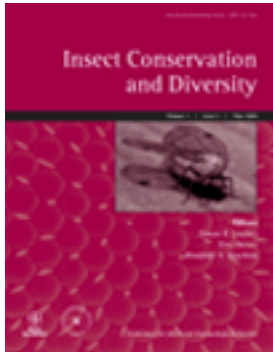


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Volume 1 Issue 2, Pages 71 - 84

Published Online: 15 Feb 2008

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## Rapid biodiversity assessment of spiders (Araneae) using semi-

# quantitative sampling: a case study in a Mediterranean forest

PEDRO CARDOSO<sup>1,2,3</sup>, NIKOLAJ SCHARFF<sup>1</sup>, CLARA GASPAR<sup>3,4</sup>, SÉRGIO S. HENRIQUES<sup>5,6</sup>, RUI CARVALHO<sup>6</sup>, PEDRO H. CASTRO<sup>7</sup>, JESPER B. SCHMIDT<sup>1</sup>, ISRAEL SILVA<sup>8</sup>, TAMÁS SZÜTS<sup>1</sup>, ALBERTO DE CASTRO<sup>9,10</sup> and LUIS C. CRESPO<sup>11</sup>

<sup>1</sup> Natural History Museum of Denmark, Zoological Museum, University of Copenhagen, Universitetsparken 15, Copenhagen, Denmark, <sup>2</sup> Centre for Macroecology, University of Copenhagen, Universitetsparken 15, Copenhagen, Denmark, <sup>3</sup> Agricultural Sciences Department – CITA-A, University of Azores, Terra-Chã, Angra do Heroísmo, Portugal, <sup>4</sup> Biodiversity and Macroecology Group, Department of Animal and Plant Sciences, University of Sheffield, Sheffield, U.K., <sup>5</sup> Institute of Botany and Zoology, Masaryk University, Kotlarska 2, Brno, Czech Republic, <sup>6</sup> Department of Biology, University of Évora, Núcleo da Mitra, Évora, Portugal, <sup>7</sup> Department of Biology, University of Minho, Campus de Gualtar, Braga, Portugal, <sup>8</sup> Centre of Environmental Biology, Faculty of Sciences, University of Lisbon, Rua Ernesto de Vasconcelos Ed. C2, Campo Grande, Lisboa, Portugal, <sup>9</sup> Department of Entomology, Society of Sciences of Aranzadi, Zorroagagaina, San Sebastian, Gipuzkoa, Spain, <sup>10</sup> Department of Entomology, University of Kentucky, S-225 Agr. Science Center North, Lexington, KY, USA, and <sup>11</sup> Department of Zoology, Faculty of Sciences and Technology, University of Coimbra, Largo da Sé Nova, Coimbra, Portugal

Correspondence: Pedro Cardoso, Universidade dos Açores, Dept. Ciências Agrárias, Terra-Chã, 9701-851 Angra do Heroísmo. E-mail: [pcardoso@ennor.org](mailto:pcardoso@ennor.org)

## KEYWORDS

Arthropods • Iberian Peninsula • inventory • oak forest • Portugal • rare species • richness estimation • sampling intensity • sampling methods • semi-quantitative sampling

## ABSTRACT

### Abstract.

- 1. A thorough inventory of a Mediterranean oak forest spider fauna carried out during 2 weeks is presented. It used a semi-quantitative sampling protocol to collect comparable data in a rigorous, rapid and efficient way. Four hundred and eighty samples of one person-hour of work each were collected, mostly inside a delimited 1-ha plot.
- 2. Sampling yielded 10 808 adult spiders representing 204 species. The number of species present at the site was estimated using five different richness estimators (Chao1, Chao2, Jackknife1, Jackknife2 and Michaelis–Menten). The estimates ranged from 232 to 260. The most reliable estimates were provided by the Chao estimators and the least reliable was obtained with the Michaelis–Menten. However, the behavior of the Michaelis–Menten accumulation curves supports the use of this estimator as a stopping or reliability rule.
- 3. Nineteen per cent of the species were represented by a single specimen (singletons) and 12% by just two specimens (doubletons). The presence of locally rare species in this exhaustive inventory is discussed.

• 4.

The effects of day, time of day, collector experience and sampling method on the number of adults, number of species and taxonomic composition of the samples are assessed. Sampling method is the single most important factor influencing the results and all methods generate unique species. Time of day is also important, in such way that each combination of method and time of day may be considered as a different method in itself. There are insignificant differences between the collectors in terms of species and number of adult spiders collected. Despite the high collecting effort, the species richness and abundance of spiders remained constant throughout the sampling period.

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Accepted 21 November 2007

First published online 15 February 2008

### DIGITAL OBJECT IDENTIFIER (DOI)

10.1111/j.1752-4598.2007.00008.x [About DOI](#)

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