

## On the status and situation of the Barbastelle, *Barbastella barbastellus* (Schreber, 1774), in Italy

Le statut et la situation de la Barbastelle, *Barbastella barbastellus* (Schreber, 1774), en Italie

Zum Status und zur Situation der Mopsfledermaus, *Barbastella barbastellus* (Schreber, 1774), in Italien

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### Summary

A synoptic overview about the status and situation of the Barbastelle in Italy is presented. The species has been reported from all the regions except Umbria and Puglia, although in very low numbers. It seems to be related to woodland habitats and to low and medium altitudes. Due to its scarcity and habitat selectivity, it must be considered as a threatened species in Italy.

### Résumé

Un aperçu synoptique sur le statut et la situation de la Barbastelle en Italie est présenté ici. Cette espèce a été observée dans toutes les régions, sauf l'Ombrie et la Pouille, bien que en très petits nombres. Elle semble être liée aux habitats de forêts et aux faibles et moyennes altitudes. A cause de sa rareté et de sa sélectivité pour l'habitat, elle doit être considérée une espèce menacée pour l'Italie.

### Zusammenfassung

Ein zusammenfassender Überblick zum Status und zur Situation der Mopsfledermaus in Italien liegt vor. Die Art wurde in allen Regionen in geringer Anzahl gefunden, jedoch nicht in Umbrien und Apulien. Es scheint, als ständen Waldhabitats in niedriger und mittlerer Höhe in enger Beziehung. Schuld sind Mangel und trennscharfe Habitate, und deshalb muß diese Art in Italien als gefährdet gelten.

### Introduction

The present paper is based on the literature published over the last 150 years, as well as on recent data collected mostly by bat detector during field surveys conducted by us and our co-workers. We have also taken into account some original data recently obtained by other researchers.

### Review of the historical distribution

The Barbastelle is considered as a European-Caucasian-Maghrebine species by LANZA & FINOTELLO (1985). Its presence in Italy was known since 1837, after BONAPARTE's mention of „*Barbastellus communis*” in „many localities, although infrequently”. Unfortunately BONAPARTE did not give details on the exact sites of observation. Even CORNALIA (1874) in his authoritative „Fauna d'Italia – Mammiferi” did not add any particular locality for the species.

This bat has always been considered as „not very common in Italy, even if more abundant in the North than in the South” (GULINO & DAL PIAZ 1939). According to the same authors, it was more often collected on the western coasts, and it was also found „at remarkable altitudes on the mountains”.

Until 1939, it was surely recorded from the following regions, mostly in the North: Piemonte, Lombardia, Veneto, Friuli-Venezia Giulia, Trentino - Alto Adige, Liguria, Toscana, Lazio, Abruzzo, Campania, Calabria and Sardegna. In addition, ZAVA & VIOLANI (1995) pointed out that a specimen collected by G. ALTABELLO in 1921 came from Oratino (Campobasso), a locality in the Molise region. This specimen is now preserved at the Istituto Nazionale per la Fauna Selvatica, Ozzano Emilia (EI-13, 4193, AB 138).

In 1959, in the basic monograph on the Italian Chiroptera, LANZA reported that the Barbastelle had been found in Sicily by KAHMANN (1957) in Ficuzza wood near Corleone (Palermo), and on the Elba Island by KAHMANN & BROTZLER (1955). Again, in 1961, LANZA gave additional

finding data for the cave „Tana delle Fate” near Soraggio (Lucca).

Few new data were collected between the Sixties and Eighties. For the Piemonte region SINDACO et al. (1992) reported the observation by DINALE (1965) of a hibernating group in the Grotta di Rio Martino near Crissolo (Cuneo) during the winter 1960/61 (at least 21 bats); the same authors also reported the presence of this taxon on the Ligurian and the Cottian Alps, after the confirmation by TOFFOLI & PELLEGRINO. For the Lazio region, CRUCITTI & TRINGALI (1985) published a report with an observation of *B. barbastellus* found in the cave „Inghiottitoio di Val di Varri” at Pescorocchiano (Rieti, 850 m asl) in February 1973, where Dinale had ringed a female in February 1962 (DINALE 1965).

### Recent data

Recent data mainly derive from surveys conducted by means of bat detector techniques by our research group (see FORNASARI et al., in print a). Altogether, since 1990, 1656 km were inspected by means of night transects; moreover, several caves and buildings were searched and mist-netting was also performed. On the whole, we found 27 bat species out of the 30 historically known for Italy (FORNASARI et al. 1997); the three missing taxa were *Myotis dasycneme*, *Rhinolophus mehelyi* and *Rhinolophus blasii*. The Barbastelle represented 1.32 % out of more than 3300 bats counted; we shall give here quantitative details on each observation with more than one individual recorded. For each locality, we shall indicate the relative province in brackets.

We found *B. barbastellus* in Lombardy on several occasions. During a survey conducted in August 1994 within the Regional Park Montevicchia - Valle del Curone (Lecco) we counted six individuals, out of 405 bats pertaining to eight species. We also found two Barbastelles in the outskirts of Santicolo, in Val Camonica (Brescia), in July 1995, and a single one in Cortenova village (Lecco) in the vicinity of the Como Lake, in September of the same year (ZAVA et al. 1996b).

The finding of a female Barbastelle severely wounded is reported by VERGARI & DONDINI (in press) from Rata, near Rufina (Firenze), in Sep-

tember 1994; the specimen is now preserved at the University Zoological Museum „La Specola”, Florence. During a four years survey conducted on the Elba Island, Tuscany (FORNASARI et al. in print b) we detected a single Barbastelle south of Procchio village (Livorno). Again in Tuscany, in August 1997 (FORNASARI et al., in press a), we detected a Barbastelle between Mucchia and S. Lorenzo, near Cortona (Arezzo), about five kilometres from the border with the Umbria region, where this species is still unrecorded.

During a survey conducted in September 1994 in the newly established national parks in the Central Apennines (FORNASARI & ZAVA 1996), we observed five individuals of this species (out of 219 bats of 10 species). It was recorded for the first time in the Marche region in four localities of the Parco dei Sibillini: Monastero and Molinaccio, both in Gole del Fiastrone (Macerata), Santuario di Macereto (Macerata), Madonna dell’Ambro (Ascoli Piceno). The fifth one was detected in the neighbouring of Isola del Gran Sasso village, in the Abruzzo region (Teramo).

Moving to the south, in July 1990, we found a group of some individuals hunting close to the railway station of Calciano (Matera); this was the first record for the Basilicata (or Lucania) region (ZAVA et al. 1993). Even more south, in the Calabria region, we observed a single *B. barbastellus* in flight near the Lese river (Catanzaro) in September 1992 (ZAVA et al. 1996a). Again in October 1997 we observed two individuals at S. Maria del Bosco, near Serra San Bruno and three individuals at the Certosa of Serra San Bruno, Catanzaro (ZAVA et al. in prep.).

MAURO MUCEDDA (in litteris, 1998) confirms the presence of Barbastelle in the Sardegna region having mist-netted it in several localities. As regards the Sicilia region, a new report of *Barbastella barbastellus* refers to three individuals observed hunting in the historical centre of Palermo (Piazza Marina), around an old *Ficus magnolioides* (= *Ficus macrophylla* var. *columnaris*), in summer 1990 (DI PALMA et al. in print). Our data from Basilicata, Calabria and Sicilia were collected by us in fixed places, not following the transect method.

Although STEBBINGS' distribution map (STEBBINGS 1988) excludes the species from part of the north-eastern Italian coast, in June 1995 (ZAVA et al. 1996b) we ascertained its presence in Emilia-Romagna, in the area of the Po Delta, in the Bosco Mesola Nature Reserve (Ferrara) and in the Punte Alberete Sanctuary (Ravenna). During a single night survey in Bosco Mesola we counted 27 *Barbastelles* out of 115 total bats pertaining to seven species (NOBILI et al., in print). These data were corroborated by the finding of „a scattered presence” of *B. barbastellus* in Comacchio (Ferrara) by VERNIER (1996). The first record for the region was a male specimen found dead by A. BATTAGLIA in May 1990 (VERNIER et al. 1996) at Torcello near Rivergaro (Piacenza). In the Veneto region, close to the south border with Emilia-Romagna, in May 1994 VERNIER (in BON et al. 1996) found at least one individual in an agricultural plain area, near an isolated tree, at Paviole (Rovigo). LAPINI et al. (1996) listed several recent records for the Friuli - Venezia Giulia region, including an individual from the mines of Saps at Moggio Udinese (Udine), 780 m asl.

The first finding of this species for the Valle d'Aosta region is documented by BARATTI et al. (1994); these authors repeatedly found 1-2 bats of this species hibernating with other *Chiroptera* in some abandoned mines near Aymavilles (Aosta), from 1992 to 1995.

As far as we know, it has never been reported from the Umbria and the Puglia regions. We are not aware of sightings since 1990 for the following regions: Piemonte, Liguria, Lazio, Molise, Campania. The last capture of a specimen in Liguria dates from 1888 (a female preserved in the Genova Museum of Natural History, collected at Borzoli, Genova).

### Habitat distribution

LANZA (1959) gave very little information about the biology of the *Barbastelle* in Italy: he only mentioned the nursery found by KAHMANN (1957) in Sicilia „in the cavity of a tree”. Generally, he considered this bat as a cave-dwelling species when hibernating, as a species inhabiting buildings or trees during the active season. Actually, all the *Barbastelles* found in winter

and mentioned in literature after 1959 were hibernating in caves (see above), at a maximum elevation of 850 m asl.

During our surveys we found it in activity at a maximum elevation of 920 m asl on the Alps (Val Camonica) and 988 m asl on the Apennines (Santuario di Macereto). We encountered foraging *B. barbastellus* with higher frequency in woodland habitats than in cultivated lands or built areas: it represented respectively 0.20 %, 0.37 % and 4.85 % of all bats recorded within the three habitat types. Even near buildings or in cultivated lands, these bats were always found in wooded landscapes or close to large trees.

As regards foraging habits, the *Barbastelle* appeared to be linked to several kinds of broadleaved woods: we met it from Mediterranean olive groves or holmoak *Quercus ilex* thickets to pure beech *Fagus sylvatica* mountain forests (both on the Apennines and the Alps). Isolated individuals were observed in *Salix* sp. woodlots in central Italy or in *Ornostryon* vegetation, on the Pre-Alps and on the North and Central Apennines. Groups were found within *Quercobetuletum insubricum* woods dominated by Sweet Chestnut trees *Castanea sativa* (Montevecchia, Lombardia) and in residual alluvial forest of *Quercetalia pubescentipetreae* mixed to *Populetalia albae* (Bosco Mesola, Emilia-Romagna). The highest percentage of individuals in the foraging community was the one observed in the latter site (see above).

### Present status

Since the *Barbastelle* resulted uncommon in nearly every visited site, also due to its strong habitat selectivity, it must be considered as a threatened species for Italy (see also VIOLANI et al., in prep.).

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