3. Mehra, H. R. and Negi, P. S., "On a new trematode *Themiorchis ranarum* nov. gen., nov. spec. from the common Indian frog *Rana tigrina*," *Parasitology*, 1926, 18, 168.
4. — and —, "Trematode parasites of Pleurogenetinae from *Rana tigrina*, with a revision and synopsis of the subfamily," *Alld. Univ. Studies*, 1928, 4, 63.
5. Pennypacker, M. I., "The chromosomes and extranuclear material in the maturing germ cells of a frog lung fluke, *Pneumonoeces similiplexus* Stafford," *J. Morph.*. 1940, 66, 481.
6. Srivastava, H. D., "On new trematodes of frogs and fishes of the United Provinces, India. III. On a new genus *Mehraorchis* and two new species of *Pleurogenes* (Pleurogenetinae) with a systematic discussion and revision of the family Lecithodendriidae," *Bull. Acad. Sc. Unit. Prov.*, 1934, 3, 239.
7. Willmott, S., "Gametogenesis and early development in *Gigantocotyle bathocotyle* (Fishoeder, 1901) Nasmark, 1937," *J. Helm.*, 1950, 24, 1.

NOTES ON A PREDATOR OF *DYSDERCUS KOENIGII* FABR. (HEMIPTERA: PYRRHOCORIDAE)*

ABSTRACT

The pyrrhocorid bug was observed as a predator of cotton stainer *Dysdercus koenigii* Fabr. in the field. The adults of predator bug were observed to attack only on nymphs and adults of cotton stainer.

BIONOMICS of the cotton stainer *Dysdercus koenigii* Fabr. was described by Kamble (1971). A lygaeid bug *Antilochus coqueberti* F. was observed preying on the cotton stainer *D. cingulatus* Fabr. (Ghosh, 1928; Pradhan and Menon, 1944). Lefroy (1909) reported a reduviid bug *Harpactor costalis* Rent. preying upon *D. cingulatus*. While studying the bionomics of *D. koenigii*, the author observed adults of a pyrrhocorid bug feeding on nymphs and adults of the cotton stainer in the field. The external morphological characteristics of the pyrrhocorid bug decribed here are based on adult specimens.

The adult is orange red in color. The head is triangular in shape and is depressed anteriorly. The labium is four-segmented; the first is thicker and longer than the remaining three segments. The fourth segment is black in color and sharply pointed. Antennae are four-segmented, filiform, and dark brown in color. The compound eyes are black in color and are quite prominent. The pronotum is trapezoid in shape and orange red in color. The coxa, trochanger, and femur of the legs are deep red; the femur is swollen and tapers at the distal end. The tibia is the longest of all segments of the legs and is black in color. All tarsi are three-segmented. The apex of fore-wing is black in color while the remaining portion is orange red. When the wings are in repose, they cross over one another, the right wing always covering the left. On the ventral side of the abdomen, the intersegmental area appears as a black band; six bands were clearly seen. The adult closely resembles its prey and in the field, it was often difficult to recognize it from a distance. Studies on identification and biology of this predator are needed.

I wish to thank Mr. S. R. Bagal, my Supervisor and Professor, of the Entomology Department, College of Agriculture, Nagpur University, Nagpur, India, for his valuable guidance.

I express special thanks to Dr. R. D. Frye, Department of Entomology, North Dakota State University, Fargo, North Dakota, for going through the manuscript.

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* A part of a Master of Science thesis submitted to Nagpur University, Nagpur, India.

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1. Ghosh, C. C., *Entomol. Rept. Department of Agriculture, Burma*, 1926–27, 1928, pp. 12–13.
2. Kamble, Shripat T., "Bionomics of *Dysdercus koenigii*, Fabr.," *J. N.Y. Entomol. Soc.*, 1971, 79, 154.
3. Lefroy, Maxwell, H., *Indian Insect Life*, Calcutta and Simla, 1909, pp. 786.
4. Pradhan, S. and Menon, R., Short Notes Exhibits, *Indian J. Entomol.*, New Delhi, 1944, 6, pp. 47.

CHLOROPHYLL STABILITY INDEX (CSI) OF CERTAIN ALGAE

CHLOROPHYLL stability index (CSI) is a measure of the extent the chlorophyll pigments undergo decomposition at higher temperatures. It is obtained by determining the difference between the chlorophyll value of a fresh material and that of the same material but heated to 65° C for 1 hr. Lower the value of CSI, greater is the stability of chlorophyll at higher temperatures. In several instances the CSI has been correlated with drought resistance of certain crop plants[1].

In recent years much attention is paid to the exploitation of algae for the production of animal feed substitutes and/or in conserving the nitrogen status of cultivated soils[2-4]. A continuous process of solar energy conversion into organic matter can be maintained with algae which are efficient photosynthesisers. Nevertheless, these green or blue-green algae have ability to adapt themselves to varying environmental conditions, high temperatures, light intensities and pH have striking influence