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Report of banana pseudostem weevil (*Odoiporus longicollis* Olivier) infestation on leaf petiole

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ABSTRACT: During our survey a different site of infestation by *Odoiporus longicollis* was observed in 'Nendran' cultivar plots at Konny, Pathanamthitta District, Kerala. Feeding and exit holes of the grubs were observed on leaf petioles. Absence of continuous grub feeding channels from leaf sheath base to petiole suggests direct oviposition on the petiole. ©2014 Association for Advancement of Entomology

Keywords: banana pseudostem weevil, *Odoiporus longicollis,* infestation on leaf petiole.

In India, banana (*Musa* sp.) enjoys top rank among the fruit crops in terms of production. Globally, India is the largest producer of banana (NHB, 2013). The crop, with its diversified regional cultivars, is cultivated throughout the country. Four hundred and seventy species of insects and mites were reported globally in banana as major and minor pests (Ostmark,1974). Among the plethora of pests, pseudostem weevil (*Odoiporus longicollis* Olivier (Coleoptera: Curculionidae)) is a major pest of banana. The pest had been reported from Delhi (Batra,1952), Kathmandu Valley (Singh,1966), Uttar Pradesh (Shukla and Kumar,1969), Bihar (Tiwary,1971) West Bengal (Dutt and Maiti, 1972), Assam (Isahaque, 1978), Kerala (Visalakshi *et al*., 1989), Tamil Nadu (Padmanaban and Sundararaju, 1999), Karnataka (Jayanthi and Verghese, 1999) and Jammu and Kashmir (Azam *et al*., 2010).

In severely infested plantations, more than 20 per cent plants do not flower if advanced pre flowering stage of the crop is attacked. It is also estimated that 10-90 per cent yield loss may be caused by the stem weevil depending on growth stage and management efficiency (Padmanaban and Sathiamoorthy, 2001).

Adult female weevil lays eggs inside the leaf sheath singly. Emerging grubs are apodous, soft

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with reddish brown head and cream coloured body. It passes through five instars before pupation. Pupa is exarate and occluded in a cocoon made out of banana fibers Total Life cycle of the pest may vary from 53 to 100 days (Dutt and Maiti, 1972; Anitha, 2000 and Thippaiah *et al*., 2011).

O.longicollis usually prefer pseudostem of banana having five month or above age for oviposition (Padmanaban and Sathiamoorthy, 2001). The adult weevils have been found surviving on banana stumps (Padmanaban and Kandasamy, 2003). Adult weevils distinguish acceptable host plants aided by the presence of sensory chemoreceptors on the antennae, mouthparts, tibia etc. (Nahif *et al*., 2003).

During our survey a different site of infestation by *O.longicollis* was observed in 'Nendran' cultivar plots at Konny, Pathanamthitta District, Kerala. Feeding and exit holes of the grubs were observed on leaf petioles. Holes were noticed on petiole from 5cm above the leaf axil. Pupae and grubs were found inside the infested petiole. Symptoms were noticed on one or two lower old leaves. Plants with infested petioles also had holes and ooze out on pseudo stem indicating infestation at lower plant parts. Petioles when opened, yielded 1-2 grubs (average 0.833grubs/petiole) and 0-1 pupa. One adult weevil was also recorded from inside the petiole. Tunneling and tissue damage by feeding of developing grubs were observed in these petioles. Infested leaves became pale green in colour, sometimes broken off at weaker point with holes near to petiole base. Infestation was found limited up to 30-20 cm on petiole from the leaf axil. Absence of continuous grub feeding channels from leaf sheath base to petiole suggests direct oviposition on the petiole. Earlier, weevil attack was observed on peduncle (Padmanaban *et al*., 2001).

Adopting plant protection measures during early stages of infestation is the key in managing this pest economically. But, infestation on upper parts makes early identification of the pest very difficult and many times it may not be get noticed. This new site of infestation can be considered as the survival strategy adopted by the insect to avoid pesticide application on pseudostem and leaf axils. Current pest management practices comprise of using contact insecticides on pseudostem and leaf axils (Kerala Agricultural University, 2009) will not reach the grubs harbouring leaf petiole and hence new tactics has to be formulated to tackle the hitherto unknown infestation site.

REFERENCES

Anitha N. (2000) Bioecology and integrated management of banana pseudostem weevil, *Odoiporus longicollis* Oliv. Ph.D. thesis, Kerala Agricultural University, Thrissur, 178p.

Azam M., Tara J. S., Ayri S., Feroz M. and Ramamurthy V. V. (2010) Bionomics of *Odoiporus longicollis* Oliver (Coleoptera: Rhynchophoridae) on banana plant (*Musa paradisica*). Munis Entomology and Zoology, 5(2): 627-635.

Batra H.N.(1952) Occurrence of three banana pests at Delhi. Indian Journal of Entomology, 14:60.

Dutt N. and Maiti B. B. (1972) Bionomics of the banana pseudostem weevil, *Odoiporus longicollis* Oliv. (Coleoptera: Curculionidae). Indian Journal of Entomology, 34:20-30.

Isahaque N. M. M. (1978) A note on the incidence of *Odoiporus longicollis* Oliv. on banana in Assam. Pesticides, 12:22-24.

Jayanthi P.D.K and Verghese A. (1999) Report of the occurrence of banana weevils in Bangalore. Insect Environment. 4(4):153.

Kerala Agricultural University. (2009) *Package of practices recommendations (Adhoc) for organic farming: Crops* (Reprint, 2011). Kerala Agricultual University, Thrissur. 200p.

Nahif,A.A., Padmanaban,B., Sundararaju,P. and Sathiamoorthy,S. (2003) Ultra structure of mouth parts, elytra and tarsus of the banana stem weevil, *Odoiporus longicollis* (Coleoptera: Curculionidae). Entomon, 28(1):45-49.

NHM.(2013) Indian horticulture database-2013. Ministry of Agriculture, Government of India. 289 p.

Padmanaban, B. and Kandasamy,M. (2003) Survival of banana weevil borers in banana plant residues. Indian Journal of Entomology, 65(3):424-425.

Ostmark H.E. (1974) Economic insect pests of banana. Annual Review of Entomology, 19:161-176.

Padmanaban, B., Sundararaju, P. and Sathiamoorthy, S. (2001) Incidence of banana pseudostem borer, *Odoiporus longicollis* (Oliv.) (Cuculionidae: Coleoptera) in banana peduncle. Indian Journal of Entomology, 63:204-205.

Padmanaban,B and Sathiamoorthy,S. (2001) The banana stem weevil *Odoiporus longicollis*. Musa Pest Fact Sheet No.5. INIBAP, Montpellier, France.

Padmanaban,B. and Sundararaju,P. (1999) Occurrence of banana weevil borers (Cuculionidae: Coleopteran). Insect Environment, 5:135.

Shukla, G. S. and Kumar, K. (1969) A note on the biology of *Odoiporus longicollis* (Oliv.) (Coleoptera: Curculionidae). Science and Culture, 35 (9): 481-482.

Singh,S.S.(1966) Observations on *Odoiporus longicollis*(Coleoptera: Curculionidae)on banana in Kathmandu Valley and its sububs. Indian Journal of Entomology, 28(3):410.

Thippaiah, M., Ashok Kumar,C. T., Shivaraju, C., Sudhirkumar, S. and Naveena, N. L. (2011) Study of Biology of Banana Pseudostem Weevil, *Odoiporus Longicollis* Olivier. International Journal of Entomology, 2(1): 1-5.

Tiwary,M.(1971) Integrated control of banana stem borer *Odoiporus longicollis* Olivier. Proceedings of 58th Indian Science Congress- *Part III*, 772.

Visalakshi, A., Nair, G. M., Beevi, S. N. and Amma, A. M. K. (1989) Occurrence of *Odoiporus longicollis* Oliv. (Coleoptera: Curculionidae) as a pest of banana in Kerala. Entomon, 14(3&4):367-368.

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