*Iran. J. Agric. Res. Vol. 3, No.1, 1975*

(NOTE)

# FIELD OBSERVATIONS ON POPULATION FLUCTUATIONS OF CHICORY APHIDS, 1970[1]

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## ABSTRACT

*Dactynotus cichoricola* H. R. L. and *Pergandeia intybi* Koch were found around Karadj on chicory (*Cichorium intybus* L.). *D. cichoricola* produced the highest infestation in early May, coinciding with the appearance of *P. intybi.* The latter species attacked a high percentage of chicory plants from June through the end of July and disappeared when flowering commenced.

## INTRODUCTION

*Dactynotus cichoricola* H. R. L. (Syn. *D. cichorii* Koch) and *Pergandeia intybi* Koch (Syn. *Aphis intybi* Koch), both common pests of endive (*Cichorium endivia* L.) in Iran, are known to attack chicory. The former, however, in addition to *Cichorium* species, attacks *Leontodon, Crepis, Taraxacum* and *Lampsana* (1). Both aphids colonize on leaf axils of *Cichorium spp.* in the spring but populations spread later to the stem.

*P. intybi* has been recorded both in Europe and the Middle East. In Europe it is active on its host throughout the year but its life history in the Middle East is not known (2). The initial damage by *D. cichoricola* to chicory was described in Belgium (3). However, no record of its attack on chicory in Iran is available. This report is merely a one year observation on population fluctuations of the two aphid species.

## MATERIALS AND METHODS

Aphid populations in a chicory field (200x150m) were estimated at intervals from

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April to August in Karadj (39 km northwest of Tehran). Each estimate consisted of 20 plants checked at random in the field. At each interval the number of infested plants and the rate of infestations were recorded. Ratings were aphid-free, low (less than 50 aphids/plant), medium (50-200 aphids/plant) and high (more than 200 aphids/plant).

## RESULTS AND DISCUSSION

*D. cichoricola* was first found in April. The peak of collections was in early May and only a few aphids remained in the field by late May (Fig. 1). It was difficult to assess accurately the number of *D. cichoricola* individuals on plants because many fell to the ground when the plants were touched. Table 1 shows that many plants were aphid-free. It was observed that this aphid was also able to live on *Echinops* spp, a common weed around the field.

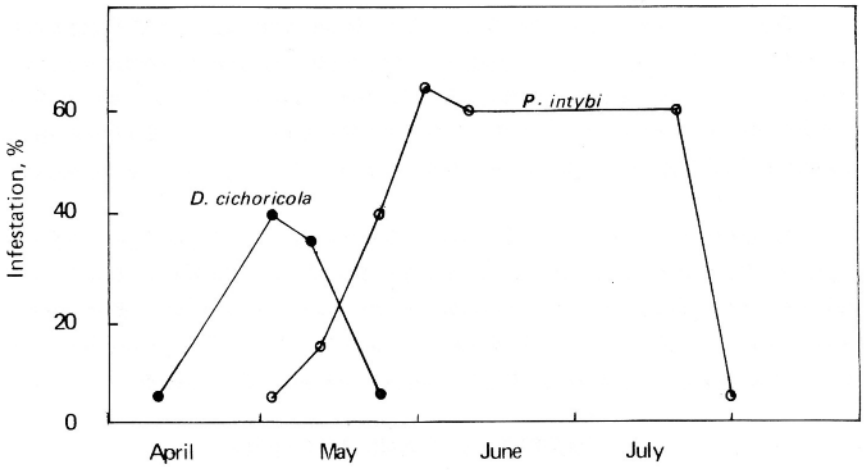


Fig. 1. Percentage of chicory plants infested by *Dactynotus cichoricola* and *Pergandeia intybi* at various sampling dates.

Infestation of chicory plants by *P. intybi* was observed early in May and increased to its maximum level by the flowering stage of the host in June. Soon after seed formation in July, the infestation level rapidly declined (Fig. 1). This may partly be due to the abundance of natural enemies in July and August.

## (NOTE)

Table 1. Percentage of chicory plants at various levels of infestation by *Dactynotus cichoricola,* April and May 1970, Karadj.

| Date | Rate of infestation | | | |
|---|---|---|---|---|
| | Aphid-free | Low | Medium | High |
| | % | % | % | % |
| April, 10 | 95 | 5 | 0 | 0 |
| May, 2 | 60 | 30 | 5 | 5 |
| May, 10 | 65 | 20 | 5 | 10 |
| May, 23 | 95 | 0 | 5 | 0 |

Table 2. Percentage of chicory plants at various levels of infestation by *Pergandeia intybi,* May through July 1970, Karadj.

| Date | Rate of infestation | | | |
|---|---|---|---|---|
| | Aphid-free | Low | Medium | High |
| | % | % | % | % |
| May, 2 | 95 | 5 | 0 | 0 |
| May, 10 | 85 | 10 | 5 | 0 |
| May, 23 | 60 | 15 | 20 | 5 |
| June, 2 | 35 | 25 | 15 | 25 |
| June, 10 | 40 | 30 | 30 | 0 |
| July, 20 | 40 | 40 | 20 | 0 |
| July, 30 | 95 | 0 | 5 | 0 |

## (NOTE)

The life cycles of the two aphids were not further studied. Therefore, their habitat for the rest of the year is not known and further work is needed on their complete life cycles under local conditions of Iran.

## LITERATURE CITED

1. Blunk, H. 1957. Tierische Schaedlinge und Nutzpflanzen; Teil II, Homoptera. Paul Parey, Berlin.
2. Bodenheimer, F.S. and E. Swirski. 1957. The Aphidoidea of the Middle East. The Weizmann Science Press of Israel.
3. Senial, J. 1958. Virus transmission by *Dactynotus cichoricola* H.R.L., a new aphid on chicory. Nature 181 : 721.