DYSCINETUS MORATOR (COLEOPTERA: SCARABAEIDAE) AS A PEST OF CARROTS AND RADISHES IN FLORIDA

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Dyscinetus morator (Fab.) is a scarab found in most of the eastern United States and present throughout Florida (Woodruff 1970). Damage to caladium bulbs by the adult stage of this scarab has been confirmed in Highland County, Florida (Anonymous 1971). No other reports of economic damage by this insect in Florida have been published.

On March 1, 1985, *D. morator* adults were found on or inside damaged carrots and radishes in Brevard County, Florida. The damage observed on carrots was large, rough gouges on the sides of the carrot. The damage to radishes consisted of an entry hole and removal of all tissue from within the bulb, leaving only the outer surface intact. *D. morator* adults were collected from fields of damaged radishes and isolated in 500 ml plastic containers with undamaged carrots and radishes in soil. Subsequently, these plants received the same type of injury as those observed in the field, verifying adult *D. morator* as the causal agent of the observed damage. This constitutes the first published report of *D. morator* as a pest of carrots and radishes.

After the initial damage was observed, a thorough examination of surrounding fields was conducted by examining plants from ten row feet at ten locations per field. Six fields of radishes totalling over 25 ha were found with damage from the adult beetles. The damaged fields represented 46% of the radish fields present in the local area in early March. The percentage of damaged bulbs in the fields ranged from 24 to 65%. All three of the nearby carrot fields totalling about 12 ha had damage with 12 to 30% of the carrots in a given field rendered unmarketable. No *D. morator* larvae were observed in any of the damaged fields. On April 16, 1985, three *D. morator* adults were found feeding on heads of lettuce that had been grown in a field adjacent to the fields that had contained the damaged radishes.

Adult *D. morator* were collected in 15 watt blacklight traps which were set adjacent to sugarcane fields because *D. morator* was reported to be associated with sugarcane in southern Florida (Gordon and Anderson 1981). Six traps (1 trap/field) were operated

TABLE 1. MEAN NUMBER OF *DYSCINETUS MORATOR* CAPTURED PER BLACKLIGHT TRAP PER NIGHT IN SOUTH FLORIDA (AUGUST, 1982—JULY, 1985 AND PERCENTAGE OF TOTAL SCARABS COMPRISED BY *D. MORATOR*.[1]

Month	Mean	Standard Deviation	Percentage of Total Scarabs
August	28.9	42.3	94
September	8.6	12.0	85
October	154.2	216.8	99+
November	17.2	43.2	99+
December	92.7	161.6	100
January	32.7	65.2	100
February	180.8	186.0	100
March	157.7	338.8	99+
April	15.4	59.4	96
May	57.7	73.7	62
June	69.3	140.2	93
July	96.0	151.1	99+

[1]n = 18.

for one night approximately mid-month from August, 1982, until July, 1985. Three traps were located in Palm Beach County and three traps in Hendry County, both in southern Florida. Besides *D. morator*, other scarab species collected in the traps were counted. Table 1 shows the mean blacklight trap catches of *D. morator* for three years and the relative catch compared to other scarab species. Although the catches were sometimes erratic because of occasional adverse weather conditions, the data showed that adult *D. morator* are active in relatively large numbers throughout the year in southern Florida. The data also showed that *D. morator* is the most abundant scarab species caught in blacklight traps in all months in southern Florida. Therefore, the potential exists for damage by adult *D. morator* to fields of carrots or radishes at any time during the growing season.

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