

A CHECK LIST OF  
Parasites, the Hyperparasites, Predators and Pathogens of  
the Coconut Leaf Caterpillar *Nephantis serinopa* Meyrick,  
recorded in Ceylon and in India and their distribution  
in these countries

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In nature, the coconut leaf caterpillar *Nephantis serinopa* Meyrick is subjected to attack by parasites, predators and pathogens. During the last few decades, the parasite complex in the field has been studied by many workers in India and Ceylon.

Hutson (1922) and Jayaratnam (1941) have recorded the parasites of the coconut leaf caterpillar, and their hyperparasites, indigenous to Ceylon and their distribution. In addition to these, the author has now recorded a few more primary and hyperparasites. In addition, two predators have also now been recorded.

In India, the parasite complex of *Nephantis serinopa* Meyr., in the field has been studied by Rao *et al* (1948), Dharmaraju (1952), Nirula (1955, 1956), Antony *et al* (1961) and Kurian *et al* (1961). In addition, Rao (1961) has recorded the tachinid parasite *Thelairosoma gracilis* Mesnil, as a parasite of *Nephantis serinopa* Meyr., in Kerala and Andhra-Pradesh.

The natural enemies of *Nephantis serinopa* Meyr., so far recorded in Ceylon and in India are listed out below under four groups namely Parasites, Hyperparasites, Predators and Pathogens. Efforts have been taken to make the list as complete and upto date as possible.

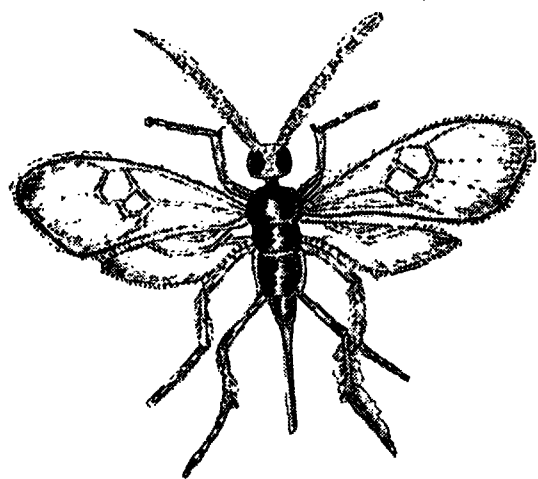


Fig. I. *Apanteles taragamae* Viereck

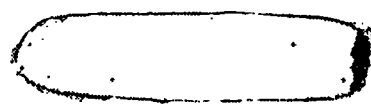
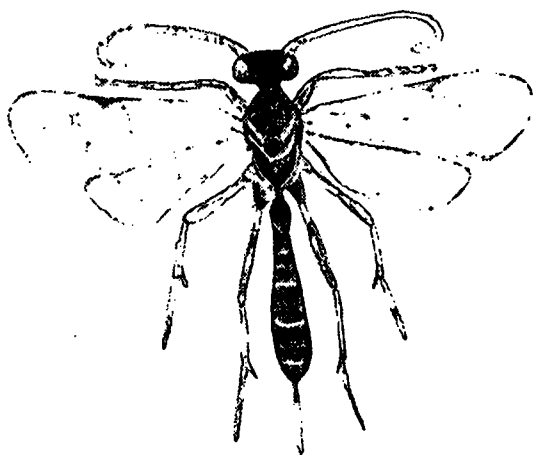


Fig. II. *Diocles* sp.

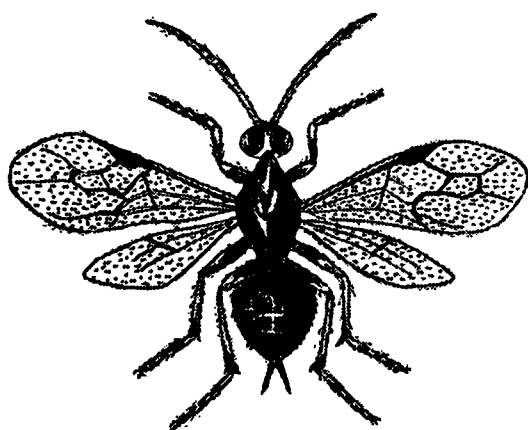


Fig. III. *Microbracon brevicornis* Wesmael

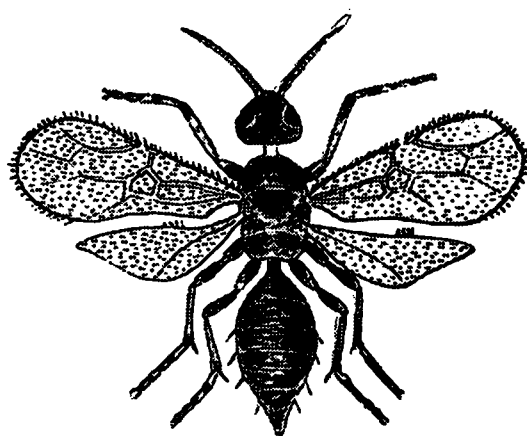


Fig. IV. *Perisierola nephantidis* Muesebeck

## I. PARASITES

<i>Name of Parasite/Family</i>	<i>Distribution in Ceylon</i>	<i>Distribution in India</i>
<b>(a) Larval parasites of <i>Nephantis serinopa</i> Meyr.</b>		
* <i>Apanteles taragamae</i> Viereck Fam: Vipionidae	Eastern, Western, Southern and North Western Provinces	Andhra-Pradesh, Kerala, Madras and Mysore States
† <i>Diocetes</i> sp. Fam: Ichneumonidae	Eastern, Western, Southern, Northern and North Western Provinces	Not recorded
<i>Microbracon brevicornis</i> Wesmael Fam: Braconidae	Not recorded	Andhra-Pradesh and Kerala State
<i>Perisierola nephantidis</i> Muesebeck Fam: Bethyliidae	Eastern, Western, Southern, Northern and North Western Provinces	Andhra-Pradesh, Kerala, Madras and Mysore States
<i>Stomatomyia bezziana</i> Baranoff Fam: Tachinidae	Eastern and North Western Provinces	Not recorded
<i>Elasmus nephantidis</i> Rohwer Fam: Elasmidae	Not recorded	Andhra-Pradesh, Kerala and Madras States
<i>Eurytoma</i> sp. Fam: Eurytomidae	Eastern Province	Not recorded
<i>Pyemotes (Pediculoides) ventricosus</i> Newport Fam: Pyemotidae (Acarina)	Eastern Province during wet season	Andhra-Pradesh, Kerala, Madras and Mysore States
<b>(b) Pupal parasites of <i>Nephantis serinopa</i> Meyr.</b>		
<i>Brachymeria nephantidis</i> Gahan Fam: Chalcididae	Eastern, Western, Southern and North Western Provinces	Andhra-Pradesh, Kerala, Madras and Mysore States

\*First record of the parasite in Ceylon by the author.

†According to the Commonwealth Institute of Entomology, London "it seems safest, at the present time, to determine this species as *Diocetes* sp. It is generally recognised that *Diocetes* differs from *Angitia* suett., only in one venational particular, and is probably not a good genus. But the name *Angitia* cannot be used in the Ichneumonidae, because it is preoccupied in the Lepidoptera, and the name *Horogones*, which has been used to replace it, is now also in question".

<i>Name of Parasite/Family</i>	<i>Distribution in Ceylon</i>	<i>Distribution in India</i>
<i>Trichospilus pupivora</i> Ferriere Fam: Eulophidae	Eastern, Western, Southern and North Western Pro- vinces	Kerala, Madras and Mysore States
<i>Xanthopimpla punctata</i> F. Fam: Ichneumonidae	Not recorded	Andhra-Pradesh, Kerala, Madras and Mysore States
<i>Goryphus nursei</i> Cameron Fam: Ichneumonidae	Not recorded	Kerala State
<i>Winthemia</i> sp. Fam: Tachinidae	Not recorded	Kerala State
* <i>Eurytoma ablotibialis</i> Ashm. Fam: Eurytomidae	Eastern Province	Not recorded
<i>Thelairosoma gracilis</i> Mesnil Fam: Tachinidae	Not recorded	Andhra-Pradesh and Kerala States

\*First record of the parasite in Ceylon by the author.

## II. HYPERPARASITES

<i>Primary Parasite/Family</i>	<i>Hyperparasite/Family</i>	<i>Distribution in Ceylon</i>	<i>Distribution in India</i>
<i>Apanteles taragamae</i> Vie- reck Fam: Vipionidae	* <i>Calliceras manilae</i> Ashm. Fam: Proctotrupidae	Eastern Province	Kerala, Madras and Mysore States
	<i>Eurytoma ablotibialis</i> Ashm. Fam: Eurytomidae	Not recorded	Kerala and Mysore States
	<i>Perilampus microgas- tris</i> Ferr. Fam: Perilampidae	Not recorded	Madras State

\*First record of the hyperparasite in Ceylon by the author.

<i>Primary Parasite/Family</i>	<i>Hyperparasite/Family</i>	<i>Distribution in Ceylon</i>	<i>Distribution in India</i>
	<i>Brachymeria nephantidis</i> Gahan Fam: Chalcididae	Not recorded	Andhra-Pradesh, Madras and Mysore States
<i>Diocles</i> sp. Fam: Ichneumonidae	* <i>Ceraphron</i> sp. Fam: Ceraphronidae	Eastern Province	Not recorded
	* <i>Eurytoma albotibialis</i> Ashm. Fam: Eurytomidae	—do—	—do—
	* <i>Perisierola nephantidis</i> Mues. Fam: Bethylidae	—do—	—do—
	* <i>Brachymeria nephantidis</i> Gahan Fam: Chalcididae	—do—	—do—
<i>Microbracon brevicornis</i> Wesmael Fam: Braconidae	<i>Pleurotropis</i> sp. Fam: Eulophidae	Not recorded	Kerala and Mysore States
<i>Perisierola nephantidis</i> Mues. Fam: Bethylidae	<i>Calliceras manilae</i> Ashm. Fam: Proctotrupidae	Eastern and North Western Provinces	Kerala, Madras and Mysore States
	<i>Eurytoma albotibialis</i> Ashm. Fam: Eurytomidae	Not recorded	Kerala and Mysore States
	<i>Pleurotropis</i> sp. Fam: Eulophidae	—do—	Kerala and Madras States
	* <i>Pediobius detrimen- tosus</i> Gahan Fam: Eulophidae	Eastern Province	Not recorded

\* First record of the hyperparasite in Ceylon by the author.

<i>Primary Parasite/Family</i>	<i>Hyperparasite/Family</i>	<i>Distribution in Ceylon</i>	<i>Distribution in India</i>
	* <i>Ceraphron manilae</i> Ashm. Fam: Ceraphronidae	Eastern Province	Not recorded
	<i>Pyemotes (Pediculoides) ventricosus</i> Newport Fam: Pyemotidae (Acarina)	—do—	Kerala and Madras States
<i>Stomatomyia bezziana</i> Baranoff Fam: Tachinidae	* <i>Exoristobia philipiine-nsis</i> Ashm. Fam: Encyrtidae	—do—	Not recorded
	* <i>Eurytoma albotibialis</i> Ashm. Fam: Eurytomidae	—do—	—do—
	<i>Trichospilus pupivora</i> Ferr. Fam: Eulophidae	—do—	—do—
	* <i>Brachymeria nephantidis</i> Gahan Fam: Chalcididae	—do—	—do—
	* <i>Pediobius</i> sp. Fam: Eulophidae	—do—	—do—
	<i>Syntomosphyrum obscuriceps</i> Ferr. Fam: Eulophidae	—do—	—do—
	<i>Neasteropaues</i> sp. Fam: Encyrtidae	—do—	—do—
<i>Elasmus nephantidis</i> Rohwer Fam: Elasmidae	<i>Pleurotropis</i> sp. Fam: Eulophidae	Not recorded	Kerala and Mysore States

\*First record of the hyperparasite in Ceylon by the author.

### III. PREDATORS

<i>Name of Predator/Family</i>	<i>Distribution in Ceylon</i>	<i>Distribution in India</i>
<b>(a) On eggs of <i>Nephantis serinopa</i> Meyr.</b>		
<i>Triphleps</i> sp. Fam: Anthocoridae	Not recorded	Mysore State
<i>Sphedanolestes aurescens</i> Dist. Fam: Reduviidae	—do—	—do—
<b>(b) On larvae of <i>Nephantis serinopa</i> Meyr.</b>		
* <i>Parena laticincta</i> Bates Fam: Carabidae	Eastern Province	Andhra-Pradesh, Kerala, Madras and Mysore States
<i>Phlaeodromius nigrolineatus</i> Chaud. Fam: Carabidae	Not recorded	Madras State
<i>Sphedanolestes aurescens</i> Dist. Fam: Reduviidae	—do—	Kerala and Madras States
*Spiders (unidentified)	Eastern Province	Kerala

\*First record of the predator in Ceylon by the author.

### IV. PATHOGENS

<i>Name of the Pathogen</i>	<i>Distribution in Ceylon</i>	<i>Distribution in India</i>
<i>Serratia marcescens</i> Bizio.	Eastern Province	Andhra-Pradesh, and Kerala State

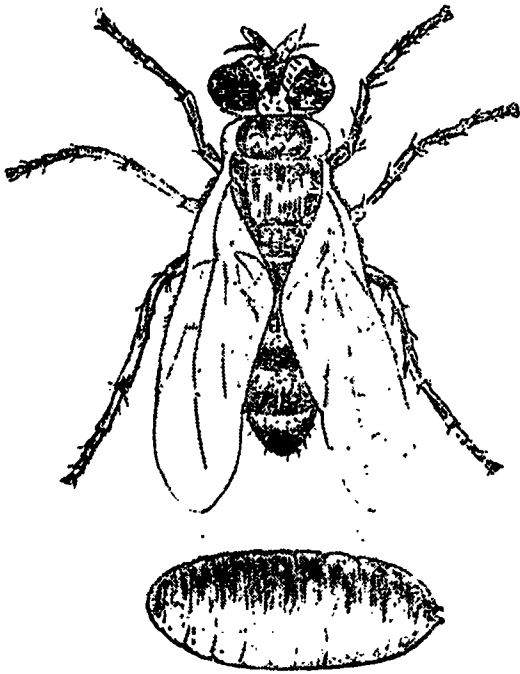


Fig. V. *Stomatomyia bezziana* Baranoff

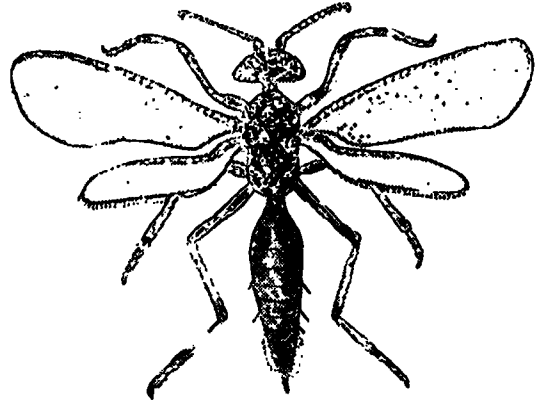


Fig. VI. *Elasmus nephantidis* Rohwer

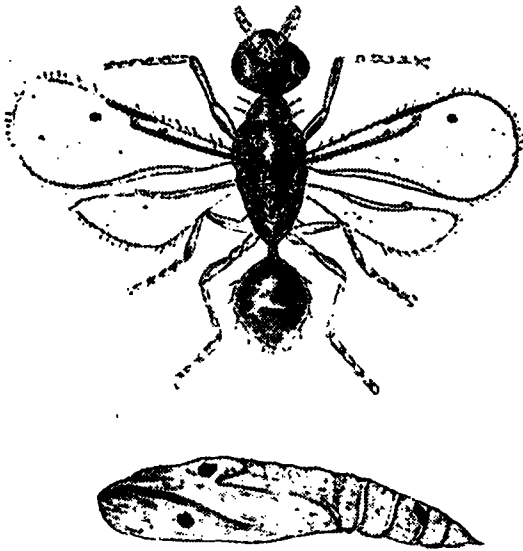


Fig. VII. *Trichospilus pupivora* Ferriere

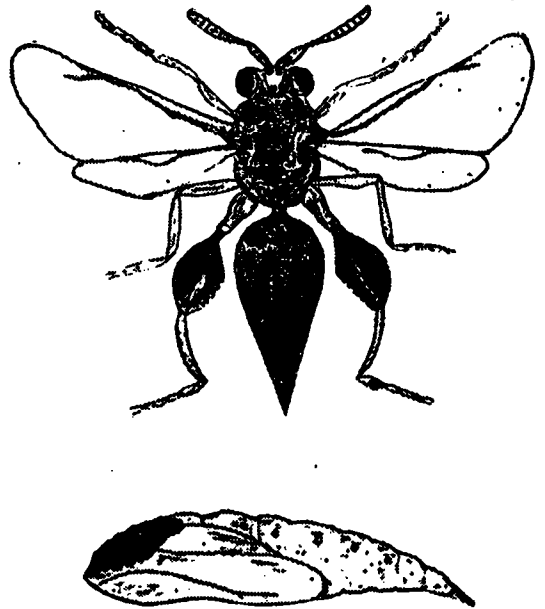


Fig. VIII. *Brachymeria nephantidis* Gahan

## Discussion

In Ceylon, the tachinid *Stomatomyia bezziana* Bar., and the eulophid *Trichospilus pupivora* Ferr., are playing an important role in combination with *Apanteles taragamae* Vier., in the control of *Nephantis serinopa* Meyr., in the Eastern and North Western Provinces respectively. In the Eastern Province during 1963, out of a total field parasitism, by different parasites of 47.06%, the tachinid *Stomatomyia bezziana* Bar., alone accounted for 46.43% and in the North Western Province, out of a total field parasitism of 51.27% the eulophid *Trichospilus pupivora* Ferr., alone accounted for 73.75%.

In the Eastern Province, the long dry weather during the year extending for about 6 months and more has an adverse effect on the pupal parasite *Trichospilus pupivora* Ferr. In addition, this parasite has assumed the role of an hyperparasite as it is found parasitising the puparia of *Stomatomyia bezziana* Bar., in the field with the result that its usefulness as a primary parasite of *Nephantis serinopa* Meyr., is very much reduced.

In the Southern Province, *Apanteles taragamae* Vier., *Diocles* sp., and *Perisierola nephantidis* Mues., have accounted for a combined total of 57.69% parasitism in the field.

In the North Western Province, in addition to *Trichospilus pupivora* Ferr., the natural parasite *Brachymeria nephantidis* Gah., was found playing an effective role in the control of the pest.

*Microbracon brevicornis* Wesmael and *Elasmus nephantidis* Rohwer — larval parasites of *Nephantis serinopa* Meyr., — have been imported into Ceylon from India and have been released in the field and the results are awaited.

In India, especially in the West Coast, *Trichospilus pupivora* Ferr., is recorded as playing an important part in the control of the pest. According to Rao *et al* (1948) the degree of parasitism by this parasite in the field was over 75%. However, the useful part played by this parasite in the West Coast is not observed in the East Coast (Andhra-Pradesh) where the ecological conditions are entirely different. In spite of repeated releases of this parasite by the author, for a number of consecutive years in Andhra-Pradesh, it has not established itself. *Perisierola nephantidis* Mues., *Elasmus nephantidis* Roh., and *Apanteles taragamae* Vier., are of considerable importance in Andhra-Pradesh. It is possible that *Stomatomyia bezziana* Bar., might prove to be an effective parasite in Andhra and Madras States, once it is released in sufficient numbers.

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