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ORIGINAL ARTICLE

Structure of Body Receptors Organs in New Species of Family Entomobryidae (Insecta - Collembola), Agra Region

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ABSTRACT
Structure and function of Body receptor organs of a new species of snowfleas(order-Collembola) of the family Entomobryidae Schaffer i.e. Entomobrya crassa Imms species has been described from Agra region
Keywords *: Snow fleas, Body receptor organs, Agra Region.*

INTRODUCTION

The Collembola are well known apterygotes among insects and are most interesting due their jumping habits and popularly called as springtails and snow fleas. The member of family Entomobryidae are very common near fallen leaves, under the stones, under barks and moist places during rainy season. Family Entomobryidae are various colored and pigmented, generally with well developed ocelli, usually eight in number, postantennae organs are absent. Antennal and body covered by trichoid sensilla. Antennal are usually longer than the body provided with micro and macro setae . In between head and first thoracic segment always flexed setaes are present. Bagnall [1] used the ocelli and post antennal organs on the morphological modification for separation of certain genera of Collembola. In India collembolan order is represented by 210 species under 86 genera , from 8 families and two sub-order [2]. Paliwal & Baijal [3] reported three new species of genus Lepidocyrtinus Borner from Distt. Agra and it's environs.

MATERIAL AND METHODS

The snowfleas (Collembola) described in this paper were collected under dead leaves from Mariyam Tomb, Sikandra, Agra region. The specimen were collected with the help of camel hair brush mounted with the 90% alcohol. The microscopical study of the structure of the Body receptor organs, specimens were first put into dil. KOH and then mounted on slide under a binocular microscope and mounted in salmon's polyvinyl alcohol-lactophenol medium.

RESULT AND DISCUSSION

Family –Entomobryidae Schaffer,1896
Species- *Entomobrya crassa* Imms
Collembola are deep greenish yellow dorsally, suffused with dark blue and yellowish green ventrally. Ocellar field black, both ocellar field joint together by a transverse band. Body clothed by simple micro setae and macro setae which are in abundance on the top of the head. Body included thorax, abdominal segment fourth, fifth and sixth with appendages also clothed by simple setae.

(1) Trichoid Sensilla(Tr. S.) These are found all over the body. These are mechanoreceptor for finding out the air current, but on the head these setaes are modified in to flexed setae to form cephalic air flow to find out the air current and orient the body accordingly. Dens dorsally crenulated with large number of ciliated setae which form jumping air flow and help in jumping relex.
(2) Sensilla Basiconica (Sn.B.) Absent
(3) Sensilla Chaetica (Sn.Ch.) Absent
(4) Temperature receptors (T.Rp.) These are present in the form of small setae on the antennae and legs to find out the fluctuation of temperature.
(5) Tenent Hairs (Ten. H.) Present on each foot which help in locomotion on smooth surface.

(6) Photoreceptors

(A) Post Antennal Organs (Post. Ant. Org.) Absent

(B) Ocelli(Oc.) Ocellar field has eight ocelli, six anterior middle large, two posterior small and are equal in size, which are for finding out the intensity of light.

PHOTO RECEPTOR ORGANS (Fig 1)

(1) **POST ANTENNAL ORGANS(Post. Ant. org)** these are in the form of elliptical with double ring which help in finding out the intensity of light and are hygroreceptors. Post antennal organs are surrounding by three guard setae which protect these organs from dust and injury.

(2) **Ocelli (Oc.)** ocellar field has eight ocelli to each side four anterior ocelli are large and four posterior ocelli are small but equal in size. These ocelli are made up of the elevated cuticle and meant for finding out the intensity of light.

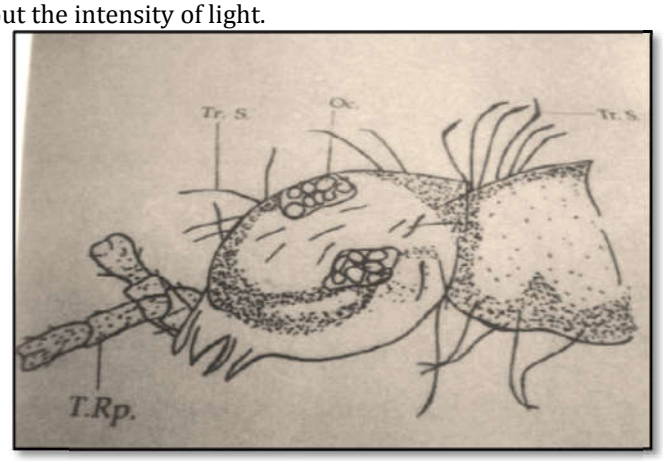

Fig 1- Body receptors of *Entomobrya crassa* Imms
Tr.S. - Trichoid Sensilla, T.Rp. - Temperature Body receptor, Oc.- Ocelli

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