

On a collection of the Near Eastern Fire Salamander, *Salamandra inframaculata semenovi* (Salamandridae), from Kurdistan Province, Western Iran

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According to STEINFARTZ et al. (2000), the genus *Salamandra* contains six species: *Salamandra algira* (North African Fire Salamander), *S. salamandra* (European Fire Salamander), *S. corsica* (Corsican Fire Salamander), *S. lanzai* (Lanza's Alpine Salamander), *S. atra* (Alpine Salamander) and *S. inframaculata* (Near Eastern Fire Salamander). The Near Eastern Fire Salamander occurs in three distinct subspecies: *Salamandra inframaculata inframaculata* in Palestine/Israel, southern and southwestern Turkey, Lebanon, and other parts of the Middle East; *S. i. orientalis* in central and south-central Turkey; and *S. i. semenovi* from south-eastern Turkey, northern Iraq to north-western Iran (DEGANI 1996). The subspecies *semenovi* was originally described by NESTEROV (1916) as *Salamandra semenovi* based on material collected from Siah Guvez Village in the mountainous regions on the Iranian-Iraqi border. Since then, there has been no further definite record of this taxon within Iranian territory. In this paper we report the re-discovery of this taxon and describe the variation in body size, colouration and colour pattern.

Material (RUZM = Razi University Zoological Museum, Kermanshah). *Salamandra inframaculata semenovi* (2 ♂, 5 ♀): RUZM-001 (♀) from 7 km NW of Sarvabad (35°19'N, 46°22'E, 1240 m a.s.l.), between Sanandaj and Marivan, Kurdistan Province, western Iran; RUZM-002 (♀) from about 5 km N of Sarvabad (35°19'N, 46°23'E, 1540 m a.s.l.), between Sanandaj and Marivan, Kurdistan Province, western Iran; RUZM-003 (♀), RUZM-004/-005 (2 ♂) and RUZM-006/-007 (2 ♀) all from about 7 km NE of Sarvabad (35°19'N, 46°24'E, 1830 m a.s.l.), between Sanandaj and Marivan, Kurdistan Province, western Iran.

Distribution and habitat. According to our studies, the distribution range of the Near Eastern Fire Salamander is very limited in Iran, and apparently it is restricted to the mountainous

Tab. 1. Descriptive statistics (mean, range, standard deviation) of the seven specimens of *Salamandra inframaculata semenovi*.

Characters	N	Mean	±SD	Range
SVL (snout-vent length)	7	83.25	12.23	62.68–97.29
TL (tail length)	7	57.56	9.83	40.92–68.33
LH (head length)	7	19.82	2.33	16.52–23.10
WH (head width)	7	17.12	2.19	13.80–20.14
HH (head height)	7	9.70	1.53	8.25–12.50
LF (length of fore limbs)	7	26.61	3.96	20.80–31.77
LHI (length of hind limbs)	7	29.87	3.94	23.00–34.69
LEY (length of eye)	7	5.67	1.30	3.91–7.81
IORD (interorbital distance)	7	6.01	0.39	5.50–6.62
SW (snout width)	7	5.83	0.84	4.56–6.91
DHF (distance between hind limbs and fore limbs)	7	41.41	5.65	32.50–49.06
LC (length of cloaca)	7	5.51	0.74	4.38–6.73
LPG (length of paratoid glands)	7	11.81	2.04	8.50–13.80



Fig. 1. *Salamandra inframaculata semenovi* in its natural habitat.

areas around Sarvabad Village, between Sanandaj and Marivan in Kurdistan Province. Numerous specimens were observed and seven of them were collected. In addition, this subspecies is known only from the type locality which is situated at Siyah Guves Village near to the border with Iraq (NESTEROV 1916). The vegetation in the habitat around Sanandaj is composed of *Quercus*, *Juglans*, *Robus*, *Salix*, and various species of the family Rosaceae. These salamanders were found close to the mountain streams and brooks, and there appear to be no predators of their eggs in the area.

Morphological characteristics. The most distinguishing morphometric characters of the studied specimens of *Salamandra inframaculata semenovi* as well as their descriptive statistics are presented in Tab. 1. *S. i. semenovi* is moderate in size, and has irregular, small, yellow spots and blotches over the whole body. The head is fairly round with several irregularly-arranged yellow blotches (Fig. 1). All of the ventral surfaces are dark with very small

and sparse yellowish ocelli scattered throughout; these small spots are more conspicuous in females than in males in which all the ventral regions are occasionally uniformly dark. In juveniles, smaller than 50 mm (30-40 mm), the gills are invisible, and the ventral surfaces are whitish and, to some extent, transparent so that the stomach contents are almost visible. With age, this transparent ventral colouration changes into a distinct dark colour. According to DEGANI (1996), *Salamandra i. infraimaculata* is much larger (up to 324 mm), and the yellow dots are large and extend over the whole body, except the belly. Usually there are four yellow spots on the head, one on each paratoid and one above each eye. *S. i. orientalis* is about the same size as *S. i. infraimaculata* in appearance, but has small, yellow spots over the whole body except the belly.

Sexual dimorphism. In almost all species and subspecies of *Salamandra*, including our specimens of *S. i. semenovi*, the male is generally smaller than the female, and has a distinctly more swollen cloaca. Also, the dorsal yellow spots and blotches are more prominent, larger, and frequently hollow in females, but smaller, less prominent and more solid in males. Furthermore, as mentioned above, there are very small yellowish spots on the ventral surfaces of females, these spots being absent or very scarce on the ventral surfaces of males.

Seasonal activity. We found *S. i. semenovi* active during June and July. Since *S. i. infraimaculata* lives in warmer areas than *S. salamandra*, it can be assumed that it is only active in the winter period, like *S. algira* (DEGANI 1996). The subspecies *S. i. orientalis* and *S. i. semenovi* live at higher altitudes (ca 1200-2000 m elevation), so it could be possible that these are active in the summer period (DEGANI 1996, STEINFARTZ et al. 2000).

References

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