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Phytophagous Features Of Californian And Purple Scale Insects In The Jujube Agrocenosis

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Abstract: Ten species of diaspid scale insects were studied in the jujube agrocenosis. The identified species were distributed across the following genera: *Diaspidiotus* (4 species), *Salicicola* (1 species), *Parlatoria* (2 species), and *Lepidosaphes* (3 species).
Among these scale insects, the most harmful phytophagous species were found to be the California scale (*Diaspidiotus perniciosus* Comst.) and the purple scale (*Parlatoria oleae* Colvée).
Keywords: Jujube plant, bioecology, phytophagous, imago, larva, scale insects.

Introduction: The California scale, purple scale, and other scale insects cause phytophagous damage in fruit and ornamental plant agrocenoses, resulting in losses valued at 5 billion USD. Therefore, identifying harmful diaspid species in fruit and ornamental trees and developing control measures against them is of significant scientific and practical importance. Research on the bioecology of pests in fruit orchards, which play a crucial role in the sustainable development of agriculture and food security, is being given special attention. In this context, the California scale and purple scale, which are widespread and act as pests for nearly all species in our republic's fruit orchards, cause serious damage to a wide range of fruit trees, particularly jujube, apple, pear, quince, peach, cherry, apricot, as well as black currant, forest, and ornamental trees such as hawthorn, roses, linden, flowers, and red-fruited shrubs.

Research Materials and Methods The primary materials were collected from jujube orchards in Tashkent region between 2019 and 2024. In the research, the lower, middle, and upper tiers of the plants were examined to identify the distribution of California and purple diaspid species. The developmental stages of the diaspids were determined based on whether they were in the overwintering phase or feeding on the host plants. The collection and storage of the diaspids were carried out following the methodology of N.S. Borchsenius.

The morphological and taxonomic characteristics of the diaspids were studied based on various relevant identification and scientific sources. The analysis was conducted according to the works of A.D. Arkhangelskaya, N.S. Borchsenius, and E.M. Dantsig.

Research Results and Discussion The fauna, taxonomic analysis, and species composition of diaspid scale insects found on jujube trees in Tashkent region were studied. A total of six species belonging to the family *Diaspididae* were collected, representing six different genera. The identified species were as follows: *Diaspidiotus* (4 species), *Salicicola* (1 species), *Parlatoria* (2 species), and *Lepidosaphes* (3 species).

During the observations, the scale insect species on the jujube fruit trees in Tashkent region were identified, among which the most economically significant and harmful phytophagous species were the California scale (*Diaspidiotus perniciosus* Comst.) and the purple scale (*Parlatoria oleae* Colvée).

In terms of damage caused by scale insects, *Parlatoria oleae* held the highest harmfulness rate, varying by 43.4% in different years. The damage caused by *Diaspidiotus perniciosus* ranged by 35.7% .

Conclusion:
The most economically harmful phytophagous species of diaspids encountered in the jujube agrocenosis are the California scale (*Diaspidiotus perniciosus* Comst.) and the purple scale (*Parlatoria oleae* Colvée), with damage ranging from 35.7% to 43.4%.

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