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UF UNIVERSITY of FLORIDA
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EENY257

Natal Fruit Fly, Natal Fly, *Ceratitis rosa* Karsch (Insecta: Diptera: Tephritidae)[1]

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Introduction

The Natal fruit fly, *Ceratitis rosa* Karsch, which is sometimes call the Natal fly, was described in 1887 from specimens collected at Delagoa Bay, Mozambique. By 1900 it was recognized as a pest of orchard fruits throughout much of KwaZulu Natal Province, Republic of South Africa, and is considered to be the most common fruit fly of economic importance in Zimbabwe.

Following its accidental introduction into the island of Mauritius about 1953, this fly became firmly established and largely replaced the Mediterranean fruit fly, *Ceratitis capitata* (Wiedemann), as a pest of fruits. In South Africa the Natal fruit fly ranks second in importance only to the Mediterranean fruit fly, and at times it is an even more serious pest. For example, 50 to 100 percent of plums were reportedly infested in a South African locality one year despite the application of control measures.

Although the Natal fruit fly was intercepted in the United States in a shipment of peaches arriving from South Africa, it never has been captured as an escapee in the United States. It continues to constitute a potential threat to Florida agriculture. If it were accidentally introduced into Florida and allowed to gain a foothold, the Natal fruit fly could prove to be fully as serious a menace as the Mediterranean fruit fly.

Synonymy

Pterandrus rosa (Karsch)

Pterandrus flavotibialis Hering

Distribution

Angola, Ethiopia, Kenya, Malawi, Mali, Mozambique, Nigeria, Republic of South Africa (KwaZulu Natal), Rwanda, Swaziland, Tanzania, Uganda, Zaire, Zimbabwe, and the islands of Mauritius and Reunion.

Description

This fruit fly closely resembles the Mediterranean fruit fly (Medfly) in appearance. It averages slightly larger and has the characteristic picture wings and dark black spots on the thorax. The arista of the antenna is plumose, while that of the Medfly bears only short pubescence. The frons of the male lacks the pair of conspicuous spatulate setae, which is found on the male Medfly. The mesothoracic tibiae of the males are clothed with dorsal and ventral brushes of elongated bluish-black scales, lacking in the Medfly. The ovipositor sheath of the female is shorter than the width at its base. Length of the fly is 4 to 5 mm.

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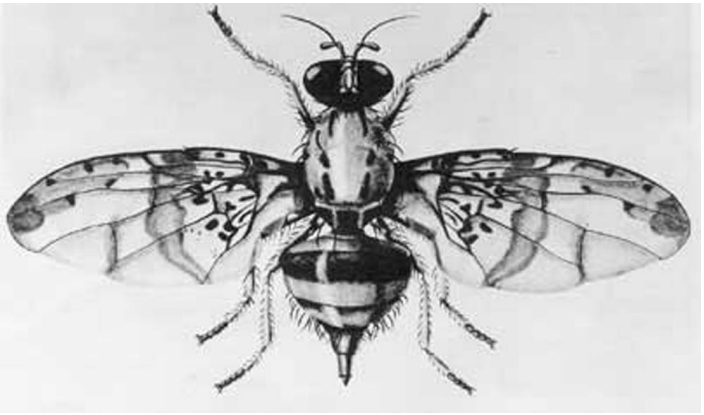

Figure 1. Adult female Natal fruit fly, *Ceratitis rosa* Karsch.
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Life History and Habits

The Natal fruit fly overwinters in the adult stage and is able to withstand temperatures as low as 20°F, provided the warming period comes slowly. Food, water, and shelter are more important overwintering factors than temperature. Overwintering flies feed on honeydew and require an abundant water supply. This species is not attracted to traps during the winter months. Eggs are laid 10 to 20 at a time just below the fruit surface. Eggs may be laid in unblemished fruit and in ripe or unripe fruit. Eggs usually hatch within four days after oviposition, but may require longer than four days during cold weather. The three larval stages and a prepupal stage occupy a period of about 12 days. Pupation takes place in the soil, and the pupal stage lasts 10 to 20 days. Females usually begin oviposition in about seven days. Adults may live for several months. Entomologists estimate that under central Florida conditions there would be approximately ten generations per year.

Hosts

This fruit fly infests many orchard fruits and wild fruits, including:

- apple, *Malus sylvestris*
- apricot, *Prunus armeniaca*
- avocado, *Persea americana*
- blackberry, *Rubus* spp.
- cactus, *Opuntia* spp.
- citrus, *Citrus* spp.
- coffee, *Coffea arabica*
- custard apple, *Annona reticulata*
- fig, *Ficus carica*
- forest peach, *Rawsonia lucida*
- guava, *Psidium* spp.
- imbe, *Garcinia livingstonei*
- Kei-apple or umkokolo, *Dovyalis caffra*
- lathberry, *Eugenia cordata*
- loquat, *Eriobotrya japonica*
- mango, *Mangifera indica*
- Natal-orange, *Strychnos spinosa*
- nectarine, *Prunus persica nectarina*
- papaya, *Carica papaya*
- peach, *Prunus persica*
- pear, *Pyrus communis*
- persimmon, *Diospyros virginiana*
- plum, *Prunus domestica*
- quince, *Cydonia oblonga*
- red bitter-berry, *Solanum giganteum*
- roseapple, *Syzygium jambos*
- sapodilla, *Manilkara zapota*
- soursop, *Annona muricata*
- wooly nightshade, *Solanum mauritianum*

Peaches and guavas are particularly favored. Nut crops appear to be immune from attack.

Attractants

Males are attracted to trimedlure and terpinyl acetate, but not methly eugenol (White and Elson-Harris 1994).

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Selected References

- Anonymous. 1928. Fruit-fly campaign at Cedara. Rev. Appl. Ent. (A) 15: 521. 1927. (From Farming in South Africa 1: 186. Pretoria. September 1962).

- Anonymous. (16 January 2001). *Ceratitis rosa*. Agricultural Research Council, Pretoria, South Africa. http://www.ecoport.org/ep.exe$EntFull?ID=26409 (26 December 2001).

- Froggatt, Walter W. 1909. Report on Parasitic and Injurious Insects. 1907-1908. New South Wales Department of Agriculture 115 pp.

- USDA, Survey and Detection Operations, Plant Pest Control Division, Agricultural Research Service. Anonymous. 1963. Insects Not Known to Occur in the United States. Cooperative Economic Insect Report 13: 1-32. Natal Fruit Fly (*Ceratitis rosa* Karsch), pp. 14-16.

- White, I.M., and M.M. Elson-Harris. 1994. Fruit Flies of Economic Significance: Their Identification and Bionomics. CAB International. Oxon, UK. 601 pp.