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First record of *Africactenus* Hyatt, 1954 and redescriptions of two poorly known species of *Ctenus* Walckenaer, 1805 (Araneae, Ctenidae, Cteninae) from India

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Abstract

The ctenid genus *Africactenus* Hyatt, 1954 is recorded for the first time from India. *Africactenus unumus* sp. nov. is described and illustrated based on male specimens. Detailed redescriptions and illustrations of *Ctenus cochinchensis* Gravely, 1931 (both male and female) and *Ctenus indicus* Gravely, 1931 (only female) are provided and their distribution in India is updated.

Keywords: distribution, first record, new species, redescription, taxonomy

Introduction

Ctenidae Keyserling, 1877 represents nocturnal and cursorial spiders, frequently found in the tropical forests of South and Central America, Asia and Africa (Polotow & Jocqué 2015). They can be readily distinguished from the remaining spider families by their 2-4-2 ocular arrangement (Silva-Dávila 2003). Currently the family has 514 nominal species distributed in 47 genera (World Spider Catalog 2017), but ctenid spiders from India are poorly investigated. Simon (1897) described the first Indian ctenid spider, the female of *Anahita smythiesi* (Simon, 1897), which was originally described under *Ctenus* Walckenaer, 1805. After Simon, the family received little attention until Gravely (1931) described four new *Ctenus* species and recorded the genus *Acantheis* Thorell, 1891 for the first time from India. Tikader & Malhotra (1981) revised the Indian *Ctenus* and recently Jäger (2012) recorded the genera *Anahita* Karsch, 1879 and *Amauropelma* Raven, Stumkat & Gray, 2001 for the first time from India. To date, only 17 species belonging to four genera have been recorded from India: *Acantheis* (one species), *Amauropelma* (three species), *Anahita* (one species) and *Ctenus* (12 species) (World Spider Catalog 2017). In this paper, we record the African ctenid genus *Africactenus* Hyatt, 1954 for the first time from India and redescribe two *Ctenus* species described by Gravely (1931).

Material and methods

The specimens were studied under a Zeiss Stemi 2000-C stereomicroscope. All measurements are in millimetres (mm). Lengths of pedipalp/palp and leg segments are given as: total (femur, patella, tibia, metatarsus [except for pedipalp/palp], tarsus). Drawings were made with the aid of a drawing tube attached to the microscope. The images of preserved specimens were taken with a Leica DFC295 digital camera attached to a Leica M205C stereomicroscope with the software package Leica Application Suite (LAS, version 4.3.0) for stacking images taken at different focal planes. Field photos were taken with Canon EOS 6D with Canon 100 mm Macro photo lens. The specimens are deposited in a reference collection housed at the Division of Arachnology, Department of Zoology, Sacred Heart College, Thevara, Cochin, Kerala, India (ADSH).

Abbreviations used in the text: ALE—anterior lateral eye, AME—anterior median eye, do—dorsal, MA—median apophysis, pl—prolateral, pld—prolateral-dorsal, PLE—posterior lateral eye, plv—prolateral-ventral,

PME—posterior median eye, rl—retrolateral, rld—retrolateral-dorsal, rlv—retrolateral-ventral, RTA—retrolateral tibial apophysis, vt—ventral-terminal, ZSI—Zoological Survey of India, Kolkata, I–IV—1st to 4th leg.

Taxonomy

Family Ctenidae Keyserling, 1877

Subfamily Cteninae Simon, 1897

Genus *Africactenus* Hyatt, 1954

Diagnosis. Carapace with deep dorsal indentation (Hyatt 1954: fig. 2; herein Fig. 2A), clypeus high (Steyn *et al.* 2003: fig. 3; herein Fig. 2B), cheliceral retromargin with four teeth, tibiae I and II usually with six prolateral-ventral and five retrolateral-ventral spines or rarely six on each row on tibiae I and II, RTA with superior and inferior denticles (Hyatt 1954: figs 3–4, 6–8; Steyn *et al.* 2003: figs 7–8, 12–13, 17–18; herein Fig. 3B) and epigynal plate with M-shaped anterior half (Hyatt 1954: plate XXXII, figs 26–33; Steyn *et al.* 2003: figs 9, 14, 19).

Type species. *Africactenus agilior* (Pocock, 1900), by subsequent designation (Hyatt 1954).

Remarks. The genus was erected by Hyatt (1954) for 11 ctenid spiders from Africa as a member of the subfamily Acantheinae Simon, 1897 and was later transferred to Cteninae Simon, 1897 (Polotow & Brescovit 2014). To date, the genus has 20 nominal species, three are known only from males, eight only from females, whereas nine are known from both sexes (World Spider Catalog 2017). The genus is currently restricted to Africa (World Spider Catalog 2017).

Africactenus unumus sp. nov.

Figs 1A, 2A–B, 3, 4

Type material. Holotype, male missing right leg I (ADSH203A) from Areppara in Edappady, 9°42'35.62"N, 76°42'48.42"E, Kottayam, Kerala, India, 27 m alt., 28 July 2013, M.S. Pradeep leg., from ground, by hand. Paratype, male (ADSH203B), same data as holotype, except 20 August 2014.

Additional material examined. INDIA, *Kerala*: Pathanamthitta, Thiruvalla, Kavumbhagom, 9°24'15.60"N, 76°32'45.36"E, 3 m alt., 1 male (ADSH203C), Sam Thomas leg., 19 June 2013, from ground, by hand.

Diagnosis. Males of *Africactenus unumus* sp. nov. seem closely similar to the males of *Africactenus decorosus* (Arts, 1912) as both share the wide, transversely oriented apical part of embolus as well as the same position and orientation of the conductor, but can be separated from the latter by the following combination of characters: RTA with single inferior denticle (RTA of *A. decorosus* with three inferior denticles), broad conductor (*A. decorosus* with thin conductor), MA lying away from embolus (MA of *A. decorosus* lying close to embolus), embolus with embolic apophysis (embolus of *A. decorosus* lacks embolic apophysis) and embolus narrowing at tip (*A. decorosus* with uniformly wide embolus) (Fig. 3A–C, compare with Steyn *et al.* 2003: figs 7–8).

Description. *Male* (holotype, Figs 1A, 2A–B). Carapace with deep median indentation (Fig. 2A), brownish, with faint, blackish, reticulated pattern and mats of greyish hairs along sides, with broad, median, pale brown, roughly flower vase-like patch, its posterior part just in front of fovea abruptly narrowing towards pedicel, its apical part with a longitudinal white stripe, which bifurcates posteriorly to continue along lateral margins (Fig. 1A). Fovea long (1.39), longitudinal, black. Eye field, clypeus, chelicerae, labium, endites, sternum, spinnerets, and legs brownish. Clypeus very high (Fig. 2B). Chelicerae dorsally with greyish-brown stiff hairs; promargin with a thick layer of long, brownish, inwardly curved hairs, with one teeth and two denticles, retromargin with four teeth and two small denticles. Fangs black. Sternum clothed with black hairs. Opisthosoma elongated oval, olive-brown, with irregularly scattered black spots and striae; dorsum medially with a broad longitudinal, straw-coloured patch, anterior 2/3rd of which medially possesses a pale yellowish band; dorsum with scattered clusters of white, stiff hairs (Fig. 1A); venter medially with a broad yellowish patch, the middle of which bears a longitudinal olive-brown

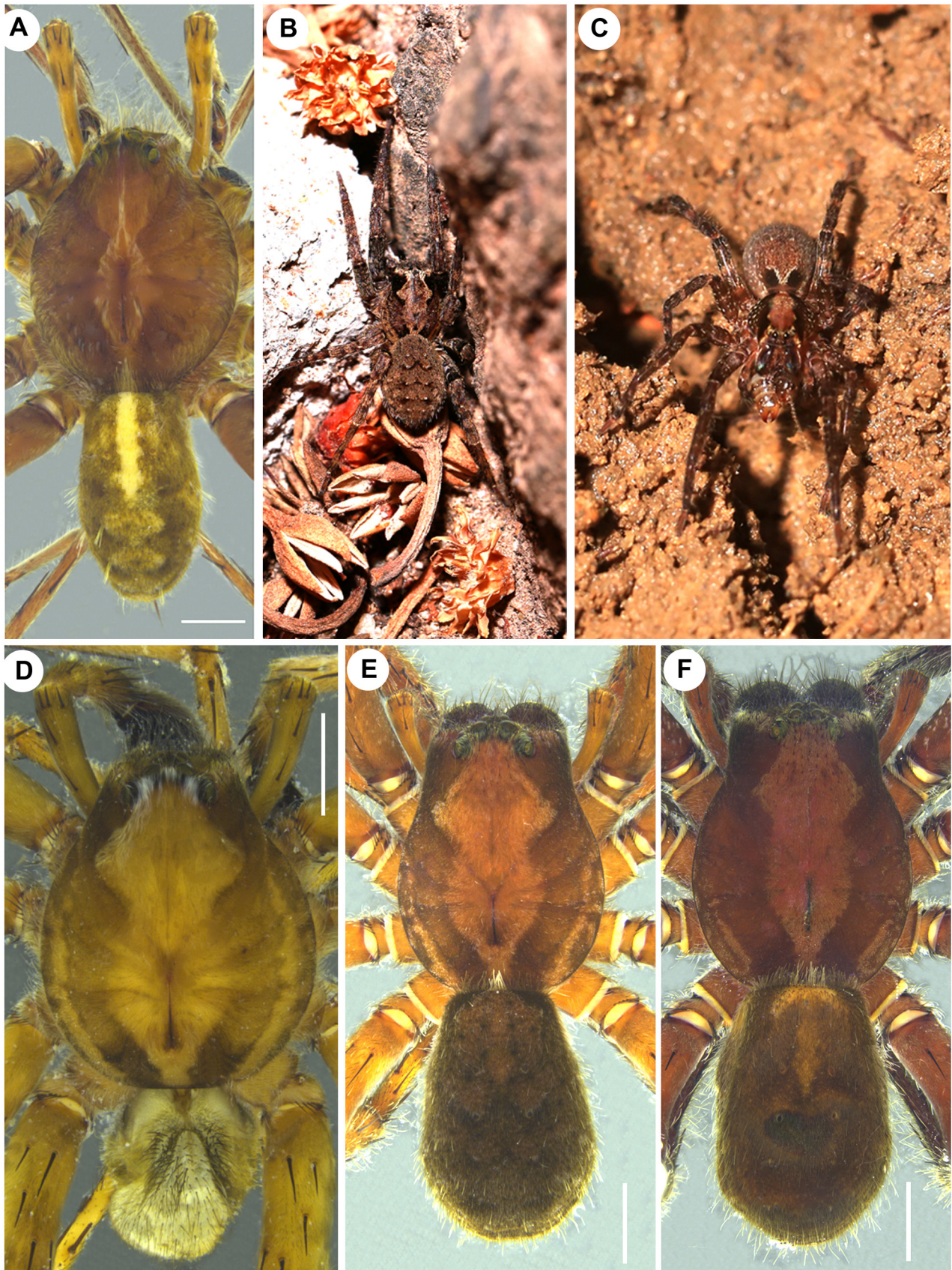


FIGURE 1. Habitus of Indian ctenid spiders. A. *Africactenus unumus* sp. nov.: male (holotype), dorsal. B, D–E. *Ctenus cochinensis* Gravely, 1931: B. Female (live), dorsal (ADSH20196); D. Male (ADSH20195), dorsal; E. Female (ADSH20196), dorsal. C, F. *Ctenus indicus* Gravely, 1931: C. Female (live), fronto-dorsal (ADSH201037); F. Same, dorsal. Scale bars: A, D–F 2 mm. Photo credit B & C Jimmy Paul.

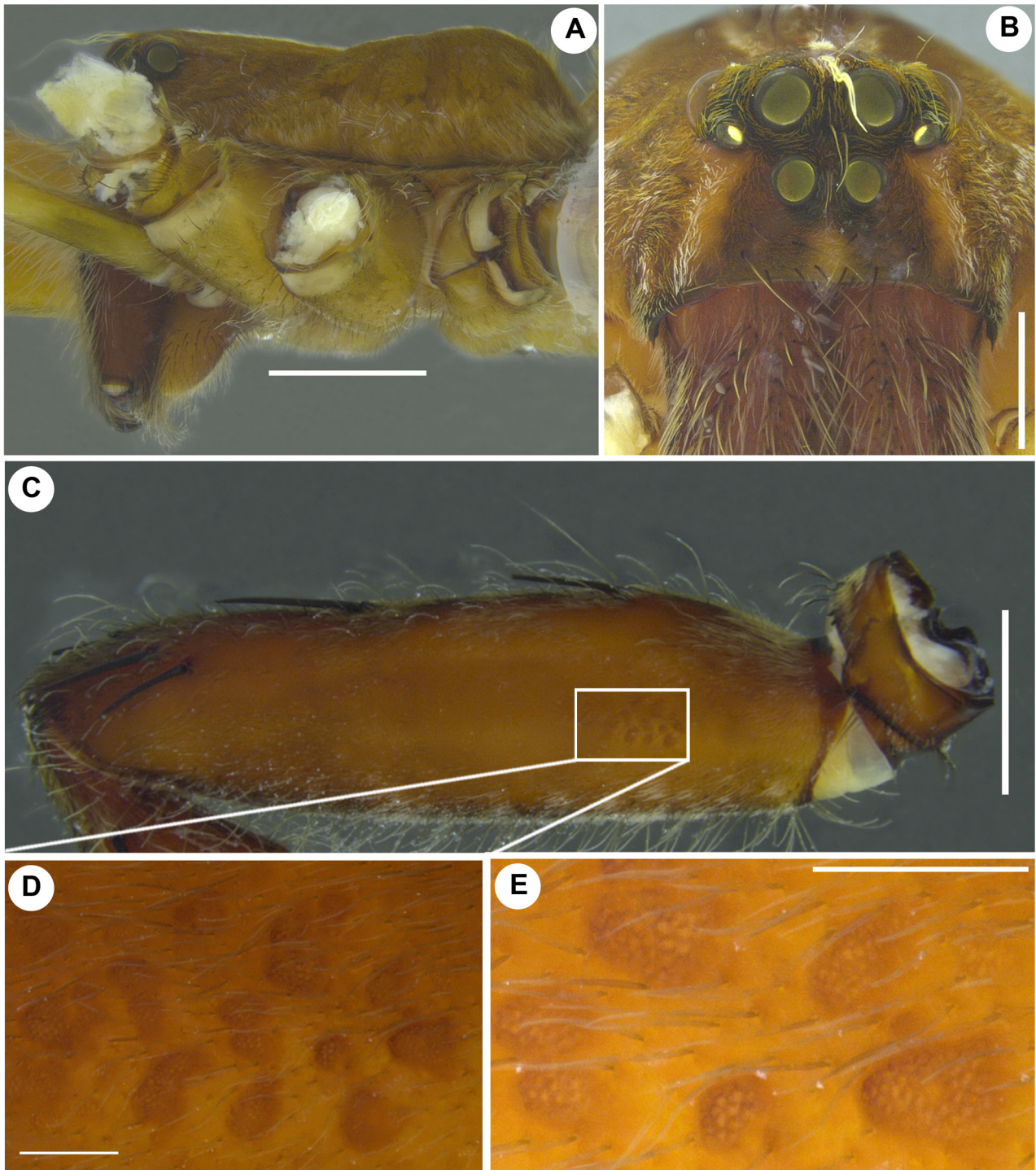


FIGURE 2. *Africactenus unumus* sp. nov. (A–B) and *Ctenus indicus* Gravely, 1931 (C–E). A. Male prosoma, lateral; B. Same, frontal. C. Left femur IV retrolateral view showing humps; D–E. Close up of humps on femur IV. Scale bars: A, C 2 mm; B 1 mm; D–E 0.2 mm.

stripe. Scopulae on tarsi entire; scopulae on metatarsi I–II entire, 2/3rd of metatarsus III with reduced scopula, metatarsus IV lacks scopula. Body length 14.99. Carapace length 7.98, width 6.71. Opisthosoma length 7.01, width 3.98. Eye diameters: ALE 0.24. AME 0.36. PLE 0.53. PME 0.44. Eye interdistances: ALE–ALE 1.46. ALE–PME 0.19. AME–ALE 0.30. AME–AME 0.25. PLE–PLE 1.72. PME–PME 0.36. Clypeus height at AMEs 0.71, at ALEs 1.29. Chelicerae length 3.79. Measurements of pedipalp and legs: pedipalp 12.97 [5.05, 1.85, 2.87, 3.20], I 51.44 [13.82, 4.17, 15.39, 14.25, 3.81], II 45.77 [12.38, 4.11, 13.19, 12.65, 3.44], III 36.71 [10.22, 3.22, 10.12, 10.41,

2.74], IV 53.19 [14.83, 3.34, 13.47, 18.03, 3.52]. Leg formula: 4123. Spination of pedipalp: femur pld 1 do 4 rld 1, patella pl 1 rl 1, tibia pl 1 plv 1 rl 1 rld 1, tarsus/cymbium spineless; legs: femur I pl 2 pld 2 plv 1 do 1 rld 4, II pl 1 pld 3 do 3 rld 4, III–IV pld 4 do 3 rld 4; patellae I–IV pl 1 rl 1; tibiae I–II pl 1 plv 6 do 4 rl 2 rlv 6, III pl 2 plv 3 do 3 rl 1 rld 1 rlv 3, IV pl 2 plv 3 do 4 rl 2 rlv 3; metatarsus I pl 1 plv 2 rl 2 rlv 3, II pl 1 plv 3 rl 2 rlv 3, III pl 1 pld 3 plv 3 rl 1 rld 3 rlv 3, IV pl 1 pld 4 plv 4 rl 2 rld 3 rlv 4; tarsi I–IV spineless. *Pedipalp* (Fig. 3A–C): palpal segments brownish with faint black annulations on femur, patella and tibia. RTA short with broad base and one tiny, sharp inferior denticle (Fig. 3B, arrow). Ventro-lateral tibial apophysis short, thumb-like, directed at 2-o'clock in ventral view (Fig. 3B). Distal part of cymbium slender, cylindrical; cymbium with a short baso-retrolateral, lamella-like outgrowth (Fig. 3B–C). Tegulum nearly oval. Subtegulum small. MA nearly globular, medio-retrolateral (Fig. 3B). Embolus long, with well sclerotised median part over membranous part, with wide, transversely oriented apical part, with hook-like tip, with a short, flat apophysis (Fig. 3A–B). Conductor broad, hyaline, apico-retrolateral, anterior part slightly overlying the embolar tip (Fig. 3B–C).

Female: Unknown.

Etymology. The specific epithet, from the Latin *unum* = one, is an adjective and refers to the single inferior denticle of the RTA of the new species.

Variation. Males (n=3): body length 10.87–14.99.

Distribution. India (Kerala) (Fig. 4).

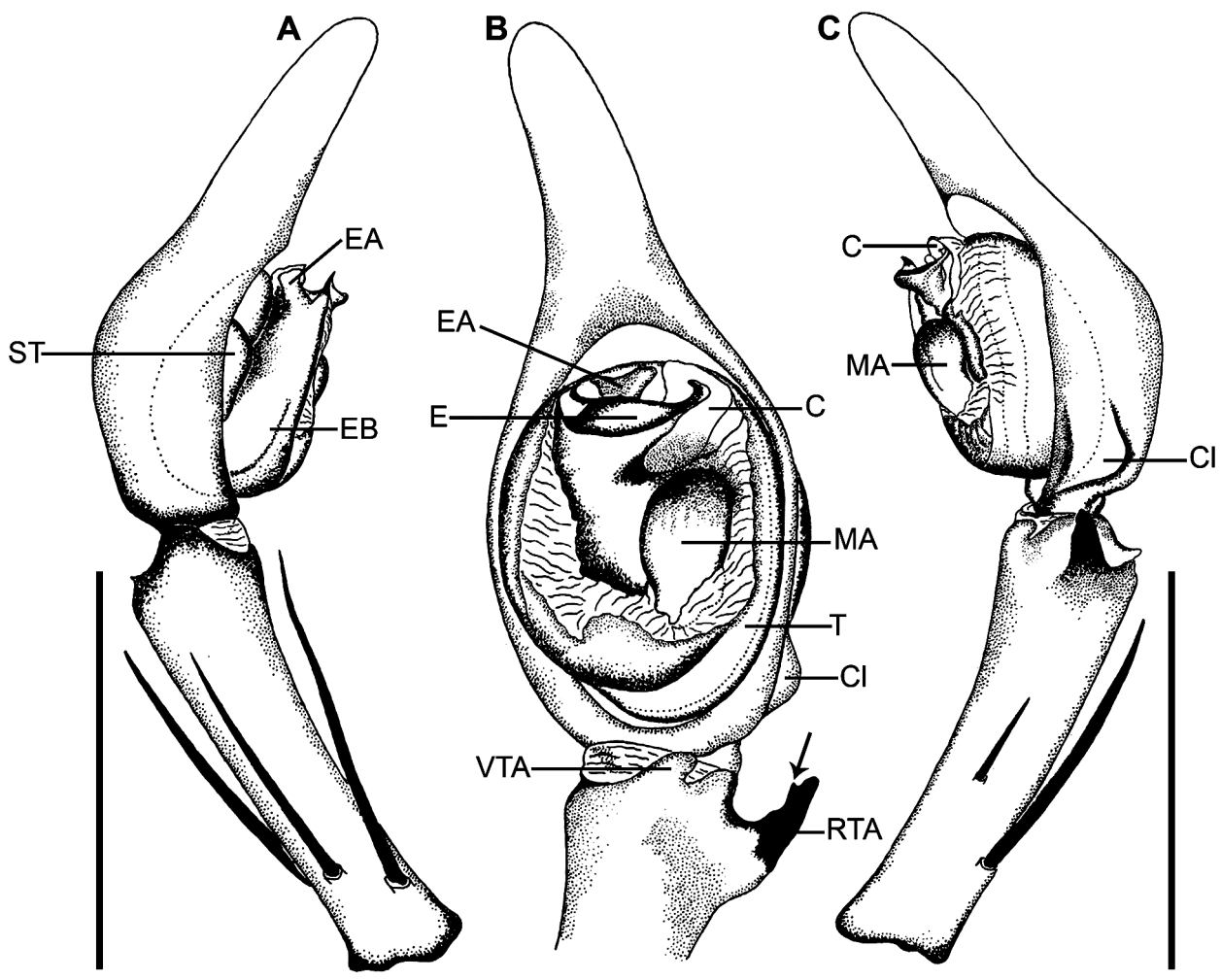


FIGURE 3. *Africactenus unum* sp. nov. A–C Male left pedipalp: A. Prolateral; B. Ventral; C. Retrolateral. Abbreviations: C conductor, CI lamella-like outgrowth of cymbium, E embolus, EA embolic apophysis, EB embolic base, MA median apophysis, RTA retrolateral tibial apophysis, ST subtegulum, T tegulum, VTA ventral tibial apophysis. Scale bars 2 mm. Arrow indicate inferior denticle of RTA.

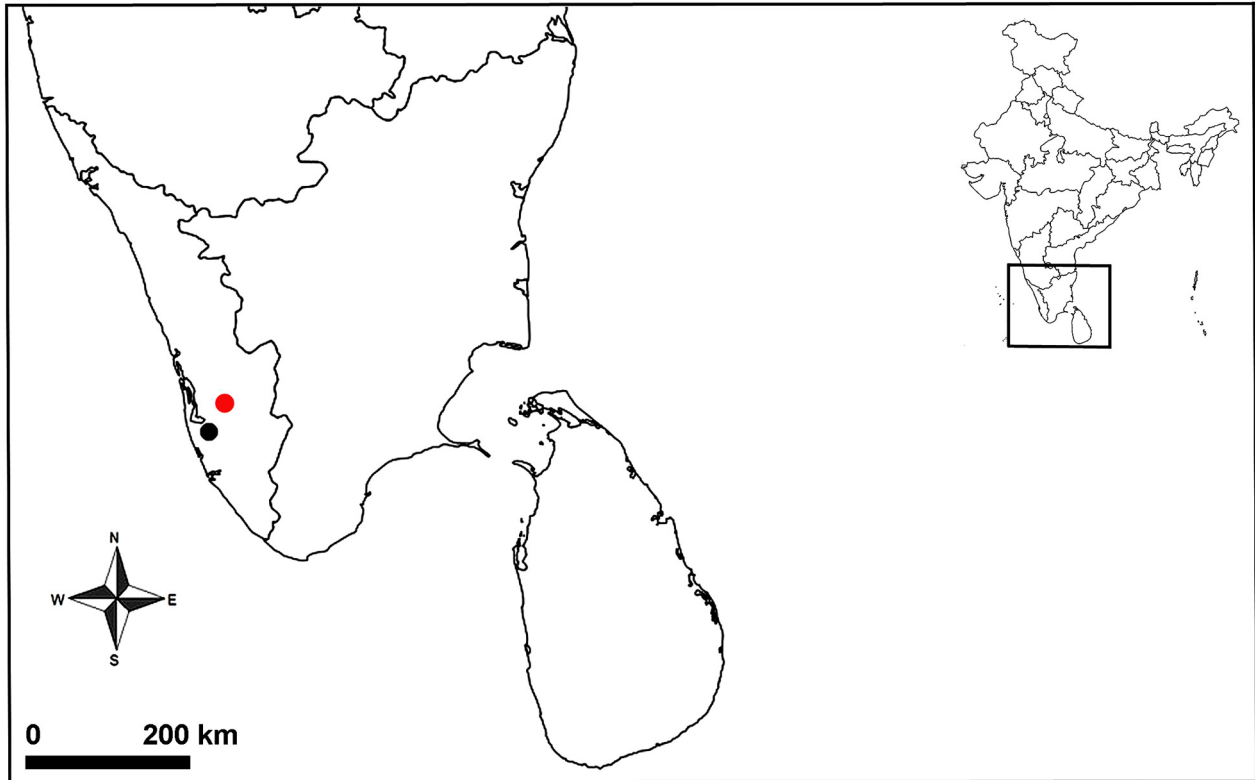


FIGURE 4. Geographic distribution records of *Africactenus unumus* sp. nov. Red circle, type locality.

Genus *Ctenus* Walckenaer, 1805

Ctenus cochinensis Gravely, 1931

Figs 1B, D–E, 5, 6

Ctenus cochinensis Gravely, 1931: 235, figs 1E, 3C (description and illustrations of male and female). Tikader & Malhotra 1981: 112, fig. 5A–D (description and illustrations of male and female).

Type material. Male and 2 female syntypes of *Ctenus cochinensis* Gravely, 1931 from INDIA: Kerala: Palakkad: Parambikulam (10°23'34.29"N, 76°46'32.24"E), 597 m alt. (male) and Thrissur: Kavalai (10°16'23.89"N, 76°32'13.03"E), 390 m alt. (females); F.H. Gravely leg.; 16–24 September 1914; repository ZSI; voucher numbers 1506/18 (male) and 1550/18 (females), not examined.

Note. The species was identified using the illustrations given by Gravely (1931) and Tikader & Malhotra (1981).

Material examined. INDIA, Kerala: Thrissur, Chimmony Wildlife Sanctuary, 10°25'6.80"N, 76°32'7.25"E, 709 m alt., 8 May 2013, M.S. Pradeep leg., from ground, by hand: 1 subadult male, 2 subadult females, (ADSH20191) and 23 July 2013: 1 female with egg sac (ADSH20192); Ernakulam, Kothamangalam, Salim Ali Bird Sanctuary (Thattekkadu Bird Sanctuary), 10°7'48.3"N, 76°41'43.24"E, 96 m alt., 22 May 2013, M.S. Pradeep leg., from ground, by hand: 1 subadult male, 1 female, (ADSH20193); Malappuram, Akambadam, 11°18'37.42"N, 76°12'31.68"E, 41 m alt., 23 August 2013, M.S. Pradeep leg., from ground, by hand: 2 females with egg sacs (ADSH20194); Kottayam, Areppara in Edappady, 9°42'35.62"N, 76°42'48.42"E, 27 m alt., 16 August 2016, M.S. Pradeep leg., from ground, by hand: 1 male (ADSH20195) and 25 March 2017: 1 female (ADSH20196).

Diagnosis. *Ctenus cochinensis* can be separated from other congeners by the following combination of characters: hook-shaped RTA without apical bifurcation, MA short, roughly squarish, embolus with well-defined, transversely oriented apical part, flat, as wide as long epigynal plate, posteriorly placed epigynal teeth, nearly straight lateral folds of copulatory ducts and peanut-like spermathecae (Fig. 5A–F).

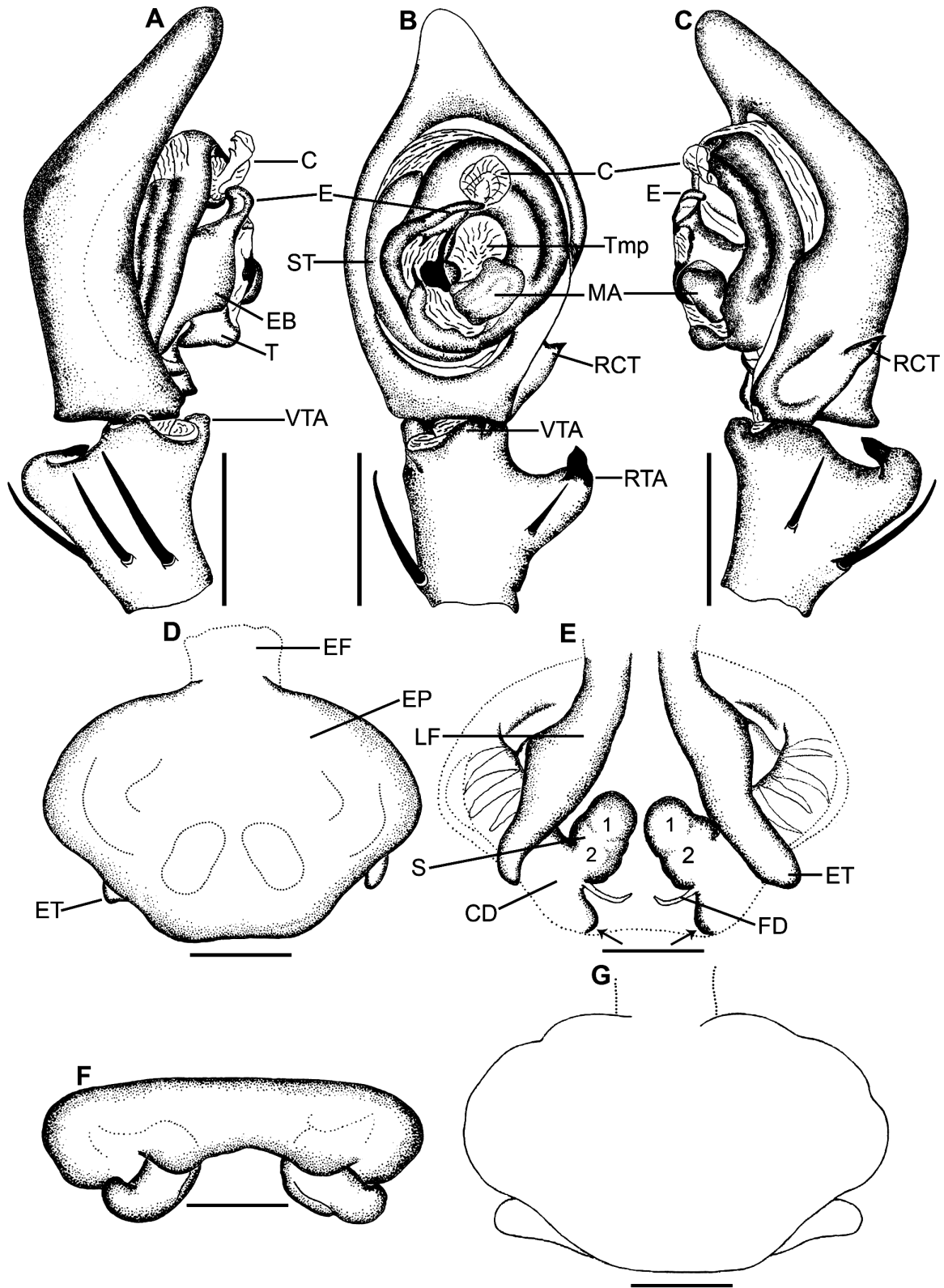


FIGURE 5. *Ctemus cochinensis* Gravely, 1931. A–C. Male left pedipalp: A. prolateral; B. ventral; C. retrolateral. D–G. Female genitalia: D. Epigynum, ventral; E. Internal genitalia, dorsal; F. Epigynum, posterior; G. Epigynum of female from Salim Ali Bird Sanctuary, illustrating variation. Abbreviations: C conductor, CD copulatory duct, E embolus, EB embolic base, EF epigynal field, EP epigynal plate, ET epigynal tooth, FD fertilization duct, LF lateral fold of copulatory duct, MA median apophysis, RCT retrolateral cymbial tooth, RTA retrolateral tibial apophysis, S spermatheca, ST subtegulum, T tegulum, Tmp membranous pit of tegulum, VTA ventral tibial apophysis. Scale bars: A–C, 1 mm; D–G, 0.5 mm. Arrows pointing to copulatory opening. Digits 1 and 2, spermathecal chambers.

Redescription. *Male* (based on ADSH20195, Fig. 1D). Carapace pale brownish with yellowish-brown median band; thoracic part provided with narrow, longitudinal yellowish-brown medio-lateral bands and patches. Fovea long (1.41), longitudinal, reddish. Eye field black except between PLEs, which is yellowish-brown; ALEs, PLEs and PMEAs basally covered with fine, short white hairs (Fig. 1D). Clypeus, chelicerae, fangs, endites, labium, sternum, and spinnerets pale brownish. Dorsum of chelicerae covered with long brownish hairs; promargin with a thick layer of inwardly curved brownish hairs, with three teeth; retromargin with four. Sternum covered with black hairs. Opisthosoma roughly oval, hirsute; dorsum, laterals, and venter greyish-brown; venter with a broad, inverted triangular, creamy patch. Leg segments pale brownish to brownish with black shades and annulations; all tarsi scopulated, tarsal scopula entire; metatarsus I with entire scopula, distal 2/3rd of metatarsus II scopulated, metatarsi III and IV lack scopula. Body length 10.71. Carapace length 6.39, width 5.44. Opisthosoma length 4.32, width 2.91. Eye diameters: ALE 0.19. AME 0.32. PLE 0.39. PME 0.45. Eye interdistances: ALE–ALE 0.25. ALE–PME 0.08. AME–ALE 0.16. AME–AME 0.18. PLE–PLE 1.52. PME–PME 0.22. Clypeus height at AMEs 0.16, at ALEs 0.67. Chelicerae length 2.06. Measurements of pedipalp and legs: pedipalp 8.42 [3.19, 1.20, 1.28, 2.75], I 23.26 [6.21, 2.81, 6.28, 6.23, 1.73], II 20.12 [5.65, 2.61, 5.02, 5.34, 1.50], III 16.70 [4.93, 2.14, 3.62, 4.65, 1.36], IV 23.89 [6.40, 2.40, 5.37, 7.97, 1.75]. Leg formula: 4123. Spination of pedipalp: femur pld 1 do 4 rld 1, patella pl 1, tibia pl 1 plv 1 rld 1 rlv 1, tarsus/cymbium spineless; legs: femur I pl 1 pld 2 do 3 rld 4, II pl 1 pld 3 do 3 rld 4, III pl 5 do 3 rl 4, IV pld 4 do 3, rld 3; patellae I–IV pl 1 rl 1; tibia I pl 1 plv 5 do 3 rld 2 rlv 5, II pl 1 plv 5 do 3 rl 2 rlv 5, III pl 2 plv 3 do 2 rl 2 rlv 3, IV pl 2 plv 4 do 3 rl 2 rlv 3; metatarsus I pld 2 plv 3 rld 3 rlv 3, II pld 3 plv 3 rld 3 rlv 3 vt 1, III pl 1 pld 3 plv 2 rl 1 rld 3 rlv 3, IV pl 3 pld 1 plv 3 rl 2 rld 3 rlv 4; tarsi I–IV spineless. *Pedipalp* (Fig. 5A–C): palpal segments brownish with black shades. RTA stout, with broad proximal part, short, distal part with acute tip, appears hook-like in retrolateral view (Fig. 5B–C). Ventro-lateral tibial apophysis short, thumb-like, directed at 2-o’clock in ventral view (Fig. 5B). Cymbium tip conical, without basal extension, with short, acute, retrolateral cymbial tooth (Fig. 5B–C). Tegulum highly sclerotised, with a median membranous pit (Fig. 5B). Subtegulum highly sclerotised. MA short, nearly rectangular, baso-retrolateral, with a slight apico-prolateral extension (Fig. 5B). Embolus apically with a prolateral curvature, with blunt tip, narrow in ventral view (Fig. 5A–B). Conductor transparent, apico-retrolateral, rounded in ventral view (Fig. 5A–C).

Female (based on ADSH20196) (Fig. 1B, E). Like male except the following. Carapace brownish with pale brown median band; thoracic part provided with narrow, longitudinal, pale brown medio-lateral bands. Fovea (1.08) dark. Eye field brownish except between PLEs, which is pale brown. Clypeus, chelicerae, fangs, endites, labium, and sternum brownish. Dorsum, laterals and venter of opisthosoma blackish-brown with inconspicuous black spots and W-shaped markings; venter with paired median longitudinal bands formed of pale yellowish spots. Spinnerets pale yellowish with black shades. Leg segments brownish. Body length 12.72. Carapace length 6.49, width 5.11. Opisthosoma length 6.23, width 4.11. Eye diameters: ALE 0.21. AME 0.25. PLE 0.36. PME 0.47. Eye interdistances: ALE–ALE 1.36. ALE–PME 0.09. AME–ALE 0.51. AME–AME 0.15. PLE–PLE 1.58. PME–PME 0.25. Clypeus height at AMEs 0.14, at ALEs 0.58. Chelicerae length 2.85. Measurements of palp and legs: palp 6.79 [2.46, 1.26, 1.43, 1.64], I 16.45 [4.74, 2.69, 4.15, 3.76, 1.11], II 15.20 [4.53, 2.55, 3.54, 3.48, 1.10], III 13.26 [4.05, 1.97, 2.87, 3.44, 0.93], IV 19.18 [5.37, 2.36, 4.30, 5.76, 1.39]. Leg formula: 4123. Spination of palp: femur pld 2 do 2 rld 1, patella pl 1, tibia pl 2 rl 1 rld 2, tarsus pl 2 pld 1 rl 2; legs: femur I pld 2 plv 1 do 3 rld 3, II pl 2 pld 2 do 3 rld 3, III plv 4 do 4 rlv 4, IV pld 4 do 3, rld 1; patellae I–II spineless, III–IV pl 1 rl 1; tibiae I–II plv 5 rlv 5, III pl 2 plv 3 do 2 rld 2 rlv 3, IV pl 2 plv 3 do 3 rl 2 rlv 3; metatarsus I plv 3 rlv 2, II plv 3 rlv 3, III pl 3 pld 1 plv 3 rl 2 rld 2 rlv 3, IV pl 3 pld 1 plv 3 rl 3 rld 2 rlv 4; tarsi I–IV spineless. *Epigynum* (Fig. 5D–F): epigynal plate flat, nearly as wide as long, with distinct short, wide epigynal field (Fig. 5D, F). Copulatory openings postero-lateral to the epigynal plate, masked by epigynal plate (Fig. 5E, arrows). Epigynal teeth simple, placed postero-laterally to epigynal plate (Fig. 5D–E). Copulatory ducts short, wide (Fig. 5E); lateral folds well marked, slightly diagonally oriented, continuous with epigynal teeth (Fig. 5E). Spermathecae peanut-shaped, obliquely oriented, close to each other, with two differently sized chambers (Fig. 5E, 1 & 2). Fertilization ducts short, narrow, with slightly upturned apical part (Fig. 5E).

Variation. Adult females (n=5): body length 10.43–12.72. The epigynum of the female specimen from the Salim Ali Bird Sanctuary (ADSH20193) has wavy antero-lateral margins and its epigynal teeth are placed close to the posterior epigynal border line (Fig. 5G).

Distribution. India (Kerala) (Fig. 6).

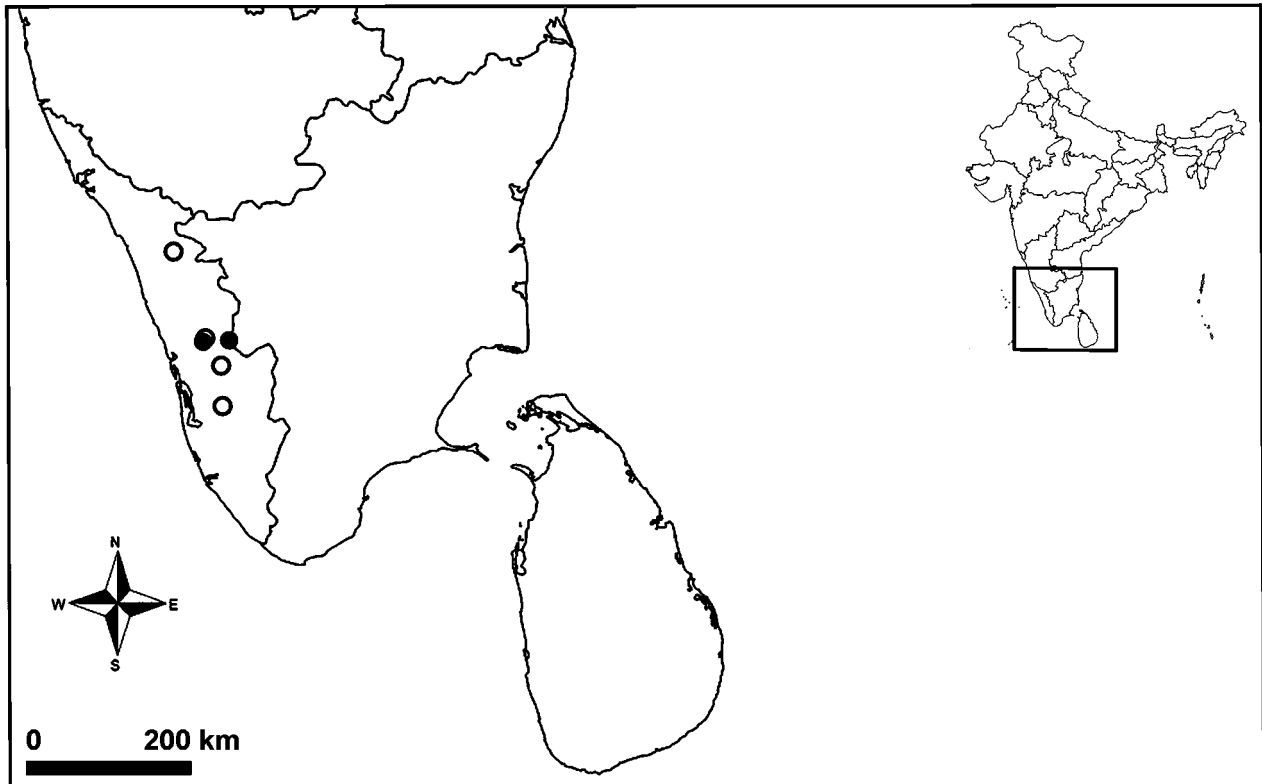


FIGURE 6. Geographic distribution records of *Ctenus cochinensis* Gravely, 1931. Empty circles, new record; full circles, record from literature.

Ctenus indicus Gravely, 1931

Figs 1C, F, 2C–E, 7, 8

Ctenus indicus Gravely, 1931: 234, fig. 2J–L (description and illustrations of female). Tikader & Malhotra 1981: 114, fig. 6A–C (description and illustrations of female).

Type material. Two female syntypes of *Ctenus indicus* Gravely, 1931 from INDIA: Kerala: Palakkad: Parambikulam (10°23'34.29"N, 76°46'32.24"E), 597 m alt.; F.H. Gravely leg.; 16–24 September 1914; repository ZSI; voucher numbers 1505/18; unspecified number of female syntypes from Thrissur: Kavalai (10°16'23.89"N, 76°32'13.03"E), 390 m alt.; F.H. Gravely leg.; date and repository unknown; 1 female syntype from Tamil Nadu: Ooty (formerly Ootacamund) (11°24'23.09"N, 76°41'35.68"E), 2246 m alt.; F.H. Gravely leg.; date and repository unknown, all not examined.

Note. The species was identified using the illustrations given by Gravelly (1931) and Tikader & Malhotra (1981).

Material examined. INDIA, Kerala: Ernakulam, Kothamangalam, Salim Ali Bird Sanctuary (Thattekkadu Bird Sanctuary), 10°7'48.3"N, 76°41'43.24"E, 96 m alt., 22 May 2013, M.S. Pradeep leg., from ground, by hand: 1 subadult female (ADSH201031); Kollam, Kulathupuzha Forest Reserve, 8°54'6.37"N, 77°3'51.70"E, 134 m alt., 31 July 2013, M.S. Pradeep leg., from ground, by hand: 1 subadult female (ADSH201032) and 11 January 2015: 1 subadult female (ADSH201033); Pathanamthitta, Gavi, 9°26'9.07"N, 77°9'56.78"E, 1201 m alt., 21 December 2013, M.S. Pradeep leg., from ground, by hand: 1 subadult female, (ADSH201034); Trivandrum, Kallar in Ponmudi, 8°45'35.79"N, 77°7'00.75"E, 920 m alt., 4 October 2014, M.S. Pradeep leg., from ground, by hand: 1 female (ADSH201035); Kollam, Thenmala, 8°57'30.7"N, 77°10'38.9"E, 567 m alt., 10 January 2015, M.S. Pradeep leg., from ground, by hand: 1 female (ADSH201036).

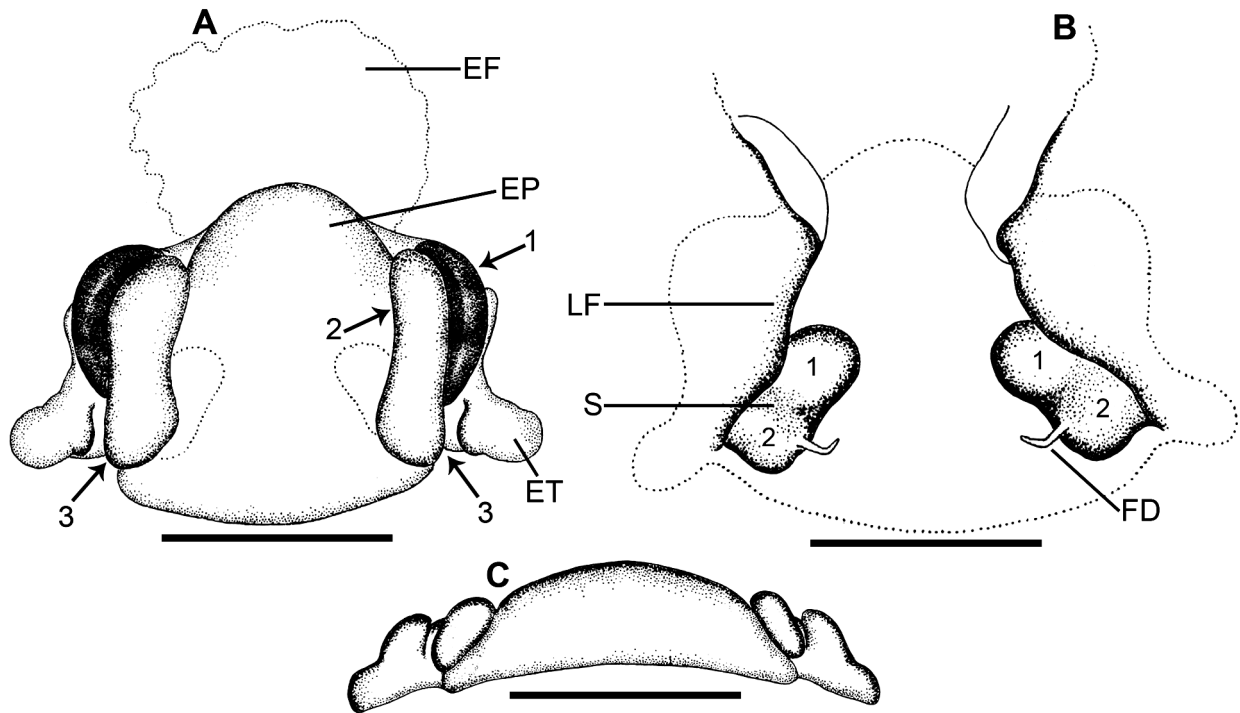


FIGURE 7. *Ctenus indicus* Gravely, 1931. A–C. Female genitalia: A. Epigynum, ventral; B. Internal genitalia, dorsal; C. Epigynum, posterior. Abbreviations: EF epigynal field, EP epigynal plate, ET epigynal tooth, FD fertilization duct, LF lateral fold of copulatory duct, S spermatheca. Scale bars: A–C, 1 mm. Arrows: 1 indicates concave plate, 2 straight plate, 3 copulatory opening. Digits 1 and 2, spermathecal chambers.

Diagnosis. Females of *C. indicus* can be separated from the females of other species by the following combination of characters: epigynal teeth lying away from the lateral epigynal margin, epigynal plate with broad anterior part and epigynum with strongly sclerotized lateral plates (Fig. 7A–C).

Redescription. *Female* (based on ADSH201037, Figs 1C, F, 2C–E). Carapace reddish-brown with broad pale brown median band; thoracic part provided with narrow, longitudinal, pale brown medio-lateral bands and patches. Fovea long (1.87), dark. Eye field blackish except between PLEs, which is pale brown. Clypeus, chelicerae, fangs, endites, labium, and sternum brownish. Dorsum of chelicerae covered with long brownish hairs; promargin with a thick layer of short, inwardly curved hairs, with three teeth; retromargin with four teeth. Sternum covered with black hairs. Opisthosoma oval, hirsute, greyish-brown; dorsum antero-laterally with a pair of black patches. Spinnerets brownish. Leg and palpal segments brownish to blackish-brown. All femora with white spots and patches, femur IV retro-basally with a few small humps, each consists of numerous tiny, smooth tubercles (Fig. 2C–E); 2/3rd of tibia I and 1/3rd of tibia II scopulated, tibiae III and IV lack scopulae; all metatarsi with scopulae, I and II entire, III and IV only on distal half; all tarsi scopulated, tarsal scopula complete. Body length 21.10. Carapace length 10.92, width 8.76. Opisthosoma length 10.18, width 6.91. Eye diameters: ALE 0.32. AME 0.42. PLE 0.51. PME 0.60. Eye interdistances: ALE–ALE 1.88. ALE–PME 0.25. AME–ALE 0.18. AME–AME 0.28. PLE–PLE 2.28. PME–PME 0.32. Clypeus height at AMEs 0.28, at ALEs 1.04. Chelicerae length 4.77. Measurements of palp and legs: palp 11.57 [4.13, 2.11, 2.69, 2.64], I 28.16 [8.01, 4.24, 7.32, 6.64, 1.95], II 26.59 [7.81, 4.16, 6.31, 6.42, 1.89], III 22.60 [6.71, 3.48, 4.78, 5.94, 1.69], IV 31.69 [8.70, 3.73, 7.11, 9.92, 2.23]. Leg formula: 4123. Spination of palp: femur pld 2 do 2 rld 1, patella pl 1, tibia pl 2 rl 1 rld 1, tarsus pl 2 pld 1 rl 1 rld 1; legs: femur I pld 2 plv 1 do 3 rld 3, II pl 1 pld 3 do 3 rld 3, III pld 4 do 3 rld 4, IV pld 4 do 3, rld 2; patellae I–II spineless, III–IV pl 1 rl 1; tibiae I–II plv 5 rlv 5, III pl 2 pld 2 plv 3 do 1 rl 2 rlv 3, IV pl 2 plv 3 do 3 rl 2 rlv 3; metatarsi I–II plv 3 rlv 3, III pl 3 pld 1 plv 3 rl 3 rld 2 rlv 3, IV pl 2 pld 1 plv 3 rl 2 rld 3 rlv 4; tarsi I–IV spineless. *Epigynum* (Fig. 7A–C): Median field of epigynal plate nearly triangular with circular epigynal field, with a median bulging (Fig. 7A, C), with strongly sclerotized lateral plates, first concave, second straight (Fig. 7A, 1st & 2nd arrows); epigynal lateral folds moderately distinct (Fig. 7B), with a broad tooth (Fig. 7A). Copulatory openings

hidden behind proximal part of epigynal teeth (Fig. 7A, 3rd arrow). Copulatory ducts short, lying beneath the lateral folds (Fig. 7B). Spermathecae nearly peanut-shaped, obliquely oriented, widely separated, with two differently sized chambers (Fig. 7B). Fertilization ducts short, narrow with slightly upturned apical part (Fig. 7B).

Male: Unknown.

Distribution. India (Kerala, Tamil Nadu) (Fig. 8).

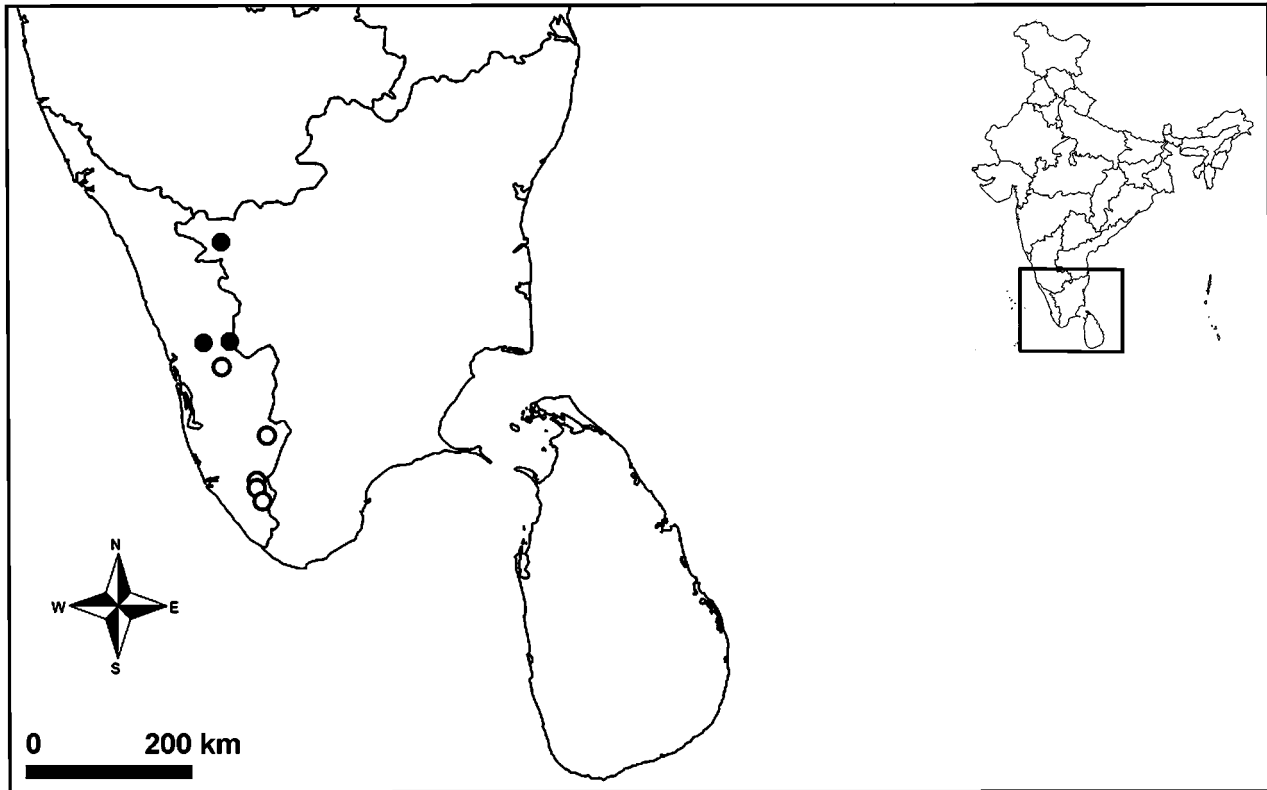


FIGURE 8. Geographic distribution records of *Ctenus indicus* Gravely, 1931. Empty circles, new records; full circles, records from literature.

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