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Short Communication

First Record of the genus *Phylloneta* from India with description of *P. impressa* L. Koch, 1881 (Araneae: Theridiidae)

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ABSTRACT. The Theridiidae spider of the genus *Phylloneta* (Archer 1950) is reported for the first time from India based on the species *Phylloneta impressa* (L.Koch 1881) collected from Nanda Devi Biosphere Reserve (NDBR) Uttarakhand, India. A brief description of the female is provided together with the figures of the genitalia.

KEYWORDS. Theridiidae, Phylloneta, Nanda Devi Biosphere Reserve.

Introduction

The family Theridiidae (Sundevall 1833) (Order: Araneae) commonly known as comb-footed spiders are well reported from India with 18 genus and 52 species (Siliwal, et.al, 2005; Platnick N. I., 2011; Sebastian & Peter, 2009) documented so far. However, there was no previous report of the Genus *Phylloneta* (Archer 1950) from India. Five species under this genus are recorded from the world: *Phylloneta sisyphia torandae* reported from Yarkand and Karakorum (Strand, 1917); *P.* pictipes (Keyserling, 1884) reported from USA; *P. sisyphia foliifera* (Thorell, 1875) reported from Spain; *P. sisyphia* (Clerck, 1757) is *Palearctic* in distribution; and *P. impressa* (L. Koch, 1881) is Holarctic in distribution (Platnick, N.I.,2011). During our study on spider fauna in Nanda Devi Biosphere Reserve (NDBR), Uttarakhand (India) which is a high altitude reserve located in the Western Himalaya, we collected five mature female specimens and two male specimens of the species *P. impressa* (Fig.1).

Materials and Methods

The specimens were collected by vegetation beating method from not very high vegetation and bushes. After collection they were preserved in 70% ethanol. One mature female (Fig. 3A) was dissected and the epigynum was removed and kept overnight in a solution of Potassium hydroxide (KOH). This helped in removing the extra tissue attached to the epigynum (Fig. 3B) and also made the internal genitalia more prominent (Fig. 3C).

Specimens examined: 3 female, 2 male 15.vii.2009 from Malari reserve forest (N30°41´59.9´, E079°53´32.7´´; 3072m) and 2 female 21.vii.2009 from Joshimath (N30°33´04.06´´, E079°34´08.7´´; 2044 m) NDBR, Uttarakhand, India; Coll. Shazia Quasin. All the specimens collected are deposited at the Wildlife Institute of India, Dehradun.

Diagnosis

P. impressa is very similar to the species *P. sisphysia* (Clerck, 1757) of the same genus in shape and colouration patterns, however the epigynal structure of both the species are quite different. After diagnosis of the internal genitalia the species *Phylloneta impressa* is confirmed (Song et al., 1999). Conductor is large and spoon shaped, and the epigynal furrow is wider than long in case of *P. impressa* while the conductor is short with epigynal furrow as long as wide in *P. sisphysia*.

Description

The females of *P. impressa* measured about 4-4.5mm in length while the males were smaller with about 3-3.5mm length. Carapace is brownish yellow in colour margined with broad brownish or black lining and a dark central band. Sternum reddish yellow, with dark margin. Chelicerae reddish yellow. Opisthosoma is spherical, light yellow in colour with dark brown bands which are divided

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Fig 1. Mature female of *Phylloneta impressa* L.Koch, 1881

Fig *2*. Female of *Phylloneta impressa* with egg sac in *Smilex aspera* plant (Climber)

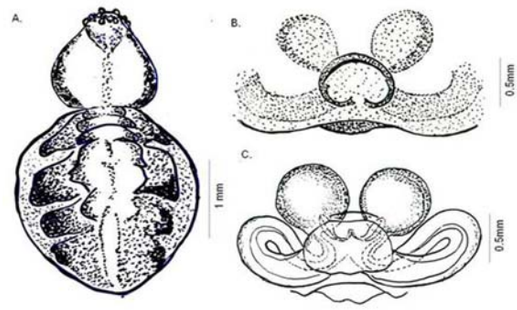

Fig. 3 A. Dorsal view of female *Phylloneta impressa*;
B. Epigynum; C. Internal genitalia

Table. 1
Measurements of the leg segments of *P. impressa* female (L.Koch, 1881)

Legs	Femur	Patella+Tibia	Metatarsus	Tarsus	Total
I	1.90	2.20	1.36	1.76	7.22
II	1.42	1.34	0.82	1.02	4.60
III	1.02	1.09	0.68	0.78	3.57
IV	1.80	1.61	1.14	0.38	4.93

into diluted transverse spots of white stripes with black dots at the sides on the dorsum. Prominent dark bright yellow colour present in the centre of the opisthosoma. Legs are thin, slender with dark black patches at the joints. Leg formula: 1, 4, 2, 3 (measurements of legs segment in Table. 1). Epigynal furrow wider than long. Conductor is large and spoon-shaped.

Measurements (in mm): Total length L= 4.2; carapace L = 1.35, W = 1.5; Opisthosoma L = 2.75, W = 2.5.

Distribution: India (New record), Holarctic

Biological note:

Out of the five female specimens, three were collected from their webs with their egg sacs. This species prefers usually shrubs and bushes in dry and open areas for building its web. The webs (Figure.2) of this species are typical of Theridiidae tangle web, with the egg tail sac in the centre and irregular threads spun around it. The egg sacs were round dirty grey in colour. Each egg

sac may contain about 50-100 eggs. The female guards the cocoon and tail remains in the centre of the web hidden in the irregular mesh of silk. When the spiderlings emerged out they were initially cared by the mother and after staying for sometime in the web they are dispersed from the web.

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References

Koch, L. (1881b). Beschreibungen neuer von Herrn Dr Zimmermann bei Niesky in der oberlausitz endeckter Arachniden. *Abh. naturf. Ges. Görlitz* **17:** 41-71.

Sebastian, P.A., Peter, K.V., 2009. Spiders of India, First edition, Universities Press, Hyderabad.

Siliwal, M., Molur, S. and Biswas, B. K. 2005. Indian Spiders (Arachnida: Araneae): Updated Checklist 2005. *Zoos, Print Journal.* 20(10): 1999-2049.

Song, D.X., M.S, Zhu and J. Chen. (1999). The Spiders of China. Hebei Sci.Technol. Publ. House, Shiliazhuang, 640 pp

Platnick, N.I.,2011: The world spider catalog, version 10.5. American Museum of Natural History. Available from: http://research.amnh.org/iz/spiders/catalog/INTRO3.html. (Accessed on 06.09.2011)

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