

# A revision of the spider genus *Onomastus* (Araneae: Salticidae)

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## Introduction

*Onomastus* Simon, 1900 is a small genus of spiders presently classified in the salticid subfamily Lyssomaninae. It is comprised of four known species, *O. complexipalpis* sp. n., from Borneo, *O. patellaris* Simon from India, *O. quinquenotatus* Simon and *O. nigricauda* Simon, the type species, from Sri Lanka.

Most species are small (2.0 to 4.0 mm total length) and whitish to pale yellow when preserved in spirit. They resemble lyssomanines in their colouration, general slender habitus and by having the eyes arranged in four transverse rows. Nevertheless, the structure of the genitalia shows that they are not closely related to either new or old world lyssomanines. They are however, of special interest as the male palps are unusually complex. In contrast the female epigynes are apparently simple in structure and similar in form. Unfortunately they are poorly defined and precise details cannot easily be resolved. It is to be regretted that specimens seem to be rare in museum collections as only type material was available for study. Their biology is unknown.

In the present paper the genus is redefined and its affinities discussed, four species are described, one of which is new, an identification key is provided and three lectotypes newly designated. The measurements were made in the manner described by Wanless (1978), but for the leg spination the system adopted is that used by Platnick and Shadab (1975).

## Genus *Onomastus* Simon

*Onomastus* Simon, 1900 : 29. Type species *Onomastus nigricauda* Simon, by original designation. Simon, 1901 : 395, 398, 400. Petrunkevitch, 1928 : 181 Roewer, 1954 : 932. Bonnet, 1958 : 3185.

**DEFINITION.** Small to medium spiders ranging from about 3.0 to 4.5 mm in length. Sexual dimorphism sometimes evident in colour markings; specimens preserved in spirit (75 per cent alcohol) generally pale yellow to whitish yellow; not hirsute. *Carapace*: moderately high, longer than broad, widest at posterior margin of coxae II; fovea indistinct, of medium length, situated more or less midway between posterior lateral eyes and posterior margin of thorax; sculpturing not marked. *Eyes*: with black surrounds except anterior medians; set on low tubercles; arranged in four transverse rows comprised of anterior medians, anterior laterals, posterior medians and posterior laterals; anterior medians largest, more or less contiguous, occupying almost full breadth of facies; anterior laterals more than half diameter of anterior medians, positioned just behind and plainly wider than first row; posterior medians minute, closer to and positioned on or slightly inside optical axis of anterior laterals; posterior laterals as large or almost as large as anterior laterals, set closer together and well inside lateral margins of carapace; quadrangle formed by posterior median and posterior lateral eyes broader than long; entire quadrangle (measured from base of anterior medians to posterior margin of posterior laterals) occupying between 35 and 42 per cent of carapace length. *Clypeus*: between 20 and 60 per cent of diameter of anterior median eyes; sometimes clothed in recumbent shining white hairs layered perpendicularly. *Chelicerae*: small to

medium, more or less vertical or posteriorly inclined; generally parallel; promargin with three to four teeth, retromargin with seven or eight. *Maxillae*: of medium length, subparallel with scopula. *Labium*: about as wide as long, subtriangular. *Sternum*: broadly scutiform, margins generally ill-defined. *Pedice*l: short. *Abdomen*: elongate ovoid, sometimes tapered; spinnerets moderately long, posteriors slightly longer than the rest, anteriors robust, medians and posteriors slender; tracheal system not examined (insufficient material); position of colulus sometimes indicated by two or three fine setae (lacking or rubbed in majority of specimens); anal tubercle a moderately well developed cone. *Legs*: long and slender; fringes absent; spines long and moderately robust, rather pale; claws pectinate; tufts present; scopulae lacking. *Female palps*: long and slender with apical claw and whorl of six or seven spines in proximal half of tarsi. *Male palps*: complex and interspecifically distinct. Femora unmodified (i.e. lacking ventral furrow and distal apophysis found in *Asemonea* O. P.-Cambridge and *Pandisus* Simon); patellae with broad retrolateral apophyses; tibiae without retrolateral apophyses; cymbium with short to moderately long distal finger-like extension, sometimes with basal retromarginal protuberance, fringed in long fine hairs (not included in the figures); embolus (e) moderately long and slender to exceedingly long and thread-like, originating (oe) from tegulum within alveola cavity; tegulum (st) irregular in outline with sinuous ducts, sometimes obscured by conductor, apophyses usually present, apophysis (y) characteristic of genus; conductor (c) arising from tegulum, extremely variable, scalloped or grooved on peripheral margin to form an embolic guide (eg) which terminates in a spur (s); secondary conductor lacking; median apophysis (ma) also a tegular process variable in shape, branched and heavily sclerotized, lobe-like or slender and curved, appearing to embrace and protect the conductor spur. *Epigynes*: small and indistinct; openings paired, ducts evidently lacking; spermathecae relatively large.

**AFFINITIES AND DIAGNOSIS.** The disposition of the eyes, position of the fovea and general habitus suggest that *Onomastus* may belong in the subfamily Lyssomaninae as defined by Galiano (1976). The genus is not, however, closely related to either new or old world genera and I am unable to detect any synapomorphies (shared, uniquely derived characters). At present, the subfamily would appear to represent a polyphyletic group that will have to be reclassified when related genera have been revised. For the moment I do not intend to propose formal nomenclatorial changes.

*Onomastus* is readily distinguished from other lyssomanine genera by the eye pattern, the indistinct fovea, the presence of the palpal subtegular apophysis (y) (Fig. 3E) in males and the apparent absence of epigynal ducts in females (Fig. 2E).

**REMARKS.** Out-group comparison of the male palps of *Onomastus* with those of *Oxyopes* (family Oxyopidae) has revealed superficial similarities in structure which are worth noting. For example in *Oxyopes javanus* Thorell, the embolus rests in a grooved conductor which terminates in a spur that is protected and partly supported by a heavily sclerotized median apophysis; also protecting the spur and embolic tip is a secondary membranous conductor, lacking in *Onomastus*, but evidently present in *Lyssomanes* Hentz (see Galiano 1962). Lehtinen (1975) considers that the similarity of hair ultra structure in the Salticidae and Oxyopidae clearly demonstrates the close relationship of the two families. If this is correct then these tentative observations may be significant as they suggest that *Onomastus* may be primitive and that the palps have retained several characters (eg, conductor and median apophysis) which have been secondarily reduced in the majority of Salticidae.

### List of species in the genus *Onomastus* Simon, 1900

- Onomastus complexipalpis* sp. n.
- O. nigricauda* Simon, 1900
- O. patellaris* Simon, 1900
- O. quinquenotatus* Simon, 1900

**Key to species of *Onomastus*****Males** (male of *quinquenotatus* unknown)

- |   |   |                                       |
|---|---|---------------------------------------|
| 1 | Conductor extremely large (Fig. 4E) (Borneo)              | <i>COMPLEXIPALPIS</i> sp. n. (p. 187) |
| - | Conductor small (India & Sri Lanka)                       | 2                                     |
| 2 | Tegulum with distinctive apophysis (x) (Fig. 3B, E, G)    | <i>PATELLARIS</i> Simon (p. 183)      |
| - | Tegulum without distinctive apophysis (x) (Fig. 1C, F, G) | <i>NIGRICAUDA</i> Simon (p. 181)      |

**Females** (female of *complexipalpis* unknown)

- |   |   |                                      |
|---|---|--------------------------------------|
| 1 | Abdomen with pattern of black spots; apices of tibiae with black markings; epigyne as in Fig. 2C, D (Sri Lanka) | <i>QUINQUENOTATUS</i> Simon (p. 183) |
| - | Abdomen and leg markings apparently lacking; epigyne otherwise  | 2                                    |
| 2 | Epigyne lightly sclerotized with oblique dark bars (Fig. 3C) (India)  | <i>PATELLARIS</i> Simon (p. 183)     |
| - | Epigyne heavily sclerotized with inverted dark U-shaped bars (Fig. 1D) (Sri Lanka)                              | <i>NIGRICAUDA</i> Simon (p. 181)     |

***Onomastus nigricauda* Simon**

(Fig. 1A-G)

*Onomastus nigricauda* Simon, 1900 : 29 [lapsus calami].*O. nigricauda* Simon, 1900 : 29, ♂. LECTOTYPE ♂ (here designated) Sri Lanka, Galle, (MNHN, Paris, 20404). Simon, 1901 : 391, 396, 400. Petrunkevitch, 1928 : 181. Roewer, 1954 : 932.*O. nigricaudus*: Bonnet, 1958 : 3186 [unjustified emendation].

**DIAGNOSIS.** *O. nigricauda* seems to be most closely related to *O. patellaris* but may be easily distinguished by the structure of the palp (Fig. 1C, F, G) in males; females are separated with more difficulty by the inverted u-shaped epigynal bars (Fig. 1D, E).

**MALE LECTOTYPE.** *Carapace* (Fig. 1A, B): pale amber with whitish yellow eye region. *Eyes*: with black surrounds except AM; fringed in shining white hairs. *Clypeus*: thinly clothed in fine shining hairs. *Chelicerae*: small; pale yellow, shiny; teeth not examined. *Maxillae and labium*: pale yellow. *Sternum*: whitish yellow. *Coxae*: subequal; pale yellow. *Abdomen*: whitish yellow; anterior and posterior spinnerets blackish, medians whitish yellow. *Legs*: pale yellow; spines very pale; spination of legs I: metatarsi V 4-0-0, P 1-1-0, R 1-1-0; tibiae V 2-4-2, P 1-0-1, R 1-0-1, D 1-0-1; patellae P 0-1-0, R 0-1-0; femora P 0-0-1, D 1-1-1, R 0-1-1. *Palp* (Fig. 1C, F, G): cymbium slightly produced basally; embolus (e) long and slender, originating within alveolar cavity and retained in the heavily sclerotized embolic guide (eg), proximal limit of which is indicated by a small flange (f); median apophysis (ma) branched, heavily sclerotized.

*Dimensions* (mm): total length 3.2; carapace length 1.52, breadth 1.2, height 0.74; abdomen length 1.64; eyes, AM row 0.8, AL row 1.1, PM row 0.76, PL row 0.77; quadrangle length 0.68. *Ratios*: AM : AL : PM : PL : 10.5 : 6 : 1 : 5; AL—PM—PL : 5—3; AM : CL (clypeus) : 10.5 : 2.

**FEMALE FROM SRI LANKA** (formerly undescribed). Similar to ♂ except for the following. *Carapace*: pale yellow grading to whitish yellow in eye region. *Clypeus*: thickly clothed in shining white hairs. *Abdomen*: whitish yellow; spinnerets pale yellow. Spination of legs I: metatarsi V 4-2-0, P 1-0-0 R 1-0-0; tibiae V 4-4-4, D 0-1-0; femora P 0-0-1, D 1-1-1, R 0-0-1. *Epigyne* (Fig. 1D, E): small and dark.

*Dimensions* (mm): total length 4.3; carapace length 1.52, breadth 1.12, height 0.76; abdomen length 1.88; eyes, AM row 0.8, AL row 1.12, PM row 0.76, PL row 0.8; quadrangle length 0.64. *Ratios*: AM : AL : PM : PL : 10.5 : 6 : 1 : 5; AL—PM—PL : 3—6; AM : CL : 10.5 : 2.

**VARIATION.** Another ♀ from Sri Lanka 3.48 mm total length, 1.48 mm carapace length.

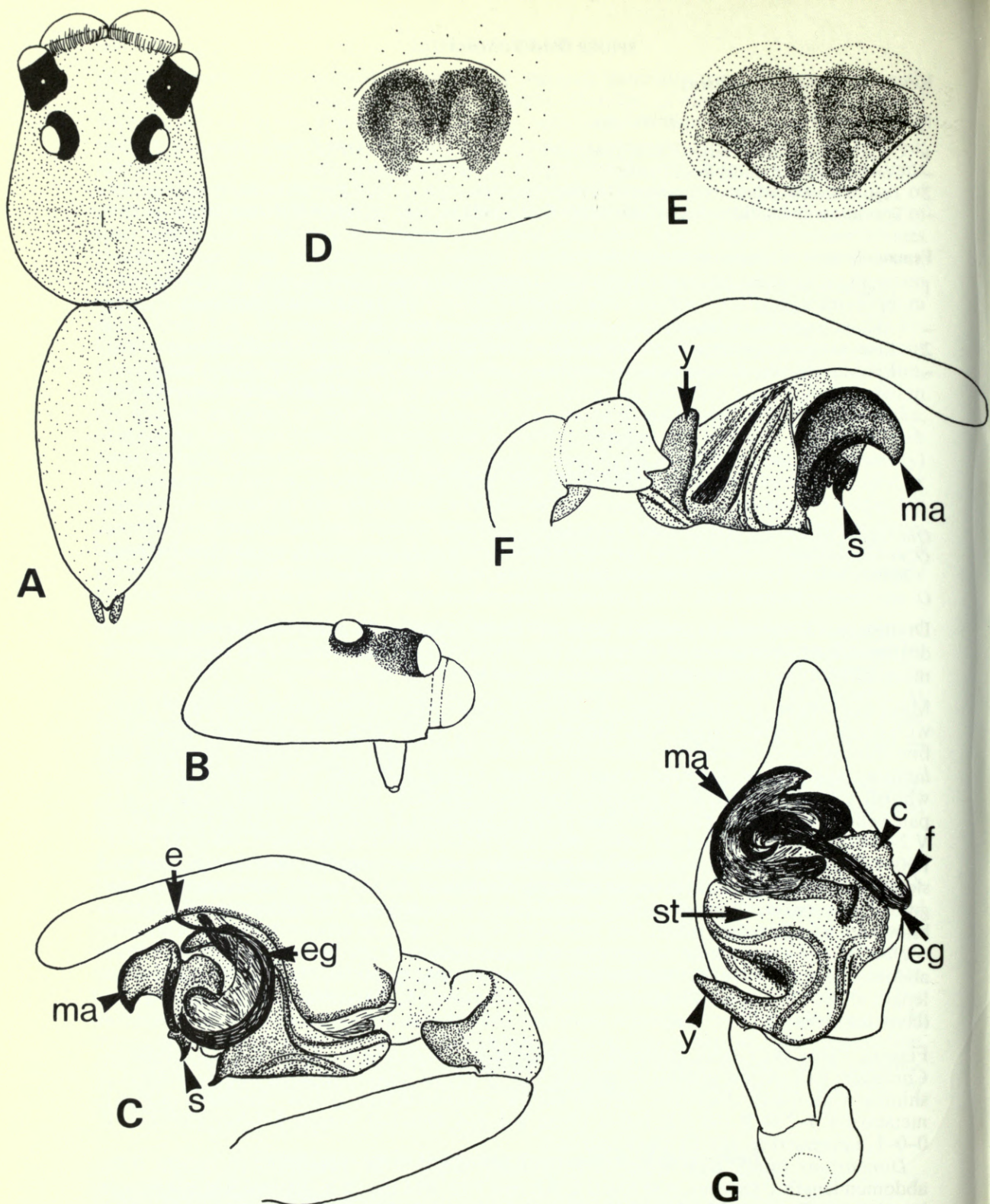


Fig. 1 *Onomastus nigricauda* Simon, lectotype ♂: A, dorsal view; B, carapace, lateral view; C, palp, retrolateral view; F, palp, prolateral view; G, palp, ventral view. ♀ from Sri Lanka: D, epigyne; E, vulva, ventral view.

DISTRIBUTION. Sri Lanka.

MATERIAL EXAMINED. Lectotype ♂, data as given in synonymy. Sri Lanka: Galle, 2 ♀♀ (*E. Simon*) (MHN, Paris, 204004).

***Onomastus quinquenotatus* Simon**  
(Fig. 2A-E)

*Onomastus quinquenotatus* Simon, 1900 : 29, ♀. LECTOTYPE ♀ (here designated) Sri Lanka (MNHN, Paris, 20377) [Examined]. Roewer, 1954 : 932. Bonnet, 1958 : 3186.

DIAGNOSIS. *O. quinquenotatus*, known only from the female seems to be most closely related to *O. nigricauda* Simon and *O. patellaris* Simon, but may be separated by the abdominal markings (Fig. 2A) and the shape of the epigynal opening, especially when viewed slightly from behind (Fig. 2C).

MALE. Unknown.

FEMALE PARALECTOTYPE. *Carapace* (Fig. 2A, B): pale yellow with lighter eye region. *Eyes*: with black surrounds except AM; fringed in silky white hairs. *Clypeus*: clothed in fine weakly iridescent hairs. *Chelicerae*: pale yellow; promargin with 3 or 4 minute teeth difficult to see, retromargin with 7 or 8 forming a minute serrated ridge. *Maxillae and labium*: pale yellow. *Sternum*: whitish yellow. *Coxae*: subequal; whitish yellow. *Abdomen*: pale yellow with 5 black spots; spinnerets pale yellow. *Legs*: pale yellow with conspicuous black wedge-shaped lateral markings on apices of tibiae I-IV, patellae I (retrolateral only) and femora I (retrolateral only); spines long and slender, rather pale and less numerous on legs III-IV. Spination of legs I: metatarsi V 2-2-0, P 1-0-1, R 1-0-1; tibiae V 4-4-4, D 0-1-0, femora P 0-0-1, D 1-1-1, R 0-0-1. *Palp*: pale yellow. *Epigyne* (Fig. 2C-E): dark redbrown, small and poorly defined, the opening is clearer when viewed from slightly behind.

*Dimensions* (mm): total length 3.6; carapace length 1.58, breadth 1.2, height 0.63; abdomen length 2.08; eyes, AM row 0.76, AL row 0.96, PM row 0.71, PL row 0.72; quadrangle length 0.56. *Ratios*: AM : AL : PM : PL 9 : 5 1 4; AL—PM—PL : 2.5—5; AM : CL : 9 : 3

VARIATION. ♀ lectotype 3.8 mm total length, 1.56 mm carapace length. The abdominal spots are pale and only three are evident.

DISTRIBUTION. Sri Lanka.

MATERIAL EXAMINED. Lectotype ♀, paralectotype ♀, data as given in synonymy. In the original description Simon gives Columbo and Kandy as the localities, but he did not record which specimen came from which area.

***Onomastus patellaris* Simon**  
(Fig. 3A-G)

*Onomastus patellaris* Simon, 1900 : 29, ♂. LECTOTYPE ♂ (here designated) India, Kodaikanal, Madras, (MNHN, Paris, 14858) [Examined]. Simon, 1901 : 395, 396. Roewer, 1954 : 932. Bonnet, 1958 : 3186.

DIAGNOSIS. *O. patellaris* seems to be most closely related to *O. nigricauda* but may be readily distinguished by the structure of the palp in males (Fig. 3B, E, G) and with more difficulty by the oblique epigynal bars in females (Fig. 3C).

MALE LECTOTYPE. *Carapace* (Fig. 3A, F): pale yellow with whitish yellow eye region. *Eyes*: with black surrounds except AM; fringed in silky white hairs. *Clypeus*: hairs evidently lacking (?rubbed). *Chelicerae*: medium size; pale yellow; teeth not examined. *Maxillae and*

*labium*: whitish yellow. *Sternum*: whitish yellow. *Coxae*: subequal; pale yellow. *Abdomen*: whitish yellow. *Legs*: whitish yellow; spines long and slender, almost translucent. Spination of legs I: metatarsi V 2-2-0, P 1-0-1, R 1-0-1; tibiae V 2-4-2, P 1-0-1, R 2-0-1, D 1-0-1; patellae P 0-1-0, R 0-1-0; femora spines evidently lacking. *Palp* (Fig. 3B, E, G): embolus (e) moderately long, detached from embolic guide, its origin (oe) not completely obscured by lobe-like median apophysis; tegulum (st) with several apophyses, (x) diagnostic for males.

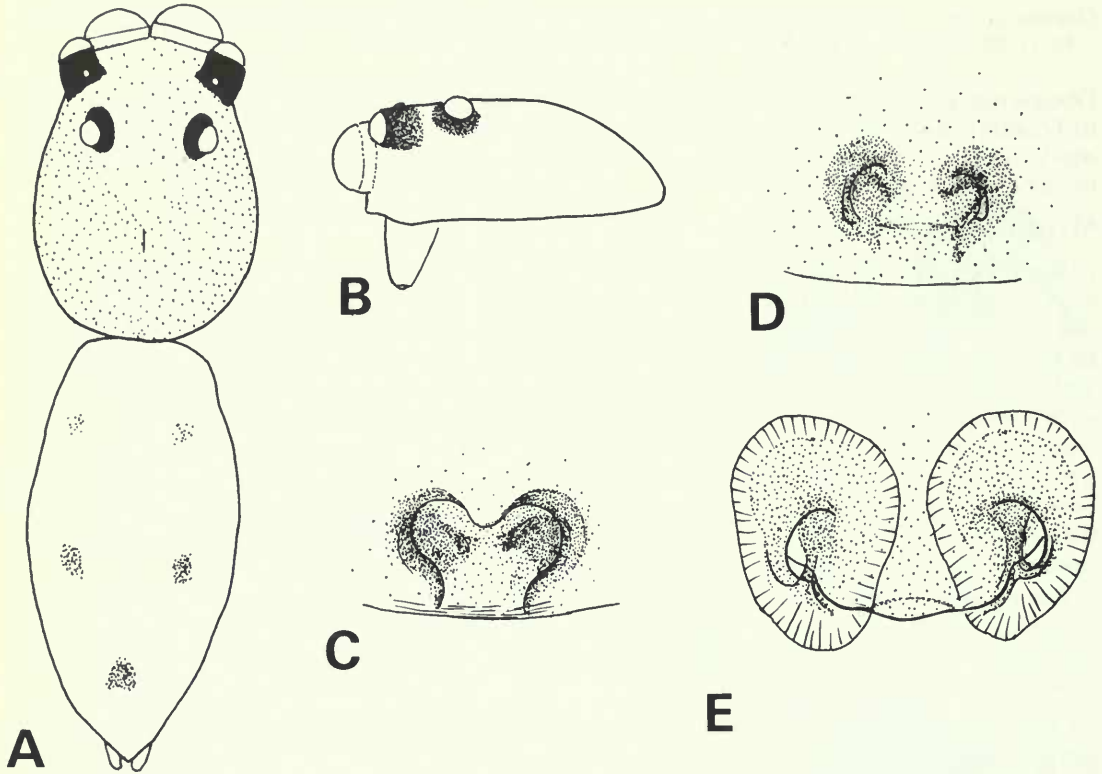


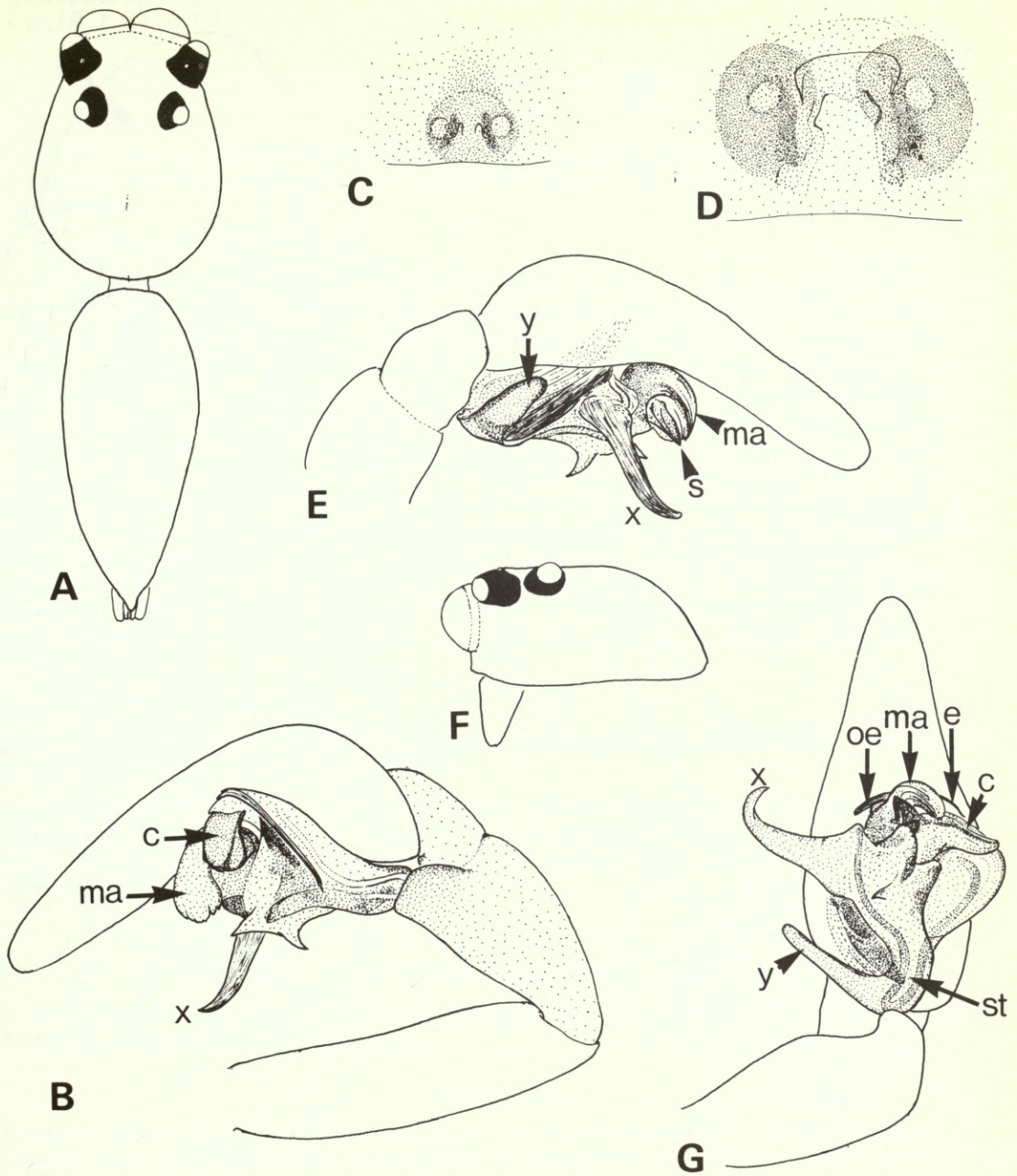
Fig. 2 *Onomastus quinquenotatus* Simon, paralectotype ♀: A, dorsal view; B, carapace, lateral view; C, epigyne, viewed slightly from behind; D, epigyne, ventral view; E, vulva, ventral view.

*Dimensions* (mm): total length 3.88; carapace length 1.72, breadth 1.32, height 0.86; abdomen length 2.08; eyes, AM row 0.8, AL row 1.04, PM row 0.78, PL row 0.84; quadrangle length 0.64. *Ratios*: AM : AL : PM : PL : 10 : 5 : 1 : 5; AL—PM—PL : 3—6; AM : CL : 3 : 6.

FEMALE FROM MADRAS, INDIA (formerly undescribed). Similar to ♂ except for the following. *Clypeus*: clothed in shining white hairs. *Chelicerae*: promargin with 5 minute teeth, retromargin with 7. *Legs*: spination of legs I: metatarsi V 2-2-0, P 1-0-1, R 1-0-1; tibiae V 4-4-2, P 1-0-1, R 1-0-1, D 0-1-0; patellae P 0-1-0, R 0-1-0; femora P 0-0-1, D 1-1-1. *Epigyne* (Fig. 3C, D): small; orange-brown with darker oblique bars.

*Dimensions* (mm): total length 4.16; carapace length 1.68, breadth 1.22, height 0.72; abdomen length 2.48; eyes, AM row 0.82, AL row 1.03, PM row 0.76, PL row 0.77; quadrangle length 0.6. *Ratios*: AM : AL : PM : PL : 10 : 5 : 0.8 : 4.2; AL—PM—PL : 3—6; AM : CL : 10 : 3.

VARIATION. ♀ total length 4.16 to 4.4 mm, carapace length 1.64–1.72 mm (4 specimens). The epigynes are often plugged, but the oblique dark bars can usually be distinguished.



**Fig. 3** *Onomastus patellaris* Simon, lectotype ♂: A, dorsal view; B, palp, retrolateral view; E, palp, prolateral view; F, carapace, lateral view; G, palp, ventral view. ♀ from Madras: C, epigyne; D, vulva, ventral view.

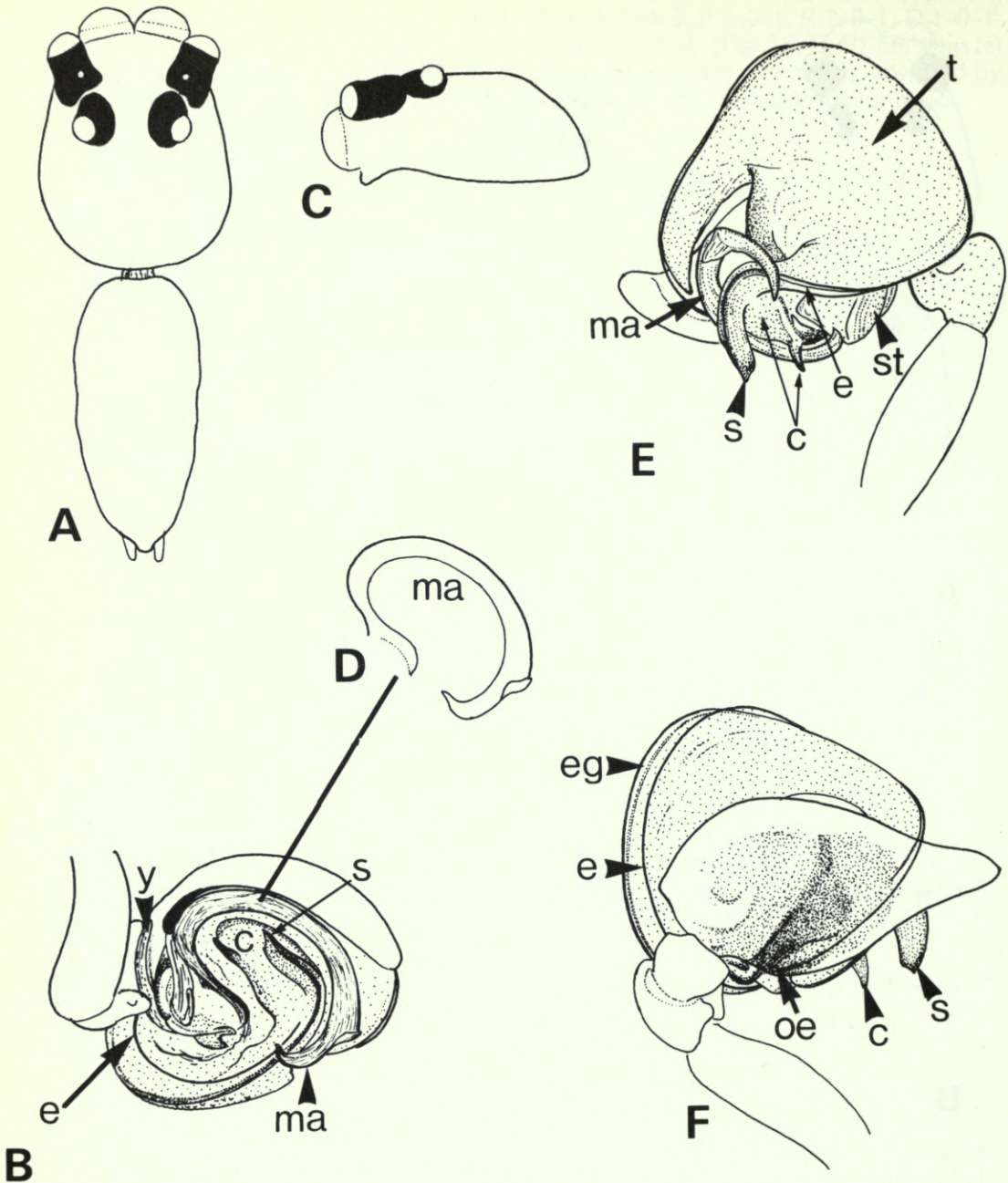


Fig. 4 *Onomastus complexipalpis* sp. n., holotype ♂: A, dorsal view; B, palp, retrolateral view; C, carapace, lateral view; D, profile of median apophysis; E, palp, ventral view; F, palp, dorsal view.



DISTRIBUTION. India.

MATERIAL EXAMINED. Lectotype ♂, data as given in synonymy. India: Trichinopoly, Madras, 4 ♀♀, (*R. P. Malat*) (MNHN, Paris, 14898).

*Onomastus complexipalpis* sp. n.

(Fig. 4A-F)

DIAGNOSIS. *O. complexipalpis* is a distinctive species easily distinguished from other known species of *Onomastus* by the massive palpal conductor (Fig. 4B, E, F) and its geographical distribution.

FEMALE. Unknown.

MALE HOLOTYPE. *Carapace* (Fig. 4A, C): pale yellow grading to whitish yellow in eye region; fovea very indistinct. *Eyes*: with black surrounds except AM; fringed in shining white hairs. *Clypeus*: clothed in shining white hairs. *Chelicerae*: small, strongly inclined posteriorly; pale yellow, shiny; teeth not examined. *Maxillae and labium*: inclined posteriorly; pale yellow. *Sternum*: pale yellow. *Abdomen*: whitish yellow with scattered light brown hairs; spinnerets pale yellow-brown. *Legs*: pale yellow, tinged iridescent green; spines strong and numerous especially on legs I-II. Spination of legs I: metatarsi V 2-2-0, P 1-0-1, R 1-0-1; tibiae V 4-4-2, R 0-0-1, D 1-0-1; patellae R 0-1-0; femora P 0-0-1, D 1-1-1, R 0-0-1. *Palp* (fig. 4B, D, E, F): embolus (e) exceedingly long and thread-like; conductor (c) with massive lobe (t) and well developed embolic guide (eg); median apophysis (ma) with distal translucent flange; tegular apophysis (y) obscured by tibiae and patellae (easily overlooked).

*Dimensions* (mm): total length about 3.1; carapace length 1.4, breadth 1.18, height 0.6; abdomen length 1.6; eyes, AM row 0.74, AL row 1.08, PM row 0.68, PL row 0.70; quadrangle length 0.64. *Ratios*: AM : AL : PM : PL : 9.2 : 6 : 1 : 5; AL—PM—PL : 4 : 5; AM : CL 9.2 : 3.

DISTRIBUTION. Borneo.

MATERIAL EXAMINED. Holotype ♂, Indonesia: Borneo, Santan, Kalimantan, 3.vii.1976 (*R. Thomson*) (BMNH. 1979.7.4.1).

REMARKS. The indentation on the lower margin of the carapace (Fig. 5C) and the posteriorly inclined chelicerae, maxillae and labium provide additional space for the massive palps. From their inclination and size, the chelicerae appear rather ineffectual, suggesting that males do not feed after reaching maturity.

### Acknowledgement

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