

Dinoderus minutus and *D. brevis* (Coleoptera: Bostrychidae): Two Exotic Wood Borers Introduced to Greece¹

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ABSTRACT

Two Bostrychidae species, *Dinoderus minutus* (Fabricius) and *D. brevis* Horn, found infesting bamboo articles – imported from Hong Kong and the Philippines respectively – in the region of Athens, are reported as new records from Greece. Information about their distribution and hosts is provided; furthermore their economic importance for Greece is examined.

Introduction

Members of the family Bostrychidae are particularly destructive to felled timber and bamboo widely used in the Tropics in building and furniture construction but can also attack and oviposit in weakened standing green trees or tunnel into the green shoots of plants, either for food or hibernation (Fisher 1950).

In addition, many of the species comprised in this family cause considerable damage to stored vegetable products. *Rhyssopertha dominica* (Fabricius) is a pest of all kinds of grains; feeding on starchy materials, is of great importance all over the world and one of the most destructive pests of stored grain products in Greece (Buchelos 1981, 1985).

This paper announces the presence of the two wood-boring species of the genus *Dinoderus*, (subfamily Dinoderinae) as new records from Greece and tries to depict the importance of such an invasion in this country.

Material and Methods

D. minutus and *D. brevis* were collected during

1991, the former in infested bamboo handicrafts imported from Hong Kong and the latter in a great number of small bamboo sticks imported from the Philippines (Fig. 1). These sticks are extensively

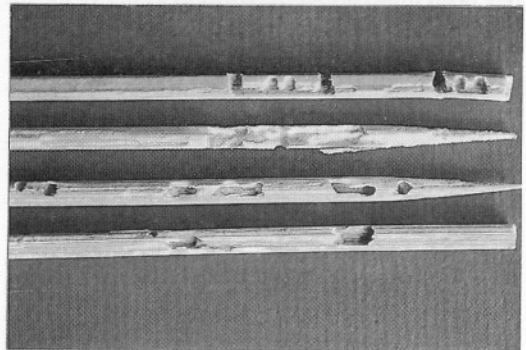


FIG. 1. «Souvlaki» bamboo sticks infested by *D. brevis*.

used in Greece to roast pieces of meat known as «souvlaki». Both species were identified by the author [see Lesne (1906), Reitter (1911), Kuhn (1913), Porta (1929), Portevin (1931) and Fisher (1950)].

Results and Discussion

a. *D. minutus* was described as *Apate minutus*

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(Fabricius 1775), *Bostrychus minutus* Olivier 1790, *Dinoderus substriatus* Stephens 1830, *Bostrychus vertens* Walker 1859, *Rhysopertha sicula* Baudi 1873, *Dinoderus bifoveolatus* Zuffa 1894, *Dinoderus minutus* Lesne 1896, *Dinoderus japonicus* Matsumura 1915.

Distribution and Hosts: *D. minutus* is the most common species of *Dinoderus*. Cosmopolitan throughout the tropical region (e.g. Le-Van-Nong, 1973), it has been carried to many parts of the Temperate Zones. It breeds wherever dry bamboo is stored with preference to the genera *Dendrocalamus* and *Phyllostachys*. It can reduce all structures built of bamboo to dust in a few years. It is considered as the most important pest of stored maize in Mauritius and in Zanzibar (Miller 1934). The adults have also been recorded as attacking sugarcane, dried sweet-potatoes, rice, banana preparations and are frequently found breeding in rattan articles and wooden packing cases. It has been introduced e.g. to Germany with basket and wicker work (*Musa textilis*) and with tapioca (*Manihot utilissima*), from Thailand and Indonesia (Kühne 1973).

b. *D. brevis* was described by Horn in 1878.

Distribution and Hosts: Almost cosmopolitan. It is the common bamboo borer in India; it has been recorded widely from South East Asia, Jamaica and other tropical regions and has been intercepted in bamboo at many localities of the United States of America (Fisher 1950). The food plants of the larvae are restricted to bamboos and canes with preference to the genera *Dendrocalamus* and *Bambusa*.

Both species are destructive wood borers and their presence in Greece has a special importance as the following factors have to be taken under consideration: Their propensity to burrow in wooden packing cases and bamboo articles abundantly imported and interspersed through commerce, as long as phytosanitary regulations are not strictly followed. *D. minutus* in particular, has a wide range of food preferences which extend even to agricultural commodities, produced and stored in Greece (rice, maize).

D. brevis may have limited food preferences, but the importance of its presence lies on the fact that it causes impressive damage to imported «souvlaki» sticks, millions of which are required daily in Greece, resulting their increasing imports from severely infested countries. Moreover, considering the above mentioned geographic distribution of both species and the cli-

matic conditions which favorize their proliferation and development, their potential establishment in Greece cannot be excluded.

References

- Buchelos, C.T., 1981. Coleoptera populations at flour mills and related areas. *Annls. Inst. Phytopath. Benaki (N.S.)* 13: 6-29.
- Buchelos, C.T., 1985. The greek insect fauna of stored products. *Biologia Gallo-Hellenica* 10: 221-227.
- Fisher, W.S., 1950. A revision of the North American species of beetles belonging to the family Bostrychidae. *U.S.D.A. Misc. Publ. No 698*, April 1950.
- Kühne, H., 1973. Schadensfälle durch Käferlarven an Korb- und Flechtwaren. *Mat. und Org.* 8 (3): 179-188 Bundesanstalt Materialprüf., D-1000 Berlin 45, Unter den Eichen 87, G.F.R.
- Kuhnt, P., 1913. *Illustrierte Bestimmungstabellen der Käfer Deutschlands*. p. 1138. E. Nagele, Stuttgart.
- Lesne, P., 1906. Revision des Coleoptères de la famille Bostrychidés. *Annls. Soc. Ent. Fr.* 75: 445-561.
- Le-Van-Nong, 1973. Contributions to the knowledge of the family. Bostrychidae (Coleoptera) from N. Vietnam. *Trav. Mus. Hist. Nat. «Grigore Antipa» Bucarest.* 13: 155-172.
- Miller, F., 1934. Straits settlements and Fed. Malay States, Dept. Agr. Sci. Ser. No 14: 1-23.
- Porta, A., 1929. *Fauna Coleopterorum Italica*. III: p. 413. Stabilimento Tipografico Piacentino, Piacenza.
- Portevin, G., 1931. *Histoire Naturelle des Coléoptères de France*. II: p. 469. Paul Lechevalier, Paris.
- Reitter, E., 1911. *Fauna Germanica (Käfer)*. III: p. 302. L. Verlag, Stuttgart.

KEY WORDS: *Dinoderus minutus*, *Dinoderus brevis*, Bostrychidae, wood-borers, bamboo.

Dinoderus minutus (Fabricius) και *D. brevis* (Coleoptera: Bostrychidae)
Δύο Εξωτικά Ξυλοφάγα Έντομα στην Ελλάδα

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ΠΕΡΙΛΗΨΗ

Δύο είδη κολεοπτέρων που ανήκουν στο γένος *Dinoderus* και στην οικογένεια Bostrychidae, το *D. minutus* (Fabricius) και το *D. brevis* Horn, βρέθηκαν για πρώτη φορά στην Ελλάδα σε εισαγόμενα είδη από μπαμπού. Το πρώτο είχε προσβάλλει καλάθια από βέργες μπαμπού, προελεύσεως Χονκ-Κογκ. Το δεύτερο προκαλούσε έντονη προσβολή, στα «καλαμάκια» για σουβλάκια κατασκευασμένα από μπαμπού προελεύσεως Φιλιππίνων.

Ο προσδιορισμός τους έγινε βάσει εξωτερικών γνωρισμάτων των ακμαίων.

Και τα δύο είδη είναι καταστρεπτικά ξυλοφάγα. Το *D. minutus* διαθέτει μεγάλη ποικιλία τροφικών προτιμήσεων που περιλαμβάνει και αποθηκευμένα γεωργικά εφόδια (ρύζι, καλαμπόκι). Το *D. brevis* μπορεί να περιορίζεται σε είδη μπαμπού, αλλά η έντονη παρουσία του στα εισαγόμενα «καλαμάκια» για σουβλάκια, με την τόσο μεγάλη ζήτηση ολόκληρο το έτος στην Ελλάδα, δίνει ιδιαίτερη σημασία στην παρουσία του καθώς και οι εισαγωγές γίνονται από χώρες με μεγάλη προσβολή από το είδος και ο φυτοϋγειονομικός έλεγχος δεν είναι πάντοτε αυστηρός.