

First record of
Stenodactylus arabicus
(HAAS, 1957) from Iran

The Comb-fingered Geckos of the genus *Stenodactylus* FITZINGER, 1826 comprise 13 currently recognized species distributed across Afro-Arabia (FUJITA & PAPENFUSS 2011). Three species of *Stenodactylus* were known to occur in Iran: *S. affinis* (MURRAY, 1884), *S. doriae* (BLANFORD, 1874), and *S. khobarensis* (HAAS, 1957) (ANDERSON 1999; DAKHTEH et al. 2007; RASTEGAR-POUYANI et al. 2008). In the present paper the authors report the occurrence of a fourth species of the genus within the Iranian territory, *Stenodactylus arabicus* (HAAS, 1957), a gecko known from Saudi Arabia, the United Arab Emirates, Oman, Bahrain and Kuwait (DELIMA & AL-NASSER 2007; FUJITA 2011; GARDNER 2009; HAAS 1957; LEVITON et al. 1992; SOORAE et al. 2010; VAN DER KOOIJ 2001).

During herpetological fieldwork conducted in the Khuzistan Plain, southwestern Iran, three specimens of *S. arabicus* (Fig. 1) were collected at Fakkeh (32°05'32"N, 47°50'45"E., 150 m a.s.l.), Dasht-e Azadegan County, Khuzestan Province, about 20 km from the Iraqi border (Fig. 2). The geckos were caught while active on 27 April 2012 between 9-12 p. m., preserved in 95 % ethanol and deposited at the Razi University Zoological Museum, Kermanshah (RUZM) under RUZM-GS1.1-3. RUZM-GS.1.2 was alive when it was photographed.

Diagnosis.- The specimens are fully in agreement with the below diagnosis by ARNOLD (1980: 380) quoted in LEVITON et al. (1992: 44): "The only *Stenodactylus* species with extensively webbed feet" (Fig. 5). "Small, up to 40 mm from snout to vent" (Figs. 1, 3a, 3b); "toes depressed, with lateral fringe of pointed scales and numerous scales beneath; rostral and upper labial reach nostril; preanal pores absent; cloacal tubercles usually in a single row" (Figs. 6a, 6b).

Morphology (Table 1).- In addition to the characters detailed in the description of the holotype (HAAS 1957: 51-53), the present note reports or depicts the following features for the first time: Adpressed hindlimb extends forward beyond axilla (Figs. 3a, 3b). Supralabials gradually diminishing in height (Fig. 4). One small pair of postmentals in contact with anterior portion of the first infralabials and lateroposterior margins of mental, which are separated from each other by several granular scales of the gular area in RUZM-GS.1.2. Digits strongly dilated and flattened dorso-ventrally at their base by fan-shaped extensions of their skin, that overlap between the digits, which are, however, free; laterally, digits are fringed by a series of marginal, projecting, triangular, flat scales; claws thin and long, strongly compressed laterally (Fig. 5). Fingers one to four gradually increasing in length; fifth finger ends at about the level of second finger (Fig. 5). Minute, imbricate, triangular scales cover undersides of fingers; only a few transversely widened scales at their tips. Upper surface of hands cov-

Table 1: Morphometric (mm) and meristic characters of three specimens of *Stenodactylus arabicus* (HAAS, 1957) from Fakkeh, Khuzistan Plain, southwestern Iran. R/L – right/left.

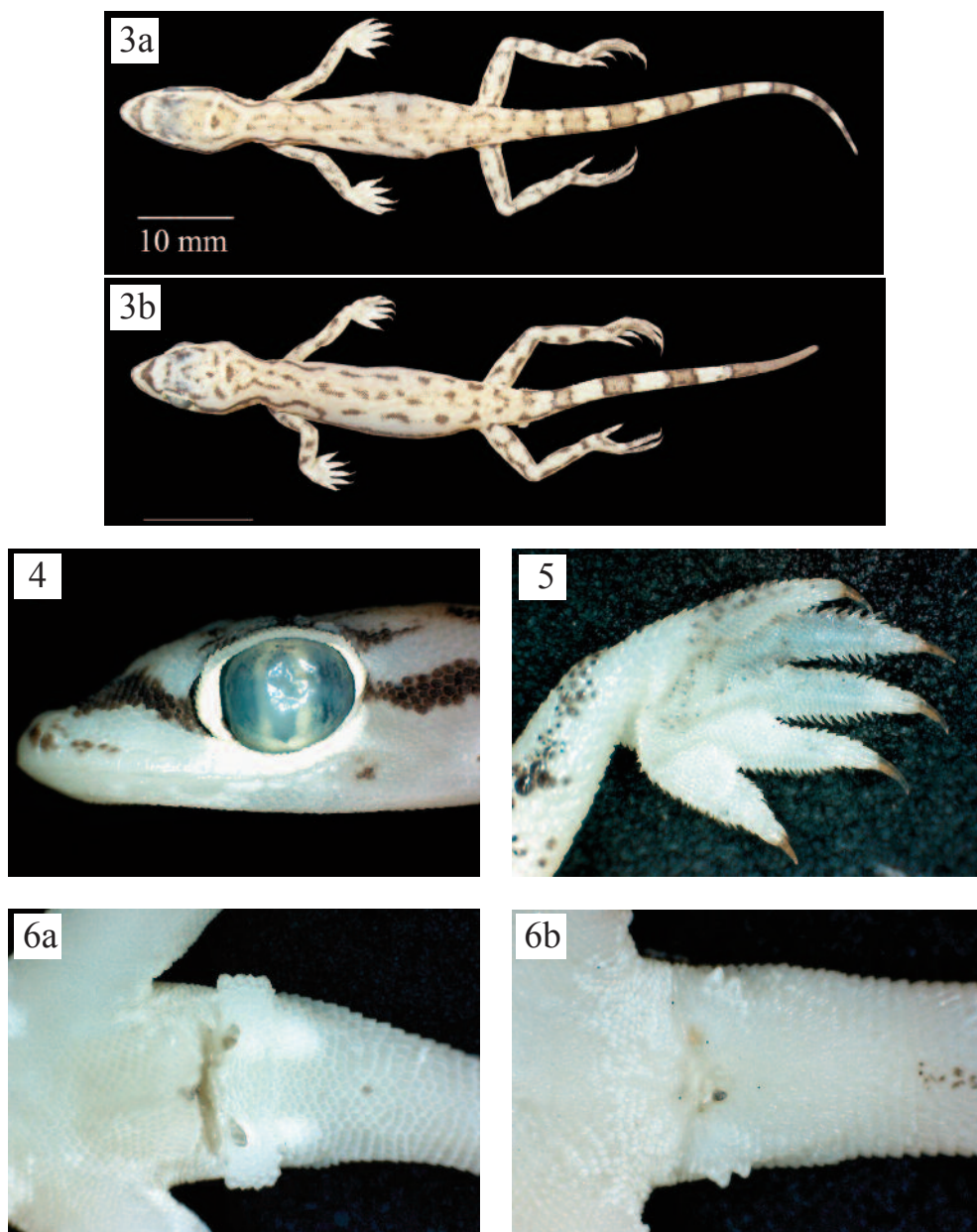
Character	RUZM-GS.1.1	RUZM-GS.1.2	RUZM-GS.1.3
Total length	84.07	55.97	59.31
Snout-vent length	42.09	32.23	30.42
Tail length	40.83	25.11	28.93
Length of head	10.54	9.43	8.19
Width of head	7.40	6.06	5.57
Height of head	4.24	3.07	3.21
Length of forelimb	13.86	10.14	12.01
Length of hindlimb	21.31	15.67	17.65
Postmentals	only on the left side	one small pair	not present
Supralabials (R/L)	13/12	13/12	12/11
Infralabials (R/L)	10/9	9/10	11/10
Sex	Female	Male	?Female
Tail	complete	tip regenerated	broken



Fig. 1: Adult male of *Stenodactylus arabicus* (HAAS, 1957) (RUZM-GS.1.2), photographed in captivity on sand from its Iranian habitat. (Photograph: B. Fathinia).



Fig. 2. Habitat of *Stenodactylus arabicus* (HAAS, 1957) at Fakkeh, Khuzestan Province, southwestern Iran. (Photograph: B. Fathinia).



Figs. 3-6: *Stenodactylus arabicus* (HAAS, 1957) from Fakkeh (Iran). Photographs: A. Gholamifard.

Fig. 3: Dorsal views of the adult female (3a, RUZM-GS.1.1) and adult male (3b, RUZM-GS.1.2) alcohol fixed specimens illustrating morphometric differences between sexes.

Fig. 4: Lateral view of the head (RUZM-GS.1.2).

Fig. 5: Forefoot (RUZM-GS.1.2).

Fig. 6: Anal region of the male (6a, RUZM-GS.1.2) and the female (6b - RUZM-GS.1.1).

Table 2: Key to the species of *Stenodactylus* in Iran, modified from LEVITON et al. (1992) and ANDERSON (1999).

1a.	Forefeet clearly webbed; adults small, up to about 40 mm from snout to vent	<i>Stenodactylus arabicus</i> (HAAS, 1957)
1b.	Feet not, or only very slightly, webbed; adults larger	2
2a.	Enlarged postmental scales; posterior belly scales larger than dorsals; nostrils very protuberant; toes not depressed or fringed, with 10-15 longitudinal rows of scales beneath	<i>Stenodactylus khobarensis</i> (HAAS, 1957)
2b.	No enlarged postmental scales; posterior belly scales not larger than dorsals	3
3a.	Back with 4 dark crescent-like crossbars; 10-11 supralabials; forelimb does not reach beyond tip of snout; digits of forefeet not or scarcely depressed, with weak lateral fringes; 3 longitudinal scale rows beneath digits	<i>Stenodactylus affinis</i> (MURRAY, 1884)
3b.	No dark crossbars on back; 12-15 supralabials; forelimb reaches beyond tip of snout; digits of forelimbs clearly depressed, with distinct lateral fringes; 5-13 longitudinal scale rows beneath digits	<i>Stenodactylus doriae</i> (BLANFORD, 1874)

ered with keeled, imbricate, rather elongate scales. Toes more elongate and slender (Figs. 3a, 3b); with strongly compressed, long claws; margins of toes fringed; length of toes increasing from first to fourth; fifth toe shorter than first; scalation as on hand. In males, the enlarged scales present on both sides of the root of the tail are visible from above (Figs. 3b, 6a). No anal or femoral pores (Figs. 6a, 6b). Tail circular in cross section, tapering uniformly; covered dorsally by elongate, keeled scales, arranged in more or less irregular whorls that are more distinct ventrally. RUZM-GS.1.2 differs from the holotype in the presence of a pair of small postmentals.

Colorpattern as described by HAAS (1957). Dorsum sandy (in preserved specimens). A blackish streak extends from the posterior border of the eyes, across the temporal region, above the axilla to behind the shoulder, slightly passing downward and continues along the flank to a point near the groin. Along the back, two discontinuous dark bands follow the direction of the temporal streak. Rostral, nasals and anterior upper labials somewhat pigmented. Several distinct dark markings scattered on upper side of limbs, head, nape, and median line of the trunk. There are no distinct color differences between the sexes (Figs. 1, 3a, 3b).

Habitat. - *Stenodactylus arabicus* is a sand-dwelling species. Its habitat at

Fakkeh in Iran, is a desert covered with scattered bushes (Fig. 2).

Sympatric lizards and snakes. - Several species of lizards and snakes were observed in sympatry with *S. arabicus* in this Iranian locality: *Trapelus ruderatus*, *Phrynocephalus arabicus*, *Bunopus tuberculatus*, *Stenodactylus doriae*, *Acanthodactylus grandis*, *A. schmidtii*, *Uromastix loricata*, *Varanus griseus griseus*, *Diplometopon zarudnyi*, *Eryx jayakari*, *Malpolon moilensis* and *Cerastes gasperettii*.

Distribution. - Zoogeographically, the distribution of *S. arabicus* is Arabian, ranging from southern Oman in the southern Arabian Peninsula north to the United Arab Emirates, Bahrain and Kuwait. It is likely that the species occurs throughout the whole of the Arabian Peninsula including parts of Yemen and Iraq, although this still needs to be confirmed. In Iran, *S. arabicus* is as yet known only from the present locality (Fakkeh) in Khuzestan Province, southwestern Iran. For an updated key to the *Stenodactylus* species of Iran see Table 2.

Stenodactylus arabicus joins other *Stenodactylus* species, e.g., *S. doriae* and *S. khobarensis*, that apparently extended their ranges from the Arabian Peninsula across the Persian Gulf, probably during the Quaternary, when the Gulf had retreated to the Gulf of Oman and at most was a river valley for the Tigris-Euphrates (see ANDER-

SON 1999: 64; DAKHTEH et al. 2007). *Stenodactylus arabicus* should be expected to occur in areas of Iran and Iraq adjacent to this new record, where there are similar habitats.

REFERENCES: ANDERSON, S. C. (1999): The Lizards of Iran. Contributions to Herpetology, Vol. 15; Ithaca, New York (SSAR - Society for the Study of Amphibians and Reptiles), pp. 442. ARNOLD, E. N. (1980): Reptiles of Saudi Arabia: a review of the lizard genus *Stenodactylus* (Reptilia: Gekkonidae).- Fauna of Saudi Arabia, Basel, Riyadh; 2: 368-404. DAKHTEH, S. M. H. & KAMI, H. G. & ANDERSON, S. C. (2007): *Stenodactylus khobarensis* (HAAS, 1957): An addition to the Iranian Herpetofauna (Reptilia: Squamata: Gekkonidae).- Russian Journal of Herpetology, Moskva; 14 (3): 229- 231. DELIMA, E. C. & AL-NASSER, A. (2007): New record of the web-footed sand gecko, *Stenodactylus arabicus* (HAAS, 1957) (Sauria: Gekkonidae), from Kuwait.- Zoology in the Middle East, Heidelberg; 41: 111-112. FUJITA, M. K. & PAPENFUSS, T. J. (2011): Molecular systematics of *Stenodactylus* (Gekkonidae), an Afro-Arabian gecko species complex.- Molecular Phylogenetics and Evolution, San Diego; 58: 71-75. GARDNER, A. S. (2009): Mapping the terrestrial reptile distributions in Oman and the United Arab Emirates.- Molecular Phylogenetics and Evolution, San Diego; 31: 165-177. HAAS, G. (1957): Some amphibians and reptiles from Arabia.- Proceedings of the California Academy of Sciences, San Francisco; 29 (3): 47-86. KLUGE, A. G. (1967): Higher taxonomic categories of gekkonid lizards and their evolution.- Bulletin of the American Museum of Natural History, New York; 135 (1): 1-59. LEVITON, A. E. & ANDERSON, S. C. & ADLER, K. & MINTON, S. A. (1992): Handbook to Middle East amphibians and reptiles. Contributions to Herpetology, No. 8; Oxford, Ohio (SSAR - Society for the Study of Amphibians and Reptiles), pp. vii, 252. RASTEGAR-POUYANI, N. & KAMI, H. G. & RAJABIZADEH, M. & SHAFIEI, S. & ANDERSON, S. C. (2008): Annotated checklist of amphibians and reptiles of Iran.- Iranian Journal of Animal Biosystematics (IJAB), Mashhad; 4 (1): 43-66. SOORAE, P. S. & AL QUARQAZI, M. & GARDNER, A. S. (2010): An overview and checklist of the native and alien herpetofauna of the United Arab Emirates.- Herpetological Conservation and Biology, 5 (3): 529-536. Online periodical available at < <http://www.herpconbio.org/> >. VAN DER KOIJ, J. (2001): The herpetofauna of the Sultanate of Oman: Part 2: The geckos.- Pod@rcis, the herpetological internet magazine; 1 (4): 105-120. Online periodical published by Rijksuniversiteit Leiden, Institute of Evolutionary and Ecological Sciences, available at < <http://www.podarcis.nl/> >.

KEYWORDS: Reptilia: Squamata: Gekkonidae; *Stenodactylus arabicus*, new country record, Fakkeh, Khuzestan Province, Iran

SUBMITTED: November 22, 2012

AUTHORS: Behzad FATHINIA, Ali GHOLAMI-FARD, Nasrullah RASTEGAR-POUYANI (corresponding author < nasrullah.r@gmail.com >), Department of Biology, Faculty of Science, Razi University, 6714967346 Kermanshah, Iran; Iranian Plateau Herpetology Research Group (IPHRG), Faculty of Science, Razi University, 6714967346 Kermanshah, Iran