

SOME NEW RECORDS OF MITES INFESTING STORED GRAINS IN KOLKATA AND ITS NEIGHBOURHOOD

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INTRODUCTION

Mites infesting stored grains are of twofold importance as not only they feed on the contents of the grains making those useless for human consumption and germination but also often they cause increase in humidity of the granaries, which in turn, invite fungi to infest the grains making those totally or partially un-markatable. In view of this importance, the stored product mites have received worldwide attention of the acarologists. So far as India is concerned, a reasonably good amount of work has been done on diverse aspects from different parts of India, *viz.*, Uttar Pradesh (Girish *et al.*; 1971, 1973; Lal *et al.*, 1973; Maurya & Jamil, 1981; Maurya *et al.*, 1983), Haryana (Mathur, 1979; Mathur & Minocha, 1981; Mathur & Mathur, 1983; Kumud, 1987; Kumud & Mathur, 1989; Mathur & Minocha, 1989), Punjab (Kapil & Bhanot, 1973); Bihar (Nahar & Gupta, 1980) and South India (Pillai, 1955, 1957; Nangia & ChannaBasavanna, 1989). Unfortunately, very little effort was made so far from West Bengal either to explore the stored grain mite fauna or to study their bio-ecological aspects barring Gupta *et al.* (1991) who reported some mites. Hence, it was thought desirable to take up study more intensively on stored product mites of West Bengal w.s.r. to granaries from in and around Kolkata during April 1998 to July 2001 and part of the result thereof reporting occurrence of 36 species representing 13 families, 24 genera under 3 orders infesting stored wheat and rice are presented in this paper. This includes 9 species of mites which are reported here for the first time infesting stored grains in West Bengal.

MATERIALS AND METHODS

Two granaries in two districts of West Bengal *viz.*, 1. F.C.I. godown at Brace Bridge, Kolkata and 2. F.C.I. godown at Dankuni, Hooghly were selected and samples of wheat and rice were collected therefrom at monthly intervals. Extraction of mites was achieved through a battery of Tullgren funnels using 40 W electric bulbs and mites were collected in 70% alcohol kept at collecting tubes fitted with the stems of the funnels. Studies and identification were done after mounting the mites first in 70% lactic acid and later in Heinze's medium.

RESULTS AND DISCUSSION

A total of 36 species belonging to 13 families and 24 genera under 3 orders are reported here and are listed in Table 1, according to their possible food habits.

Out of 36 species reported here, the occurrence of 9 species viz., (1) *Acarus farris* (Oud.) (2) *Caloglyphus berlesei* (Michael), (3) *Tyrophagus longior* (Gervais), (4) *Tarsonemus granarius* Lindquist, (5) *Lepidoglyphus destructor* (Schrank), (6) *Gohieria fusca* (Oudemans), (7) *Blomia freemani* Hughes, (8) *Cunaxa setirostris* (Hermann), (9) *Pyemotes herfsi* Oudemans are reported here for the first time from West Bengal infesting stored grains.

Among these species, *Tyrophagus putrescentiae*, *Suidasia nesbitti* belong to grain feeding group. *Glycyphagus domesticus*, *Leiodinychnus krameri*, *Fuscuropoda marginata* belong to fungivorous group, *Cheyletus eruditus*, *Cheyletus malaccensis*, *Blattisocius tarsalis* and *Cunaxa setirostris* in most of the samples belong to predatory group. All these mites were common in both the types of grains.

The other species viz., *Tyrophagus longior*, *Tyroborus lini*, *Tarsonemus granarius*, *Androlaelaps casalis* and *Lasioseius* sp. belong to groups having diverse food habits and their occurrence was rather scarce.

The following is the list of mites arranged as per their possible food habits.

A. Grain feeder

I. Family ACARIDAE

1. *Acarus siro* Linn.
- *2. *Acarus farris* (Oudemans)
- *3. *Caloglyphus berlesei* (Michael)
4. *Tyrophagus putrescentiae* (Schrank)
- *5. *Tyrophagus longior* (Gervais)
6. *Tyrophagus* sp.
7. *Tyroborus lini* Oudemans
8. *Suidasia nesbitti* Hughes
9. *Suidasia medanensis* Oudemans
10. *Rhizoglyphus* sp.

B. Fungivorous

II. Family TARSONEMIDAE

- *11. *Tarsonemus granarius* Lindquist
12. *Tarsonemus* sp.

III. Family GLYCYPHAGIDAE

- 13. *Glycyphagus domesticus* (De Geer)
- *14. *Lepidoglyphus destructor* (Schrank)
- *15. *Gohieria fusca* (Oudemans)
- *16. *Blomia freemani* Hughes

IV Family UROPODIDAE

- 17. *Leiodinychus krameri* (Canestrini)
- 18. *Leiodinychus* sp.
- 19. *Fuscuropoda marginata* (Koch)
- 20. *Fuscuropoda* sp.

V Family TYDEIDAE

- 21. *Pronematus fleschneri* Baker

C. Predators

VI. Family CUNAXIDAE

- *22. *Cunaxa setirostris* (Hermann)
- 23. *Cunaxa capreolus* (Berlese)

VII. Family RAPHIGNATHIDAE

- 24. *Raphignathus* sp.

VIII. Family CHEYLETIDAE

- 25. *Cheyletus eruditus* (Schrank)
- 26. *Cheyletus malaccensis* Oudemans
- 27. *Acaropsis sollers* Kuzin
- 28. *Cheyletus malayensis* Cunliffe

IX. Family ASCIDAE

- 29. *Blattisocius tarsalis* (Berlese)
- 30. *Lasioseius* sp.

X. Family LAELAPIDAE

- 31. *Androlaelaps casalis* (Berlese)

D. Dust associated mites (Granary dust)

XI. Family PYROGLYPHIDAE

32. *Dermatophagoides farinae* Hughes
33. *Dermatophagoides pteronyssinus* (Trouessart)

E. Granary insect associated mites

XII. Family PYEMOTIDAE

- *34. *Pyemotes herfsi* Oudemans

F. Unknown Association

XIII. Family AMEROSEIIDAE

35. *Klemania plumosus* (Oudemans)
36. *Klemania bengalensis* Bhattacharya

*New report from stored grains in West Bengal.

The occurrence of mites belonging to Bdellidae, Eupodidae, Carpoglyphidae, though were recorded from other parts of the country but those could not be recorded during the present study.

SUMMARY

The present paper reports occurrence of 36 species of mites representing 13 families and 24 genera under 3 orders viz., Prostigmata, Astigmata and Cryptostigmata, infesting stored wheat and rice in Kolkata and its neighbouring areas, of which the occurrence of 9 species are reported here for the first time infesting stored grains in West Bengal.

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