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S. BELLA, G. MAZZEO

First record of *Anatrachyntis badia* (Hodges, 1962) (Lepidoptera Cosmopterigidae) in Italy(*)

Abstract - The study of entomofauna of ornamental plants in various cities of Sicily and Calabria led to the discovery of the microlepidoptera *Anatrachyntis badia* (Hodges, 1962). This North American species is presently distributed in different biogeographical world regions, where it feeds on numerous hosts (cones of conifers infested by fungal agents or other insects, blossoms of coconut, elm leaves, fruits of lime, grapefruit, banana, cabbage etc.). The species was recorded for the first time in Sicily and Calabria and was feeding on leaves of *Cycas revoluta* Thunberg and *C. circinalis* L.

Riassunto - *Prima segnalazione in Italia* di Anatrachyntis badia *(Hodges, 1962) (Lepidoptera Cosmopterigidae).*

Lo studio dell'entomofauna delle piante ornamentali di vari centri urbani della Sicilia e della Calabria ha condotto al ritrovamento del microlepidottero *Anatrachyntis badia* (Hodges, 1962). Questa specie, originaria del Nord America, è ormai presente in numerose regioni del pianeta, ove può vivere su diversi ospiti (strobili di pini infestati da agenti fungini o insetti, fiori di palma da cocco, foglie di olmo, frutti di limetta, pompelmo, banana, cavolo, ecc). Larve e pupe di questa specie, che qui viene segnalata per la prima volta per la fauna italiana, sono state rinvenute su foglie di *Cycas revoluta* Thunberg e *C. circinalis* L., in Sicilia e Calabria.

Key words: *Anatrachyntis badia*, Italy, new record, *Cycas* spp., ornamental plants.

INTRODUCTION

In surveys on insect pests of plants in parks, gardens and botanical gardens in the city of Catania and other cities in Sicily and Calabria, we noticed feeding symptoms that are clearly different from those frequently encountered due to the trophic action of Rhyncota Heteroptera

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(Polizzi & Longo, 1995) on *Cycas revoluta* Thunberg and *C. circinalis* L. The symptoms are related to the presence of a microlepidoptera larvae. Samples were taken and isolated in the laboratory and reared to the adult stage. The adults belonged to *Anatrachyntis badia* (Hodges, 1962) (Cosmopterigidae). This species is new to Italy.

Anatrachyntis badia (Hodges, 1962)

MORPHOLOGICAL FEATURES: Adult (Fig. 1): Wingspan 9-10 mm. Head reddish brown, darker brown medially; scape of antennae with pecten of four bristles, reddish brown, flagellum black, ringed whitish cream distally on each flagellomere; labial palpi segment 2 whitish cream, reddish brown at base, except in the inner edge, segment 3 whitish cream with reddish brown and black patches, black apically with a whitish cream tip. Thorax reddish brown mixed darker brown, dark grey posteriorly, posterior margin ochreous. Forewing very narrow, reddish brown, basally whitish cream with black scaling at base on dorsum, at one-fifth and two-fifths inwardly oblique and outwardly oblique patches of black scaling more or less surrounded by whitish cream scaling, a line of black scaling mixed with whitish cream from tornus to apex, becoming broader and more distinct distally, dark brown scaling extending longitudinally and centrally from base to three-fifths; cilia reddish brown from apex towards tornus, becoming dark grey from tornus, with a distinct, black, inwardly oblique subapical cilia line. Hindwing dark grey; cilia concolorous. Abdomen grey to dark grey, segments 1-3 ochreous dorsally, edged whitish cream on segment 1, with ochreous scales caudally, ventrally ochreous mixed with dark grey scaling (Heckford & Sterling, 2004).

MATERIAL EXAMINED: Sicily - Catania: Bellini Garden, 14-21.VI.2006, 4 ♂♂, 6 ♀♀, *e.l.* on *Cycas revoluta*; Palermo: Botanical Garden, 16.VI.2006, larvae on *Cycas revoluta* and *C. circinalis*; Messina: Botanical Garden 28.VI.2006, pupae on *C. revoluta*; Calabria - Tarsia (Cosenza), 19.VII.2006, pupae on *C. revoluta*; Altomonte (Cosenza), 20.VII.2006, pupae on *C. revoluta* (deposited at Dipartimento di Scienze e Tecnologie Fitosanitarie, University of Catania, Italy).

COMMENTS: The species is similar to *A. rileyi* (Walsingham, 1882), from which it only differs in the colour of the forewings and abdomen with the I-III segments pale yellow dorsally and the others light grey (Koster & Sinev, 2003).

The male genitalia (Fig. 3) are similar to those of *A. rileyi*, but differ in the left brachium with parallel edges without a bulb at the tip and in the valvae that gradually widen at the base.

DISTRIBUTION: *A. badia* is a species of North American origin, identified in Hawaii and various Southern areas of the United States of America, from Florida to California, in Maryland (Heckford & Sterling, 2004) and Louisiana (Adamski *et al.*, 2006).

In Europe it has been recorded in Spain and in the Canary Islands, Holland, Great Britain (Koster & Sinev, 2003), France (Heckford & Sterling, 2004) and Malta (Koster & Sammut, 2006).

HOST PLANTS AND DAMAGES: The larvae belonging to *Anatrachyntis* Meyrick genus excavate tunnels in the flowers and fruits of numerous plants, above all when the tissue is in the wilting phase (Heckford & Sterling, 2004) or deteriorate due to the activity of pathogens or phytophagous agents; it's the case of *A. rileyi*, a species closely linked to cotton. The attacks of *A. rileyi* are

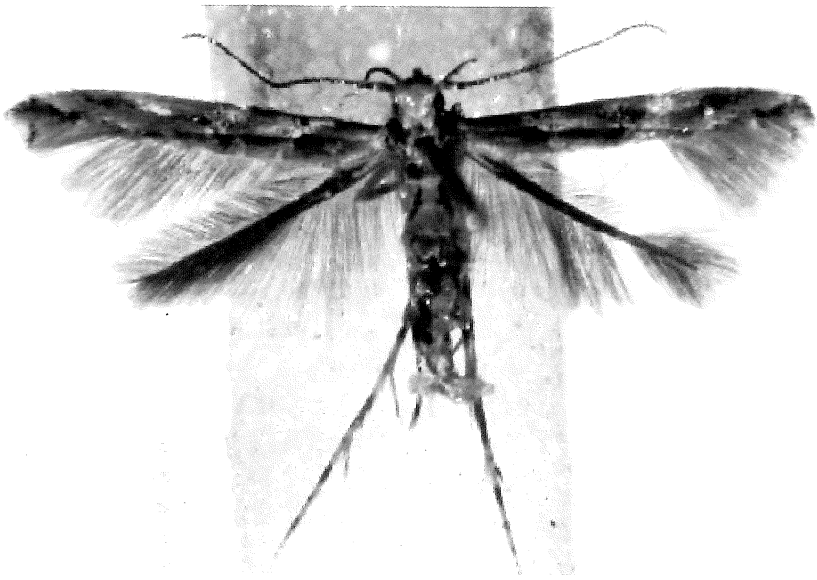

Fig. 1 - Male of *Anatrachyntis badia.*

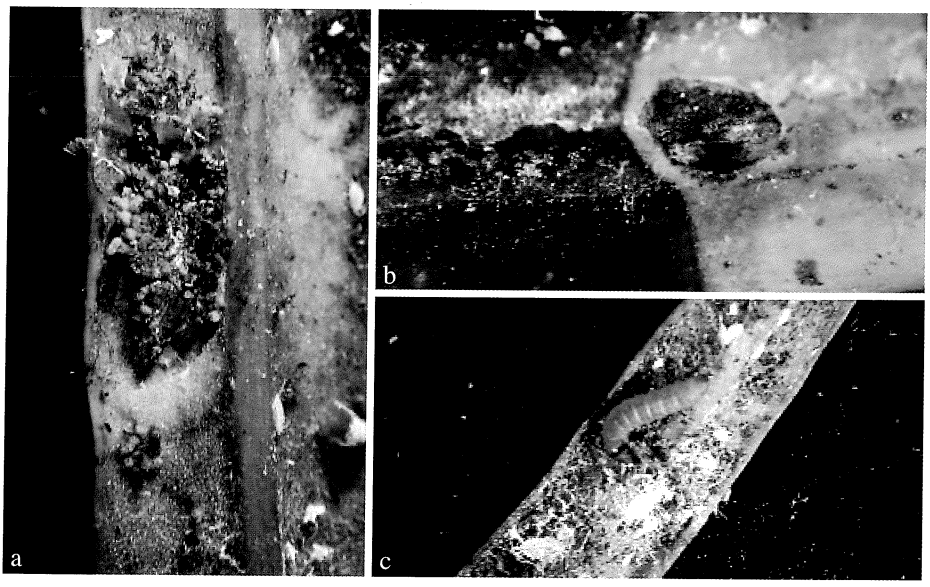

Fig. 2 - Erosions due to feeding activity of *Anatrachyntis badia* larvae on *Cycas revoluta* leaves (a), escape hole (b) and larva (c).

Fig. 3 - *Anatrachyntis badia*: genitalia of male (a, b) (slide 77, S. Bella Lepidoptera Collection) and female (c) (slide 78, S. Bella Lepidoptera Collection).

secondary and a consequence of attacks by other pests (Busck, 1917). In America, Hodges (1962) lists numerous foods used in breeding *A. badia* larvae, such as the *Cassia occidentalis* L. fruits, dried peach or loquat fruits, fruits of lime, grapefruit, banana, cabbage, coconut palm blossoms, elm leaves and cones of *Pinus* spp., including those infested by *Dioryctria* sp. (Lepidoptera, Pyralidae). White *et al.* (2005) report that the larvae of this species cause significant damage to seed-heads of sorghum.

From initial observations in Sicily, the highest presence of larvae was detected on the underside of the leaves in the proximity of colonies of the mealybug *Pseudococcus longispinus* (Targioni Tozzetti, 1867) (Rhynchota Homoptera Pseudococcidae), probably because the feeding by this sap-sucking insect makes the tissue more susceptible to attack by the *A. badia* larvae.

The affected plants presented yellowing leaves followed by marked necrosis and suberification, as well as perforations of the leaf and erosion of the underside (Fig. 2).

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