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Short Communication

New Report of Root-Knot Nematode (*Meloidogyne enterolobi*i) on Guava from Karnataka, India

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Guava (*Psidium guajava*) is a common tropical fruit cultivated in many tropical and subtropical regions, which is known as poor man's apple. It yields heavily with little inputs. Common guava or lemon guava is a small tree in the *Myrtle* family (Myrtaceae). In many countries, the fruit is eaten raw and sold as a popular snack in many street corners and night markets. Because of its high level of pectin, guavas are extensively used to make candies, preserves, jellies, marmalade and juices. Guava is rich in dietary fiber and vitamin C with moderate levels of folic acid.

In India guava occupies an area of 2.03 lac hectares with annual production of 22.7 lacs MT. It is one of the important commercial fruits in India, fourth most important after mango, banana and citrus. Major guava producing states include Uttar Pradesh, Bihar, West Bengal, Maharashtra, Chhattisgarh, Tamil Nadu, Karnataka, Madhya Pradesh, Gujarat and Andhra Pradesh. Karnataka stands ninth in production 138.8 ('000 M) with an area of 7.2 ('000 ha) [1]. The crop is quite hardy and a prolific bearer. In pomology it is considered as a highly remunerative crop even with less input application. Therefore, the cultivation of the crop is picking up in Karnataka on commercial basis. The demand for seedling is met through supply not only from nurseries within the State but also from neighbouring States.

Recently, guava trees of one and half to two years were found exhibiting symptoms of yellowing, shredding leaves, thrifty branches, reduced growth and declined fruit production in the orchards of Thippenahalli, Chickballapura district (Figure 1). After the closer observation of roots of affected plants, formation of moderate to big sized galls were traced on the roots (Figure 2). Soil and root samples from affected plant rhizosphere were assayed. Most of the plants were found to be associated with multiple galling.

Figure 1: *Infested guava plant above ground symptoms.*

Figure 2: *Roots with knots.*

The soil extract revealed the presence of second stage juveniles of *Meloidogyne* (351/200cc soil) and the adult female posterior cuticlar pattern observed for many specimens was similar to that observed by previous workers [2,3] indicating that the nematode associated is *M. enterolobii*. Perineal pattern resembled that of *M. enterolobii* (Figure 3), which was oval shaped with smooth striae, moderately high dorsal arch, rounded to square shaped, indistinct lateral lines, visible tail tips, conspicuous phasmids, lateral lines not prominently visible and striae on ventral was smoother.

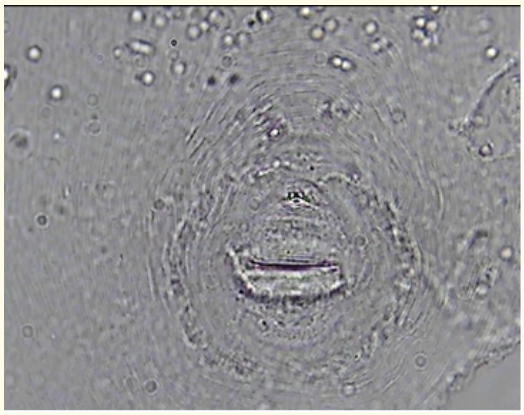

Figure 3: *Perineal pattern of M. enterolobii.*

Meloidogyne enterolobii (synonym *M. mayaguensis*), an emerging species of *Meloidogyne*, is currently considered to be one of the most damaging nematode species in many countries because the nematode has a wide geographical distribution, wide host ranges and could overcome *Mi-1* gene resistance against *M. incognita*, *M. javanica* and *M. arenaria* in many crops [4].

M. enterolobii (or *M. mayaguensis*) has been reported from several countries on guava. It was first reported from Aubergine in Puerto Rico [5] and later from Africa [6], Europe [7], the United States [8], Vietnam [9], China [10] and Thailand [4].

The available literature scan reveals this as the first scientific published report of this new species on guava from Karnataka, India.

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