

First report of *Crocidosema (Epinotia) cosmoptila* Meyrick, 1917 (Lepidoptera: Tortricidae) in Brazil

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(With 1 figure)

The Lepidoptera of the Tortricidae family are economically important owing to their polyphagous capacity (Brown et al., 2008). In this family, the genus *Crocidosema (Epinotia)* (Zeller, 1847) stands out because it contains species that can damage several plants, including fruit (Brown et al., 2014), cotton (Mensah et al., 2012), and several legumes (Brown et al., 2008).

In Brazil, the most important species in this genus is *Crocidosema (Epinotia) aporema* (Walsingham, 1914), which is especially harmful in soybean (Siqueira and Siqueira, 2012). This species also occurs in soybean in other parts of South America, such as Uruguay, Chile, and Argentina (Formentini et al., 2015). On the other hand, there are other species with a more restricted distribution, as is

the case of *Crocidosema (Epinotia) cosmoptila* Meyrick, 1917, which is only registered in Argentina (Meyrick, 1917). In addition, to date, their host plants are unknown. Thus, the present study reports the species *C. cosmoptila* for the first time in Brazil (Duarte and Casagrande, 2018).

The insects were collected at the State University of Centro-Oeste (Unicentro), Campus Cedeteg, located in the municipality of Guarapuava (25°23'03.8"S 51°29'16.0"W, 1120 m) state of Paraná, Brazil. The assessments were conducted on September 18, 2017 in an ornamental flowerbed with crimson clover (*Trifolium incarnatum* L. 'Dixie'). Only damaged plants (leaf and/or stems) were used for the assessments, indicating the presence of *C. cosmoptila* (Figure 1). Twelve crimson clover plants



(a)



(b)

Figure 1. Leaflet of crimson clover damaged by *Crocidosema cosmoptila* (Meyrick, 1917) (a). Presence of the *C. cosmoptila* larvae in the crimson clover stem (b). Location: Guarapuava, PR. Date: 09/18/2017.

were collected (severed at the base), which were packed in Gerbox boxes (three plants in each box) lined with previously moistened filter paper. The material was then maintained under controlled conditions ($25\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$, $60\% \pm 20\%$ humidity, and at 12 h photophase) to allow the emergence of adults. The containers were maintained daily, and the filter paper was wetted when necessary. In total, three adults emerged and were referred to Dr. Vitor O. Becker for identification. By examining the genitalia, all individuals were identified as *C. cosmoptila* and are currently in the museum of the Uiraçu Institute in Brazil.

It was observed that the larvae can feed on both the leaves and stems of the plant (Figure 1). Although its biology is unknown, this behavior is similar to that observed for *C. aporema* in soybean, in which the larvae begin feeding on the plant leaflets, and from their deterioration, migrate to the petiole and stems of the crop allowing shelter and protection (Siqueira and Siqueira, 2012). To date, this is the first record of *C. cosmoptila* outside of Argentina and is the first observed association between this species and its host plant. It is recommended to conduct studies on the bioecology of *C. cosmoptila* as well as its potential host plants.

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