



ISSN  
Online 0974–7907  
Print 0974–7893

OPEN ACCESS

## NEW SPECIES OF GENUS *HERSILIA* AUDOUIN, 1826 (ARANEAE: HERSELIIDAE) FROM INDIA

G.B. Pravalikha<sup>1</sup>, Chelmala Srinivasulu<sup>2</sup> & Bhargavi Srinivasulu<sup>3</sup>

<sup>1,2,3</sup>Wildlife Biology & Taxonomy Lab, Department of Zoology, University College of Science, Osmania University, Hyderabad, Andhra Pradesh 500007, India

<sup>2,3</sup>Systematics, Ecology & Conservation Laboratory, Zoo Outreach Organization (ZOO), 96 Kumudham Nagar, Vilankurichi Road, Coimbatore, Tamil Nadu 641035, India

<sup>3</sup>Biodiversity Research and Conservation Society, G4 MRK Towers, Swarnahamanagar, Old Bowenpally, Secunderabad, Andhra Pradesh 500011, India

<sup>1</sup>prava.gunti@gmail.com, <sup>2</sup>hyd2masawa@gmail.com (corresponding author), <sup>3</sup>bharisrini@gmail.com

**Abstract:** A new species of the genus *Hersilia* Audouin, 1826, *Hersilia aadi* sp. nov. is described from Andhra Pradesh, India with notes on the species known from India. The new species differs from its congeners based on having large palpal patella in males; and having two closely adjoining circular, small median genital openings and, long and curved copulatory duct in females.

**Keywords:** Andhra Pradesh, Arachnida, *Hersilia aadi* sp. nov., *Hersilia savignyi* species group, new species, Osmania University.

**Abbreviations:** AER - anterior eye row; ALE - anterior lateral eye; AME - anterior median eye; bs - basal segment of posterior lateral spinnerets; CD - copulatory duct; d - dorsal; DMP - dorsal muscular pits; FD - fertilization duct; fe - femur; MOQ - median ocular quadrangle; mt - metatarsus; OUNHM - Osmania University Natural History Museum; p - prolateral; PER - posterior eye row; PLE - posterior lateral eye; PLS - posterior lateral spinnerets; PME - posterior median eye; Pmt - promarginal teeth; r - retrolateral; Rmt - retromarginal teeth; SP - spermatheca; SR - seminal receptacle; Ti - tibia; ts - terminal segment of posterior lateral spinnerets; TBL - total body length (carapace + abdomen); VMP - ventral muscular pits; vs. - versus; WA - anterior width of the MOQ; WP - posterior width of the MOQ.

The family Hersiliidae Thorell, 1870 comprises conspicuously long-legged, medium-sized spiders distinguished by extremely long posterior lateral spinnerets. The hersilid spiders are commonly found on tree trunks, and are known as bark spiders or two-tailed spiders. They are easily recognized by long stretched legs, raised clypeus and bi-articulation of legs I, II and IV. The family Hersiliidae consists of 15 genera and 176 species distributed worldwide (Platnick 2013) (excluding nomina dubia); the majority of the species occurs mainly in the Afro-tropical region. The genus *Hersilia* Audouin, 1826 of family Hersiliidae is the largest and most widely distributed ranging from Oriental to Afrotropical regions (Baehr & Baehr 1993; Foord 2008).

Until recently, the genus *Hersilia* was known only by four species, namely, *H. savignyi* Lucas, 1836, *H. sumatrana* Thorell, 1890, *H. striata* Wang & Yin, 1985

**DOI:** <http://dx.doi.org/10.11609/JoTT.o3723.5553-7> | **ZooBank:** urn:lsid:zoobank.org:pub:984E1289-B579-4078-BEA5-7AA96D222C9C

**Editor:** Manju Siliwal, WILD, Coimbatore, India.

**Date of publication:** 26 March 2014 (online & print)

**Manuscript details:** Ms # o3723 | Received 22 July 2013 | Final received 21 February 2013 | Finally accepted 01 March 2014

**Citation:** Pravalikha, G.B., C. Srinivasulu & B. Srinivasulu (2014). New species of genus *Hersilia* Audouin, 1826 (Araneae: Hersiliidae) from India. *Journal of Threatened Taxa* 6(3): 5553–5557; <http://dx.doi.org/10.11609/JoTT.o3723.5553-7>

**Copyright:** © Pravalikha et al. 2014. Creative Commons Attribution 3.0 Unported License. JoTT allows unrestricted use of this article in any medium, reproduction and distribution by providing adequate credit to the authors and the source of publication.

**Funding:** The study was supported by grants from Department of Biotechnology, Government of India and University Grants Commission, New Delhi

**Competing Interest:** The authors declare no competing interests.

**Acknowledgements:** We thank the Head, Department of Zoology, Osmania University, Hyderabad, for providing necessary facilities; Shri. A.V. Joseph IFS, Chief Conservator of Forests (Wildlife), Andhra Pradesh Forest Department for encouragement. We acknowledge UGC, New Delhi; DBT, New Delhi and UGC-DRS-SAP III, Department of Zoology, Osmania University for research grants.



and *H. tibialis* Baehr & Baehr, 1993, from India. Two new species, namely, *H. orvakalensis* Javed et al. 2010 (from Orvakal Village, Kurnool District, Andhra Pradesh) and *H. longivulva* Sen et al. 2010 (Jalpaiguri, West Bengal), were described recently. *H. orvakalensis* Javed et al. 2010 was recorded in semi urban gardens in peninsular India, while *H. longivulva* (Sen et al. 2010) was recorded from Jalpaiguri in the forested tracts near Darjeeling, West Bengal. Very little is known about their natural history excepting that they are arboreal forest dwellers (Javed & Tampal 2010). They are assumed to have evolved from ground-dwelling hersilids (Baehr & Baehr 1993; Rheims & Brescovit 2004). This paper gives the description of the new species of genus *Hersilia* from Andhra Pradesh, India.

### Material and Methods

A total of 13 specimens of *Hersilia* sp. nov. (six males, seven females) was collected between 2010 and 2012 from the Osmania University campus (17°25'N & 78°31'E), Hyderabad, Andhra Pradesh, India. Specimens were photographed with a Fujifilm super-macro digital camera in live condition, while photos of the preserved material were taken with a Sony Cybershot digital camera mounted on the eyepiece of a Lawrence and Mayo stereo zoom microscope. Line diagrams were drawn using camera lucida mounted on an Olympus stereo zoom binocular microscope.

All measurements presented are in millimeters, following Rheims & Brescovit (2004) and Foord (2008). Only minor colour corrections were made to the pictures. The epigyne was dissected and immersed in 50% NaOH solution (Barrion & Litsinger 1995) for 24 hours to study the internal structures. The terminology used in the current paper partly follows Baehr & Baehr (1993), Rheims & Brescovit (2004), and Foord (2008). The specimens are deposited in the collection of the Natural History Museum of Osmania University, Hyderabad.

### Taxonomy

Family Hersiliidae Thorell, 1870

Genus *Hersilia* Audouin, 1826

*Hersilia* Audouin, 1826: 317; Lucas, 1869: 1; Simon, 1893: 440; Smithers, 1945: 1; Benoit 1967: 1; Baehr & Baehr, 1993: 3; Levy, 2003: 1; Rheims & Brescovit, 2004: 1; Foord & Dippenaar-Schoeman, 2006: 8; Chen, 2007: 13; Javed et al., 2010: 41.

The genus *Hersilia* was established by Audouin in 1826 based on *H. caudata* (see Pocock 1900).

**Diagnosis:** The genus *Hersilia* resembles the genus *Murricia* in having bi-articulation on legs I, II and IV, and

having lateral eyes on distinct tubercles. However, it differs from the genus *Murricia* by the region between PME & PLE being not tuberculated, having oval to elongated shape of abdomen, four pairs of DMP, longer legs and PLS (Chen 2007).

**Type species:** *Hersilia caudata* (Audouin, 1826)

**Distribution:** Ranges from Oriental to Afrotropical regions (Baehr & Baehr 1993; Foord 2008).

### *Hersilia aadi* sp. nov.

(Images 1–2 & Fig. 1)

urn:lsid:zoobank.org:act:250CF397-7A3D-48CC-A4D8-C4D9921380EA

**Type material:** Holotype: OUNHM.ART.ARA.2011.13, male, 21.vi.2011, Osmania University campus (17°25'N & 78°31'E), Andhra Pradesh, India, coll. Bhargavi Srinivasulu and C. Srinivasulu. Paratype: OUNHM.ART.ARA.2011.14, female, same data as holotype. Other material: 10.v.2011, five males (OUNHM.ART. ARA.2011.15-19) and six females (OUNHM.ART.

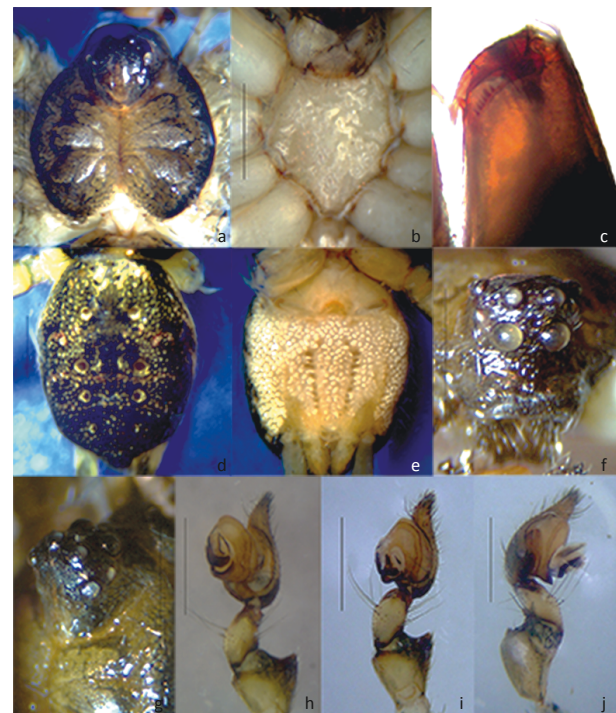


Image 1a–j. *Hersilia aadi* sp. nov., holotype male (OUNHM.ART.ARA.2011.13).

a - carapace, dorsal view; b - cephalothorax, ventral view; c - chelicerae, ventral view, showing three promarginal teeth and six retromarginal teeth (with an additional teeth in second row); d - ocular region; e - abdomen dorsal view; f - abdomen ventral view; g - ocular region lateral view; h - right pedipalp ventral view; i - right pedipalp retrolateral view; j - right pedipalp prolateral view.

Photo credits: a–g - G.B. Pravalikha; h–j - C. Srinivasulu.

Scale a,b,d,e,h-j (1mm); f,g (0.5mm).



Image 2. *Hersilia aadi* sp. nov., live habitus image of male

ARA.2011.20-25), Osmania University campus (17°25'N & 78°31'E), Hyderabad, Andhra Pradesh, India, coll. Bhargavi Srinivasulu and C. Srinivasulu.

**Diagnosis:** *Hersilia aadi* sp. nov. belongs to the *Hersilia savignyi* species group which includes *H. asiatica*, *H. striata*, *H. montana*, and *H. taiwanensis* based on the presence of truncated palpal tibia. *Hersilia aadi* sp. nov. differs from these species in having a large male palpal patella, leg I distinctly longer than II in males, long and curved copulatory duct, and two closely adjoining circular, small median genital openings in the female vulva (Table 1 & 2). The male palp resembles that of *H. asiatica* with the presence of large conical cymbium and excavate tegular apophysis, but differs in having circular embolus and pointed almond shaped tegular apophysis.

**Description:** Male (Holotype, Images 1a–j, 2, Fig. 1a–c.) Habitus: Medium-sized (TBL 5.90mm), two-tailed spider with four DMP and long PLS. Colour: Carapace pale yellow, dark brown laterally; clypeus pale, white anteriorly. Sternum heart-shaped with white mottling. Legs pale yellow with dark brown bands. Abdomen

Table1. Character matrix depicting major characteristics of spiders of the *H. savignyi* species group (Male) including *H. aadi* sp. nov.

Characteristics	<i>H. aadi</i> sp. nov.	<i>H. asiatica</i>	<i>H. striata</i>	<i>H. taiwanensis</i>	<i>H. montana</i>
Chelicerae (Pmt, Rmt (L,R))	Pmt-3 Rmt-7,6	Pmt-3 Rmt-7,8	Pmt-3 Rmt-6,7	Pmt-3 Rmt-8,9	Pmt-3 Rmt-6,7
Total Body Length (carapace + abdomen)	5.90 (2.67 + 3.23)	5.78 (2.40 + 3.38)	7.20 (3.0 + 4.20)	4.81 (2.18 + 2.63)	4.50 (2.10 + 2.40)
Leg formula	1243	1243	1243	1243	1243
Leg measurement					
I	35.38	28.96	50.42	29.12	22.81
II	30.88	26.93	40.89	26.86	22.51
III	9.02	7.66	14.34	7.66	6.68
IV	26.27	22.74	35.63	21.99	18.38
Palp	3.61	3.24	4.59	3.01	2.93
PLS total (bs+ ts)	4.83 0.83 + 4.0	4.81 0.83 + 3.98	8.63 1.05 + 7.58	4.88 0.98 + 3.90	4.05 0.90 + 3.15

Table 2. Character matrix depicting major characteristics of spiders of the *H. savignyi* species group (Female) including *H. aadi* sp. nov.

Characteristics	<i>H. aadi</i> sp. nov.	<i>H. asiatica</i>	<i>H. striata</i>	<i>H. taiwanensis</i>	<i>H. montana</i>
Chelicerae (Pmt, Rmt (L,R))	Pmt-3 Rmt-8,6	Pmt-3 Rmt-10,9	Pmt-3 Rmt-7,8	Pmt-3 Rmt-8,9	Pmt-3 Rmt-7,8
MOQ L	0.57	0.70	0.76	0.60	0.54
PA	0.68	0.66	0.76	0.60	0.54
PW	0.52	0.58	0.72	0.58	0.54
Total Body Length (carapace + abdomen)	6.39 (2.92 + 3.47)	5.63 (2.48 + 3.15)	10.05 (3.30 + 6.75)	6.08 (2.33 + 3.75)	4.88 (2.10 + 2.78)
Leg formula	2143	2143	1243	2143	2143
Leg measurement					
I	26.87	18.99	37.14	19.44	15.68
II	27.03	19.96	34.81	19.51	16.37
III	9.73	7.21	11.64	6.61	5.78
IV	23.92	17.12	31.13	16.82	14.79
Palp	4.32	3.38	5.71	3.46	2.93
PLS total (bs+ ts)	6.35 1.02 + 5.33	5.93 1.13 + 4.80	10.20 1.50 + 8.70	5.03 1.05 + 3.98	4.13 0.90 + 3.23

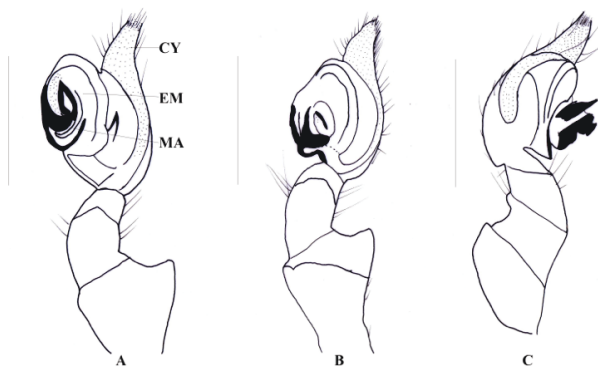


Figure 1 a–c. *Hersilia aadi* sp. nov., line diagram of the palp (right) of holotype male (OUNHM.ART.ARA.2011.13): a - ventral view; b - retrolateral view; c - prolateral view (EM - Embolus; CY - Cymbium; MA - Median apophysis)

pale yellow with dark borders anteriorly; dark mid longitudinal band; abdomen broad at middle, V-shaped at the apex, pale border around dorsal muscular pits; dorsum, lateral and posterior borders of abdomen with scattered, conspicuous, dark-coloured, flat leaf-like hairs; venter mottled white. Carapace: Rounded, as long as wide, 2.67 long, 2.56 wide (length/width = 1.04); furnished with short hairs, some flat leaf-like hairs between AMEs and behind ocular region; fovea longitudinal with radial striae; ocular region raised, concave behind PER, AER and PER recurved, lateral eyes situated on distinct tubercles; clypeus slightly raised, furnished with long hairs; chelicerae small, 0.92 long, distal part with long hairs, Pmt with three robust, triangular teeth (the 1<sup>st</sup> very small, the 3<sup>rd</sup> the biggest) and Rmt with seven on the left and six minute teeth on the right side. Maxilla 0.42 long, 0.31 wide (length/width = 1.35); labium 0.28 long, 0.44 wide (length/width = 0.63); sternum 1.30 long, 1.47 wide (length/width = 0.88). Eyes: Small; lateral eyes situated on the tubercle; AME, PME and PLE black, while ALE white; MOQ 0.58 long, 0.66 WA, 0.50 WP. Eye sizes and inter distances: AME > PLE > PME > ALE (0.26, 0.18, 0.16, 0.08) and AME-AME 0.14, AME-ALE 0.15, PME-PME 0.18, PME-PLE 0.21, ALE-PLE 0.13; AER 1.12, PER 1.28; AME, largest; ALE, smallest. Legs: Leg I longest, leg III smallest. Leg formula 1243; lengths of legs [total length (femur + patella + tibia + metatarsus + tarsus)]: I = 35.38 (8.73 + 1.23 + 10.53 + 13.84 + 1.05); II = 30.88 (7.52 + 1.11 + 8.96 + 12.28 + 1.01); III = 9.02 (2.73 + 0.74 + 2.15 + 2.54 + 0.86); IV = 26.27 (6.65 + 0.98 + 6.98 + 10.72 + 0.94); metatarsus of legs I, II and IV is biarticulate; leg spination: I (fe 3p,3d,2r; ti 2p,4d,2r,2v; mt 1p,2d,1r,1v); II (fe 3p,3d,3r; ti 3p,2d,2r,2v; mt 1p); III (fe 2p,1r; ti 1p,3d,1r; mt 2p,2d,2r,1v); IV (fe 2p,4d,2r,1v; ti 3p,3d,2r;

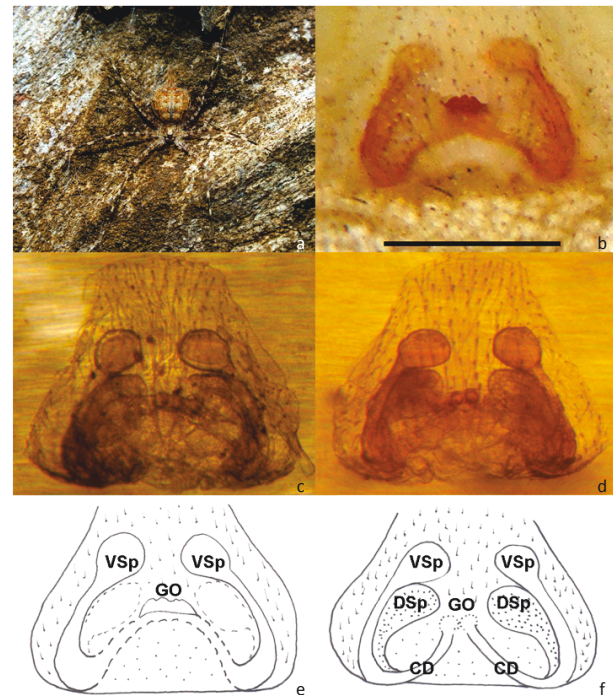


Image 3 a–f. *Hersilia aadi* sp. nov., paratype female (OUNHM.ART.ARA.2011.14) (scale: 0.5mm).

a - live habitus image of female; b - abdomen ventral view showing epigynum on habitus; c - epigynum ventral view; d - epigynum dorsal view; e - epigynum ventral view line diagram (VSp - Ventral Spermatheca; GO - Genital opening); f - epigynum dorsal view line diagram (DSp - Dorsal Spermatheca; CD - Copulatory Duct; GO - Genital opening; VSp - Ventral Spermatheca).

Photo credits: a - Bhargavi Srinivasulu; b–d - G.B. Pravalikha.

mt 1p,2d,1r). Abdomen: Longer than wide, 3.23 long, 2.51 wide (length/width = 1.28). Dorsally with four pairs of DMP, all pairs of DMP dissimilar in size, the second pair, the largest and fourth pair smallest. VMP arranged in a V shape. PLS 4.83 long (bs 0.83, ts 4.00), longer than the length of abdomen; posterior lateral spinnerets with no or faint annulation; spigots on the median border of the PLS dense and elongate. Pedipalp [total length (femur+patella+tibia+tarsus)]: 3.61 (1.37 + 0.52 + 0.53 + 1.19). Tibia short, as long as patella; patella truncated, dorsal ridge of the patella triangular and lacks spinose ridges. Cymbium conical with short and stout spines, embolus dark circular, tegular apophysis curved, narrow and apically brush-like.

#### Description of female (Paratype, OUNHM.ART.ARA.2011.14, Images 3a–f))

Habitus: Medium-sized (TBL 6.39mm), two-tailed spider with four DMP and long PLS. Carapace: As male, except for size. Rounded, as long as wide, 2.92 long, 2.98 wide (length/width = 0.97); chelicerae small, 0.96 long, Pmt with three robust, triangular teeth and Rmt

with eight on left and six minute teeth on the right side. Maxilla 0.59 long, 0.52 wide (length/width = 1.13); labium 0.43 long, 0.56 wide (length/width = 0.76); sternum 1.43 long, 1.65 wide (length/width = 0.86). Eyes: MOQ 0.57 long, 0.68 WA, 0.52 WP. Eye sizes and inter distances: AME > PLE > PME > ALE (0.22, 0.17, 0.15, 0.08) and AME-AME 0.24, AME-ALE 0.17, PME-PME 0.22, PME-PLA 0.18, ALE-PLA 0.15; AER 1.18, PER 1.22; AME, largest; ALE, smallest. Legs: Leg II longest, leg III smallest. Leg formula 2143; lengths of legs [total length (femur + patella + tibia + meta tarsus + tarsus)]: I = 26.87 (7.38 + 1.34 + 6.83 + 9.12 + 1.22); II = 27.03 (7.03 + 1.39 + 6.99 + 10.44 + 1.18); III = 9.73 (3.17 + 0.84 + 2.09 + 2.52 + 1.11); IV = 23.92 (6.47 + 1.11 + 5.64 + 9.61 + 1.09); palp [total length (femur + patella + tibia + tarsus)] = 4.32 (1.35 + 0.73 + 0.86 + 1.38); metatarsus of legs I, II and IV is bi-articulate; leg spination: I (fe 4p,3d,3r; ti 2p,3d,2r,1v; mt 1d,1r); II (fe 3p,2d,3r; ti 3p,2d,2r; mt 1p); III (fe 3p,2d,2r,1v; ti 2d,1r; mt 1p,1d); IV (fe 3p,3d,2r; ti 2p,2d,1r; mt 2p,2d,2r). Abdomen: Almost as wide as long, 3.47 long, 3.26 wide (length/width = 1.06). Dorsally with four pairs of DMP, all pairs of DMP dissimilar in size, the second pair the largest and fourth pair smallest. VMP arranged in a V shape. PLS 6.35 long (bs 1.02, ts 5.33), nearly double the length of abdomen; posterior lateral spinnerets with no or faint annulation; spigots on the median border of the PLS dense and elongate. Epigyne: Epigyne weakly sclerotized, two pairs of spermathecae, ventral spermathecae small oval-shaped with long curved copulatory duct, dorsal spermathecae large elliptical-shaped; two copulatory openings; ventral spermathecae visible through tegument.

### Etymology

The specific epithet is a noun in apposition taken from the Sanskrit word 'aadi' meaning 'first'.

### Distribution

Presently known only from the type locality, Osmania University campus (17°25'N & 78°31'E), Hyderabad, Andhra Pradesh, India.

### Natural History

The type specimens were collected on the bark of the *Azadirachta indica* and *Polyalthia cerasoides* trees in the Osmania University campus, Hyderabad. Many specimens of the new species described in this paper have been observed in the Osmania University Campus and other urban gardens. As opined by Javed & Tampal (2010), we feel that the species diversity in the family Hersiliidae is under-represented and future research will

result in discovery of new species.

### References

- Audouin, V. (1826).** Explication sommaire des planches d'arachnides de l'Égypte et de la Syrie publiées. In: *Description de l'Égypte, Histoire Naturelle*, Paris: 404, illustrations t 7, f 8. (this description is also quoted as published in 1825 and 1827).
- Baehr, M. & B. Baehr (1993).** The Hersiliidae of the Oriental Region including New Guinea. Taxonomy, phylogeny, zoogeography (Arachnida, Araneae). *Spixiana (Suppl.)* 19: 1–96.
- Barrion, A.T. & J.A. Litsinger (1995).** *Riceland Spiders of South and Southeast Asia*. CAB International, Wallingford, UK, xix+700pp.
- Benoit, P.L.G. (1967).** Révision des espèces africaines du genre *Hersilia* Sav. et Aud. (Aran.-Hersiliidae). *Revue de Zoologie et de Botanique africaines* 76: 1–36.
- Chen, S.H. (2007).** Spiders of the genus *Hersilia* from Taiwan (Araneae: Hersiliidae). *Zoological Studies* 46: 12–25.
- Foord, S.H. & A.S. Dippenaar-Schoeman (2006).** A revision of the Afrotropical species of *Hersilia* Audouin (Araneae: Hersiliidae). *Zootaxa* 1347: 1–92.
- Foord, S.H. (2008).** Cladistic analysis of the Afrotropical Hersiliidae (Arachnida, Araneae) with the first record of *Murricia* and the description of a new genus from Madagascar. *Journal of Afrotropical Zoology* 4: 111–142.
- Javed, S.M.M., S.H. Foord & F. Tampal (2010).** A new species of *Hersilia* Audouin, 1826 (Araneae: Hersiliidae) from India, with notes on its natural history. *Zootaxa* 2613: 40–50.
- Javed, S.M.M. & F. Tampal (2010).** Spiders of the genus *Murricia* Simon, 1882 (Araneae: Hersiliidae) from India. *Acta Zoologica Lituonica* 20(2): 88–97; <http://dx.doi.org/10.2478/v10043-010-0012-9>
- Levy, G. (2003).** Spiders of the families Anyphaenidae, Hahnidae, Ctenidae, Zoridae, and Hersiliidae (Araneae) from Israel. *Israel Journal of Zoology* 49(1): 1–31; <http://dx.doi.org/10.1560/X05J-TOMU-UL4A-8RLQ>
- Lucas, H. (1836).** Observations sur les Araneae du genre *Hersilia* et description de deux espèces nouvelles appartenant à ce genre. *Guerin's Magazine Zoology* 6: 1–11.
- Lucas, H. (1869).** Quelques remarques sur les articles additionnels observés dans les palpes des *Actinopus*, les pattes des *Hersilia* et description d'une nouvelle espèce d'araignée appartenant à cette dernière coupe générique. *Revue Magasin de Zoologie* 2: 160–170.
- Platnick, N.I. (2013).** The World Spider Catalog. Version 13.5. American Museum of Natural History. Available from: <http://research.amnh.org/iz/spiders/catalog/HERSILIIDAE.html>. (Accessed 17 June 2013)
- Pocock, R.I. (1900).** *The Fauna of British India, Including Ceylon and Burma. Arachnida*. Taylor and Francis, London, 279pp.
- Rheims, C.A. & A.D. Brescovit (2004).** Revision and cladistic analysis of the spider family Hersiliidae (Arachnida, Araneae) with emphasis on Neotropical and Nearctic species. *Insect Systematics and Evolution* 35(2): 189–239; <http://dx.doi.org/10.1163/187631204788912355>
- Sen, S., S. Saha & D. Raychaudhuri (2010).** Two tailed spiders (Araneae: Hersiliidae) from the reserve forests of North Bengal, India. *Munis Entomology and Zoology* 5(suppl.): 1168–1175.
- Simon, E. (1893).** *Histoire naturelle des araignées*. Paris, I, 257–488pp.
- Smithers, R.H.N. (1945).** The Hersiliidae (Araneae) of South Africa. *Transactions of the Royal Society of South Africa* 31(1): 1–18; <http://dx.doi.org/10.1080/00359194509520547>
- Thorell, T. (1870).** On European spiders. *Nova Acta Regiae Societatis Scientiarum Upsaliensis* 7: 109–242.
- Thorell, T. (1890).** Studi sui ragni Malesi e Papuani. IV, 1. *Annali del Museo civico di storia naturale di Genova* 28: 1–419.
- Wang, J.F. & C.M. Yin (1985).** Two new species of spiders of the genus *Hersilia* from China (Araneae: Hersiliidae). *Acta Zootaxonomica Sinica* 10: 45–49.

