fasciata var. moreti R. D.)

Sha'ar HaGay: April 19 (leg. Bytinski-Salz).

Hulda: fly hatched April 14 (puparium in dead caterpillar).

Rehovot: flies hatched April 15 (leg. Harpaz).

Many localities: flies hatched from dead caterpillars and pupae,  
Febr., March (Halperin 1961).

Meteorus ? rubens Nees (BRACONIDAE)

Ben-Shemen: parasites hatched Jan. 21.-March 2.

Har'el: parasite hatched March 3 (leg. Halperin).

Encyrtus sp. (ENCYRITIDAE)

From eggs (Halperin 1961).

LYMANTRIIDAEOrgyia dubia Tausch.Exorista segregata Rond. (TACHINIDAE)

Many localities: all the year round. Most maggots left host for  
pupation, some pupated inside the dead caterpillar or pupa  
(Kugler 1961, p. 65).

Linnaemyia setifrons Zimin. (TACHINIDAE)

Many localities: all the year round (Kugler 1961, p. 66).

Strobliomyia tibialis R. D. (TACHINIDAE)

Petah-Tikva, Tel Yizhaq: maggots left caterpillars for pupation  
Jan. - April (Kugler 1961, p. 66).

Agrothereutes tunetanus Haber. (ICHNEUMONIDAE)

From many localities: all the year round (mostly in winter and in  
spring). Parasites hatched from cocoons formed inside the host  
cocoon (Kugler 1961, p. 67-71).

Barylypa humeralis Brauns. (ICHNEUMONIDAE)

Kfar Yeruham: Parasites hatched from host pupae, one parasite from each host, Oct. 18, Oct. 24 (Kugler 1961, p. 69).

Apanteles sp. (BRACONIDAE)

Parasites hatched from cocoons formed in the host cocoon.

Hadar Yosef: Jan. 1; Tel Aviv: Jan. 21, Sept. 28; Petah-Tikva: Febr. 18; Ga'ash: Febr. 22; Tel Yitzhaq: April 29 (Kugler 1961, p. 71).

Hockeria sp. (CHALCIDIDAE)

Tel Aviv: parasites hatched from male pupae only, one parasite from each host, Aug. 18, Aug. 19, Sept. 24. (leg:Wollberg)

Euproctis susanna Stgr.Drino imberbis Wied. (TACHINIDAE)

Ein Gedi: fly hatched March 27.

Stomina angustifrons Kugler (TACHINIDAE)

Jericho: fly hatched July (leg. Bytinski-Salz).

Lymantria lapidicola H. S.

Echinomyia magnicornis Zett. (TACHINIDAE)  
(Bodenheimer 1935, p. 280).

Echinomyia fera L. (TACHINIDAE)  
(Bodenheimer 1935, p. 280).

Metopius vespoides Scop. (ICHNEUMONIDAE)

Kiryat Anavim: Oct. 7 (leg. Bytinski-Salz).

Ocneria flavipalpata Stgr.

Spilocryptus sp. (ICHNEUMONIDAE)  
(Bodenheimer 1930, p. 388).

LASIOCAMPIDAEEriogaster philippsi Bart.

Metopius vespoides Scop. (ICHNEUMONIDAE)

Alonim: April 4 (leg. Bytinski-Salz).

Lasiocampa grandis Stgr.Strobliomyia tibialis R. D. (TACHINIDAE)

Petah-Tikva: fly hatched from caterpillar Jan. 28.

Exorista segregata Rond. (TACHINIDAE)

Petah-Tikva: host larva formed cocoon March 12, fly hatched from cocoon Sept. 28.

Lasiocampa terreni H. S.Strobliomyia tibialis R. D. (TACHINIDAE)

Tel Aviv: Petah-Tikva: abundant, flies hatched Jan., Febr.; in most cases maggot left larva for pupation.

Peltocarus croceicornis Thoms. (ICHNEUMONIDAE)

Ga'ash : host larva formed cocoon Febr. 12, parasite hatched from host cocoon Dec. 15.

Agrothereutes sp. nr. migrator Fabr. (ICHNEUMONIDAE)

Tel Aviv: parasites hatched from host cocoon Febr. 24.

Anilasta didymator Thb. (ICHNEUMONIDAE)

Tel Aviv: parasite left host larva for pupation, adult hatched Jan. 29.

Enicospilus undulatus Grav. (ICHNEUMONIDAE)

Sichron Yaaqov: parasite hatched from host cocoon Jan. 18.

Meteorus pulchricornis Wesm. (BRACONIDAE)

Tel Aviv: parasite hatched Febr. 5.

Hockeria singularis Boucek (CHALCIDIDAE)

Tel Aviv: parasites hatched from host cocoon April 2.

Lasiocampa sp.Gravenhorstia picta Bois. (ICHNEUMONIDAE)

Rishon Le-Zion: parasite hatched from host cocoon Febr. 28 (leg. Bytinski-Salz).

Enicospilus sp. (ICHNEUMONIDAE)

Rehovot: parasite hatched from host cocoon Febr. 15 (leg. Bytinski-Salz).

Peltocarus croceicornis Thoms. (ICHNEUMONIDAE)

Tel Aviv: parasite hatched from host cocoon Febr. 23 (leg. Bytinski-Salz).

Exochilum circumflexum L. (ICHNEUMONIDAE)  
(Bodenheimer 1937, p. 158).Metopius dentatus F. (ICHNEUMONIDAE)  
(Bodenheimer 1937, p. 158).Pachypasa otus DruryEnicospilus sp. (ICHNEUMONIDAE)

Kfar Ata: parasite hatched from host cocoon Febr. 11 (leg. Bytinski-Salz).

Chilena obliquata Klug.Exorista segregata Rond. (TACHINIDAE)

Ein Tamar: fly hatched from host pupa April 26.

NOCTUIDAEAcronicta aceris var. judaea Stgr.Spoggosia aegyptiaca Vill. (TACHINIDAE)

Mishmar David: maggot left caterpillar and formed puparium  
Jan. 27, fly hatched March 5.

Acronicta rumicis L.Exorista segregata Rond. (TACHINIDAE)

Tel Yizhak: maggot left host pupa and formed puparium May 15,  
fly hatched May 29.

Simyra dentinosa Fr.Uclesia symirae Hert (TACHINIDAE)

Kfar Yeroham: maggot left caterpillar and formed puparium  
March 27, fly hatched March 30 following year.

Wadi Nafkh: maggot left caterpillar and formed puparium April 23,  
fly hatched March 20 following year.

Drino imberbis Wied. (TACHINIDAE)

Makhtesh Ramon: maggot left host and formed puparium April 10,  
fly hatched April 24.

Leucania loreyi Dup.Linnaemyia neavei Curr. (TACHINIDAE)

Tantura: fly hatched July 2 (leg. Bytinski-Salz).

Hadera: fly hatched July 7 (leg. Bytinski-Salz).

Ha'Ogen: fly hatched June 25 (leg. Bytinski-Salz).

Erez: fly hatched July 25.

Meteorus ictericus Nees (BRACONIDAE)

(Bodenheimer 1930, p. 388).

Cucullia verbasci L.Anilasta didymator Thb. (ICHNEUMONIDAE)

Petah-Tikva: parasite hatched March 27.

Prodenia litura F.Microgaster tenebrosus Wsm. (BRACONIDAE)

(Bodenheimer 1930, p. 388).

Angitia apostata Gr. (ICHNEUMONIDAE)

(Bodenheimer 1937, p. 388).

Laphygma (Caradrina) exigua Hb.Meteorus laeviventris Wsm. (BRACONIDAE)

(Bodenheimer 1930, p. 388).

Chelonus corvulus Marsh. (BRACONIDAE)

(Bodenheimer 1930, p. 388).

Atethis sp.Drino imberbis Wied. (TACHINIDAE)

Tel Yizhak: fly hatched April 21.

Plusia chalcytes Esp.Nemorilla maculosa Meig. (TACHINIDAE)

Rehovot: fly hatched April (leg. Rivnay).

Drino imberbis Wied. (TACHINIDAE)

Netanya: fly hatched April 26 (leg. Rivnay).



Sturmia bella Meig. (TACHINIDAE)

Netanya: fly hatched April 26 (leg. Rivnay).

Voria ruralis Fall. (TACHINIDAE)

Givat Brenner: fly hatched April 23 (leg. Rivnay).

Heliothis peltigera Schiff.Drino inconspicua Meig. (TACHINIDAE)

Rehovot: fly hatched June 2 (leg. Bodenheimer).

Heliothis sp.Linnaemyia neavei Curr. (TACHINIDAE)

Meggido: fly hatched July .11.

CYMBIDAEEarias insulana B.Drino imberbis Wied. (TACHINIDAE)

Petah-Tikva: fly hatched Oct. 5.

SYNTOMIDAESyntomis mestralii Bug.Carcelia phalaenaria Rond. (TACHINIDAE)

Wadi Amud: fly hatched from host pupa March 13.

ARCTIDAEOcnogyna loewii Z.Spoggosia aegyptiaca Vill. (TACHINIDAE)

Ga'ash: caterpillar pupated March 23, fly hatched from host pupa March 1 following year.

Apanteles congestus Nees (BRACONIDAE)  
(Klein 1928, p. 144).ZYGAENIDAEZygaena graslini Led.Exorista nova Rond. (TACHINIDAE)

Jerusalem: fly hatched March (leg. Theodor).

Platymyia capillata Rond. (TACHINIDAE)

Jerusalem: fly hatched March (leg. Theodor).

Exorista segregata Rond. (TACHINIDAE)

Ramat Gan: fly hatched from dead caterpillar Febr. 27.

#### GEOMETRIDAE

Zamacra flabellaria Heeg.

Drino imberbis Wied. (TACHINIDAE)

Tel Aviv: 6 maggots left caterpillar and formed puparia April 9, flies hatched.

#### PYRALIDAE

Alophia sp.

Fischeria bicolor R. D. (TACHINIDAE)  
(Bodenheimer 1937, p. 189).

Phycita diaphana Stgr.

Fischeria bicolor R. D. (TACHINIDAE)

Rehovot: flies hatched Dec. 24, Jan. 5 (leg. Harpaz).

Myelois ceratoniae Z.

Clausicella suturata Rond. (TACHINIDAE)

Kiryat Ono: flies hatched Oct. (leg. Gotthilf).

Constantia predotae Schawerda

Rhynchogonia algerica B. B. (TACHINIDAE)

Treibe: fly hatched from host pupa June 29.

Makhtesh Ramon: fly hatched from host pupa June 22.

Glyphodes unionalis Hb.

Ctenophoracera pavidata Meig. (TACHINIDAE)

Saad: fly hatched July 26 (leg. Rosen).

Apanteles laevigatus Ratz. (BRACONIDAE)  
(Avidov 1961, p. 350).

Apanteles lacteicolor Vier. (BRACONIDAE)  
(Avidov 1961, p. 350).

Hellula undalis F.

Hormius moniliatus Nees (BRACONIDAE)  
(Bodenheimer 1930, p. 389).

Apanteles lacteus Nees (BRACONIDAE)  
(Bodenheimer 1930, p. 389).

TORTRICIDAEEvetria buoliana Schiff.

Ephialtes ruficollis Grav. (ICHNEUMONIDAE)

Tel Aviv: parasite hatched from host pupa March 15.

Pimpla sp. (ICHNEUMONIDAE)  
(Avidov 1961, p. 334).

PLUTELLIDAEPlutella maculipennis Curtis

Thyracella collaris Htg. (ICHNEUMONIDAE)  
(Bodenheimer 1930, p. 389).

Angitia plutellae Ker. (ICHNEUMONIDAE)  
(Bodenheimer 1930, p. 389).

GELECHIIDAEPlatyedra gossypiella Sndrs.

Rhogas kitcheneri Dudg. et Gough. (BRACONIDAE)  
(Bodenheimer 1930, p. 389).

Lita ocellatella Boid.

Cremastus ornatus Szepl. (ICHNEUMONIDAE)  
(Bodenheimer 1930, p. 389).

Angitia sp. (ICHNEUMONIDAE)

Bodenheimer 1930, p. 389).

Chelonella sulcata Nees (BRACONIDAE)  
(Bodenheimer 1930, p. 389).

Sitotroga cerealella Oliv.

Dibrachys boucheanus Ratz. (PTEROMALIDAE)  
(Bodenheimer 1930, p. 389).

SCYTHRIDIDAESyringopais temperatella Led.

Anilastus sp. (ICHNEUMONIDAE)  
(Bodenheimer 1930, p. 389).

YPONOMEUTIDAEPrays citri Mill.

Nemorilla maculosa Meig. (TACHINIDAE)

Sdot Yam: June 12; Avihail: May 29; Kfar Menahem: May 24; Beit Dagon: May 19; Bne Darom: May 17 (Rubin 1961, p. 6).

Phytomyptera nitidiventris Rond. (TACHINIDAE)

Sitryia : flies hatched Apr. 6 (leg. Rubin).

Prays oleellus F.

Ageniaspis fuscicollis Dalm. (ENCYRTIDAE)  
(Avidov 1961, p. 317).

PSYCHIDAE

Amicta quadrangularis var. nigrescens Stgr.

Exorista ebneri Vill. (TACHINIDAE)

Nizana: 2 flies hatched from host case June 5.

Makhtesh Gadol: 2 flies hatched from host case April 18.

Treibe: fly hatched from host case July 14.

Barylypa humeralis Brauns. (TACHINIDAE)

Kfar Yeroham: parasite hatched from male pupa of host Oct. 21.

Dimerimicrus sp. (TORYMIDAE)

Nizana: from host case collected Sept. 16, parasites hatched June 15 the following year.

Acanthopsyche sp.

Drino imberbis Wied. (TACHINIDAE)

Jerusalem: flies hatched from host cases May (leg. Jolles).

Clemellis pullata Meig. (TACHINIDAE)

Jerusalem: from host cases collected May, flies hatched Oct. (leg. Jolles).

TINEIDAEMorophaga morella Dup.

Diospilus ephippium Nees (BRACONIDAE)  
(Bodenheimer 1930, p. 389).

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