

### Mini datasheet on *Zaprionus tuberculatus* (Diptera: Drosophilidae)

Added to the EPPO Alert List in 2016 - Deleted in 2020

**Reasons for deletion:**

*Zaprionus tuberculatus* has been included in EPPO Alert List for more than 3 years and during this period no particular international action was requested by the EPPO member countries. In 2020, the Working Party on Phytosanitary Regulations agreed that it could be deleted, considering that sufficient alert has been given.

**Why:** Following a proposal made by the French NPPO, the EPPO Panel on Phytosanitary Measures considered that two invasive drosophilids, *Zaprionus indianus* and *Z. tuberculatus* should be added to EPPO the Alert List.

*Zaprionus tuberculatus* is an invasive species originating from tropical Africa which has recently been found in the EPPO region. Although, its pest status on fruit crops has not been ascertained, the spread of this species might represent a risk to the EPPO region.

**Where:**

**EPPO region:** Cyprus, Egypt, Greece (Crete), Israel, Italy, Malta, Spain (Islas Canarias only), Romania, Tunisia, Turkey.

**Africa:** Cameroon, Cape Verde, Central African Republic, Chad, Congo, Congo (Democratic republic), Cote d'Ivoire, Egypt, Gabon, Kenya, Madagascar, Malawi, Mauritius, Mayotte, Mozambique, Niger, Nigeria, Réunion, Saint Helena, Seychelles, South Africa, Tanzania, Tunisia, Uganda, Zambia, Zimbabwe.

**On which plants:** According to the literature *Z. tuberculatus* has successfully been reared on 49 different species of tropical fruit, including: *Artocarpus* sp., *Dacryodes* sp., *Detarium senegalense*, *Ficus lutea*, *Ficus mucoso*, *Ficus natalensis*, *Ficus saussureana*, *Ficus sur*, *Gambeya taiensis*, *Guarea cedrata*, *Hirtella* sp., *Parinari excelsa*, *Santiria trimera*, *Spondias mombin*, *Tieghemella heckelii*, *Uncaria* sp. In the EPPO region, as most specimens were caught in traps, no direct association with plants has been documented. For example, traps were placed in a deciduous wood near Trento in Italy, and in *Rubus caesius* bushes in a urban area near Bucharest city in Romania. In Turkey, captures were made in urban or semiurban environments or forest areas.

**Damage:** As in the case for most drosophilids, *Z. tuberculatus* is a secondary pest which infests overripe, fallen, or rotting fruit. In its native range, it is not reported as a pest. In its invaded range, for the moment it seems that no reports of damage have been made, but as for *Z. indianus*, it cannot be excluded that it might cause damage to fig (*Ficus carica*) production.

Pictures of the insect can be viewed on the Internet:

<https://galerie-insecte.org/galerie/ref-173473.htm>

**Dissemination:** There are no study on the potential for spread of *Z. tuberculatus*. Over short distances adults can fly, and as for *Z. indianus*, movement of infested fruits is likely to transport *Z. tuberculatus* over long distances.

**Pathway:** Fruit of host plants from countries where *Z. tuberculatus* occurs.

**Possible risks:** As very little is known about its biology and ecology, it is difficult to evaluate the pest potential of *Z. tuberculatus* to healthy fruit species. However, its association with other primary pests (such as *Drosophila suzukii* as observed in Romania), could contribute to enhance the negative impacts of those pests on fruit crops. It seems wise to pay more

attention to the spread of *Z. tuberculatus* within the EPPO region and gather more information about its potential pest status.

### Sources

- Baez M, Ortega G (1979-1980) Notas taxonomicas y ecologicas sobre el genero *Zaprionus* (Diptera Drosophilidae) en las Islas Canarias. *Bulletin de l'Institut Scientifique Rabat* no 4, 87-94.
- Ben Halima Kamel M, Ben Cheik Z, Zouari S, Mdellel L, Balmès V (2020) First report of *Zaprionus indianus* and *Z. tuberculatus* (Diptera: Drosophilidae) in Tunisia. *EPPO Bulletin* **50** (early view). <https://doi.org/10.1111/epp.12662>
- Chireceanu C, Teodoru A, Chiriloaie A (2015) The first detection of fruit fly *Zaprionus tuberculatus* Malloch (Diptera: Drosophilidae) in the eastern part of Europe (Romania). *Analele Universității din Craiova - Biologie, Horticultura, Tehnologie Prelucrării Produselor Agricole, Ingineria Mediului* **20**, 377-382.
- Ebejer MJ (2015) A short note on additional records of fruitfly (Diptera, Drosophilidae) from Malta. *Bulletin of the Entomological Society of Malta* **7**, p 143.
- Leivadaras J, Leivadara EI, Vontas J (2017) A new insect, drosophila *Zaprionus tuberculatus* (Diptera: Drosophilidae), affects the figs on Crete. Abstract of a paper presented at the Panhellenic Entomological Congress (Athens, GR, 2017-09-19/22), p 27.
- NPPO of Cyprus (2017-03).
- Patlar B, Koc B, Yilmaz M, Ozsoy ED (2012) First records of *Zaprionus tuberculatus* (Diptera: Drosophilidae) from the Mediterranean Region, Turkey. *Drosophila Information Service* **95**, 94-96.
- Raspi A, Grassi A, Benelli G (2014) *Zaprionus tuberculatus* (Diptera Drosophilidae) first records from the European mainland. *Bulletin of Insectology* **67**(1), 157-160.
- Yazzin A, David JR (2010) Revision of the Afrotropical species of *Zaprionus* (Diptera, Drosophilidae), with descriptions of two new species and notes on internal reproductive structures and immature stages. *ZooKeys* **51**, 33-72.