

***Metrioptera brachyptera* (Linnaeus, 1761) – a new species
for Spain (Orthoptera, Tettigoniidae)**

Dominik Poniatowski & Thomas Fartmann

As a Palaearctic species, the bog bush-cricket *Metrioptera brachyptera* (Fig. 1) is widespread throughout large parts of Europe. However, it is missing in the extreme south of Europe and in south-western Europe (DETZEL 1998, JANSEN 2003, KLEUKERS et al. 2004). Only for the French part of the Pyrenees a few isolated populations are known (e.g. DEFAUT et al. 2009; PONIATOWSKI et al. 2012).

During a field trip in August 2012, we observed a population on the Spanish side of the Pyrenees. It is currently the only known locality of the species in Spain. The population has already been discovered in 2004 (GÖHLER 2005), however, until yet the observation has not been published.

The locality was a subalpine dwarf shrub heath (*Juniperion nanae*) in the Anayet skiing region in 1770 m a.s.l. (Culibillas; 42°46'38.11"N, 0°24'58.21"W). Characteristic plant species were *Calluna vulgaris* (dominant) and *Juniperus communis* ssp. *alpina* (Fig. 2). At the site the *Juniperion nanae* stands formed mosaics with *Nardion* grasslands (e.g. *Meum athamanticum*, *Nardus stricta* and *Succisa pratensis*) and *Rhododendro-Vaccinion* dwarf shrub communities (e.g. *Rhododendron ferrugineum* and *Vaccinium myrtillus*).

Within the subalpine dwarf shrub heath *M. brachyptera* occurred together with *Arcyptera fusca*, *Chorthippus biguttulus*, *Ch. parallelus*, *Decticus verrucivorus*, *Podisma pedestris*, *Stauroderus scalaris*, *Stenobothrus lineatus* and *S. nigromaculatus*. In addition, GÖHLER (2005) observed *Gomphocerus sibiricus*, *Myrmeleotettix maculatus*, *Psophus stridulus* and *Stenobothrus stigmaticus* as co-occurring species on their two study plots at the locality. The plots were situated in two low-growing stands of the *Rhododendro-Vaccinion* dominated by *Rhododendron ferrugineum* and *Vaccinium myrtillus* at 1770 and 1860 m a.s.l. The mean cover of dwarf shrubs and bare ground was 40% and 25%, respectively. On both sites the mean density of *M. brachyptera* was relatively low with 0.5 individuals/10 m².

The occurrence of *M. brachyptera* at the locality most likely reflects a trade-off between sufficient moisture on the one hand and warm microclimatic conditions on the other hand: Eggs of *M. brachyptera* are known to have high humidity demands (INGRISCH 1979, PONIATOWSKI & FARTMANN 2010). In addition, *M. brachyptera* depends on a relatively warm microclimate (RÖBER 1951, HARZ 1957, PONIATOWSKI & FARTMANN 2007). However, potential sites fulfilling these requirements seem to be rare at the southern slope of the Pyrenees especially due to the generally low precipitation. At the locality in the subalpine zone, in contrast, precipitation is relatively high.



Fig. 1: Male of a Spanish *Metrioptera brachyptera*.



Fig. 2: Subalpine dwarf shrub heath in the Anayet skiing region (1770 m a.s.l.) as a typical habitat of *M. brachyptera* in the Pyrenees.

Here coolclimatic conditions seem to limit the occurrence of *M. brachyptera*. Consequently, *M. brachyptera* occurred in habitats with a relatively high cover of bare ground and, hence, a warm microclimate. As comparable heath stands occur in the vicinity of the Anayet skiing region there might be further *M. brachyptera* populations in the Spanish Pyrenees.

Authors:

Dr. Dominik Poniatowski
DBU Natural Heritage
An der Bornau 2
49090 Osnabrück
Germany
E-Mail: d.poniatowski@dbu.de

PD Dr. Thomas Fartmann
Department of Community Ecology
Institute of Landscape Ecology
University of Münster
Robert-Koch-Straße 28
48149 Münster
Germany
E-Mail: fartmann@uni-muenster.de

References

- DEFAUT, B., SARDET, E. & BRAUD, Y. (coord.) (2009): Catalogue permanent de l'entomofaune. Orthoptera (Ensifera et Caelifera). – Fascicule 7: 1–94.
- DETZEL, P. (1998): Die Heuschrecken Baden-Württembergs. – Ulmer, Stuttgart; 580 pp.
- GÖHLER, U. (2005): Habitatpräferenzen der Keulenschrecken *Gomphocerus sibiricus* und *Myrmeleotettix maculatus* auf Allmendweiden der spanischen Pyrenäen (Provinz Huesca). – Unpublished diploma thesis, University of Münster; 58 pp.
- HARZ, K. (1957): Die Geredflügler Mitteleuropas. – Gustav Fischer, Jena; 494 pp.
- INGRISCH, S. (1979): Experimentell-ökologische Freilanduntersuchungen zur Monotopbindung der Laubheuschrecken (Orthoptera: Tettigoniidae) im Vogelsberg. – Beitr. Naturkde. Osthessen 15: 33–95.
- JANSEN, S. (2003): Kurzflügelige Beißschrecke – *Metrioptera brachyptera* (Linnaeus, 1761).– In: SCHLUMPRECHT, H. & WAEBER, G. (Bearb.): Heuschrecken in Bayern. – Ulmer, Stuttgart: 129–131.
- KLEUKERS, R.M.J.C., VAN NIEUKERKEN, E.J., ODÉ, B., WILLEMSE, L.P.M. & VAN WINGERDEN, W.K.R.E. (2004): De sprinkhanen krekels van Nederland (Orthoptera). (2nd ed). Nederlandse Fauna 1. – Nationaal Natuurhistorisch Museum, KNNV Uitgeverij & EIS-Nederland, Leiden
- PONIATOWSKI, D., DEFAUT, B., LLUCIÀ-POMARES, D. & FARTMANN, T. (2012): The Orthoptera fauna of the Pyrenean region – a field guide. 2nd ed. – Articulata, Beiheft 14: 1–143.

- PONIATOWSKI, D. & FARTMANN, T. (2007): Kleinräumig heterogen strukturierte Hochheiden in mikroklimatisch günstiger Lage – Lebensräume der Kurzflügeligen Beißschrecke (*Metrioptera brachyptera*) im Quellgebiet der Diemel (Südwestfalen/Nordhessen). – Articulata 22: 153–171.
- PONIATOWSKI, D. & FARTMANN, T. (2010): What determines the distribution of a flightless bush-cricket (*Metrioptera brachyptera*) in a fragmented landscape? – Journal of Insect Conservation 14: 637–645.
- RÖBER, H. (1951): Demapteren und Orthopteren Westfalens in ökologischer Betrachtung. – Abhandlungen aus dem Landesmuseum für Naturkunde zu Münster in Westfalen 14: 1–60.

ZOBODAT - www.zobodat.at

Zoologisch-Botanische Datenbank/Zoological-Botanical Database

Digitale Literatur/Digital Literature

Zeitschrift/Journal: [Articulata - Zeitschrift der Deutschen Gesellschaft für Orthopterologie e.V. DGfO](#)

Jahr/Year: 2013

Band/Volume: [28_2013](#)

Autor(en)/Author(s): Poniatowski Dominik, Fartmann Thomas

Artikel/Article: [Metrioptera brachyptera \(Linnaeus, 1761\) – a new species for Spain \(Orthoptera, Tettigoniidae\) 135-138](#)