A Review on Pest Potential of *Tanymecus* (Coleoptera: Curculionidae: Brachyderinae)

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**ABSTRACT**

*Tanymecus indicus* Faust associated mainly with wheat has been found attacking *Trifolium alexandrinum* locally called as berseem in Chandigarh and surrounding areas. Out of forty five species collected from India, biology of *T. hispidus* Marshall *T. princeps* Faust, *T. sciurus* Oliver and *T. simplex* Marshall has been reported by other workers. Outside India, species like *T. dilaticollis* Gyllenhaal, *T. pallidus* Reitter, *T. confusus* Say, *T. lacaena* (Herbst) and *T. palliatus* (Fabricius) have been found attacking a number of plant families like Asteraceae, Fabaceae, Chenopodiaceae, Amaranthaceae, Polygonaceae, Convolvulaceae, Brassicaceae and Urticaceae from Europe and Asia.

**Keywords:** Pest, Brachyderinae, *Tanymecus*, Root feeder.

1. **Introduction**

Curculionidae, the largest weevil family has so far been reported to have 4600 genera and 51000 described species. The weevils have adapted to all types of plants [6, 7]. Two distinct groups i.e., short snouted and long snouted weevils are met within this family. There is a mark distinction in their pattern of oviposition, place of larval and pupal development. *Tanymecus indicus* is a short snouted weevil, laying eggs in soil. The resulting larvae feed on the roots. Its pest potential along with other *Tanymecus* species is discussed in this communication.

2. **Observations & Discussions**

Marshall [8] divided the Family Curculionidae (snout beetles) into 2 subgroups mainly on the basis of length and strength of snout. The short snouted weevils are put in the 3 subfamilies i.e., Brachyderinae, Otiorrhynchinae and Eremninae. The genus *Tanymecus* belongs to the first mentioned subfamily Brachyderinae. Genus *Tanymecus* is an important genus under this subfamily and includes species which are pests of a number of crops. Like other short snouted weevils, *Tanymecus* lay eggs in the soil. The young larvae feed on the roots of different plants. The larval and pupal development is also completed within loose soil.

*Tanymecus indicus*, as the name indicates, is actually an Indian species widely distributed throughout India and is associated with variety of host plants. Although it is a major pest of wheat yet other cereal crops as well as many non-cereal crops are also attacked by this species. Out of forty five *Tanymecus* species recorded by Marshall [5] from India, Burma and Ceylon, only five of them were recorded from India by Pajni [10].

A perusal of literature reveals that *T. indicus* is primarily a pest of *Triticum* (wheat) and other cereals like *Zea mays* (maize), *Sorghum* (jowar), *Hordeum vulgare* (barley) and *Oryza sativa* (rice). In fact, the beetle also attacks a number of winter crops notably legumes like *Gossypium* (cotton), *Pisum sativum* (pea), *Cortalaria juncea* (sannhemp) and *Lens esculenta* (Lentil). Its attack has also been recorded on *Corchorus corchori* (jute), *Beta vulgaris* (beetroot), *Brassica* (mustard), *Eruca sativa* (argula), *Carthamus tinctorius* (safflower), *Papaver* (poppy) and *Gossypium* (cotton) [5, 6, 7, 8, 9, 10, 11]. Recently Venkateshalu and Murthy [12] while reporting pigeon pea as its major host plant has also mentioned it attacking wheat in Northern India.

Nanda and Pajni [13] recorded the attack of this weevil on *Trifolium alexandrinum*, commonly known as barseem and also conducted experiments for the study of its development in laboratory on the same host. Out of forty five species recorded from Indian subcontinent, host plants of only a few species have been documented by various workers. It includes *T. hispidus* on *Gossypium*, *Saccharum* (sugarcan), *Oryza sativa*, *Zea mays*, *Dalbergia sissoo* (shisham) and *Zizyphus jujube* (ber) [14, 3, 5, 18], *T. princeps* on *Gossypium*, *T. sciurus* on *Gossypium* and *Saccharum*, [5, 16].
T. simplex on *Oryza sativa* and *Calotropis* (Ak) [3] and *T. circumdatus* on *Malus domestica* (apple) [17].

As far as the development of *T. Indicus* and other Indian species of genus *Tanymecus* is concerned, the beetles show a common behavior of laying eggs in the soil or on leaves, larvae feeding on roots and debris in the soil and larval and pupal developments also completing in the soil. *T. indicus* causes much damage to the host plants because the beetles generally attack the freshly germinated young crops. It has been reported that *T. indicus* along with other species sometimes appear in large number consuming most of the crop and necessitating the resowing of the crop [6, 12].

Outside India, species like *T. dilaticollis, T. pallidus, T. confusius*, *T. lacaena* and *T. palliatus* have been found attacking a number of other host plant. *T. palliatus* attacks species from several plant families like asteraceae, fabaceae, chenopodiaceae, amaranthaceae, polygonaceae, convolvulaceae, brassicaceae and urticaceae from Europe and Asia [18, 19]. Likewise, Hill [17] also mentioned several cereal crops including sugar beet as forming a range of host plant for this species. According to Bell [20], *T. destructor* damages maize in South Africa. In the same manner, *T. lacaena* has been found attacking more than 20 host plants belonging to wide range of plant families in U. S. [21]. *T. dilaticollis* essentially a European species also attacks wide range of host plants include cereals, fruit trees, sunflower and sugar beet as reported by Camprag [22]. *T. pallidus* is associated with common ragweed [23] while *T. confusius* consumes the sugar beet besides several hosts like *Xanthium* (cocklebur) *Amaranthus* (pigweed) and *Ambrosia* (ragweed) from family asteraceae [24].

Some species of *Tanymecus* e.g. *T. dilaticollis, T. destructor, T. palliatus*, are important pests of a number of crops including the edible cereals and legumes although a few others are only minor pests. Complete life cycle studies on additional species from India should reveal pattern of development and pest status similar to or different from that of *T. indicus*.

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4. References

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