International Journal of Botany

ISSN: 1811-9700

science alert

ANSInet
an open access publisher
http://ansinet.com

International Journal of Botany 4 (3): 344-346, 2008
ISSN 1811-9700

A New Record of *Salvia* Species (Lamiaceae) for Iran

[1]Navaz Kharazian and [2]Behrouz Shiran
[1]Department of Biology (Botany), Faculty of Sciences, University of Shahr-e-Kord, Shahr-e-Kord, Iran
[2]Department of Plant Breeding, Faculty of Agriculture, University of Shahr-e-Kord, Shahr-e-Kord, Iran

Abstract: *Salvia moorcroftiana* Wall. ex Benth. is reported as a new record of *Salvia* L. species for the first time from Iran, East of Chaharmahal va Bakhtiari province, South of Shahr-e-Kord, toward Tang-e-Sayad. The morphological characters of this species have been described and designed in details.

Key words: *Salvia moorcroftiana*, record, Iran, morphology, Lamiaceae

INTRODUCTION

The genus *Salvia* L. belongs to the Lamiaceae family and is represented by 55 taxa in Iran growing in sub arctic, arctic and tropical regions of this country (Hedge, 1982). This genus is quite well known for medical properties (Khan *et al*., 2002). Some of these species are perennial, herbaceous, suffruticose, fruticose and subshrubby (Hedge, 1982). *Salvia moorcroftiana* Wall. ex Benth. is one of the species that reported by Hedge (1982) in Flora Iranica and Flora of Pakistan (Hedge, 1990) which grows in Pakistan: Chitral, Malakand, Peshawar, Dir, Chakdara to Timargarra, Swat, Hazara, Havelian to Haripur, South-East of Haripur to Taxilla, Abbottabad to Nathiagali, Kangan, Bannu, Kurram, Rawalpindi, Jhelum, Quetta, Mekhtar, Sasnamana, Dera Ghazi Khan, Afghanistan: Kabul, Laghman, Khost, Nuristan, North-West of India and Nepal, but so far this species has not been reported in Iran. Therefore, considering this species, the total number of *Salvia* in Iran will be 56 species. Consequently, in this study the habitat of this new record in Iran has been shown and its morphological characters are exactly described.

MATERIALS AND METHODS

In this study, several populations of *Salvia moorcroftiana* were collected from natural habitats in South-West of Iran; East of Chaharamahal va Bakhtiari province, Shahr-e-Kord in June 2006. This new record grows in the mountain habitat of Tang-e-Sayad (a conservation region), Koh-e Kondeh Rahim at 2550 m (Fig. 1). This region is one of the most important genetic resources of Iran which have 22852 hectares. Voucher specimens are deposited in Shahr-e-Kord University Herbarium (SUH).

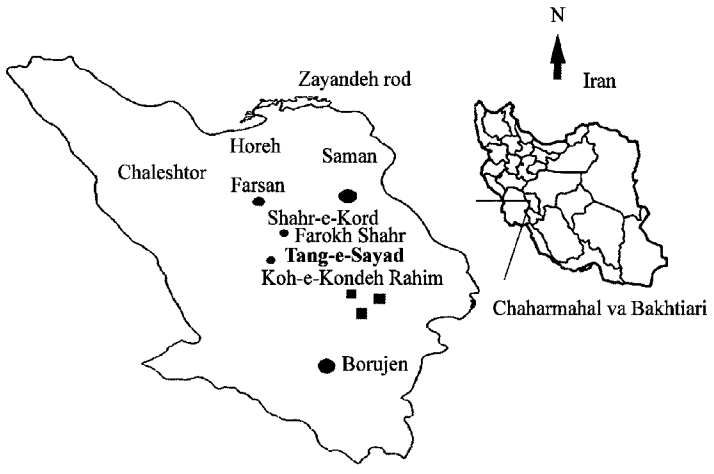

Fig. 1: Location of *Salvia moorcroftiana* (■) in South-West of Iran; Chaharmahal va Bakhtiari province, Shahr-e-Kord, Tang-e-Sayad

Corresponding Author: Navaz Kharazian, Department of Biology (Botany), Faculty of Sciences, University of Shahr-e-Kord, Shahr-e-Kord, Iran Tel: +98-381-4424419 Fax: +98-381-4424419

RESULTS

Description: *Salvia moorcroftiana* Wall. ex Benth. Pl. Asiat. Rar. 1: 67 (1830).

Perennial, herbaceous. Stem erect and thick, sturdy quadrangular, c. 76 cm, branched above, lower parts of stem eglandular or pilose and lanate, in upper parts of stem eglandular and little lanate. Leaves mostly basal, elliptical, 14.1 * 2.3 cm, with highly lanate indumentum, white, base of leaf cuneate, margins irregularly lobed, erose or dentate, lanate, in veins of upper surface with highly pannose indumentum, in lower surface lanate; petiole 4.5-6 cm, lanate, eglandular and hirtellous. Inflorescence compound racemose; axis glandular, short eglandular, arachnoid, granular and hirsute; 6-7 flowers in each verticillaster. Bracts light green, ovate, margin dentate or erose, (-2.5) 6-8.5 * 1.3-1.7 mm, in upper surface lanate, in lower surface lanate and pubescent. Bracteoles green-yellow, 11.2-12 * 12.5-17 mm, rarely lilac, broad ovate, acuminate, 0.7-1.1 mm, long eglandular and glandular, in margin long eglandular and glandular. Pedicel 2-3.5 mm, with long eglandular, short glandular, hirsute. Calyx green-yellow, rarely lilac in lips and margin, 11.2-18 * 8.5-15.2 mm, campanulate, long glandular, long eglandular and granular, bilabiate; lower lobe with two teeth, 1.1-1.5 mm, broadly lanceolate, spinose, 1-1.8 mm; upper lobe with three teeth, 1 mm, with spinulose teeth, 0.5 mm. Corolla white, 19 mm, squamulate, tube 5-7 mm; upper lobe falcate, 12.5 * 4.2 mm; lower lobes 5.5 * 4 mm, shorter than upper lobes. Anther 2 mm, thecae dolabriform; filament 2.5-3 mm, shorter than connective; connective 3-4.5 mm. Style 21.5 mm. Nutlets 3.5-3.15 * 2.5-3 mm, sub orbicular, late ovate, yellow-white with light venation and glabrous (Fig. 2).

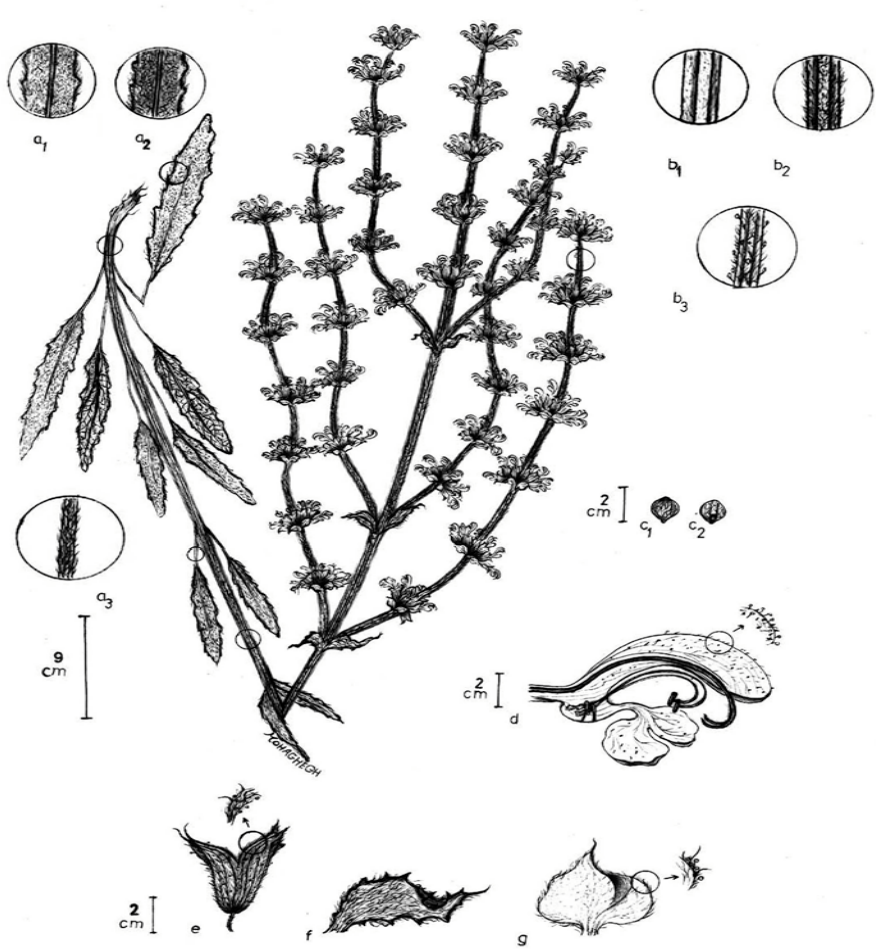

Fig. 2: *Salvia moorcroftiana* - (A): habit; (a1) lower surface of basal leaf, (a2) upper surface of basal leaf, (a3) indumentum of petiole; (b1) indumentum of lower part in stem, (b2) indumentum of upper part in stem; (b3) indumentum of upper part in inflorescence; (c1 and c2) nutlets; (d) flower, (e) calyx, (f) bract, (g) bracteole

Material examined: Iran, East of Chaharmahal va Bakhtiari province, South of Shahr-e-Kord, 25 km of Borujen, toward Tang-e-Sayad, Koh-e-Kondeh Rahim, 2550 m, on the rocky habitat, 7. 6. 2006, N. Kharazian, H. Fattahi (Shahr-e-Kord University Herbarium No. 35).

Distribution: Pakistan, East of Afghanistan, Kashmir, North-West of India, Nepal, North-West of Himalayan.

Type: Luddak (Ladakh), Moorcroft, holotypus K!

DISCUSSION

In Flora of Iranica, Hedge (1982) originally diagnosed *S. moorcroftiana* with stem 20-55 cm long, upper part of stem densely glandular-pilose. Leaf c. 8-19(-25)* 4-12(-15) cm, broadly ovate, in base cordate, rotundate. Calyx tubular. Corolla 24-27 mm long; tube c. 15 mm long. In Flora of Pakistan, Hedge (1990) diagnosed this species with stem above densely glandular pilose. Leaf c. 10-24* 4-18 cm, margins crenate or irregularly lobed; petiole up to 10 cm, ± lanate. Corolla c. 25 mm long. Nutlets ovoid-trigonous, brown with darker venation, but in the Iranian plants the upper parts of stem eglandular and little lanate. Leaf 23 mm width, elliptical, base of leaf cuneate, margins erose or dentate; petiole 4.5-6 cm, lanate, eglandular and hirtellous. Calyx campanulate. Corolla 19 mm long; tube 5-7 mm. Nutlets sub orbicular, late ovate, yellow-white with light venation (Fig. 2), which is, however, within the range of variation of the species.

ACKNOWLEDGMENTS

Author is thankful to Prof. Dr. Birgit, Gemeinholzer, Botanischer Garten und Botanisches Museum Berlin-Dahlem, Freie Universitat Berlin, Germany for valuable scientific help, Dr. M. Yousefi at Natural Resources Department, Herbarium of Isfahan Technology University to confirm this specimen and Ms Mohaghegh for her precise hand drawing. The research was supported by the research Deputy of Shahrekord University under project number 1678.

REFERENCES

Hedge, I.C., 1982. Labiatae. In: Flora Iranica, Vol. 150, Rechinger, C.H. (Ed.). Akademische Drukund Verlagsanstalt, Graz, Austria, ISBN: 3-201-00728-5, pp: 403-476.

Hedge, I.C., 1990. Labiatea. In: Flora of Pakistan, Vol. 192, Ali, S.I. and Y.J. Nasir (Eds.). University of Karachi, Karachi, Pakistan, pp: 193-217.

Khan, T., M. Zahid, M. Asim, H. Shahzad, Z. Igbal, M.I. Choudhary and V.U. Ahmad, 2002. Pharmacological activities of crude acetone extract and purified constituents of *Salvia moorcroftiana* Wall. Phytomedicine, 9: 749-752.