

A CASE STUDY

## Systematic catalogue and host-plant range of Aeolothripids and Phlaethripids (Thysanoptera) of Jammu and Kashmir

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### ABSTRACT

The present communication incorporates an updated systematic catalogue-cum-checklist of thrips (Thysanoptera), belonging to family Aeolothripidae and Phlaeothripidae from Jammu and Kashmir state. In addition to this, host-range of 6 species of *Aeolothripids* affecting 22 species of host-plants, including economically important ones and 8 species of *Phlaeothripids*, affecting 12 species of host-plants, including economically important plants / crops, occurring in different areas and localities, have been elaborated.

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Aeolothripids and Phlaeothripids belonging to sub-order Terebrantia and Tubulifera, respectively, under order Thysanoptera, are minute insects, commonly known as thrips or fringes-wings. They remain confined to various parts of plants, gregarious in nature and feed on leaves, flowers and even fruits, etc. leading to withering and browning and occasionally death of leaves.

The previous records of Thrips belonging to the family Aeolothripidae and Phlaeothripidae of Jammu and Kashmir, have been provided by Lone and Bhagat (1984, 1991 and 1991a), Bhagat and Lone (1991) and Bhagat and Makmoor (1995). Through these research publications, a total of 6 species of Aeolothripids, under 3 genera and a total of 8 species of Phaeolothripids, belonging to 4 genera are known to occur in different regions and localities of Jammu and Kashmir

A total of 6 species of Aeolothripids, under three genera has been found to infest a total of 22 species of plants including crops (agricultural) and medical plants. *Aeolothrips meridionalis* Priesner has been found to damage 12 species of plants followed by *A. collaris* and *A. distinctus*, infesting 4 species each. *Melanthrips affluens* and *Hydatothrips proximus* infesting 3 plant species each. *Melanthrips indicus* caused damage to a single ornamental plant (Table 1).

Phlaeolothripids, covering a total of 8 species under 4 genera viz., *Bolothrips*, *Cephalothrips*, *Haplothrips* and *Liothrips*, are known to damage 12 species of plants, including fodder/forage and food crops and medicinal plants. *Haplothrips* spp. (5), affect as many as 9 host-plant species of economic importance in different regions and locations (Table 1).

Aeolothripids and Phlaeothripids of economic

importance are given as under:

### **Affecting cereals / food crops :**

*Oryza sativa* (Asian rice) has been found to be damaged by *Haplothrips* sp., affecting various parts of the crop, including developing grains. The leaves of common bean, *Phaseolus vulgare* were associated with Aeolothripid (*Hydatothrips proximus*). Buck-wheat, *Fagopyrum esculentum* has been found to be infested with *Aeolothrips collaris*.

### **Affecting vegetables crops :**

The vegetable crops belonging to *Brassica* spp., were found to be affected by *Aeolothrips meridionalis*. The population of this thrips pest species showed high-populations during summer and the infestations were confined to the flowers only.

### **Affecting fodders / forage crops :**

The fodder crops in this region were infested with thrips, such as *Medicago xvaria* with *A. distinctus* and *A. meridionalis*; *Trifolium pretense*, unidentified wild grass, *Stipa sibirica* and *Pennisetum glaucum*, have shown the infestation of *A. meridionalis*, *B. dentipes*, *C. monilicornis* and *H. ganglbaueri*, respectively.

### **Affecting medicinal plants :**

Medicinal plant, viz., *Papaver somniferum* was affected by *A. meridionalis* and *M. affluens*. Other medicinal plants of this region like *Sparticum junceum*, *Desmodium trifolium*, *Cynodon dactylon*, *Verbascum thapsus* and *Rosa* sp., were damaged by *A. meridionalis* *H. proximus*, *H. apicalis*, *Haplothrips* sp.-2 (n.sp.) and

**Table 1 : Checklist and host-plant complex of Thrips, belonging to the family Aeolothripidae and Phlaeothripidae**

Sr. No.	Thrips/host-plant species	Types of plant	Distribution
	<i>I. Aeolothripidae</i> (Suborder:Terebrantia)		
1.	<i>Aeolothrips collaris</i> Priesner		
	<i>Agrotis canina</i>	Weed	Gurez
	<i>Carduus edelbergii</i>	Weed	Gurez
	<i>Fagopyrum esculentum</i>	Food crop	Gurez
	<i>Senecio jacquemontiana</i>	HP	Kashmir
2.	<i>Aeolothrips distinctus</i> Bhatti		
	<i>Carduus edelbergii</i>	Weed	Gurez
	<i>Cosmos regalis</i>	Ornamental plant	Chesmashi
	<i>Medicago xvaria</i>	Fodder/Forage crop	Gurez
	<i>Senecio jacquemontiana</i>	Medicinal Plant	Kashmir
3.	<i>Aeolothrips meridionalis</i> Priesner		
	<i>Brassica</i> sp.	Vegetable crop	Hazratbal
	<i>Chrysanthemum vulgare</i> ( = <i>Chrysanthemum- leucanthemum</i> )	Ornamental plant	Hazratbal
	<i>Dacus carota</i>	Weed	Bijbehara
	<i>Erigeron canadiensis</i>	Weed	Hazratbal
	<i>Euphorbia helioscopia</i>	Herb	Pampore
	<i>Godetia</i> sp.	Ornamental plant	Naseembagh
	<i>Lonicera quinquelocularis</i>	Ornamental plant	Gurez
	<i>Medicago xvaria</i>	Fodder/Forage crop	Gurez
	<i>Narcissus poeticus</i>	Ornamental plant	Hazratbal
	<i>Papaver somniferum</i>	Medicinal Plant	Pampore
	<i>Spartium junceum-</i>	Medicinal Plant	Shankracharya
	<i>Trifolium partense</i>	Fodder/Forage crop	Phalgam
4.	<i>Melanthrips- affluens</i> Anthakrishnan		
	<i>Hemerocallis fulva</i>	Ornamental plant	Hazratbal
	<i>Narissus poeticus</i>	Ornamental plant	Hazratbal
	<i>Papaver somniferum</i>	Ornamental plant	Hazratbal
5.	<i>Melanthrips indicus</i> Bhatti	Ornamental plant	Hazratbal
	<i>Hemerocallis fulva</i>	Ornamental plant	Hazratbal
6.	<i>Hydatothrips proximus</i> Bhatti		
	<i>Desmodium trifollum</i>	Medicinal Plant	Hazratbal
	<i>Indigofera heterantha</i>	Ornamental plant	Sonamarg
	<i>Phaseolus vulgare</i>	Food crop	Anantnag
	<u>II. Phlaeothripes</u> (Sub-order : Tubulifera)		
7.	<i>Bolothrip dentipes</i> (Reuter)		
	Wild Grassass	Fodder/Forage crop	Dachigam
8.	<i>Cehalothrips monilicornis</i> - (Reuter)		
	<i>Stipa sibirica</i>	Grass	Dachigam
9.	<i>Haplothrips (Trybomiella) apicails</i> (Bagnall)		
	<i>Cynodon dactylon</i>	Medicinal Plant	Hazratbal
10.	<i>Haplothrips ganglbaueri</i> Schmutz		
	<i>Pennisetum glaucum</i>	Food crop	Jammu
11.	<i>Haplothrips-1</i>		
	<i>Bothriochloa pertus</i>	Grass	Kokerneg
	<i>Oryza sativa</i>	Food crop	Srinagar
12.	<i>Heplothrips</i> sp.- 2		
	<i>Verbascum thapsus</i>	Medicinal Plant	Dachigam
13.	<i>Haplothrips</i> sp		
	<i>Amaranthus</i> sp.	Weed	Anantnag
	<i>Rosa</i> sp.	Medicinal Plant	Anantnag
	<i>Solidago japonica</i>	Weed	Hazratbal
	<i>Sophora japonica</i>	Tree/ Food crop	Anantnag
14.	<i>Liothrips</i> sp.		
	Unidentified wild plant.	-	Yusmarg

*Haplothrips* sp. Also, the flowers of medicinal plant, *Senecio jacquementiana*, were found to be infested with Aeolothripids, viz. *A. collaris* and *A. distinctus*.

**Affecting ornamental plants :**

Ornamental plants such as *Cosmos regalis*, was found to be affected from *A. distinctus*, *Godetia* sp. showed infestation with *A. meridionalis*; *Narcissus poeticus* with *A. meridionalis* and *M. affluens*; *Hemerocallis fulva* with *Melanthrips affluens* and *M. indicus*

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