# Mini data sheet on *Myiopardalis pardalina* (Diptera: Tephritidae)

**Added to the EPPO Alert List in 2013 – Deleted in 2020**

**Reasons for deletion:**
*Myiopardalis pardalina* 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:** *Myiopardalis pardalina* (Baluchistan melon fly) was originally described from Baluchistan, an area extending from Southeastern Iran to Western Pakistan. In both countries, it is considered as a pest of melon which regularly causes crop losses (e.g. 30-80% in Iran, and 15-60% in Pakistan), and even complete crop destruction during epidemics. In Afghanistan, severe outbreaks have taken place since the 1990s. In Uzbekistan, *M. pardalina* was first observed in 2000 in the Karakalpakstan Republic and the province of Khorezm where it has become the most common melon pest. In 2006, *M. pardalina* was also found in Kashkadarya, Surkhandarya and Bukhara provinces. In 2004, its presence was reported in Turkmenistan causing severe losses to melon crops. The pest has also spread to neighbouring countries and it is now recorded in Kyrgyzstan, Tajikistan, and Southern Kazakhstan.

**Where**: For many countries listed below, records are based on old literature which could not be confirmed or updated with more recent information. The presence of the pest in Egypt, Saudi Arabia and Senegal is sometimes mentioned in scientific papers, but the EPPO Secretariat could not find suitable sources to confirm these records which are thus considered as doubtful.
**EPPO region:** Armenia, Azerbaijan, Cyprus, Georgia, Kazakhstan, Kyrgyzstan, Lebanon, Russia (Southern Russia), Tajikistan, Turkey, Turkmenistan, Ukraine, Uzbekistan.
**Asia:** Afghanistan, India (Bihar, Punjab), Iran, Iraq, Kazakhstan, Kyrgyzstan, Lebanon, Pakistan, Syria, Tajikistan, Turkmenistan, Uzbekistan. There are some old records of *M. pardalina* in Israel in the literature, but according to the Israeli NPPO (2011), this fruit fly has not been found since the 1960s.

**On which plants:** The main host plant of *M. pardalina* is *Cucumis melo* (melon), but other cultivated Cucurbitaceae can be attacked: *Citrullus lanatus* (watermelon), *Cucumis melo* var. *flexuosus* (snake melon), *Cucumis sativus* (cucumber), as well as weeds (*Cucumis trigonus, Ecballium elaterium*).

**Damage**: Damage is caused by larvae feeding inside the fruit on pulp and seeds. Attacked fruit are generally affected by secondary rots (bacterial and fungal) which render them unfit for consumption (tainted) and unmarketable. Exit holes can also be observed on fruit. In several countries (e.g. Afghanistan, Turkmenistan, Uzbekistan), severe losses in melon crops (up to 80-90%) have been reported. In the absence of control measures, the harvest can be completely lost. In Turkey, *M. pardalina* is considered as a common melon pest but seems to be under control. Within the EPPO region, no information is available about the pest situation in Caucasus countries, Southern Russia, Ukraine or other Mediterranean countries (e.g. Cyprus, Lebanon) which may suggest that no major damage is observed there.
Adult females (pale yellow, 5.5-6.5 mm long) lay eggs under the skin of unripe fruit (e.g. when melons are of 3-5 cm diameter). A female can lay 60 to 110 eggs during its lifetime. Eggs are white, shiny, oval (1 mm long) and hatch after 3-4 days. Larvae are white, legless, feed inside the fruit for 8 to 18 days. Mature larvae (10 mm long) exit the fruit, fall on the ground and pupate in the soil for 13 to 20 days. During summer, there may be 2 to 3

overlapping generations (even 4 in Southern and Eastern Iran), each lasting approximately 30 days. *M. pardalina* overwinters as pupae in the soil, usually at a depth of 5 to 15 cm. It is reported that it can survive under snow cover and temperatures slightly below zero.

**Dissemination**: Adults can fly but there is no data on their flying capacity. Information is generally lacking on the biology of the pest. In particular, the reasons why under certain circumstances *M. pardalina* can emerge as a serious pest and spread rapidly remain unexplained.

**Pathway**: Fruit of host plants, soil from countries where *M. pardalina* occurs.

**Possible risks:** Melons and other host plants of *M. pardalina* such as watermelons and cucumbers are widely grown in the EPPO region, in particular in Southern Europe and around the Mediterranean Basin. Control of *M. pardalina* is difficult and probably requires a combination of different measures: use of resistant cultivars, early plantation time, bagging of young fruits, removal and destruction of infected plant material, deep ploughing of the soil, application of insecticide treatments. Control may also be complicated by the fact that *M. pardalina* does not appear to be very responsive to food-attractants (e.g. methyl-eugenol) which are used in the control or monitoring of other fruit fly species. At least in some countries of Central Asia, *M. pardalina* has caused severe crop damage and economic losses during the last decade. Although there are many uncertainties about the geographical distribution of the pest in the EPPO region, its biology and establishment potential in areas where it is still absent, *M. pardalina* may be a threat to melon crops in the EPPO region, in particular in Southern Europe and North Africa.

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