

DOCUMENTATION OF TWO POTENTIAL INSECT PESTS
OF SOUTH TEXAS SUGARCANE

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Sugarcane delphacid, *Perkinsiella saccharicida* Kirkaldy (Homoptera: Delphacidae) (identified by S. W. W.) and sugarcane lacebug, *Leptodictya tabida* (Herrich-Schaeffer) (Hemiptera: Tingidae) (identified by R. C. Froeschner, Smithsonian Institution, Washington D.C.) were collected from sugarcane (interspecific hybrids of *Saccharum*) in the lower Rio Grande Valley of Texas in 1989 and 1990 and in the state of Veracruz, Mexico in 1991. This is the first documentation of *P. saccharicida* in North America outside of Florida. Both insects were recently reported from Florida sugarcane fields (Sosa 1985, Hall 1991).

Texas sugarcane fields were surveyed during March-June 1989 and 1990 in Cameron, Hidalgo and Willacy counties. Samples were taken using a D-Vac sampler (D-Vac, Riverside, CA) at four locations within a field. *Perkinsiella saccharicida* was found in four of twenty fields (Hidalgo and Willacy counties) in 1989 (7 adults) and seven of twenty fields (all 3 counties) in 1990 (15 adults, 2 immatures). *Leptodictya tabida* was found in one field in Hidalgo county in 1990 (4 adults).

Sweep net samples were taken in 15 sugarcane fields around the mills of El Modelo, San Miguelito and El Potrero in the state of Veracruz during late April and early May, 1991. *Perkinsiella saccharicida* was found in all three areas in relatively low numbers (4 adults collected, ca. 12 others observed). The El Modelo fields were located within 20 km of the city of Veracruz, other fields were located near Cordoba. The elevation of the areas sampled was at least 1000 m. *Leptodictya tabida* was found in all fields sampled and has been known to infest sugarcane in all regions of Mexico (Riess and Flores 1976).

Perkinsiella saccharicida is native to southeast Asia and Australia, but now occurs in southern Asia, southern Africa, Ecuador, Peru, and Florida (Risco 1966, Fennah 1969, CAB International 1987). *Perkinsiella saccharicida* can cause severe economic damage (Wilson 1987) and is a vector of *Fijivirus* sp., causal agent of Fiji disease of sugarcane (Francki and Grivell 1972, Egan et al. 1989). Fiji disease is presently found only in the Eastern Hemisphere, and is restricted to southeast Asia, Madagascar and the south Pacific (Ricaud et al. 1983).

Perkinsiella saccharicida has expanded its distribution to include Florida, Texas and Mexico, suggesting an increased likelihood of becoming established in other sugarcane growing areas of North America and the Caribbean. Its potential to cause economic injury to sugarcane due to population eruptions with resulting sooty mold production from excreted honeydew (Osborn 1974, Risco 1966) and its ability to transmit a viral pathogen (Bull 1972) necessitates monitoring of field densities and geographic distribution of this insect.

Leptodictya tabida is a pest of sugarcane from the Western Hemisphere including Hawaii (Chang 1985, Chang and Ota 1986). It has been known to attack sugarcane since the early 1900's (Heidemann 1913, Urich and Heidemann 1913), being first documented in Texas (Brownsville) in 1910 (Drake 1925). A relatively small sugarcane industry operated in the lower Rio Grande Valley from 1830, peaking in 1913 with five sugar mills. The industry declined after 1913 and the early 1920's marked the end of production. Sugarcane

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research resumed in the 1960's with the first production season in 1972-1973 (Cowley and Sund 1973). It is likely *L. tabida* has been in the lower Rio Grande Valley through this century since alternative hosts such as corn (*Zea mays* L.), guineagrass (*Panicum maximum* L.), and johnsongrass (*Sorghum halepense* L. Persoon) (Chang 1985) are present. *Leptodictya tabida* did not reach pest status in the 1900's in the lower Rio Grande Valley suggesting that it has a low propensity to do so in the future, unless management practices (e.g., heavy chemical control using synthetic pyrethroids) for other pests alters existing natural control mechanisms (general predators such as *Colomegilla maculata*, Chang 1985).

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