Encyclopædia Iranica

BATS
Article by **Anthony F. DeBlase**

Published: December 15, 1988
Last Updated: November 2, 2016

BATS

BATS (Pers. *šabpara*, *mūš(-e)kūr*; Ar. *ḵoffāš*). Surveys of the Iranian bat (Mammalia: Chiroptera) fauna have been published by Blanford (1876), Misonne (1959), Lay (1967), Eʿtemād (1969), and DeBlase (1980). DeBlase (1980) recognized thirty-eight species of Chiroptera from within the political boundaries of Iran, and this study is the primary basis for this article.

Pteropodidae: *Rousettus aegyptiacus* is known from Baluchistan, Qešm island, and three sites near Jahrom in Fārs (Figure 1). These records, together with occurrence in Pakistan and southern Arabia, indicate that it ranges across southern Iran wherever dates and other fruits are grown.

Rhinopomatidae: *Rhinopoma microphyllum* is the largest species of *Rhinopoma* in Iran, where both the nominate subspecies and *R. m. harrisoni* (Schlitter and DeBlase, 1974) occur. The two smaller forms have been frequently confused. DeBlase et al. (1973) have identified specimens and documented distribution for the following: *R. hardwickei arabium*, *R. muscatellum muscatellum*, and *R. m. seianum*. All three of these species are known from the hotter, lower southwestern side of the Zagros Mountains. *R. m. microphyllum* and *R. m. muscatellum* are also known from Baluchistan and *R. m. seianum* occurs, in Iran, only in the Sīstān area.

Emballonuridae: Both species of *Tahpozous* known from Iran are rather rare. *T. p. perforatus* is known only from two specimens collected along the southern coastal plain near the Strait of Hormoz. Its distribution in Oman and Pakistan, however, suggests a wider range in Iran. *T. nudiventris magnus* is

common in the Tigris-Euphrates lowland of Iraq and has been documented at four localities on the Ḳūzestān plain in Iran. It has also been reported from near Urmia (Reżāʾīya) in West Azarbaijan and Varāmīn, 37 km southeast of Tehran. These two locations, well east of the Zagros ridge, indicate that the species is considerably more widely distributed.

Rhinolophidae: *Rhinolophus ferrumequinum irani* is known from numerous localities across northern Iran, and south and east through the Zagros Mountains of western Iran to near Kermān, and one, Būšehr, on the south coastal plain. I have examined no specimens documenting this latter record and think the habitat rather doubtful for this species. There are no records from Iran east of the central deserts but its occurrence in adjacent areas of Afghanistan and Pakistan indicates that it could be expected there. *R. bocharicus* is known in Iran only from a single specimen from Čelmīr in Khorasan (Farhang-Azad, 1969, p. 730). DeBlase (1980, p. 95) examined this specimen and found it to be an immature with barely ossified wing epiphyses; however, its measurements fall within those of other *R. bocharicus* adults. *R. bocharicus* is known from the USSR along the Afghanistan border and from northern Afghanistan. It is possible that the Čelmīr specimen is of this species, but it is also quite likely that it is merely an immature *R. ferrumequinum*. It should be compared to immature specimens of both of these species. *Rhinolophus hipposideros midas* is known from several localities in the Zagros mountains, from Azarbaijan to Fārs, and from one site on the Makrān coast. However, its presence in the USSR all along the Iranian border on both sides of the Caspian and in Afghanistan indicate that it very likely occurs in much of the rest of the country. The specimens of *R. hipposideros* from the Caspian coastal lowland of Iran are distinctly darker than *R. h. midas*. DeBlase (1980, pp. 104-06) has tentatively assigned these to *R. h. minimus*; however, he points out that this isolated population is completely surrounded by *R. h. midas* and thus is unlikely to be the same subspecies that occurs in countries west of Iran. DeBlase (1972) has shown that *Rhinolophus euryale* and *R. mehelyi* have frequently been confused in Iran and elsewhere. Both of these species are known from several areas in the Transcaucasus of the USSR and from scattered sites in the Zagros Mountains of western Iran. *R. euryale* also occurs along both sides of the Iran-Soviet border east of the Caspian. DeBlase (1980, p. 112) tentatively assigns all Iranian specimens of *R. euryale* to the nominate subspecies. *Rhinolophus b. blasii* is known from several locations scattered over most of Iran, however; it is not known to occur on the Caspian coastal plain, the arid coastal lowlands of the south, from Baluchistan, or from the

Sīstān area. *Asellia tridens murraiana* ranges across much of southern Iran. *Triaenops persicus persicus* was described from Shiraz and has been reported from only three other localities in Iran, two sites near Būšehr along the Persian Gulf coast and one from Baluchistan. This species is not common anywhere in its range, which reaches its easternmost limit in Iran.

Vespertilionidae: *Myotis mystacinus* is documented from fourteen locations scattered across northern Iran. *M. emarginatus* has been reported from four scattered locations in the southern Zagros, two along the Caspian coast, two along the Soviet border in northeastern Iran, and two from near the Pakistan border in central Baluchistan. *M. nattereri* is known from three sites, one in northwestern Azarbaijan, near Mākū; one in northeastern Azarbaijan at the Qoṭūrsū cave at Mt. Sabalān; and one near Kūhrang village in the central Zagros. *M. bechsteini* is known only from an adult female collected in the eastern Alborz. This specimen represents the southern and eastern distribution limits for this species. *Myotis blythi omari* is considerably larger than the other species of *Myotis* and is much more common. It has been collected at twenty-nine localities scattered through most of northern and western Iran. *M. capaccinii bureschi* is known from six locations, all clustered in Fārs near Persepolis and Šāhpūr Cave near Kāzerūn. This species ranges from Morocco to Japan but occurs in large numbers only in scattered pockets. This seems to be the pattern in Iran as well. *Vespertilio m. murinus* is known only from three single specimens taken at widely separated locations in the central Zagros, the eastern Alborz, and the central basin near Qom. DeBlase (1980, p. 184) has shown that *Eptesicus walli* Thomas is a junior synonym of *E. nasutus pellucens*. *E. nasutus* is known in Iran only from the Ḵūzestān plain and from a single record at Mīnāb near the Strait of Hormoz, though it probably occurs all along the southern costal plain and in Baluchistan. The Ḵūzestān specimens are *E. n. pellucens*, and the Mīnāb specimen is tentatively assigned to the nominate form, *E. n. nasutus* (DeBlase 1980, p. 183). Harrison (1963, p. 303) reported *Eptesicus bobrinskoi* from Qoṭūrsū in east Azarbaijan. His seven specimens are the only ones known from Iran or from anywhere outside the USSR. *Eptesicus nilssoni* was collected by Lay (1967, p. 145) in the central Alborz. This relatively rare bat ranges throughout the northern Palearctic and should be expected to occur throughout the northern, less arid slope of the Alborz. The next two species of *Eptesicus* are considerably larger than the three discussed above. *Eptesicus bottae*, the smaller of the two, is known from two locations in northwestern Iran between the Alborz and Zagros Mountains, from near the Soviet border in northeastern Iran, and from

scattered locations in the southern Zagros. DeBlase (1980, p. 193) has shown that all of the northern records are assignable to *E. b. ognevi*, that the specimens from the southern Zagros are identical to ones from the Zagros in northern Iraq and in Turkey and should be considered to be *E. b. anatolicus*, and that *E. b. hingstoni*, while not yet reported from the Ḵūzestān plain, is likely to be found there. *Eptesicus s. serotinus* ranges through the Caucasus and Transcaucasus into Iranian Azarbaijan and east through the Alborz. *E. s. turcomanus* occurs in northeastern Iran and in the adjacent Transcaspian area of the USSR. *E. serotinus shiraziensis* is known only from a very few specimens collected near Shiraz, in the southern Zagros. This form has not been reported by any of the collectors working in that area in the past sixty-five years and could now be extinct. *Nyctalus l. leisleri* is known from four locations across northern Iran and one from the southern Zagros. This latter record indicates that the species ranges south through the Zagros as well as through the northern mountains. *N. n. noctula* is known from several locations on the Caspian coastal plain of Iran and the adjacent slopes of the Alborz. *N. l. lasiopterus* has been reported in Iran only once, a single specimen from "near Rūdsar" on the Caspian coastal plain (Eʿtemād, 1970, p. 547). It probably has an Iranian distribution similar to that of *N. noctula*. Neuhauser and DeBlase (1971) have shown that *Pipistrellus p. pipistrellus* occurs only along the Caspian coastal plain and the relatively lush northern face of the Alborz range, while *P. p. aladdin* ranges the length of the Zagros mountains and occurs in northeastern Iran as well as in adjacent parts of the USSR and Afghanistan. It is likely that this latter subspecies also occurs along the more arid south face of the Alborz between the two documented areas. *P. kuhli* is probably the most common bat in Iran. It is known from many locations, and virtually all ecosystems in the southern and central portions of the country, including the greatest penetration documented of the central deserts. There are records from Lake Urmia and Tabrīz, but it is conspicuously absent from most of the northern part of the country and quite rare in those northern regions where it has been reported. The species has not been found alive on the Caspian coastal plain and, based on ecology, should not be expected to occur there. However, a fresh specimen was found dead in the street at Bandar-e Pahlavī. It is likely that this had fallen from a vehicle that had hit it and carried it over the Alborz from the southern slope (DeBlase, 1980, p. 220). *P. savii* is a rather rare bat known only from four locations in three widely separated areas of Iran: Čelmīr in northern Khorasan, Mākū and Lake Urmia in Azarbaijan, and Sardašt, southwestern Lordegān, in the *šahrestān* of Šahr-e Kord in the southern Zagros. DeBlase (1980, p. 230) referred all of these specimens to the

form *P. s. caucasicus*. Neuhauser and DeBlase (1974) have shown that *Barbastella leucomelas darjelingensis* occurs at the eastern end of the Alborz, and DeBlase (1980, p. 233) reports another specimen of this form from the same area. These are the westernmost records for this form. DeBlase (1980, p. 233) refers the other Iranian specimens of this species, two from near Tehran and one from Semnān, to the nominate form *B. l. leucomelas*. *Otonycteris hemprichi* is known from two localities in Khorasan and numerous ones in adjacent areas of the USSR and Afghanistan. It also occurs in Saudi Arabia and thus may be expected in much of Iran as well. *Plecotus austriacus* is known from five widely scattered points in Iran: near Mt. Sabalān in northeastern Azarbaijan; three areas in the central Zagros; and one in southeastern Baluchistan. *Miniopterus schreibersi pallidus* is known from numerous locations throughout the mountainous areas of northern and western Iran and, considering its distribution in Afghanistan, probably occurs in the eastern mountains as well. It does occur on the Caspian coastal plain, but is not known from the Ḵūzestān plain, the southern coastal strip, or from Baluchistan.

Molossidae: *Tadarida teniotis* is reported from two widely separated locations on the southern coastal plain, Būšehr and Mīnāb; from Čelmīr in northeastern Khorasan; and from the Alborz mountains southeast of the Caspian Sea. It probably occurs in nearly all parts of Iran. *Tadarida aegyptiaca* is known from a single specimen from the Persian Gulf coast in southern Iran (DeBlase, 1971, p. 12). Since the species is known from the southern Arabian peninsula and from Africa, as well as from Afghanistan and Pakistan, it is likely that it occurs throughout southern Iran, at least along the coast.

Zoogeography. Although thirty-eight species of bats are known from Iran, the record remains sketchy and incomplete. Only two species, *Myotis blythi* and *Pipistrellus kuhli*, are known from more than thirty locations, and only eleven more are known from more than ten locations. Twenty-one of the species are known from five or fewer localities, and six of these have been reported from a single site. Of the thirty-eight species of bats now documented from Iran, none is restricted to the political boundaries of the Iranian nation, and none is restricted to the main physiographic feature of the area, the Iranian Plateau. The Iranian bat fauna is strongly Palearctic in its affinity. Twenty-seven species are entirely, or almost entirely, restricted to the Palearctic faunal region. Of the remaining eleven species one, *Miniopterus schreibersi*, ranges widely through all four faunal regions in the eastern hemisphere. One species, *Barbastella leucomelas*, ranges widely in both the Palearctic and Oriental

faunal regions, and two other species, *Rhinolophus blasii* and *Pipistrellus kuhli*, range widely in both the Palearctic and the Ethiopian faunal regions. *Triaenops persicus* has a rather restricted range but seems to be more widely distributed in the Ethiopian region than in the Palearctic. The remaining six species, *Rousettus aegyptiacus*, *Rhinopoma microphyllum*, *R. hardwickei*, *Taphozous perforatus*, *T. nudiventris*, and *Tadarida aegyptiaca*, range widely through the Ethiopian region and through India but are found in the Palearctic only in a restricted portion of southwestern Asia. Three of these, *R. microphyllum*, *R. hardwickei*, and *T. nudiventris*, continue through India well into the Oriental region.

DeBlase (1980) has shown that all but two Iranian bat species fall into one of three geographic groups in Iran. Nineteen species are primarily “northern” in their distribution, nine species are primarily “southern,” and eight are wide-ranging in both north and south. And, using the Index of Faunistic Congruence, DeBlase (1980, pp. 267-73) has shown that as a whole the bat fauna of Iran is quite similar to that of Caucasia, the Levant, Anatolia, Transcaspia, and Afghanistan. The bat fauna of northern Iran is most similar to those of Caucasia, Transcaspia, Anatolia, Mediterranean Europe, and the Levant. The index of congruence for northern Iran is higher with eleven of the nineteen comparative regions than it is with southern Iran. The bat fauna of southern Iran is most similar to those of Oman, Egypt, Saudi Arabia, the Levant, Mesopotamia, and Afghanistan. This southern bat fauna has a higher index of congruence with nine of the comparative regions than with northern Iran. These figures further emphasize that the Iranian bat fauna is primarily Palearctic in its affinities and consists of two relatively distinct species complexes.

BIBLIOGRAPHY

W, T. Blanford, *Eastern Persia. An Account of the Journeys of the Persian Boundary Commission 1870-71-72* II: *The Zoology and Geology*, London, 1876.

A. F. DeBlase, “New Distributional Records of Bats from Iran,” *Fieldiana. Zoology* 58/3, 1971, pp. 9-14.

Idem, “*Rhinolophus euryale* and *R. mehelyi* (Chiroptera: Rhinolophicae) in Egypt and Southwest Asia,” *Israel Journal of Zoology* 21, 1972, pp. 1-12.

Idem, *The Bats of Iran. Systematics, Distribution, Ecology*, Fieldiana. Zoology, N.S. 4. A. F. DeBlase, D. A. Schlitter, and H. N. Neuhauser, “Taxonomic Status of *Rhinopoma muscatellum* Thomas (Chiroptera: Rhinopomatidae) from Southwest Asia,” *Journal of Mammalogy* 54/4, 1973, pp. 831-41.

E. Eʿtemād, (The bats of Iran and the keys to identify them), Tehran, 1348 Š./1969 (with Eng. summary).

Idem, “A Note on the Occurrence of the Giant Noctule *Nyctalus lasiopterus* Schreber, 1780, in Iran (Chiroptera: Vespertilionidae,” *Mammalia* 34/3, 1970, p. 547.

A. Farhang-Azad, “Bats from North Khorasan, Iran,” *Mammalia* 33/4, 1969, pp. 730-32.

D. L. Harrison, “Report on a Collection of Bats (Microchiroptera) from N. W. Iran,” *Zeitschrift für Saugetierkunde* 28/2, 1963, pp. 301-08.

D. M. Lay, “A Study of the Mammals of Iran Resulting from the Street Expedition of 1962-63,” *Fieldiana. Zoology* 54, 1967, pp. 1-282.

X. Misonne, *Analyse zoogéographique des mammifières de l’Iran*, Mémoires de l’Institut royal des sciences naturelles de Belgique, 2nd ser., 59, 1959.

H. N. Neuhauser and A. F. DeBlase, “The Status of *Pipistrellus aladdin* Thomas from Central Asia,” *Mammalia* 35/2, 1971, pp. 273-82.

Idem, “Notes on Bats (Chiroptera: Vespertilionidae) New to the Faunal Lists of Afghanistan and Iran,” *Fieldiana. Zoology* 65/2, 1974, pp. 85-96.

D. A. Schlitter and A. F. DeBlase, “Taxonomy and Geographic Distribution of *Rhinopoma microphyllum* (Chiroptera: Rhinopomatidae) in Iran with the Description of a New Subspecies,” *Mammalia* 38/4, 1974, pp. 657-65.

Search terms:

□□□□ khofash khofaash