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Short Communication

Prey capture in *Dysdera crocata* (Araneae: Dysderidae), a long fanged spider

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Abstract The manner in which *Dysdera crocata* used its large chelicerae was described. Previous claims that the chelicerae are adaptations enabling the spider to penetrate the dorsal carapace of its prey (woodlice) were not supported.

Keywords spider; Dysderidae; *Dysdera crocata*; prey capture; woodlice; chelicerae use

INTRODUCTION

On the basis of whether silk is used in predation, spiders are divided into the web-building and hunting spiders (Gertsch 1979). The latter group is subdivided into visual and non-visual hunters. Although the web-builders and visual hunters have attracted considerable interest in studies of predatory behaviour, the non-visual hunters have been largely ignored (Forster & Forster 1973; Turnbull 1973; Foelix 1982).

Dysdera crocata C. L. Koch is a cosmopolitan, non-visual hunting spider found in gardens and debris associated with buildings. This moderately large spider (adult body length, 10-12 mm) has a reddish colour and large forward-facing chelicerae. It is noted for its specialised diet of woodlice, a prey rejected by most spiders because of their distastefulness and tough dorsal carapace (Bristowe 1941; Gorvett 1956; Cooke 1965).

In published reports on the predatory behaviour of *D. crocata*, its large chelicerae are often described as an adaptation enabling the spider to penetrate the dorsal carapace of woodlice (Bristowe 1941, 1954, 1958; Cloudsley-Thompson 1958; Cooke 1965; Chinery 1979; Duffey 1981). In the course of

recent work on the predatory behaviour of *D. crocata* (unpublished data) and earlier work on intra-specific communicatory behaviour (Jackson & Pollard 1982), observations indicated that this conclusion needs to be reconsidered.

METHODS

D. crocata were collected from under bricks, scrap wood, and other debris in Christchurch. In the laboratory they were maintained individually in transparent plastic dishes (diameter 7 cm) and fed woodlice, *Porcellio scaber* Latrielle (Isopoda: Oniscidae).

A test began when a woodlouse was introduced into a cage containing an individual *D. crocata* which had not been fed for 4 days prior to the test. Interactions began when the spider and woodlouse contacted each other. If this failed to occur within 30 min the woodlouse was removed. Interactions were considered to have ended when the spider finished feeding or left the prey for more than 30 min. Woodlouse remains were removed from the cage after completion of the test. The results summarised in this paper are based on 56 successful tests, in addition to numerous informal observations of feeding.

RESULTS AND DISCUSSION

Contrary to previous descriptions, *D. crocata* was never observed to penetrate the dorsal carapace of woodlice with its fangs. Only one fang was inserted into the woodlouse, and this was always through the soft ventral surface. The other fang lay inactive on the dorsal carapace and seemed to be important in enabling the spider to maintain a 'scissor-like' grip on its prey. Venom was never seen to be exuded from the fang on the woodlouse's dorsal surface, indicating that the spider can use its poison fangs independently.

When the basal segments of the chelicerae move apart and the fangs of *D. crocata* extend forward, this spider has a formidable appearance. The way

the chelicerae were used was not clear; it became clear only after numerous observations concerned specifically with the description of feeding behaviours. Previous workers were not especially concerned with clarifying how the chelicerae were used, and they may have overlooked details described in this paper. It seems unlikely that the *D. crocata* studied in Europe and America do penetrate the prey's dorsal carapace.

ACKNOWLEDGMENT

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CORRIGENDUM

Volume 12, Number 4

Marshall, B. A. 1985: Recent and Tertiary Cocculinidae and Pseudococculinidae (Mollusca: Gastropoda) from New Zealand and New South Wales. *New Zealand journal of zoology* 12: 505–546.

A printing error was detected on page 539 of this issue. The section in question should read as follows:

Type data. **Holotype** NMNZ M. 75103 (length 2.15 mm, width 1.75 mm, height 0.42 mm, anterior length 1.35 mm) and 25 **paratypes** NMNZ: BS 924, 37°23.7'S, 177°39.5'E, off White I., New Zealand, alive on wood, 1075–1100 m, 23 Nov 1981, FV *Kalinovo*. **Paratypes** (62): BS 925, 42°43.9'S, 176°08.0'E, Chatham Rise, New Zealand, 7 alive on wood, 800–810 m, 28 Sept 1982, FV *Kaltan* (NMNZ); BS 926, 42°58.6'S, 168°21.9'E, W of Hokitika, New Zealand, 4 alive on wood, 1142–1147 m, 9 July 1983, FRV *James Cook* (NMNZ); BS 927, 43°26.8'S, 168°54.2'E, off Jackson Bay, New Zealand, 51 alive on wood, 833–891 m, 15 Dec 1983, FRV *James Cook* (AMS, BMNH, LACM, MNHN, NMNZ, NMNH).