

Associations between *Frankliniella* spp. and *Orius niger* Populations in Cotton

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The distribution of the *Frankliniella* species *F. occidentalis* (Pergande) and *F. intonsa* (Trybom) (Thysanoptera: Thripidae), and of the predatory bug *Orius niger* (Wolff) (Hemiptera: Anthocoridae), in various organs of the cotton plant, as well as prey – predator interactions between thrips and *O. niger*, were investigated over 6 years in cotton fields in the eastern Mediterranean region of Turkey. The highest number of larvae of *Frankliniella* spp. were found inhabiting bolls, whereas the adults colonized mainly flowers. The majority of predatory bug nymphs were present on leaves, followed by bolls, whereas *O. niger* adults visited mostly flowers. The thrips larvae were most likely preyed upon on flowers and squares, and bolls were safe plant parts for thrips, with a low predation rate. An intermediate but relatively high predation rate occurred on cotton leaves. In further field experiments, the effects of insecticide treatment on the relationships between *O. niger* and *Frankliniella* spp. were investigated. These trials revealed that a higher correlation existed between the numbers of adult *O. niger* in flowers and *Frankliniella* spp. in non-treated cotton fields than in insecticide-treated fields. The proportions of prey/predator in flowers ranged from 1.53 to 19.28 and were below four thrips per predator at most sampling dates in some of the non-treated cotton fields. It is concluded that *O. niger* is an effective predator that can play an important role in suppressing population increase of *Frankliniella* spp. in cotton.

KEY WORDS: Plant distribution; biological control; *Frankliniella* spp.; *Orius niger*; cotton.

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