

# Variation in the diet of Mehely's Horseshoe Bat, *Rhinolophus mehelyi*, in three contrasting environments in western Iran

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**Abstract.** The diet of *Rhinolophus mehelyi* was investigated through analysis of droppings collected from three maternity roosts in northern Zagros, mid-Zagros and the northern Mesopotamian plain. Moths (Lepidoptera) dominated in all areas (34.9–69.5% volume). The second most important food items in the northern Mesopotamian plain and the mid-Zagros are beetles (Coleoptera, 12.6–28.2% volume), while in northern Zagros Homoptera (16% volume) are the next important food items. The diet of *R. mehelyi* in northern Zagros is characterized by a low proportion of Coleoptera (10%) and the presence of more diverse prey species (12 categories). In the northern Mesopotamian plain and in mid-Zagros, the food items consist mainly of lepidopteran and coleopteran species with fewer additional prey species. Species groups occurring only in the diet of Mehely's Horseshoe Bat in the northern Zagros are Odonata, Trichoptera, Dictyoptera and Acarina.

**Kurzfassung.** Die Nahrung von *Rhinolophus mehelyi* wurde mittels Kotanalysen in drei Höhlen im nördlichen Zagrosgebirge, im mittleren Zagros und im nördlichen Mesopotamien untersucht. Nachtschmetterlinge (Lepidoptera) waren in allen drei Gebieten dominant (34,9–69,5% Volumenanteile). Die nächsthäufigste Gruppe in der Nahrung stellen in der nordmesopotamischen Tiefebene und im mittleren Zagros Käfer (Coleoptera: 12,6–28,2% Volumenanteil) dar, während im nördlichen Zagros Homoptera (16% Volumenanteil) folgen. Die Nahrung von *R. mehelyi* im nördlichen Zagros kann durch einen geringen Anteil an Coleoptera (10%) und durch ein breites Nahrungsspektrum (12 Artengruppen) charakterisiert werden. In der nordmesopotamischen Tiefebene und im mittleren Zagros besteht die Nahrung hauptsächlich aus Nachtfaltern und Käfern, mit geringeren Anteilen an anderen Insektengruppen. Artengruppen, die nur in der Nahrung im nördlichen Zagros vorkommen, sind Odonata, Trichoptera, Dictyoptera und Acarina.

**Key words.** Diet, food item, bat, feeding ecology, Iran, Middle East.

## Introduction

*Rhinolophus mehelyi* (Matschie, 1901) is a widespread bat whose range extends from north Africa over the Middle East to Transcaucasia, with scattered localities in southern Europe (DEBLASE 1980). This bat has been reported from eight localities in Iran (DEBLASE 1980, HEMMATI 2000). These localities lie along the Zagros Mountain from the border with Turkey in the north to the Fars Province in the south (Fig. 2). This species probably occurs throughout the Zagros Range and may occur in the Elbourz Mountains as well (DEBLASE 1980). Based on an attempt to estimate the conservation status of bats reported from Iran (SHARIFI et al. 2000) *Rhinolophus mehelyi* is ranked as a very rare species.

Very limited information is available about the food habits and feeding behaviour of Mehely's Horseshoe Bat. According to GAISLER (2001), VALENIUC in 1971 found only Lepidoptera in the stomach of three Mehely's Horseshoe Bats. There are some reports on the