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SOLENOPSIS INVICTA (HYMENOPTERA: FORMICIDAE) IN THE LESSER ANTILLES

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The red imported fire ant, *Solenopsis invicta* Buren, is one of the most notorious ants in the world due to its powerful sting. Originally from South America, *S. invicta* arrived in North America by ship sometime before 1945 and has spread across the U.S. from Texas to North Carolina in the southeast and California in the west, particularly in open disturbed areas, causing ecological and economic damage (Buren et al. 1974; Tschinkel 1993). The earliest known records of *S. invicta* in the West Indies are from Puerto Rico (first found in 1981) and the Virgin Islands (1988), where it is now widespread on many islands (Buren 1982; Davis et al. 2001; Wetterer & Snelling 2006). More recently, *S. invicta* has been reported from other island groups in the West Indies, including the Bahamas (1993), Trinidad (2000), Antigua (2000), and Providenciales (2001) (Davis et al. 2001; Wetterer & Snelling 2006). In the present study, we evaluated the distribution of *S. invicta* in the Lesser Antilles.

In May 2006, May-Jul 2007, and May-Jun 2008, JKW surveyed ants on the 15 largest islands of the Lesser Antilles (from north to south): Anguilla, St. Martin, Barbuda, St. Kitts, Nevis, Antigua, Montserrat, Guadeloupe, Marie Galante, Dominica, Martinique, St. Lucia, St. Vincent, Grenada, and Barbados. JKW collected on each island, using visual search, vegetation beating and leaf-litter sifting in a wide diversity of habitats.

JKW collected *S. invicta* at 114 sites on 7 islands in the Lesser Antilles. In addition, J. Johnson, a naturalist on Nevis, noted large colonies of *S. invicta* on the summit of Nevis Peak and collected vouchers. Sites with *S. invicta* present were as follows. Anguilla (2006; 15 of 53 sites = 28%): Abadam Hole (trees/scrub), Bad Cox Pond (scrub), Forest Bay (sea grape), Junk's Hole Bay (sea grape), Lake's Quarry (scrub), Long Bay (garden), Maunday's Bay (sea grape), Meads Bay (grass), Sandy Hill (roadside plantings), Shericks Point (beach), Shoal Bay Road (scrub), The Quarter (trees/scrub 1), The Quarter (trees/scrub 2), The Valley (parking lot), Windward Point Bay (sea grape). St. Martin (2006 & 2007; 13 of 56 sites = 23%): Amazone Road (by buildings), Cole Bay Hill (overlook grass), French Cul de Sac (pasture), Friar's Bay (grass), Guana Bay Road (scrub), Juliana Airport (by East end), La Colombe (urban grass), Loterie Farm (grass), Mullet Bay (golf course), St. Jean (suburban), Simpson Bay (beach), St. Peter Hill (East side), Sucker Garden (cactus scrub). Barbuda (2007; 16 of 35 sites = 46%): Bump Well Road (by house), Burton Farm (field), Coco Point Road (scrub), Coco Point (by jetty), Coco Point (by airstrip), Codrington (airport terminal), Codrington (by buildings 1), Codrington (by buildings 2), Codrington (abandoned resort), Codrington (South of jetty), Dulcina (by abandoned hotel), Highland Road (scrub), Rock Bay (by lagoon), Rock Bay (park), Sandman Road (scrub), Two Foot Bay (trees). St. Kitts (2007; 21 of 51 sites = 41%): Belmont (sugarcane), Basseterre (by church), Basseterre (by buildings), Basseterre (park), Basseterre (waterfront), Bird Rock (by hotel), Camp Bay (by nursing school), Camp Bay (scrub), Friar's Bay (salt marsh), Frigate Bay (weeds/trees), Half Way Tree (scrub), Key Beach (manchineel), Key (acacia), Key (ghut), Major's Bay (scrub), Romney's (by buildings), Sandy Point (sugarcane), Stone Fort (acacia), Tabernacle (trees), Turtle Beach (beach), West Farm (scrub). Antigua (2007; 20 of 48 sites = 42%): Airport (parking lot), All Saints (church lawn), Carlisle (scrub), Darkwood Beach (waterfront), Deep Bay (hotel grounds), Five Islands (mango in pasture), Follys (forest), Horford Hill (kiosks/scrub), Jabberwock Beach (sea grape), Landing Bay (waterfront), Long Bay (waterfront), Nonsuch Bay (parking lot), Crabbs Peninsula (waterfront), Old Road (mango/bananas), Seatons (by dump), Seatons (Sting Ray City), St. John's (dockside), St. John's (Victoria Park), Windthropes Foot (mangrove/acacia), Yepton (scrub forest). Nevis (2007; 25 of 43 sites = 58%): Camps (ghut), Charlestown (urban), Charlestown (urban), Charlestown (garden), Charlestown (park), Fountain (ghut), Golden Rock (nature trail), Grandee Ghut (manchineel), Herbert's Beach (beach), Hermitage (shrubs), Hog Valley Estate (scrub), Indian Castle (beach), Long Point (scrub), Market Shop (by church), Montpelier (Botanical Gardens), Nevis Airport (clumps of trees), Nevis Peak (summit), Paradise (by church), Pinney's (scrub), Potworks (University entrance), Rawlins (Butt-Butt Road), Stuart's (hotel grounds), Tower Hill (forest), Westbury (by church), White Bay (manchineel). Montserrat (2007; 5 of 50 sites = 10%): Gerald's (field by airport), Little Bay (by beach), Little Bay (by restaurant), Old Quaw (scrub), Old Quaw (ghut). These are the first published records of *S. invicta* from six of the seven islands (all except Antigua). We

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did not find *S. invicta* on the eight more southern islands of the Lesser Antilles (Guadeloupe, Marie Galante, Dominica, Martinique, St. Lucia, St. Vincent, Grenada, and Barbados).

Solenopsis invicta was widespread in disturbed and open habitats on 6 of the 7 islands, but appeared to be only recently established on Montserrat, found only near the airport (Gerald's and Old Quaw) and the main seaport (Little Bay). On Anguilla and St. Martin, the African big-headed ant, *Pheidole megacephala*, dominates most open habitats, excluding most other ant species, including *S. invicta*, which remains relatively uncommon on these islands. *Solenopsis invicta* rarely occurred in closed forest habitat.

Despite the lack of published records, many people of the Lesser Antilles were well aware of fire ants. In fact, the Anguilla women's soccer team is named the Swarming Fire Ants. On 7 Jul 2007, Eric Burton of Codrington, Barbuda, told JKW that 1 year earlier he was digging at his farm when fire ants stung him on his legs. He had an allergic reaction and had to be evacuated by airplane to Antigua, where he was hospitalized for 11 d.

The absence of *S. invicta* in the southern Lesser Antilles is not due to the lack of suitable habitat. In fact, *S. invicta* thrives in Trinidad, to the south of the Lesser Antilles, particularly in sugarcane areas (JKW, unpublished data). It seems inevitable that *S. invicta* will soon spread via commerce to the southern Lesser Antilles and most other populated islands of the West Indies as well.

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SUMMARY

In surveys of the 15 largest islands of the Lesser Antilles, we found the red imported fire ant, *Solenopsis invicta* Buren, on the 7 northernmost islands, including additional records of *S. invicta* on Antigua (20 sites) and the first records of *S. invicta* from Anguilla (15 sites), Barbuda (16 sites), Montserrat (5 sites), Nevis (25 sites), St. Kitts (21 sites), and St. Martin (13 sites). *Solenopsis invicta* was widespread in disturbed open environments on 6 of the 7 islands, but appears to be recently established on Montserrat, found only near the airport and the main seaport. *Solenopsis invicta* has not yet been recorded from the southern Lesser Antilles (i.e., Guadeloupe, Marie Galante, Dominica, Martinique, St. Lucia, St. Vincent, Grenada, and Barbados), but it is probably only a matter of time before these islands are also invaded.

REFERENCES CITED

BUREN, W. F., ALLEN, G. E., WHITCOMB, W. H., LENNARTZ, F. E., AND WILLIAMS, R. N. 1974. Zoogeography of the imported fire ants. J. New York Entomol. Soc. 82: 113-124.

BUREN, W. F. 1982. Red imported fire ant now in Puerto Rico. Florida Entomol. 65: 188-189.

DAVIS, L. R., JR., VANDER MEER, R. K., AND PORTER, S. D. 2001. Red imported fire ants expand their range across the West Indies. Florida. Entomol. 84: 735-736.

TSCHINKEL, W. R. 1993. The fire ant (*Solenopsis invicta*): still unvanquished, pp. 121-136 *In* B. N. McKnight [ed.], Biological Pollution: the Control and Impact of Invasive Exotic Species. Indiana Acad. Sci., Indianapolis. 270 pp.

WETTERER, J. K., AND SNELLING, R. R. 2006. The red imported fire ant, *Solenopsis invicta*, in the Virgin Islands (Hymenoptera: Formicidae). Florida Entomol. 89: 431-434.

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