



Fig 1. Symptoms of *Ibipora lolii* on turf (a) chlorotic thinning patches, (b) root system pruned by nematodes are prone to drought and wear stress. **Fig 2.** Nematode features (a) head region with annulated cuticle, long stylet and large median bulb, (b) vulva, (c) male tail with spicule and bursa. Photo credits: S. Collins 1 (a) K. Johnson 1 (b) and Zhao-Xiang Chai 2 (a, b, c).

Common Name: Southern Sting Nematode or Sting Nematode.

Classification: K: Animalia, P: Nematoda, C: Secernentea, O: Tylenchida, F: Belonolaimidae

Lifecycle: Southern Sting Nematode (*Ibipora lolii*) is a migratory ectoparasite. It remains in the soil and feeds by inserting its stylet into roots, injecting enzymes and then sucking plant juices out through the stylet. Members of family Belonolaimidae complete their lifecycle in approximately 28 days with an optimal temperature of 30°C. No specific research has been conducted on *I. lolii* in Australia.

Host Range: Southern Sting Nematode is not the same as the internationally recognised sting Nematode (*Belonolaimus longicaudatus*), but their symptoms on grasses are very similar and it is feared that *I. lolii* could be as devastating as its counterpart. *B. longicaudatus* is among the most destructive plant-parasitic nematodes, not only on turf, but also on a wide range of crops including potato, carrot, tomato, cauliflower, onion, rockmelon and strawberry. Action is needed to limit the spread of *I. lolii*, the Southern Sting Nematode in Australia, and research is required to determine if this nematode could also impact horticultural and broadacre crops.

Symptoms and Impact: This pest is common in turf in NSW and is now present in more than 50% of Perth's amenity turf areas and costs up to \$10,000 /ha for additional management.

Plants often wilt, are stunted and show symptoms of nutrient deficiency. On turfgrasses, damage is usually in irregular patches and accompanied by the proliferation of weeds (Fig 1a). Root systems are greatly reduced, with short, stubby roots having dark, shrunken lesions, particularly at the tips. If rolls of turf are used to re-turf affected areas, establishment is generally poor. Roots emerging from the newly laid turf become severely stunted and rarely grow more than a few cms into the nematode infested soil (Fig 1b)

Identification: There has been a great deal of conjecture over identification of this nematode and it has been variously named *B. longicaudatus*, *B. lolii*, and *Morulamimus gigus*. Recent survey, morphological and molecular assessment by Stirling *et al.* (in press) confirm this current identification and nomenclature.

Adults can reach lengths >3 mm, making it one of the largest plant-parasitic nematodes. They have a prominently annulated cuticle and long (62-100 µm) stylet with small rounded knobs (Fig 2a). Median bulb is large and spheroidal (Fig 2a). Lateral fields each with four distinct lines. Females; cylindrical to sub-cylindrical rounded tail, vulva median and in a body cavity or depression with an indistinct epiptygma in the area surrounding the vulva (Fig 2b). Males; tail elongate to sub-cylindrical with a conical tip completely enveloped by moderately developed bursa (Fig 2c). Spicules arcuate.

Management and Control: Since these nematodes are large they require soils with a larger pore size for ease of travel. They thrive in soils of high sand content and in irrigated cropping systems. These characteristics are typical of turf production areas, golf courses, sporting fields, amenities grounds and horticultural production areas of WA's Swan Coastal Plain.

This pest can spread readily on infested plant material or in soil adhered to machinery, boots and clothing. Once an area is infested, it is rarely practicable or even possible to eradicate and nematicides appear ineffective in controlling infestations. Therefore, we urge all turf and vegetable growers to maintain high levels of biosecurity, especially when considering lease or purchase of land that might have been used for turf. Consumers need to be vigilant when purchasing turf.

References and Further Reading:

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