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BIOLOGY OF THE CITRUS BROWN MITE, 
EUTETRANYCHUS ORIENTALIS AS AFFECTED 
BY SOME CITRUS SPECIES

BY

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ABSTRACT

The citrus brown mite Eutetranychus orientalis Klein was reared on leaves of sour orange, orange and mandarine. No marked variation was noted in the developmental period as well as in the preoviposition period, whereas the fecundity was distinctly affected: The sour orange leaves promoted a high number of eggs, whereas rearing on mandarine leaves led to the poorest fecundity.

RESUMÉ

Le Tétranique Eutetranychus orientalis Klein a été élevé sur des feuilles d'oranger : Citrus aurantiurn, C. sinensis et C. nobilis. Il n'a pas été noté de variations importantes dans la période de développement ainsi que dans celle de préoviposition ; par contre, la fécondité est nettement affectée : les feuilles de C. aurantiurn permettent une ponte plus importante d'œufs tandis que l'élevage sur C. nobilis provoque une basse fécondité.

INTRODUCTION

The citrus brown mite, Eutetranychus orientalis Klein was recorded as a noxious pest on citrus trees in Egypt (Rasmy, 1969). The author (1966) reported that the population of the citrus brown mite was extremely greater on sour orange seedlings than on orange and mandarine. It was reported that mandarine was the least preferable citrus species to this pest. Mohamed (1964) suggested that this preference may be related to thickness of leaf cuticle, oil glands, tannin and pH value of citrus leaves.

No reports on the effect of the host plants on the biology of the citrus brown mite was noted. Therefore, it was of interest to study the effect of different citrus species on the development and fecundity of this pest.

MATERIALS AND METHODS

Leaves of sour orange, *Citrus aurantium*; orange, *Citrus sinensis* and mandarine, *Citrus nobilis* were used as substrates for rearing in this study. The leaves were excised from seedlings one year age.

Thirty newly hatched larvae were held singly on the excised leaves of each host plant. The leaves were placed in contact with wet cotton in Petri dishes. The development of larvae was observed daily until they reached the adult stage.

The resulting adults were paired and the number of eggs laid per female was recorded daily for a period of a week following the preoviposition period. This is due to the observation that the loss was considerably high in adults living an extended period in the laboratory.

The excised leaves were replaced with fresh ones whenever it was found necessary. The experiment was conducted in room temperature of $29 \pm 1^\circ C$ and about $70\%$ relative humidity.

RESULTS AND DISCUSSION

When the citrus brown mite was reared on the leaves of the three citrus species neither marked variation in the developmental periods nor in the preoviposition period was noted (Table 1).

<table>
<thead>
<tr>
<th>Citrus species</th>
<th>Average duration in days</th>
<th>No. of eggs/female *</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Larva</td>
<td>Protonymph</td>
</tr>
<tr>
<td>Sour orange</td>
<td>6.27 ± 6.27 ± 2.60 ± 14.00 ± 0.06 ± 0.13</td>
<td></td>
</tr>
<tr>
<td>Orange</td>
<td>5.89 ± 2.30 ± 10.13 ± 2.83</td>
<td></td>
</tr>
<tr>
<td>Mandarin</td>
<td>6.11 ± 2.22 ± 6.75 ± 0.99</td>
<td></td>
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</tbody>
</table>

* During one week observation.

The results show that the average number of eggs laid per female reared on sour orange leaves was significantly higher as compared with that of the females reared on navel orange or mandarine leaves. The lowest number of eggs was laid when the mite was reared on mandarine leaves.

These results would be ascribed to the variation in the leaf components of the different citrus species as reported by Mohamed (1964). Also the surface features of the leaves of the different citrus species i.e. thickness of the cuticle, ridges and depressions may affect the fecundity of the citrus brown mite. Van De Vrie *et al.* (1972) reported that the physical features of the leaf surface are important in the reproductive potentiality of the tetranychid mites.

However, the foregoing results may clarify the findings of the author (1966).
REFERENCES


Paru en Mars 1978.