New report of Coccinellid predators (Coleoptera: Coccinellidae) feeding on aphid, *Schizoneuraphis himalayensis* (Ghosh & Raychaudhuri) (Hemiptera: Aphididae) on muga food plant Som, *Persea bombycina* Kost in Assam

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Som, *Persea bombycina* Kost the primary food plant of muga silkworm, *Antheraea assamensis* (Helfer) (Lepidoptera:Saturniidae) attacked by number of insect pests (Borers, beetles, gall insects, whiteflies, leaf hoppers). Among sucking pests, recently aphids infested the som plants after pruning particularly during new flush. Both nymphs and adults were found in the colonies on tender buds, shoots, lower surface of leaves and sucking the sap which results in curling and reduction in the size of the leaves.

During the infestation of aphids on som, the number of predatory coccinellid nymphs and adults of *Coleophora bowringi* Crotch, *Coleophora saucia* Mulsant, *Harmonia dimidiata* (Fabricius), *Phrynocaria unicolor* (Fabricius) (Coleoptera:Coccinellidae) were observed feeding on the nymphs and adults of aphid, *Schizoneuraphis himalayensis* during the month of June 2010 at Institute Farm No.1, Lahdoigarh, Jorhat, Assam. This is the first record of above coccinellid predators feeding on aphids. There fore conservation of these predators in som plantations is necessary to reduce the aphid infestation naturally. The above predators can be used as a potential bio control agent for the management of aphids in som plantations.

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Seasonal incidence of stem borers in rice-rice sequence in Assam

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Stem borers are major pest of rice. In the present investigation, an attempt was made to study the incidence pattern of the borers and the possible role of weather factors in different seasons as well as in different growth stages of the crop. The experiment was conducted at Regional Agricultural Research Station, Shillongani Nagaon (Assam, N.E. India) during *Boro* and *Sali* seasons of 2007 and 2008. Throughout the experiment 30 days old rice seedlings (cv. Mahsuri) were transplanted at 20x15 cm spacing in an area of 2000 sqm for each crop. During *Boro* season transplanting was done on December 28 and July 31 in 2007 and 2008, respectively.

No insecticide was applied during the entire crop period.

Incidence was measured as pergentage of dead hearts and white earheads every week from planting till harvest. On each sampling occasion 10 quadrats each measuring 1 sqm were selected randomly. From each quadrat numbers of infested and uninfested tillers in all the infested hills were counted.

The meteorological data were collected from the meteorological observatory as Shillongani. The average of weather factors prevailing two weeks prior to observation on incidence of borers were considered for analysis. The combined effect of weather factors on incidence of borers was studied using multiple regression analysis.

Results showed that incidence of borers varied considerably between seasons and years. The pattern of infestation was more or less identical in the *Boro* crop of 2007 and 2008 (Table 1). In both the years, dead hearts were observed from the second week after transplanting. Thereafter, the infestation level decreased and prior to harvest only about 0.58 per cent white earheads could be recorded. The moths had emerged from the stubbles of the previous *Sali* crop and oviposited either in the seed bed or in the transplanted seedlings in the main field. The borer population then built up with favourable weather and crop stage and reached a peak infestation level 6 to 7 weeks after transplanting. During this period the average maximum temperature rose from 24°C to 28°C and the minimum temperature rose from 12°C to 18°C. The limited rainfall that occurred during this period also suited the borer population. With the rise in temperature to above 30°C during April through to July, the borer population declined and as a result the level of infestation in the *Boro* crop was low during the later part of crop growth.

Incidence borers in *Sali* crop varied considerably between the two years. In both the years, dead hearts were observed from the second week after transplanting *i.e.* first fortnight of August. In 2007, three peaks of damage were observed (Table 1) during the fourth week of August, third week of September and October corresponding to the active tillering, maximum tillering and reproductive stages of the crop. In the 2008 *Sali* season infestation level was low in the early vegetative stage of the crop until the first fortnight of September. There was no marked difference in respect of weather conditions prevailing during this period between 2007 and 2008. However, it is possible that the combined effect of some undetermined factors like cultural and plant protection practices, natural enemies, varieties grown in the area etc. might have contributed to the low population of the borers during this period.

Multiple regression analysis showed that only 40 to 60 per cent variation in borer incidence could be attributed to the influence of weather factors. The R^2 values (Table 2) suggested that 55.08 and 60.73 per cent variation in borer incidence in the *Boro* crops of 2007 and 2008, respectively could be explained by the joint influence of weather factors. The extent of