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DISCOVERY
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First photographic record of the feeding of tree bug (*Dyscercus cingulatus*) on tawny coster butterfly (*Acraea terpsicore*) from Mumbai, India

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ABSTRACT

Dyscercus cingulatus, a hemipteran bug commonly known as red cotton stainer belonging to the family Pyrrhocoridae, is known for destroying plants. It is a severe pest that mainly attacks cotton plants, such as developing bolls and the seed by the adult and older nymphs. They suck the plant sap with the help of rostrum and while doing this it also transfers microorganisms (fungi) and makes the plant sick and infected. Although the hemiptera is the most ecologically and systematically diverse assemblage of insects little is known about new food preferences. However, this is the first record of a *Dyscercus cingulatus* feeding on a carnivorous diet from Mumbai, India.

Keywords: Red cotton stainer, carnivorous diet, tawny coster butterfly.

1. INTRODUCTION

On 2nd May, 2023 at 11:35 a.m., we observed two older nymphs of *Dyscercus cingulantus* feeding for an hour on a freshly dead (as the body looks intact, neat and clean) tawny coster butterfly (*Arcaea terpsicore*) at Kalina University campus 19.0727° N, 72.8587° E Mumbai (Figure A &B). Close observation reveals that they continuously thrashing their rostrum into the body (Abdomen) of a butterfly and remain motionless for some time. Maybe during this, they were sucking the hemolymph of the butterfly through their rostrum for better nourishment and timely molting into an adult. In fact, the entire area has good population of bugs with varying stages of development. Many adult male and female bugs involved in courtship (Figure C). The photograph was taken with the help of mobile phone Vivo 1840.

From the photograph we could identify the species of insect to be a true bug red cotton stainer (*Dyscercus cingulatus*) and the butterfly to be a tawny coster (*Acraea terpsicore*).

Figure A *Dyscercus cingulatus* older nymphs feeding on tawny coster butterfly (*Acraea terpsicore*) at 11:35 a.m. (Photo credit- Shakir Momin)

Figure B *Dyscercus cingulatus* older nymphs feeding on tawny coster butterfly (*Acraea terpsicore*) at 12:15 p.m. (Photo credit- Shakir Momin)

Figure C *Dyscercus cingulatus* Adult male and female busy in courtship with older nymphs at front and backside (Photo credit- Shakir Momin)

2. DISCUSSION

Red Cotton stainer (*Dyscercus cingulatus*) adults and nymphs selectively infect cotton and other plants mature pods and damage seeds when the pods break open and suck the sap through its rostrum. Quite often the agriculture field affected by the bug will yield significantly low. All the available literature Jaleel et al., (2013), Schaefer and Panizzi, (2000), Panizzi and Grazia, (2015) and Sahayaraj and Ilyaraj, (2008) says that the *Dyscercus cingulatus* prefer plant food as a main part of their diet. This observation could be the first important proof of bug feeds on a carnivorous diet.

3. CONCLUSION

Given the herbivorous diet and feeding strategies of the red cotton stainer, our observations on the feeding of an older nymphs of the red cotton stainer bug (*Dyscercus cingulatus*) on tawny coster butterfly (*Acraea terpsicore*) seem its novel natural history feeding behavior. Perhaps this is the first detailed photographic observation recorded from India and will surely help in understanding more about its new food preference and omnivorous diet especially during metamorphosis.

Acknowledgement
We are grateful to the official of Kalina University campus, Mumbai to study and photograph the bug behaviour.

Author's contribution
Heena Momin and Shakir Momin equally contributed in this work.

Ethical approval
New food preference of red cotton stainer on tawny coster butterfly was studied in the work. The animal ethical guidelines were followed in the study for species identification and observation.

Informed consent
Not applicable.

Conflicts of interests
The authors declare that there are no conflicts of interests.

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Data and materials availability
All data associated with this study are present in the paper.

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