

A NOTE ON THE DISTRIBUTION OF THE ENTRANCES TO THE OPEN GALLERIES MADE BY SHOT-HOLE BORER (*XYLEBORUS FORNICATUS* EICH) ON TEA.

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In a previous paper (Judenko 1958) the writer, in considering the use of contact insecticides against adults of shot-hole borer, described the behaviour of these adults under laboratory conditions, and among other things the heights at which adults appeared on the tea bush. In this note the writer, in considering the same aim, describes the details with regard to the distribution of a number of entrances to the open galleries under field conditions, because the occurrence of these entrances at given heights indicates the presence of the adults at these levels. Only such entrances which appeared above the ground level were investigated.

Young Clearings before Plucking

Examinations were carried out in February, April and November 1957 on 7 clearings on 5 estates, viz. Duckwari Group, Hantane, Hapugastenne Group, Mahawale and Wellandura Group. The clearings examined were 12 to 44 months from planting. 118 infested plants of heights varying from 1 ft. 1 in. to 4 ft. 7 ins. were examined and of the 274 entrances investigated not one was found higher than 2½ ft. above ground level.

The details are furnished in table 1 below:

Table 1

Height of Tea	Entrances to the open galleries above ground level										Total No. of entrances
	0-6 ins.		7 ins.-1 ft.		1 ft. 1 in.-1½ ft.		1 ft. 7 ins.-2 ft.		2 ft. 1 in.-2½ ft.		
	No.	%	No.	%	No.	%	No.	%	No.	%	
1 ft. 1 in. to 2 ft. 3 ins.	40	82	8	16	1	2	0	0	0	0	49
2 ft. 4 ins. to 3 ft. 5 ins.	68	40	59	35	31	18	10	6	2	1	170
3½ ft. to 4 ft. 7 ins.	13	23.5	9	16.5	19	34.5	7	12.5	7	12.5	55
Grand Total											274

Conclusions

1. The heights at which the entrances to the open galleries were found on young tea plants investigated depended on the heights of these plants.

2. On tea of heights varying from 1 ft. 1 in. to 2 ft. 3 ins. the majority of the entrances were found no higher than 6 ins. above ground level; in the case of tea of heights 2 ft. 4 ins. to 3 ft. 5 ins. no higher than 1 ft. and for bushes of heights of 3½ ft. to 4 ft. 7 ins. no higher than 1½ ft. above ground level.

Tea in Plucking

Examinations were carried out in April and May 1957 on 6 fields of the following estates:—Mahawala, Millawitiya and Pelmadulla Group. These fields were from 4 to 30 years old and from 8-24 months from pruning. 28 infested bushes of height 2 ft. 8 in. to 4 ft. 2 ins. were examined. Of the 488 entrances investigated not one was found higher than 3 ft. above ground level. The details are furnished in table 2.

Table 2

Height of tea	Entrances to the open galleries above ground level												Total No. of entrances
	0-6 ins.		7 ins.-1ft.		1 ft. 1 in.-1½ ft.		1 ft. 7 ins.-2 ft.		2 ft. 1 in.-2½ ft.		2 ft. 7 ins.-3 ft.		
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
2 ft. 8 ins. to 3 ft. 1 in.	61	28	93	42	49	22	15	7	2	1	0	0	220
3 ft. 2 ins. to 3 ft. 7 ins.	34	20	49	29	42	25	31	18	13	7.5	1	0.5	170
3 ft. 8 ins. to 4 ft. 2 ins.	17	17	21	21	29	30	25	26	4	4	2	2	98
Grand Total													488

Conclusions

1. The heights at which the entrances to the open galleries were found on old tea bushes depended on the heights of the bushes.

2. On tea of heights varying from 2 ft. 8 ins. to 3 ft. 1 in. the majority of the entrances were found no higher than 1 ft. above ground level, and on tea of heights 3 ft. 2 ins.-4 ft. 2 ins. no higher than 1½ ft. above ground level.

Summary

1. Considering the heights of individual tea plants, both young and old, it can be concluded that the majority of the shot-hole borer entrances are situated at the lower extremities of the plants.

2. This indicates that the majority of adult beetles appear, at least for some time, on the lower part of the bush.

3. This circumstance, together with the behaviour of the adults observed under laboratory conditions and described in the previous paper, indicate that field trials on the prevention of shot-hole borer attack on tea with contact insecticides are feasible by spraying only the lower parts of the plants.

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Reference

Judenko, E. Some observations on the behaviour of the adult shot-hole borer (*Xyleborus fornicatus* Eich) under laboratory conditions. *Tea Quarterly*, Vol. 29, 1958 pp. 47-50.