Distribution of *Ophiomorus nuchalis* Nilson & Andrén, 1978: Current status of knowledge

The scincid lizard genus *Ophiomorus* A. M. C. Duméril & Bibron, 1839, is distributed from southeastern Europe (southern Balkans) to northwestern India (Sindhian deserts) (Anderson & Leviton 1966; Sindaco & Jeremčenko 2008) and comprises 11 species (Boulenger 1887; Anderson & Leviton 1966; Nilson & Andrén 1978; Anderson 1999; Kazemi et al. 2011). Seven were reported from Iran including *O. blanfordi* Boulenger, 1887, *O. brevipes* Blanford, 1874, *O. nuchalis* Nilson & Andrén, 1978, *O. persicus* Steindachner, 1867, *O. streeti* Anderson & Leviton, 1966, *O. tridactylus* Blyth, 1853 and *O. maranjabensis* Kazemi, Farhadi Qomi, Kami & Anderson, 2011 (Anderson 1999; Rastegar-Pouyani et al. 2008; Kazemi et al. 2011).

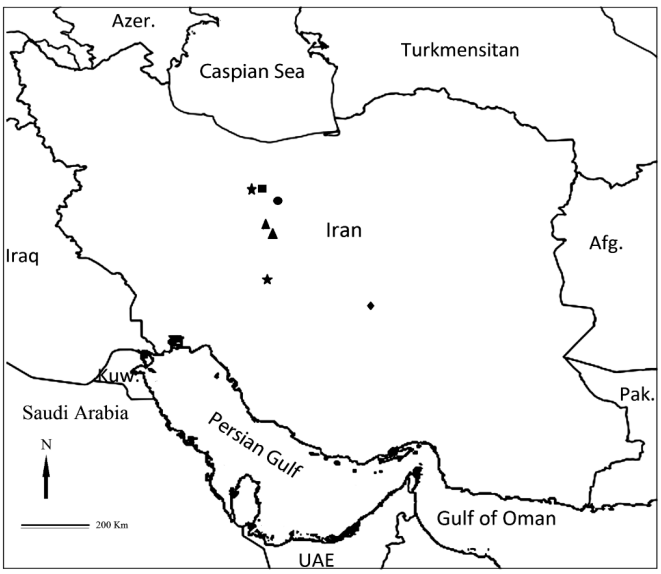

Fig. 1: Known record localities of *Ophiomorus nuchalis* Nilson & Andrén, 1978. ● - Type locality in Cheshmeh Shah, Kavir Protected Region, Teheran (34°44'N, 52°11'E) (Nilson & Andrén 1978); ■ – Five km north of the entrance to the Kavir Protected Region (35°6'42"N, 51°46'14"E) (Mozaffari et al. 2011); ▲ - Arisman village (33°39'27"N, 52°0'11"E) and Abouzeid Abad (33°54'52"N, 51°45'30"E), Isfahan Province (Farhadi Qomi et al. 2011); ◆ - Kalmand and Bahadoran Protected Areas, Yazd (31°26'29"N, 54°59'54"E); ★ - Cheshmeh Toti, Kolah Ghazi National Park, Isfahan (32°18'39"N, 51°55'14"E); Deyr-e-Gachin (35°3'18"N, 51°24'13"E), Hosseinabad, Meshmast (34°25'28"N, 51°14'01"E), Qom; Jazan village, Natanz, Esfahan (33°33'16"N, 51°58'54"E).

Fig. 2: Dorsal view of an adult *Ophiomorus nuchalis* NILSON & ANDRÉN, 1978, from Abouzeid Abad, Isfahan, central Iran. Photograph by M. FARHADI QOMI.

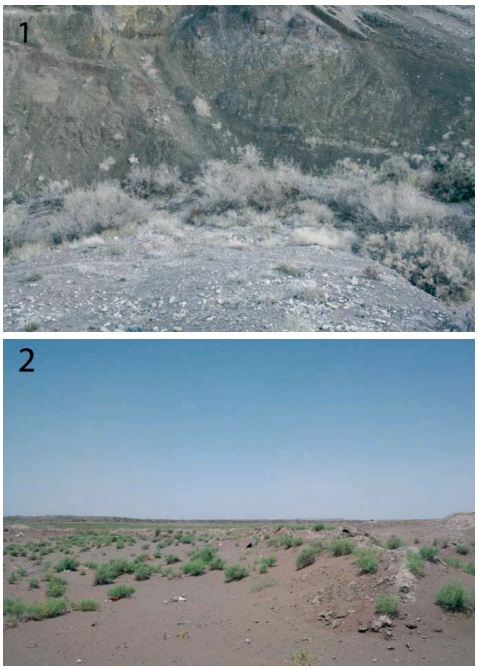

Fig. 3: Habitats of *Ophiomorus nuchalis* NILSON & ANDRÉN, 1978.
1 - Cheshmeh Toti, Kolah Ghazi National Park, Isfahan;
2 - Hosseinabad, Meshmast, Qom;
3 - Jazan village, Natanz, Isfahan.

In the present note, the authors compile the published records of the rarely encountered Plateau Snake Skink, the Iranian endemic *O. nuchalis*, and add new sites to the known distribution of the species in the Iranian Plateau, pointing to the substrate

types inhabited. The various inconspicuous ground-dwelling *Ophiomorus* species prefer different kinds of substrate varying from loams for *O. punctatissimus* (Bibron & Bory de St. Vincent, 1833) (Rödel et al. 1989) and almost bare gravel ground for *O. nuchalis* (Nilson & Andrén 1978), to loosely consolidated sand for *O. blanfordi* (Shockley 1949), *O. brevipes* (Anderson 1963) and *O. raithmai* Anderson & Leviton, 1966 (Minton 1966; Rathor 1970) (Greer & Wilson 2001). Interspecific differences in the preference for certain substrate types may aid species discrimination.

The type locality of *O. nuchalis*, Siah Kuh (Black Mountains), lies in the center of the Kavir Protected Region, Iran (34°44'N, 52°11'E), about 150 km south of Teheran (Nilson & Andrén 1978). From its coordinates, the location is situated in the northern foothills of the Black Mountains at an altitude of about 1,170 m a.s.l. The ground is rocky, the vegetation sparse and patchy, with *Artemisia herba-alba* being the dominant plant (Nilson & Andrén 1978). Mozaffari et al. (2011) reported the species from five km north of the entrance to the Kavir Protected Region at 35°6'42"N, 51°46'14"E in the vicinity of a dry river with clay topsoil where *Tamarix*, *Prosopis*, *Alhagi* and *Artemisia* are widespread. Farhadi Qomi et al. (2011) published records and habitat characters of the species found in agricultural farms in the Province of Isfahan (33°39'27"N, 52°00'11"E and 33° 54'52"N, 51°45'30"E). Recently, a specimen was found in the Kalmand and Bahadoran Protected Areas (31°26'29"N, 54°59' 54"E), Province of Yazd, inhabiting the sand dunes between the desert and the mountains. The specimen was deposited at the Zagros Herpetological Institute Museum (ZHIM27) (Fig. 1).

Three more populations were found by the authors in the Central Iranian Plateau (Figs. 1, 2). Two adults were collected on 28 July, 2009 from Cheshmeh Toti, Kolah Ghazi National Park, Province of Isfahan (32°18'39"N, 51°55'14"E). The specimens were captured, measured for morphometric characters and released into their natural habitat. The individuals lived in a hilly environment on rocky soil, resembling the habitat of the type locality. The place is situated 36 km south of the town of Isfahan; the climate is characterized by hot and dry summers. Minimum and maximum rainfall of the region is 111 and 144.6 millimeters with minimum and maximum temperatures of 16 to 42 °C, respectively. The predominant vegetation comprised *Alhagi*, *Artemisia* and *Peganum*; sympatric reptiles were *Trapelus agilis* (Olivier, 1807), *Ophisops elegans* Ménétries, 1832, *Mesalina watsonana* (Stoliczka, 1872) and *Pseudocerastes persicus* (Duméril, Bibron & Duméril, 1854) (Fig. 3.1).

Two more adult specimens were collected on 3 July, 2009 from Deyr-e-Gachin (35°03'18"N, 51°24'13"E), Hosseinabad, Meshmast (34°25'28"N, 51°14'01"E), Province of Qom. The specimens were captured, measured and released into their habitat. They were found inhabiting the sand dunes and loose soil where plants of the genera *Alhagi*, *Haloxylon*, *Peganum* and *Tamarix* are widespread. Other reptile species observed in the same habitat were *Phrynocephalus scutellatus* (Olivier, 1807), *Trapelus agilis*, *Agamura persica* (Duméril, 1856), *Bunopus crassicaudus* (Nikolsky, 1907), *Eremias fasciata* Blanford, 1874, *Eremias persica* Blanford, 1875, *Eremias velox* (Pallas, 1771), *Mesalina watsonana*, *Ophisops elegans*, *Varanus griseus caspius* (Eichwald, 1831), *Eryx jaculus turcicus* (Olivier, 1801), *Platyceps ventromaculatus ventromaculatus* (Gray, 1834) and *Psammophis schokari* (Forskål, 1775) (Fig. 3.2).

One specimen was collected on 20 July, 2008 at Jazan village, Natanz, Province of Isfahan (33°33'16"N, 51°58'54" E), in an area of low hills with rocky ground that resembles the habitat of the type locality (Fig. 3.3). The specimen was captured, measured and released into the habitat.

The available records show that *O. nuchalis* is widely distributed across the Central Iranian Plateau including the Provinces of Semnan, Tehran, Qom, Isfahan and Yazd. The type specimens were collected under stones on sparesly vegetated, almost bare gravel ground devoid of loose sand (Nilson & Andrén 1978). The authors' new findings confirm that the species occupies different habitat types as mentioned by previous studies which

reported the presence of the species in low hills with rocky ground, near dry river beds with clay topsoil, at agricultural farms and on sand dunes (NILSON & ANDRÉN 1978; MOZAFFARI et al. 2011; FARHADI QOMI et al. 2011). The habitat types of *O. nuchalis* are common in many deserts in the Central Iranian Plateau suggesting a wider distribution of *O. nuchalis* than previously estimated (MOZAFFARI et al. 2011). The closest relative of *O. nuchalis* is *O. brevipes*, a taxon which includes members of both an eastern form of *Ophiomorus* and its sister species, *O. nuchalis* (GREER & WILSON 2001). According to NILSON & ANDRÉN (1978), the habitat of *O. nuchalis* is more rocky than of *O. brevipes*. Since a distance of 800 km separates the type localities of *O. nuchalis* and *O. brevipes* (Sáadatabád, southwest of Kerman, Iran), the purported differences in the habitat chosen (i. e., more rocky versus more sandy) may be related to morphological differences in the available structures rather than specific requirements. This is why *O. brevipes* records from Kerman and Nain are under review and probably extend the known distribution range of *O. nuchalis*.

The available records of *O. nuchalis* approach the type locality of *O. brevipes* by at least 100 km. NILSON & ANDRÉN (1978) hypothesized that spatial distance, geographical isolation, poor dispersal skills and different fossorial habits probably caused genetic isolation between these two species.

The present findings, however, revealed remarkable spatial closeness of *O. nuchalis* to *O. brevipe*s and the presence of both species in identical habitat types. Thus, molecular studies are needed to elucidate the taxonomic relationship of both species, which were described on the basis of external morphological criteria.

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