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A B S T R A C T

Large populations of the mango shield scale, *Protopulvinaria mangiferae* (Green) (Homoptera: Coccidae) infest Java plums, *Eugenia jambolana* Lam. (Myrtaceae), and produce abundant honey-dew. Cars parked below these trees become soiled. Possible reasons for the scale's outbreak are discussed.

Soft scales (Homoptera: Coccidae) are well-known pests of fruit trees (Avidov and Harpaz, 1969). Their injury is partially due to copious excretion of honeydew, which subsequently becomes colonized by dark fungi, commonly called sootymold. The honeydew of soft scales contains various soluble sugars (Burns and Davidson, 1966; Ewart and Metcalf, 1956), which make honeydew unpleasantly viscous.

Residents in a small, formerly quiet but now car-crammed park in the city of Tel-Aviv complained about diseased trees whose dark and sticky exudations were oozing on their cars. A visit to the park revealed that the trees (Java plums or jambolans, *Eugenia jambolana* Lam., Family Myrtaceae) were heavily infested by the mango shield scale, *Protopulvinaria mangiferae* (Green) (Coccidae). Scale infestation occurred mainly on the leaves' underside, causing much honeydew to be squirted on the upper side of lower leaves. Honeydew drops were accumulating on leaf tips and falling in fairly large, dark drops on cars parked on the street below (Figs. 1-4). Most leaves were covered by dense, dark sootymold which apparently imparted its color to the oozing honeydew. Much leaf drop was seen, reportedly more

intense than in former, scale-free years. As over-all decline in tree vigour, manifested by reduced growth and fruit setting, was reported by the complaining residents.

The trees were planted in the year 1934 and, despite scattered complaints regarding autumnal fruit drop, were not considered a real nuisance until 1971. Reports concerning sticky, dark-and-dirty exudations on cars (and pedestrians as well) have regularly been voiced since then. Additional complaints, about intense leaf drop, not noticed before 1971, were also received. The trees' height (ca 6-8 m) and site (residential area) precluded insecticidal treatments. It was recommended that the trees be replaced.

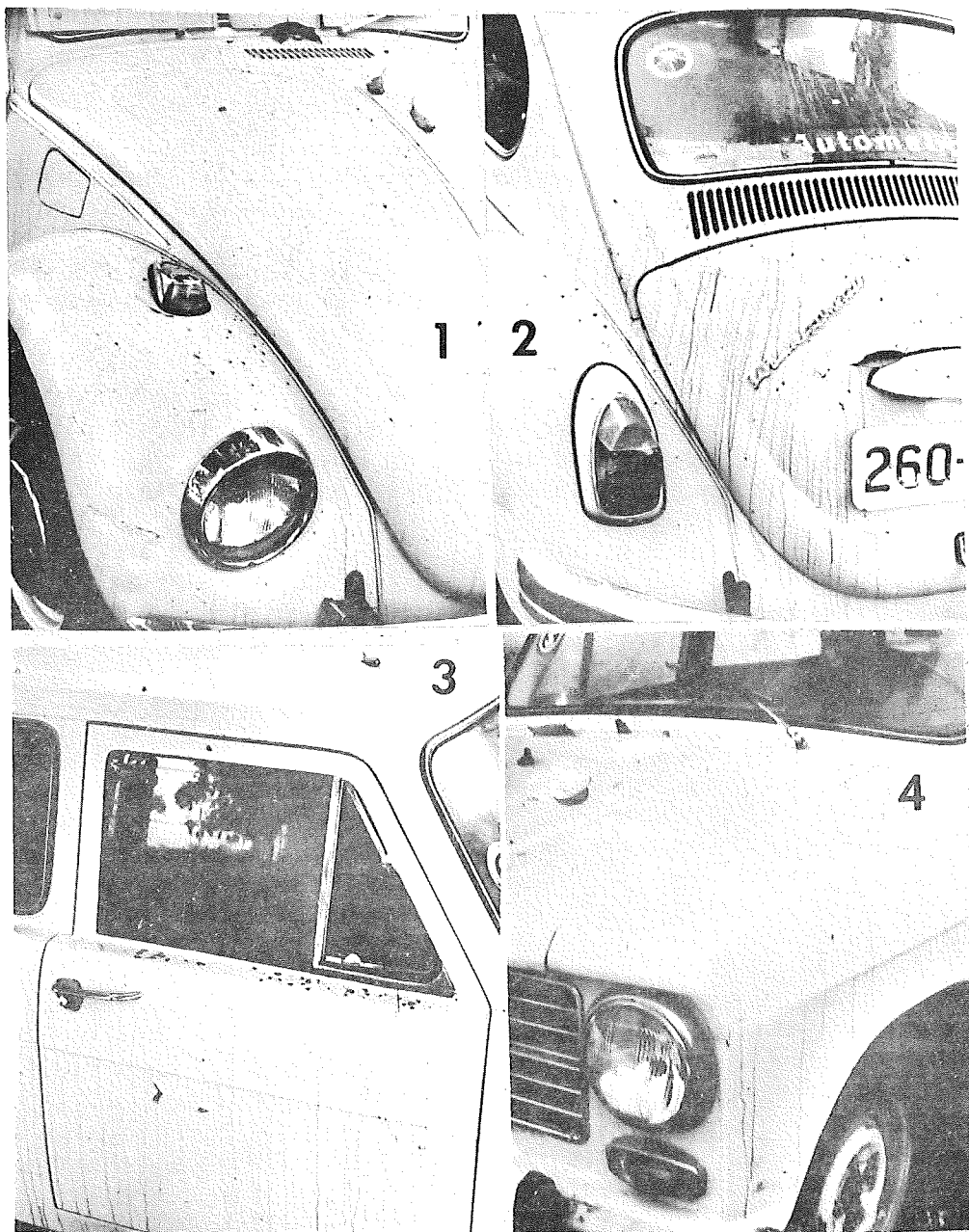
Protopulvinaria mangiferae is a known pest of mango, also collected locally on jambolan (Avidov and Zaitzov, 1960). More recent studies (unpublished) indicate that the scale is usually controlled by its natural enemies, unless these are destroyed by pesticides. As it is unlikely that the scale was absent from the trees before 1971, and as no pesticides were ever applied there, another cause for the outbreak has to be sought. One possibility is the accumulative effect of pollution by automobile fumes. The park became the main gateway of an important municipal department in recent years, carrying a heavy traffic load. Car exhaust fumes, as well as stronger dust swirls, may be killing off the scale's natural enemies, consequent upon which *P. mangiferae* is becoming a pest of urban sites.

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Figures 1-4. Front, rear and side views of cars left overnight under trees infested by *Protopulvinaria mangiferae*. Note soiled back window (Fig. 2), dark honeydew drops (Figs 1,3) and fallen leaves (Figs 1, 3 and 4).