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NOTE

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TRANSFER OF *STORENA GUJARATENSIS* TIKADER & PATEL, 1975 TO THE GENUS *SUFFASIA* JOCQUÉ, 1991 (ARANEAE: ZODARIIDAE)

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The family Zodariidae Thorell, 1881 is known with 1,123 species and 84 genera from the world but is very poorly represented in India: 29 species and 10 genera (WSC 2017); out of which, all the Indian species under *Storena* Walckenaer, 1805 (seven species) and *Lutica* Marx, 1891 (four species) are considered as misplaced in the genus (WCS 2017).

During spider surveys in Jambughoda Wildlife Sanctuary, Gujarat in January–March 2013, ground spiders were collected by pitfall trap method. A male specimen was collected from the sanctuary at: 22.36099°N & 73.665394°E, altitude 244m, Gujarat, India. All measurements are in mm. Morphological observations and illustrations were made by MS using CETII™ stereomicroscope and camera lucida attached to it. Scanning Electron Microscope images for palp were taken through SEM-Zeiss EVO-40EP at the Wadia Institute of Himalayan Geology, Dehradun. Specimen is deposited at the public museum of Wildlife Information Liaison Development Society, Coimbatore, Tamil Nadu, India.

Initially, the zodariid spider specimens collected were identified as *Storena gujaratensis* Tikader & Patel, 1975 based on the distinct palp structure (see details below). None of the other *Storena* spp. possess this character. *S. gujaratensis* was described from Napad, Kaira (=Kheda) District, Gujarat based on a male

Abbreviations: ALE - anterior lateral eyes; AME - anterior median eyes; PLE - posterior lateral eyes; PME - posterior median eyes; WILD - Wildlife Information Liaison Development Society; WSC - World Spider Catalogue. Abbreviations used for spine count are: disp. - dispersed, not in obvious row; fe - femur; mt - metatarsus; p - prolateral; pa - patella; r - retrolateral; ti - tibia; v - ventral.

specimen. The authors did not provide information on the type specimen depository and catalog number. We assumed that the specimen was deposited at Zoological Survey of India (ZSI), Kolkata but one of the authors (MS) could not locate this specimen at ZSI, Kolkata. It is likely that Dr. B.H. Patel retained the specimen in his private collection (however, since his death in 2013 we have no knowledge of the status of his collection). Distance between the type locality and Jambughoda Wildlife Sanctuary is about 130km by road without any major geographical barrier, which reflects a wide distribution

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range of this species.

As all Indian species under *Storena* are misplaced in the genus as per WCS (2017), we looked out for characters of *S. gujaratensis* matching with other genera. We noticed presence of hook shaped dorsal cymbial flange, large tegulum, moderately long and thick embolus and a few of these characters typically found in *Suffasia* Jacque, 1991. The members of *Suffasia* can be differentiated from other genera by presence of dorsal cymbial flange overlapping palpal tibia, presence of cymbial lateral pit and swollen venter of the abdomen in male, whereas females can be distinguished by the epigyne structure with frontal entrance openings and the course of the copulatory ducts (Jocqué 1991; Jocqué 1992). Although all characters of male did not match with the *Suffasia* especially absence of cymbial lateral pit and AME not being small but *Suffasia* also shows high variation in the palp structure within the genus. Further, we found the *S. gujaratensis* male palp structure closely resembled *Suffasia attidiya* Benjamin, 2007 from Sri Lanka by having large embolus and tegulum and RTA short. Therefore, here we transfer *Storena gujaratensis* to *Suffasia*. So far, only three species of the *Suffasia*, viz., *S. ala* Sen et al., 2015, *S. keralaensis* Sudhikumar et

al., 2009 and *S. tigrina* (Simon, 1893) are reported from India (WSC 2017). In this paper, we provide additional morphological characters for *Suffasia gujaratensis* comb. nov. along with illustrations, description of male and natural history notes. High variation is noticed amongst *Suffasia* spp. and therefore a revision of this genus is urgently needed.

Taxonomy

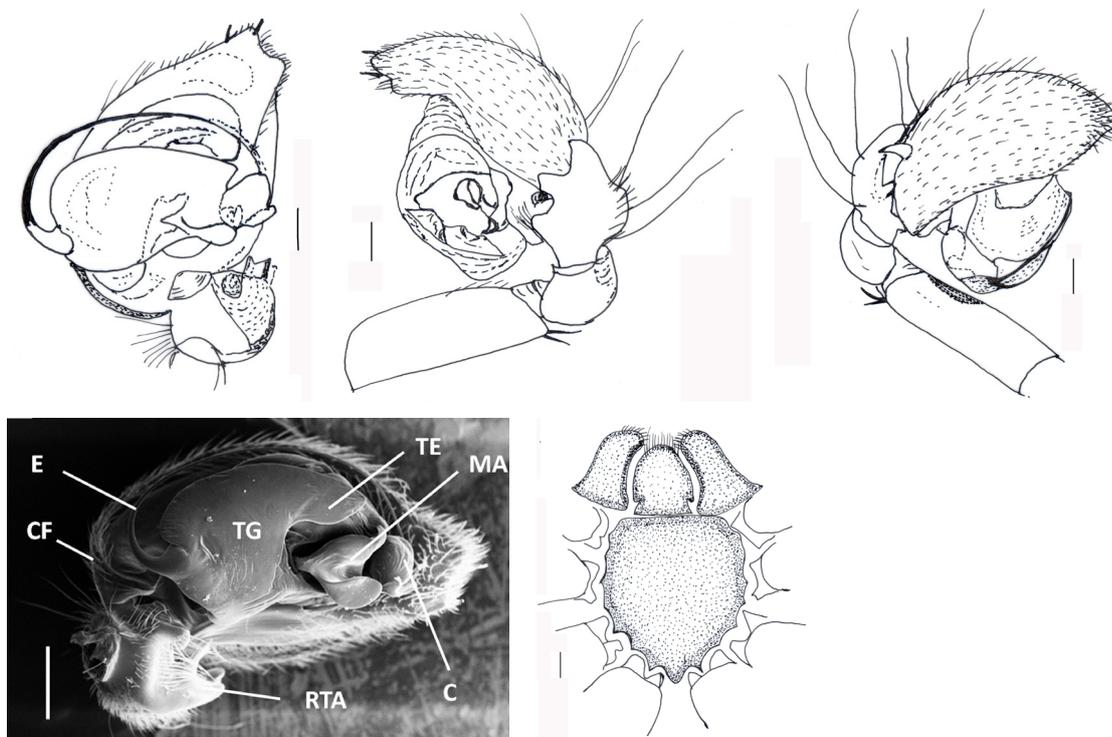
Suffasia gujaratensis (Tikader & Patel, 1975), comb. nov.

(Figs. 1–5, Table 1)

Storena gujaratensis Tikader & Patel, 1975: 138, description of male.

Material examined: WILD-13-ARA-1273, male, 23.i.2013, Bhat, Jambughoda Wildlife Sanctuary, Gujarat, coll. Reshma Solanki.

Description of male: Total length 6.31. Carapace 3.26 long, 2.47 wide. Abdomen 3.05 long, 2.05 wide. Eye diameters and inter-distances: AME 0.28, ALE 0.18, PME 0.15, PLE 0.18; AME-AME 0.078, AME-ALE 0.18, PME-PME 0.13, PME-PLE 0.39, PLE-ALE 0.052. Leg formula:



Figures 1–5. *Suffasia gujaratensis* comb. nov.

1–4 male palp (WILD-14-ARA-1273): 1 - ventral view; 2 - retrolateral view; 3 - prolateral view; 4 - SEM image in ventral view (C - conductor, CF - cymbial fold, E - embolus, MA - median apophysis, RTA - retrolateral tibial apophysis, TE - tegular extension, TG - tegulum); 5 - sternum, maxillae, labium. Scale = 0.1mm for figs. 1,2,3,5; scale = 0.3mm for fig. 4.

Table 1. Legs and palp length of male *Suffasia gujaratensis* comb. nov. from Jambughoda Wildlife Sanctuary, Gujarat.

	Fe	Pa	Ti	Me	Ta	Total
I	2.21	0.95	1.95	2.10	1.53	8.74
II	2.05	0.95	1.58	1.53	1.16	7.27
III	2.05	0.89	1.63	2.00	1.21	7.78
IV	2.58	1.00	2.26	3.00	1.68	10.52
PALP	1.18	0.55	0.58	–	1.79	4.10

4132. Leg spines: I fe d2 p1, ti p2 v6, mt p1 r1 v6; II fe d2 p1, ti p2 v5, mt p2 r1 v6; III fe d4disp. p1 r1, pa p2, ti d5disp. p2 r2 v6, mt d7disp. r2 v6; IV fe d3 p1 r1, pa p2, ti d3disp. p2 r2 v6, mt d17disp. p5 r5 v17disp.

Coloration: Carapace dark reddish-brown. Chelicerae dark reddish-brown with hairs. Sternum yellowish-red, with dark lateral margin, Abdomen dark grey dorsally with 6–7 pairs of white blotches, posterior ones are merged. Ventrally pale in color. Legs pale yellow with spines.

Carapace covered with grey hairs, dense in anterior half. Chelicerae with hairs, presence of sclerotized chillum with hairs. Sternum having triangular extensions which correspond with slight concavities in coxae, uniformly covered with bristles and hairs, bristles with warty appearance, integument rough having net like pattern. Maxillae wider at base gradually narrowing posteriorly, bordered ridge on prolateral surface. Labium longer than wide, arrow shaped. Abdomen dorsally covered with brown hairs, thin scutum ventrally covering book lungs and epigynal area. Ventral abdomen uniformly covered with brown and black color hairs and bristles intermixed. Tracheae small and broad covered with brown hairs, situated just in front of spinnerets, colulus with two hairs. Anterior spinnerets long with two segments, Posterior spinnerets two segmented with apical segment dome shaped.

Palp: Tibia digitiform with two short blunt apophyses and elevated retrolateral margin with distinct process. Cymbium with lateral fold, distally truncated with a notch in the middle; dorsal cymbial flange hook-shaped overlaying palpal tibia. Conductor large flap-like seen distally; tegulum large, sclerotized with very short and blunt tegular extension; embolus slender long and

originates at 6 o'clock position of tegulum on short embolic base.

Comments: *Suffasia gujaratensis* comb. nov. possess some unique characters which have not been previously reported in *Suffasia* like presence of distal cymbial notch, dorsal cymbial hook, large tegulum and absence of cymbial lateral pit. Though, *S. attidiya* possess large tegulum, moderately long embolus and short RTA, diagnosis for the genus is weak as variations within *Suffasia* spp. is high (like in the structure of cymbial flange, presence-absence of cymbial lateral pit; tibial apophysis structure, tegular shape and size; embolic length, etc.). Therefore, we consider *Suffasia* as a species complex and multiple specimens of both the sexes for all the species will help in assigning robust diagnosis for the genus.

Distribution: Jambughoda Wildlife Sanctuary, Gujarat, India.

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