

## Winter activity of *Anyphaena accentuata* (Walckenaer, 1802) (Araneae: Anyphaenidae)

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### Summary

Malaise trapping in the De Brand Nature Reserve near Udenhout, The Netherlands, showed that, in comparison with other spider species, *Anyphaena accentuata* (Walckenaer, 1802) juveniles are remarkably active in the winter.

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### Introduction

Most field guides and standard works on Northern European spiders suggest that *Anyphaena accentuata* (Walckenaer, 1802) is mainly active in early summer (Bellman, undated: May and June; Nielsen, 1932: adults in May–July; Locket & Millidge, 1951: early summer; Tretzel, 1954: VI, VII; Bristowe, 1958: adults in May and mid-June; Jones, 1983: early summer; Sauer & Wunderlich, 1985: early summer; Heimer & Nentwig, 1991: V–VIII; Roberts, 1995: early summer, females to autumn). However, some authors have suggested that at least juveniles may be active in winter as well (Reimoser, 1937: juveniles in winter; Palmgren, 1943: juveniles in IV, VI–X and XII; Braun & Rabeler, 1969: summer stenochronous with a second generation that hibernates). So, perhaps the phenology presented in field guides and standard works better reflects the activity pattern of arachnologists (hibernating indoors) than of *Anyphaena accentuata* (running around in winter, but in vain).

Year-round sampling programmes can provide more clarity, but usually these are performed by means of pitfall traps. This is not the best way of collecting *Anyphaena accentuata*, because it is mainly a tree dweller. Malaise trapping is a much less rewarding way of sampling spiders. Spider catches are usually low and are contaminated with many insects. But if it is carried out year-round, Malaise trapping can yield interesting results, especially for spider species that

climb around and are not often caught by pitfall trapping. The “Insectenwerkgroep KNNV-afdeling Tilburg” (Insect study group of the Tilburg section of the Royal Dutch Natural History Society) has tried to list the insect fauna of the De Brand Nature Reserve near Udenhout, The Netherlands, with the aid of a Malaise trap. Many spiders were also collected. Most species were only caught in low numbers, but some more frequently, among them *Anyphaena accentuata*.

### Methods

Spiders were collected during two years, from 17 March 1990 to 14 March 1992, by means of a Malaise trap (Malaise, 1937; Townes, 1972), which was emptied weekly. The trap was placed at UTM FT477225 in an area consisting of woodland complexes, marshy areas, and scattered wet pastures (for a detailed description of the vegetation, see Van Zuijlen *et al.*, 1996).

Spiders were preserved in 70% alcohol. Adult specimens are lodged in the private collection of the author, which will become part of the collections of the National Museum of Natural History, Leiden, The Netherlands.

To prepare the bar graphs of Figure 1, catches of the whole sampling period of two years were added up per month. Each week-catch was assigned to the month of the first day of that week.

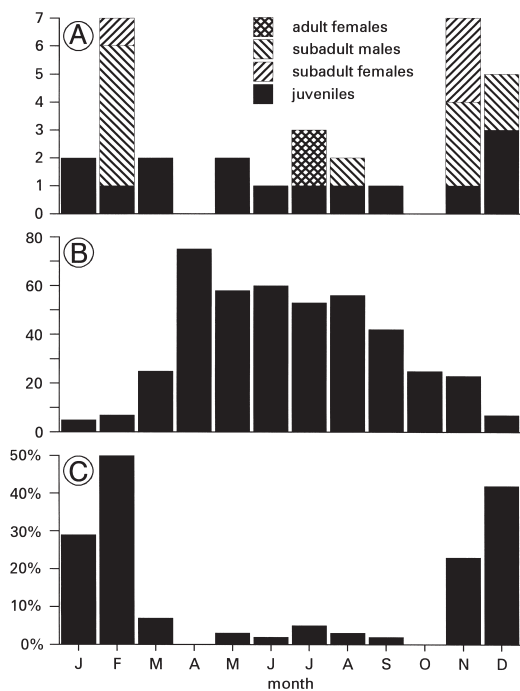


Fig. 1: Monthly activity patterns of: **A** *Anyphaena accentuata*; and **B** all other species added up (juveniles as well as adults); **C** Relative abundance of *A. accentuata* in Malaise trap samples, as a percentage of all species collected.

## Results

In two years, a total of 468 spiders were caught, belonging to at least 61 species (juveniles could not always be identified to species level). Catches in the first year (1990), were reported by Van Zuijlen *et al.* (1996). Table 1 gives an overview of all spider species caught.

Not surprisingly, most spiders were caught from April to September (Fig. 1B), with the highest numbers in spring. Also, most species caught in greater numbers (> 10 specimens) showed their highest activity within the same months. The most remarkable exception was formed by non-adult (i.e. juvenile and subadult) anyphaenids. These were caught especially during winter months (November, December, and February, see Fig. 1A). All these specimens were attributed to the only anyphaenid species known from The Netherlands (see Van Helsdingen, 1993), *Anyphaena accentuata*, of

which two adult females were collected as well (in July). The activity pattern of *A. accentuata*, as shown in Figure 1A, is almost the opposite of the general pattern of other spiders (Fig. 1B), as is also shown by the dominant relative abundance of *A. accentuata* in catches from November, December, January, and February (Fig. 1C). This means that *A. accentuata* is quite active in winter, at least in a non-adult state.

## Discussion

Some recent authors have also suggested winter activity of *A. accentuata* (Balkenhol & Zucchi, 1989: juveniles throughout the winter, adult females in December, March, and May; Huber, 1995: until mid-December at night on bark; Simon, 1995: juveniles in pine trees, especially in winter (see fig. 41b); Thaler, 1995: juveniles in pitfall traps from October to May). So, for future field guides, probably the best way of summarizing the phenology of *A. accentuata* is that of Ransy & Baert (1987): "tout l'année" (all the year).

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- Dictynidae:** unidentified juv., *Dictyna uncinata* Thorell, *Lathys humilis* (Blackwall), *Nigma flavescens* (Walckenaer). **Gnaphosidae:** unidentified juveniles. **Clubionidae:** *Clubiona* sp. juv., *Clubiona comta* C. L. Koch, *C. germanica* Thorell, *C. lutescens* Westring, *C. pallidula* (Clerck), *C. phragmitis* C. L. Koch, *C. reclusa* O. P.-Cambridge. **Anyphaenidae:** *Anyphaena accentuata* (Walckenaer). **Thomisidae:** *Ozyptila* sp. juv., *Xysticus* sp. juv., *X. lanio* C. L. Koch, *X. ulmi* (Hahn). **Philodromidae:** unidentified juv., *Philodromus* sp. juv., *P. praedatus* O. P.-Cambridge. **Salticidae:** unidentified juv., *Ballus depressus* (Walckenaer), *Evarcha* sp. juv., *Heliophanus* sp. juv., *Salticus cingulatus* (Panzer). **Lycosidae:** *Pardosa* sp. 5 juv., *P. amentata* (Clerck), *P. lugubris* (Walckenaer), *P. nigriceps* (Thorell), *Pirata* sp. juv. **Pisauridae:** *Pisaura mirabilis* (Clerck). **Agelenidae:** *Agelena labyrinthica* (Clerck). **Hahniidae:** *Antistea elegans* (Blackwall). **Theridiidae:** unidentified juv., *Anelosimus* sp. juv., *A. vittatus* (C. L. Koch), *Enoplognatha latimana* Hippa & Oksala, *E. ovata* (Clerck), *Robertus lividus* (Blackwall), *Theridion* sp. juv., *T. pictum* (Walckenaer), *T. varians* Hahn. **Metidae:** *Metellina segmentata* (Clerck). **Tetragnathidae:** *Pachygnatha clercki* Sundevall, *P. degeeri* Sundevall, *Tetragnatha* sp. juv., *T. extensa* (Linnaeus), *T. montana* Simon, *T. nigrita* Lendl. **Araneidae:** unidentified juv., *Araneus* sp. juv., *Araneus diadematus* Clerck, *Araniella* sp. juv., *A. opistographa* (Kulczyński), *Atea sturmi* (Hahn), *Larinioides* sp. juv., *L. cornutus* (Clerck). **Erigonidae:** unidentified juv., *Dicymbium nigrum* (Blackwall), *Entelecara acuminata* (Wider), *E. congenera* (O. P.-Cambridge), *Erigone atra* (Blackwall), *E. dentipalpis* (Wider), *Gongylidium rufipes* (Linnaeus), *Hypomma bituberculatum* (Wider), *H. cornutum* (Blackwall), *H. fulvum* (Bösenberg), *Micrargus herbigradus* (Blackwall), *Oedothorax* sp. juv., *O. fuscus* (Blackwall), *O. retusus* (Westring), *Walckenaeria cuspidata* Blackwall. **Linyphiidae:** unidentified juv., *Bathypantes gracilis* (Blackwall), *Centromerita bicolor* (Blackwall), *Centromerus aequalis* (Westring), *Lepthyphantes mendei* Kulczyński, *L. tenebricola* (Wider), *L. tenuis* (Blackwall), *Linyphia* sp. juv., *L. triangularis* (Clerck), *Neriene* sp. juv., *N. clathrata* (Sundevall), *N. peltata* (Wider), *Porrhomma pygmaeum* (Blackwall), *Ostearius melanopygius* (O. P.-Cambridge), *Tallusia experta* (O. P.-Cambridge).
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Table 1. List of spider species caught by Malaise trapping in the De Brand Nature Reserve.