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Description of Male and Female Eriovixia Laglaizei (Araneae: Araneidae).

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Abstract: A male and female species of spiders of the genus Eriovixia Archer 1951 belongs to the family Araneidaeclerck 1757 collected from nearby places of Katepurna river are described. The male and female of Eriovixialaglaizei Simon 1877 are appears different than other species of genus Eriovixia, these are small in size found in argoeco system, riparian ecosystem, forest ecosystem and also found in road side bushes. Specially these species have white 12 spots on their abdomen dorsally.
Keywords: Morphology of male and female Eriovixialaglaizei Akola district.

I. INTRODUCTION

Members of the orb-weaving spider family Araneidae are abundant throughout India as well as in the world. At present across the world total 22 species of the spiders belongs to Genus Eriovixia and family Araneidae are found while in India only 4 species of Genus Eriovixia are observed. Genus Eriovixia Archer 1951are common orb-weavers in the crop-fields, gardens and forest. The spiders belongs to Genus Eriovixia are small in size nearly from 3- 10 mm in length. These spiders are mostly resembling to the Genus Neoscona because of its external epigynum in female , but the internal structure of Genus Eriovixia is different than Neoscona. This genus differs from all other araneid genera by the following characters Epigynum is nearly triangular in shape and dorsally opens copulatoryorgans. The female abdomen which extends beyond the spinnerets and appears as a tail (smaller to somewhat longer)**.** Anterior region of cephalothorax is narrow and posterior region is wider while anterior part of abdomen is broader and posterior ends with a short tail like structure. Abdomen is bulging. Eriovixialaglaizei found in Akola district territory of Maharashtra, India.

II. MATERIAL AND METHODS

All the specimens were collected from the agricultural field, roadside bushes of the rural areas by hand picking, beating shrubs. Specimens were photographed with Carl zeisstereo zoom microscope. Photograph taken from dorsal, ventral and lateral side. Then the specimen kept in 75% ethanol. Epigyne of female and pedipalp of male Eriovixialaglaizei were dissected. Epigyne and pedipalp were cleared in 10 % KOH and washed with distilled water and examined using stereo zoom microscope. Body and leg measurements were done with software of microscope given as: total body length ,length of cephalothorax, abdomen, sternum ,and also the length of 4 legs (coxa, trochantor, femur, patella, tibia, metatarsus, tarsus). All measurements are given in millimeters (mm).

A. Taxonomy

Family Araneidae Simon, 1895Genus *Eriovixia* Archer, 1951Species *Eriovixialaglaizei* Simon 1877Female

Total body length 5.1 mm length of Cephalothorax 1.7 mm, length of abdomen 3.4 mm. Cephalothorax is smaller than the abdomen. Anterior part of cephalic region appears as the rectangular portion while at middle, shallow depression separate the cephalic region to thoracic region and thoracic region is broader. Cephalothorax is brownish and covered with cream colour hairs at anterior portion and posterior part with very less hairs. The posterior region of cephalothorax is dark brown in colour. AME (anterior median) and PME(posterior median) can be seen very clearly because of its larger size as compare to ALE(anterior lateral) and PLE(posterior lateral).The chelicera are dark yellowish brown in colour bearing two rows of teeth promarginally four and retro marginally three teeth are present. Labium and maxillae are yellowish brown in colour. The sternum is wider at anterior side and get reduced upto posterior region which ends with pointed distal end or it takes heart shape. Sternum is completely brown. Legs moderately long only the third pair of leg is shorter. According to length of its leg the Leg pattern is 2143.Leg have banding pattern with brownish and yellow at joints of the legs. The first two pairs of legs with brown colour and joints with yellow colour, while the third and fourth pair with yellow colour and joints with brown colour. Palps are light brownish. Palpus does not having the bands. Silvery hairs and spines are not present on the legs.

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B. Abdomen

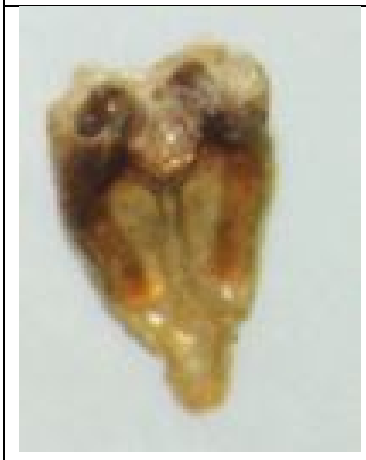
Dorsally, the colour of the abdomen is variable but this species is yellowish brown in colour and covered with small hairs. At the center of abdomen two white spots surrounded by ten white spots at margin of abdomen. Total 12 white spots can be seen on the abdomen with this feature this species can be distinguish. The abdomen ends with a short darker tail like narrow spot.

Ventrally the epigyne is dark brown in colour, below that a pair of dark yellow patches present. Spinnerets are dark brown in colour Cephalothorax, legs yellowish abdomen grey coloured.

A

B

C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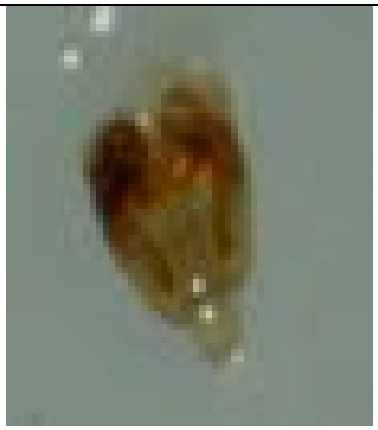
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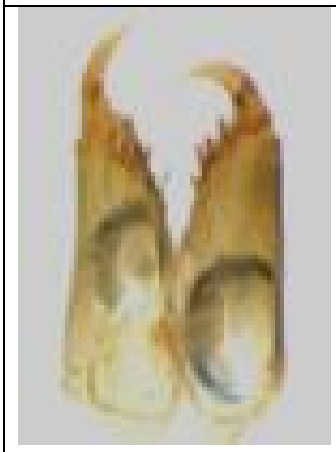
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H

I

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Plate no.1 Eriovixialaglaizeifemale**:** A- Dorsal view,B- Lateral view, C- ventral view, D- ventral view of epigyne, E- Dorsal view of epigyne after decolourisation, F-veral view after decolorisation ,G - chelicerae with retromarginal and promarginal of teeth along with fangs , H -View of labium, maxillae, sternum ,I- external epigyne and spinneret.

Measurements in mm

	Length of all Legs (in mm)			
leg 1	leg 2	leg 3	leg 4	palp
0.5	0.7	0.5	0.6	0.1
0.3	0.3	0.2	0.5	0.5
0.4	3.5	1.9	0.3	1.5
1.4	1.2	0.8	0.9	1.0
2.7	2.1	1.1	1.9	1.3
2.3	2.0	1.0	1.9	0.6
1.2	1.2	0.8	1.1	0.7
8.8	11.0	6.3	7.2	5.7

Body parts	**Dorsal**				Body parts	**Ventral**			
	length	Width				Length	Width		
		anterior	middle	Posterior			anterior	middle	Posterior
Cephalothorax	1.7	1	1.8	1.8	Sternum	1.5	1.1		
Abdomen	3.4	0.7	3.6	0.5	Spinneret	0.6	1.1	1.3	0.1
Total	5.1								

Family Araneidae Simon, 1895Genus *Eriovixia* Archer, 1951Species *Eriovixialaglaizei* male

C. Cephalothorax

Total body length 3.06 mm length of Cephalothorax 1.37 mm, length of abdomen 1.39 mm. Cephalothorax is nearly equal to the abdomen in size. A shallow depression separate the cephalic region to thoracic region. The thoracic region is broader. Cephalothorax is dark brownish black and covered with very less hairs at anterior portion. The posterior region of cephalothorax is dark brown in colour. AME (anterior median) and PME(posterior median) can be seen very clearly because of its larger size as compare to ALE(anterior lateral) and PLE(posterior lateral). Median eyes are at distance to the lateral eyes. The chelicera are dark \brown in colour bearing two rows of teeth promarginally four and retro marginally three teeth are present. Labium and maxillae are brownish black in colour. The sternum is wider at anterior side and get reduced upto posterior region which ends with pointed distal end or it takes heart shape. Sternum is completely black. Legs moderately long only the third pair of leg is shorter. According to length of its leg the Leg pattern is 1423.Leg have banding pattern with brownish and yellow at joints of the legs. The first two pairs of legs with brown colour and joints with yellow colour, while the third pair with small brown colour bands on joints and whole leg of yellow coloured and fourth pair with long brown band on femur and fully it is of yellow colour. Palps are dark brown in colour Silvery hairs and spines are not present on the legs.

D. Abdomen

Dorsally, the colour of the abdomen is black and covered with small hairs. At the center of abdomen two white spots surrounded by ten white spots at margin of abdomen. Total 12 white spots can be seen on the abdomen with this feature this species can be distinguish. The abdomen ends with a short tail like distal end.

Ventrally ,a pair of book lungs are light yellowish brown in colour ,below to that dark yellow patches present. Lastly spinnerets present. Spinnerets are dark brown in colour

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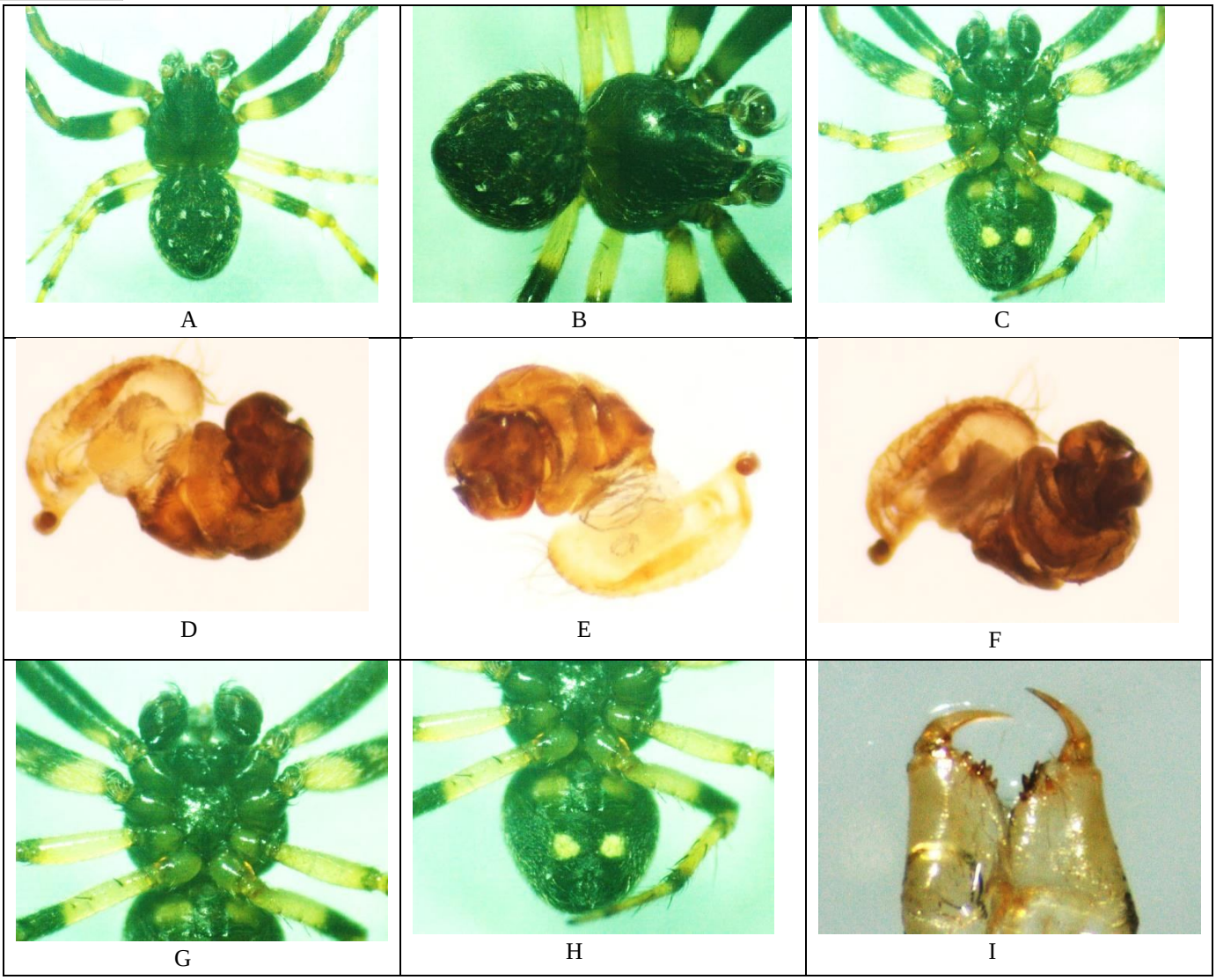

Plate no.2.Eriovixialaglaizei male

A-Dorsal view ,B-Lateral view, C-Ventral view, D-Ventral view of pedipalp, E-Dorsal view, F-Lateral view of pedipalp, G-View of sternum, maxilla ,H-Book lung and spinnerets, I- Chelicera with pro and retromargin teeth and fangs.

Measurments in mm

	Length of all legs (in mm)			
Parts of legs	leg 1	leg 2	leg 3	leg 4
coxa	0.6	0.5	0.3	0.6
Trochanter	0.5	0.3	0.2	0.3
Femur	3.4	3.0	2.2	3.2
Patella	1.1	1.0	0.8	1.1
tibia	2.6	2.0	1.2	2.0
Metatarsus	2.2	1.8	1.3	2.1
Tarsus	0.9	0.9	0.8	0.9
Total	11.3	9.5	1.4	10.2

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Body parts	Dorsal				Body parts	Ventral			
	length	Width				Length	Width		
		anterior	middle	Posterior			anterior	middle	Posterior
Cephalothorax	1.37	0.11	0.36	0.26	Pedipalp	0.3	0.2		
Abdomen	1.39	0.08	0.37	0.05	Spinneret	0.05	0.1		
Total	3.06				Sternum	0.24	0.09	0.18	0.02

REFERENCES

[1] Doleschall, L., 1857 - Bijdrage tot de Kenntis der Arachniden van den IndischenArchipel. Nat. Tijdschr. Neder.-Ind. vol.**13**, pp. 339–434. (Epeirathomisoides, pag.422)
[2] Barrion, A.T. & J.A. Litsinger, 1995 - Riceland Spiders of South and Southeast Asia. CAB International, Wallingford, UK, xix + 700 pp. (pp. 641–642)
[3] Han, G.X. & M.S. Zhu, 2010b - Taxonomy and biogeography of the spider genus Eriovixia (Araneae: Araneidae) from Hainan Island, China. J. nat. Hist. vol.**44**, pp. 2609–2635.
[4] Murphy J. & Murphy F. 1983. The orb weaver genus Acusilas(Araneae, Araneidae). Bulletin of the British Arachnological Society, 6:115-123.
[5] Simon, E., 1877b - Etudes arachnologiques. 5e Mémoire. IX. Arachnidesrecueillis aux îlesPhillipines par MM. G. A. Baer etLaglaise. Ann. Soc. ent. Fr. (5) vol.**7**, pp. 53–96. (Epeiralaglaisei, pag.77, lapsus)
[6] Schmidt JB. &Scharff N. 2008. A taxonomic revision of the orb-weaving spider genus AcusilasSimon, 1895 (Araneae, Araneidae). InsectSystematics& Evolution, 39: 1-38.
[7] Tanikawa, A. (1999) Japanese spiders of the genus Eriovixia(Araneae: Araneidae). ActaArachnologica, Tokyo, 48, 41–48.
[8] Tikader, B.K., 1982a - Family Araneidae (= Argiopidae), typical orbweavers. Fauna India (Araneae) vol.**2**, pp. 1–293. (Neosconalaglaizei, pag.27)
[9] Tikader, B. K. & B. Biswas (1981) Spider fauna of Calcutta and vicinity: Part-I. Records of the Zoological Survey of India Occasional Paper, 30, 1–149.

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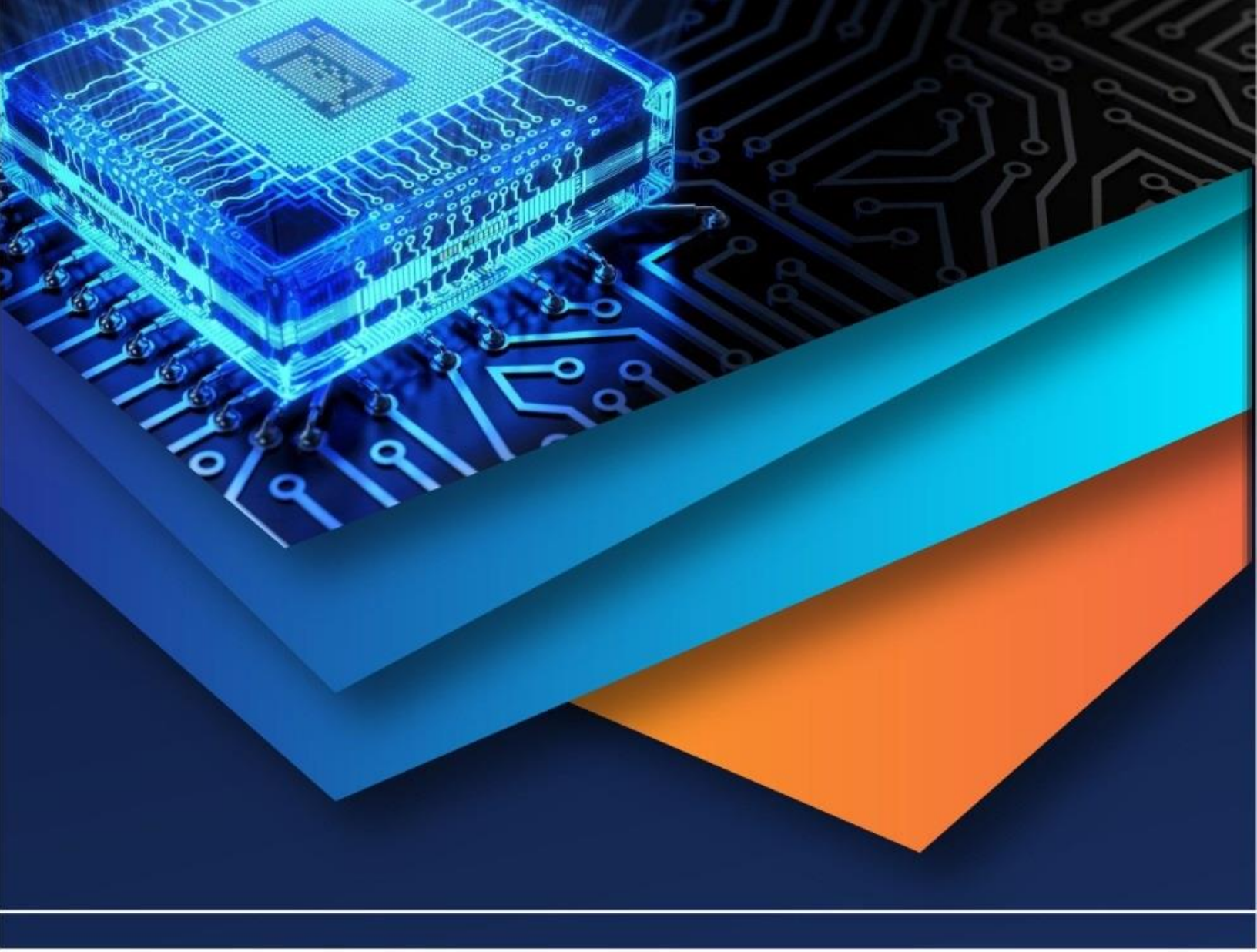

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