Continuous Characters (Matrices D1Con and D2Con)

|  | Character: | Description |
| :--- | :--- | :--- |
| C0 | Body, distended <br> length: | Measured from tip of interantennal projection to tip of tube, not including the anal <br> membranous ring. |
| C1 | Antenna, segment III, <br> length: | Measured from base of segment to apex, not including membranous area. |
| C2 | Antenna, segment IV, <br> length: | Measured from base of segment to apex, not including membranous area. |
| C3 | Head, dorsal length: | Measured from tip of interantennal projection to posterior dorsal margin of head <br> capsule. Projections or craspeda on the posterior margin were not included in this <br> measure. |
| C4 | Head, width behind <br> eyes: | Measured right behind compound eyes, not including projections or tubercles that <br> may occur on genae. |
| C5 | Head, postocular <br> setae, length: | The PO seta that is the least curved or inclined was measured, from its base to its <br> apex, including expanded or capitate tips if present. Basal pore was not included in <br> the measure. |
| C6 | Head, compound <br> eyes, dorsal length: | Measured from anterior margin of compound eye to the apex of the curved posterior <br> margin. |
| C7 | Head, compound <br> eyes, dorsal width: | Measured near the posterior area of the eye, including any curves/invagination the eye <br> might have towards the ocellar area. |



| C8 | Pronotum, median length: | Measured at the median line of pronotum, from the <br> anterior margin to the posterior margin of the pronotal <br> sclerite. Membranous areas were not included in the <br> measure. |
| :--- | :--- | :--- |
| C9 | Pronotum, apical width: | Measured from one anterior angle of pronotum to the <br> other. Basal pores of setae or tubercles were not included. |
| C10 | Pronotum, width across epimeral setae: | Measured at the level of epimeral setae, from the lateral <br> margin of pronotum to the other, not including the basal <br> pores of EP setae. The margins of fore coxae were not <br> included. |
| C11 | Pronotum, anteromarginal setae length: | The least curved or inclined am seta was measured, from <br> its base to its apex, including expanded or capitate tips if <br> present. Basal pore was not included in the measure. |
| C12 | Pronotum, anteroangular setae length: | The least curved or inclined aa seta was measured, from <br> its base to its apex, including expanded or capitate tips if <br> present. Basal pore was not included in the measure. |
| C13 | Pronotum, distance between basal pores of <br> anteroangular and midlateral setae: | The shortest distance between the external margin of the <br> basal pore of aa seta and the external margin of basal pore <br> of ml seta, on the same side of pronotum, was measured. |
| C14 | Pronotum, external epimeral setae length: | The least curved or inclined ep seta was measured, from <br> its base to its apex, including expanded or capitate tips if <br> present. Basal pore was not included in the measure. If <br> two pairs of long epimeral setae are present, the most <br> external pair was be measured. |
| C15 | Pronotum, posteroangular setae length: | The least curved or inclined pa seta was measured, from <br> its base to its apex, including expanded or capitate tips if <br> present. Basal pore was not included in the measure. |



| C17 | Metanotum, major <br> median setae length: | The least curved or inclined seta was measured, from its base to its apex, including <br> expanded or capitate tips if present. Basal pore was not included in the measure. |
| :--- | :--- | :--- |
| C18 | Abdomen, tube, dorsal <br> length: | Measured from the basal margin to the apical margin of tube, not including the <br> membranous anal area. |
| C19 | Abdomen, tube, basal <br> width: | Measured at the widest part of basal area. |



## C20 Pronotum, minor posteromarginal setae, number:

All minor setae occurring at the posterior margin of pronotum, including epimeral area, were counted. Discal setae, the major epimeral, posteroangular or posteromedian setae were not considered here.


| C21 | Metanotum, discal <br> setae, number: |
| :---: | :--- |

All setae between the anterior margin of metanotum and the major pair of median metanotal setae were counted individually, not paired. The three minute pairs of setae at the anterior angles of metanotum, and the major median setae, were not included in this counting.


| C22 | Tergite II, lateral setae, <br> number: | All setae occurring between the lateral margin of tergite and the wing-retaining <br> setae were considered, except those setae on the posterior margin of tergite or <br> sinuous/curved setae. |
| :--- | :--- | :--- |
| C23 | Sternite III, discal and <br> lateral setae, number: | All setae occurring on discal area and laterally on the sternite were counted. <br> Marginal setae were not included. |



C24 | Fore wings, |
| :--- |
| duplicated cilia, |
| number: |

All duplicated cilia from the fore wing are counted. Both fore wings of the specimen were considered separately. This measure was considered as a range from the smallest amount of duplicated cilia observed to the largest amount observed.


Discrete Characters

| D1 | D2 | D1Con | D2Con | Character: |
| :--- | :--- | :--- | :--- | :--- |
| C0 | C0 | C25 | C25 | Head, colour: (0) light-coloured/yellow; (1) brown; (2) bicoloured. |

## Head, colour:

(0) light-coloured/yellow

(1) brown


## (2) bicoloured



| C1 | C1 | C26 | C26 | Thorax, colour: (0) light-coloured/yellow; (1) brown; (2) bicoloured. |
| :--- | :--- | :--- | :--- | :--- |

Thorax, colour:
(0) light-coloured/yellow
(1) brown
(2) bicoloured


| C 2 | C 2 | C 27 | C 27 | Abdomen, colour pattern: (0) uniform; (1) bicoloured. |
| :--- | :--- | :--- | :--- | :--- |

Abdomen, colour pattern:
(0) uniform


| C3 | C3 | C28 | C28 | Antenna, antennomere III, colouration: (0) light-coloured/yellow; (1) brown; (2) <br> bicoloured. |
| :--- | :--- | :--- | :--- | :--- |
| C4 | C4 | C29 | C29 | Antenna, antennomere IV, colouration: (0) light-coloured/yellow; (1) brown; (2) <br> bicoloured. |
| C5 | - | C 30 | - | Antenna, antennomere V, colouration: (0) light-coloured/yellow; (1) brown; (2) <br> bicoloured. |
| C6 | - | C 31 | - | Antenna, antennomere VI, colouration: (0) light-coloured/yellow; (1) brown; (2) <br> bicoloured. |
| C7 | - | C 32 | - | Antenna, antennomere VII, colouration: (0) light-coloured/yellow; (1) brown; <br> (2) bicoloured. |
| C8 | - | C 33 | - | Antenna, antennomere VIII, colouration: (0) light-coloured/yellow; (1) brown. |
| - | C 5 | - | C 30 | Antenna, antennomeres VII-VIII, colouration in relation to antennomeres III-VI: <br> $(0)$ concolourous; (1) darker. |

## Antenna colouration:

(0) light-coloured/yellow

(1) brown
(2) bicoloured






| C9 | C6 | C34 | C31 | Fore legs, femur, colouration: (0) light-coloured/yellow; (1) brown; ( - ) not <br> applicable. |
| :--- | :--- | :--- | :--- | :--- |
| C10 | - | C35 | - | Fore legs, tibia, colour pattern: (0) uniform; (1) bicoloured. |
| C11 | - | C36 | - | Fore legs, tibia, colouration (for uniformly-coloured ones): (0) light- <br> coloured/yellow; (1) brown; ( (-) not applicable. |
| - | C7 | - | C32 | Fore legs, tibia, colouration in relation to fore femora: (0) concolourous; (1) <br> lighter. |
| C12 | C8 | C37 | C33 | Hind legs, tibia, colour pattern: (0) uniform; (1) bicoloured. |
| C13 | C9 | C38 | C34 | Hind legs, tibia, colouration (for uniformly-coloured ones): (0) light- <br> coloured/yellow; (1) brown. |
| C14 | C10 | C39 | C35 | Mid and hind legs, tarsus, colouration in relation to tibia: (0) concolourous; (1) <br> differently coloured. |

## Femur/Tibia, colouration (uniform only):

(0) light-coloured/yellow

(1) brown
(-) not applicable

## Tibia, colour pattern:

## (0) uniform

(1) bicoloured

(1)

## Tibia, colour in relation to femur:

(0) concolourous
(1) lighter


| C15 | C11 | C40 | C36 | Fore wings, apical half, colouration: (0) hyaline; (1) brown or shaded; (-) not <br> applicable. |
| :--- | :--- | :--- | :--- | :--- |

Fore wings apical half, colour:
(0) hyaline


| C 16 | C 12 | C 41 | C 37 | Fore wings, median dark line: (0) absent; (1) present; (-) not applicable. |
| :--- | :--- | :--- | :--- | :--- |
| C 17 | C 13 | C 42 | C 38 | Fore wings, basal area, colouration in relation to apical half of fore wing: (0) <br> concolourous; (1) lighter; (2) darker; ( - ) not applicable. |
| C 18 | - | C 43 | - | Wings, clavus, colouration: (0) hyaline; (1) brown or shaded. |

## Fore wing, median dark line:

(0) absent

(1) present


Fore wing base, colour in relation to apical half:
(0) concolourous

(1) lighter
(2) darker

(0) hyaline/lightly coloured

(1) dark brown


| C 20 | C 15 | C 45 | C 40 | Antenna, antennomere III, number of sense cones: (0) 1 cone; (1) 2 cones; (2) 3 <br> cones. |
| :--- | :--- | :--- | :--- | :--- |
| C 21 | C 16 | C 46 | C 41 | Antenna, antennomere IV, number of sense cones: (0) 2 cones; (1) 3 cones; (2) 4 <br> cones. |

## Antennomeres III-IV, number of sense cones:

III: (0) 1 cone
(1) 2 cones
(2) 3 cones
IV: (0) 2 cones
(1) 3 cones
(2) 4 cones


| C22 | - | C47 | - | Antenna, antennomere VI, pedicel: (0) absent; (1) present. |
| :--- | :--- | :--- | :--- | :--- |
| C23 | - | C48 | - | Antenna, antennomere VII, pedicel: (0) absent; (1) present. |

Antennomeres VI-VII, pedicel:
(0) absent


| C 24 | C 17 | C 49 | C 42 | Antenna, antennomere VIII, shape of base: (0) pedicelate (constricted and with <br> pedicel); (1) constricted (without pedicel); (2) discontinuous (without <br> constriction or pedicel, lateral margins discontinuous with margins of antennal <br> segment VII); (3) continuous (without constriction or pedicel, lateral margins <br> continuous with margins of antennal segment VII). |
| :--- | :--- | :--- | :--- | :--- |

## Antenna, antennomere VIII, shape of base:



| C25 | C18 | C50 | C43 | Head, dorsal surface, median area posterior to eyes, sculpture: (0) absent; (1) <br> present. |
| :--- | :--- | :--- | :--- | :--- |

Head, dorsal surface, median area posterior to eyes, sculpture:
(0) absent

(1) present


| C26 | C19 | C51 | C44 | Head, dorsal surface, median area posterior to eyes, type of sculpture: $(0)$ <br> reticulate; $(1)$ transverse lines; $(-)$ not applicable. |
| :--- | :--- | :--- | :--- | :--- |

## Type of sculpture:

(0) reticulate


| C27 | C20 | C52 | C45 | Head, major postocular setae: (0) absent; (1) present. |
| :--- | :--- | :--- | :--- | :--- |
| C28 | C21 | C53 | C46 | Head, major postocular setae, number: (0) 1 pair; (1) 2 pairs; (-) not applicable. |
| C29 | C22 | C54 | C47 | Head, major postocular setae, shape of apex: (0) acute to blunt; (1) expanded to <br> capitate; ( (-) not applicable. |

Head, major postocular setae:
(0) absent

(1) present


Head, major postocular setae, number:
(0) 1 pair
(1) 2 pairs

Setae, shape of apex:
(0) acute to blunt
(1) expanded to capitate



| C30 | C23 | C55 | C48 | Head, lateral region, microsetae: (0) absent; (1) present. |
| :--- | :--- | :--- | :--- | :--- |

Head, lateral region, microsetae:
(0) absent


(1) present

Head, cheeks, tubercles:
(0) absent


| C31 | C 24 | C 56 | C 49 | Head, cheeks, tubercles: (0) absent; (1) present. |
| :--- | :--- | :--- | :--- | :--- |


| - | C25 | - | C50 | Head, maxillary stylets, position: (0) parallel; (1) v-shaped; (2) sinuous. |
| :--- | :--- | :--- | :--- | :--- |
| C32 | - | C57 | - | Head, maxillary stylets, position: (0) parallel, sometimes sinuous; (1) v-shaped. |
| - | C26 | - | C51 | Head, maxillary stylets, insertion into head capsule: (0) not reaching PO setae; <br> (1) reaching about PO setae level; (2) reaching beyond posterior margin of eyes. |
| C33 | - | C58 | - | Head, maxillary bridge: (0) absent; (1) present. |

## Head, maxillary stylets, position:

## (0) parallel


(1) v-shaped

(2) sinuous


## Head, maxillary stylets, insertion into head capsule:

(0) not reaching PO level (1) reaching around PO level
(2) reaching beyond posterior margin of eyes


| C34 | C27 | C59 | C52 | Head, labial palps, size: (0) apparent (projecting from margin of mouth cone) <br> and with visible segmentation; (1) reduced or vestigial (similar to a papilla). |
| :--- | :--- | :--- | :--- | :--- |

## Head, labial palps, size:

(0) apparent

(1) reduced or vestigial


| C35 | C28 | C60 | C53 | Head, mouth cone, length in relation to posterior margin of fore coxae: $(0)$ <br> extends to or past posterior margin; (1) does not extend to posterior margin. |
| :--- | :--- | :--- | :--- | :--- |

Mouth cone, length in relation
to posterior margin of fore coxae:
(0) extends to or past posterior margin
(1) does not extend to posterior margin


| - | C29 | - | C54 | Pronotum, area of occupation of sculpture: (0) only posteriorly; (1) near anterior <br> and posterior margins, absent medially; (2) covering the entire surface of <br> pronotum. |
| :--- | :--- | :--- | :--- | :--- |
| C36 | - | C61 | - | Pronotum, median region, sculpture: (0) absent; (1) present. |

## Pronotum, area of occupation of sculpture:

(0) only posteriorly
(1) near anterior and posterior margins
(2) covering the entire surface of pronotum


Pronotum, median region, sculpture:
(0) absent

| C37 | - | C62 | - | Pronotum, anteromarginal setae, shape of apex: (0) acute to blunt; (1) expanded <br> to capitate. |
| :--- | :--- | :--- | :--- | :--- |
| C38 | C30 | C63 | C55 | Pronotum, anteroangular setae, shape of apex: (0) acute to blunt; (1) expanded to <br> capitate. |
| C39 | - | C64 | - | Pronotum, midlateral setae, shape of apex: (0) acute to blunt; (1) expanded to <br> capitate. |
| C40 | C31 | C65 | C56 | Pronotum, epimeral setae, shape of apex: $(0)$ acute to blunt; $(1)$ expanded to <br> capitate. |

## Setae, shape of apex:

(0) acute to blunt


| - | C32 | - | C57 | Pronotum, epimeral region, development of internal pair of EP setae: (0) <br> minute/not developed; (1) well-developed, but at most half the length of the <br> external pair; (2) as long as the external pair. |
| :--- | :--- | :--- | :--- | :--- |
| C41 | - | C66 | - | Pronotum, epimeral region, length of internal pair of epimeral setae in relation to <br> external pair: (0) half or less; (1) about as long as the external pair. |
| C42 | - | C67 | - | Pronotum, posteroangular setae, shape of apex: (0) acute to blunt; (1) expanded <br> to capitate. |
| C43 | - | C68 | - | Pronotum, coxal setae, shape of apex: (0) acute to blunt; (1) expanded to <br> capitate. |

Pronotum, epimeral region, development of internal pair of EP setae:
(0) minute/not developed (1) at most half the length of the external pair (2) as long as the external pair


Pronotum, epimeral region, length of internal pair of epimeral setae in relation to external pair:
(0) half or less (1) about as long as the external pair

## Setae, shape of apex:

(0) acute to blunt

(1) expanded to capitate


| C44 | C33 | C69 | C58 | Pronotum, discal setae: $(0)$ absent; $(1)$ present. |
| :--- | :--- | :--- | :--- | :--- |

## Pronotum, discal setae:

(0) absent

(1) present


| C45 | C34 | C70 | C59 | Pronotum, minor posteromarginal setae: (0) absent; (1) present. |
| :--- | :--- | :--- | :--- | :--- |

## Pronotum, minor posteromarginal setae:

(0) absent

(1) present


| C46 | C35 | C71 | C60 | Pronotum, notopleural suture: (0) incomplete and short (distance from the <br> posterior margin greater than the diameter of the pore of the posteroangular <br> setae); (1) almost complete (distance from the posterior margin similar or less <br> than the width of the pore of the posteroangular setae); (2) complete (isolates the <br> epimeral sclerites from the pronotum). |
| :--- | :--- | :--- | :--- | :--- |

Pronotum, notopleural suture:
(0) incomplete and short
(1) almost complete
(2) complete


| - | C36 | - | C61 | Prosternum, presence of clear and well-developed basantra: $(0)$ absent; (1) <br> present. |
| :--- | :--- | :--- | :--- | :--- |
| C47 | - | C72 | - | Prosternum, basantra: (0) absent; (1) present. |

## Prosternum, basantra:

(0) absent

(1) present


| C48 | - | C73 | - | Prosternum, basantra, development: (0) fainty indicated; (1) strongly sclerotized; <br> $(-)$ not applicable. |
| :--- | :--- | :--- | :--- | :--- |

## Prosternum, basantra, development:

(0) faintly indicated

(1) strongly sclerotized


| C49 | - | C74 | - | Prosternum, basantra, shape: (0) wider than long; (1) length and width subequal; <br> (2) longer than wide; (-) not applicable. |
| :--- | :--- | :--- | :--- | :--- |

## Prosternum, basantra, shape:

(0) wider than long

(1) length and width subequal


| C50 | C37 | C75 | C62 | Prosternum, chitinous islets anterior to ferna: (0) absent; (1) present. |
| :--- | :--- | :--- | :--- | :--- |

Prosternum, chitinous islets anterior to ferna:
(0) absent


| C51 | - | C76 | - | Prosternum, ferna, median contact between both plates: (0) absent; (1) present. |
| :--- | :--- | :--- | :--- | :--- |

Prosternum, ferna, median contact between plates:
(0) absent

(1) present


| - | C38 | - | C63 | Mesonotum, median region, sculpture formed by equiangular reticulation: (0) <br> absent; (1) present. |
| :--- | :--- | :--- | :--- | :--- |
| C52 | - | C77 | - | Mesonotum, anteromedian region, sculpture: (0) absent; (1) present. |

Mesonotum, median region, sculpture formed by equiangular reticulation:
(0) absent

(1) present


| C53 | C39 | C78 | C64 | Mesonotum, sculpture, internal markings: (0) absent; (1) present; (-) not <br> applicable. |
| :--- | :--- | :--- | :--- | :--- |

## Mesonotum, sculpture, internal markings:

(0) absent


| C54 | C40 | C79 | C65 | Mesonotum, posterior discal setae, position: (0) all pairs arising within the <br> posterior area of differentiated sculpture; (1) at least one pair arising at the <br> margin or anterior to the posterior area of differentiated sculpture. |
| :--- | :--- | :--- | :--- | :--- |

Mesonotum, posterior discal setae, position:

(0) all pairs arising within the posterior area of differentiated sculpture

(1) at least one pair arising at the margin or anterior to the posterior area of differentiated sculpture


## Prosternum and mesosternum parts:



| C55 | C41 | C80 | C66 | Mesosternum, spina: (0) absent; (1) present. |
| :--- | :--- | :--- | :--- | :--- |

## Mesosternum, spina:

(0) absent

(1) present


| C56 | C42 | C81 | C67 | Mesosternum, mesopresternum, shape: (0) entire; (1) divided. |
| :--- | :--- | :--- | :--- | :--- |

Mesosternum, mesopresternum, shape:
(0) entire

(1) divided


| C57 | C43 | C82 | C68 | Mesosternum, mesopresternum, anterior margin (when entire): (0) straight; (1) <br> one median "excavation"; (2) two "excavations" and with a median projection; <br> $(-)$ not applicable. |
| :--- | :--- | :--- | :--- | :--- |

## Mesosternum, mesopresternum, anterior margin:


(1) one "excavation"
(2) two "excavations"


| C58 | - | C83 | - | Mesosternum, major sternal plate, shape of anterior margin: (0) straight; (1) <br> curved or sinuous. |
| :--- | :--- | :--- | :--- | :--- |

Mesosternum, major sternal plate, shape of anterior margin:
(0) straight

(1) curved or sinuous


| C59 | C44 | C84 | C69 | Metanotum, anterior discal setae: (0) absent; (1) present. |
| :--- | :--- | :--- | :--- | :--- |
| Metanotum, anterior discal setae: |  |  |  |  |

(0) absent

(1) present


| C60 | C45 | C85 | C70 | Metanotum, anteromedian region, sculpture: (0) absent; (1) present. |
| :--- | :--- | :--- | :--- | :--- |

## Metanotum, anteromedian region, sculpture:

(0) absent

(1) present


| - | C46 | - | C71 | Metanotum, sculptured area, type of sculpture: (0) equiangular reticles; (1) <br> longitudinally elongate reticles; (2) entirely longitudinally striate; (3) anterior <br> half longitudinally striate, posterior half reticulate. |
| :--- | :--- | :--- | :--- | :--- |
| C61 | - | C86 | - | Metanotum, anteromedian region, type of sculpture: (0) equiangular reticles; (1) <br> longitudinally elongated reticles; (2) longitudinally striate; (3) Transversely <br> striate; (-) not applicable. |

## Metanotum, sculptured area, type of sculpture:

(0) equiangular reticles (1) elongate reticles (2) longitudinally striate (3) anterior half striate, posterior half reticulate


| C62 | C47 | C87 | C72 | Metanotum, sculpture, internal markings: (0) absent; (1) present. |
| :--- | :--- | :--- | :--- | :--- |

## Metanotum, sculpture, internal markings:

(0) absent

(1) present


| C63 | C48 | C88 | C73 | Metanotum, craspedum, shape of posterior margin: (0) straight; (1) angular; (2) <br> curved or rounded. |
| :--- | :--- | :--- | :--- | :--- |

## Metanotum, craspedum, shape of posterior margin:

(0) straight
(1) angular
(2) rounded


| - | C 49 | - | C 74 | Metanotum, lateral limits of sculptured area, width on posterior area: (0) half of <br> anterior margin width or less; (1) more than half of anterior margin width. |
| :--- | :--- | :--- | :--- | :--- |

## Metanotum, lateral limits of sculptured area, width on posterior area:

## (0) half of anterior margin width or less

(1) more than half of anterior margin width


| C64 | - | C89 | - | Metanotum, sculpture, lateral limits of sculpture area: (0) almost parallel; (1) <br> tapering towards posterior margin. |
| :--- | :--- | :--- | :--- | :--- |

Metanotum, sculpture, lateral limits of sculpture area:
(0) almost parallel
(1) tapering towards posterior margin


| - | C50 | - | C75 | Metanotum, sculptured area, posterior limit: (0) sculpture close to or reaching <br> posterior margin of craspedum; (1) sculpture distanced from posterior margin of <br> craspedum. |
| :--- | :--- | :--- | :--- | :--- |
| C65 | - | C90 | - | Metanotum, sculpture, posterior limit of sculptured area: (0) reaching posterior <br> margin of craspedum; (1) almost reaching posterior margin of craspedum, but <br> not touching it; (2) not close to posterior margin of craspedum. |

## Metanotum, sculpture, posterior limit of sculptured area:

(0) reaching posterior margin of craspedum
(1) almost reaching posterior margin of craspedum, but not touching it
(2) not close to posterior margin of craspedum


## Metanotum, sculptured area, posterior limit:

(0) sculpture close to or reaching posterior margin of craspedum
(1) sculpture distant from posterior margin of craspedum

| ${ }^{666}$ c51 ${ }^{\text {c5 }}$ c91 | C76 | Metaseremum, meafuruca, anterior spina: (0) absenf; (1) persent. |
| :---: | :---: | :---: |

(0) absent

(1) present


| C67 | C52 | C92 | C77 | Metasternum, metapleural sutures: (0) absent; (1) present. |
| :--- | :--- | :--- | :--- | :--- |

Metasternum, metapleural sutures:
(0) absent

(1) present


| - | C53 | - | C78 | Abdomen, pelta, shape: (0) triangular, with all sides straight and subequal in <br> length; (1) arcuate, with anterolateral margins rounded; (2) "gaussian-curve" <br> shape, with anterolateral margins sinuous and wide base; (3) bell-shaped <br> (constrict medially and with large basal wings); (4) oval (longer than wide); (5) <br> transversal (much wider than long). |
| :--- | :--- | :--- | :--- | :--- |

## Abdomen, pelta, shape:

(0) triangular
(1) arcuate
(2) "gaussian-curve" shape
(3) bell-shaped
(4) oval
(5) transversal


| C68 | - | C93 | - | Abdomen, pelta, shape: (0) triangular (all sides subequal in length); (1) bell- <br> shaped (constrict medially and with lateral wings basally); (2) oval (longer than <br> wide, no median constriction nor lateral wings basally); (3) transversal (much <br> wider than long). |
| :--- | :--- | :--- | :--- | :--- |

## Abdomen, pelta, shape:

(0) triangular
(1) bell-shaped
(2) oval
(3) transversal


| C69 | - | C94 | - | Abdomen, pelta, lateral wings on triangular-shaped pelta: (0) absent; (1) present; <br> $(-)$ not applicable. |
| :--- | :--- | :--- | :--- | :--- |

Abdomen, pelta, lateral wings on triangular-shaped pelta:
(0) absent

(1) present


| C70 | - | C95 | - | Abdomen, pelta, anterior margin shape: (0) straight; (1) rounded; (2) acute. |
| :--- | :--- | :--- | :--- | :--- |

## Abdomen, pelta, anterior margin shape:

(0) straight

(1) rounded

(2) acute


| C71 | C54 | C96 | C79 | Abdomen, pelta, campaniform sensilla: (0) absent; (1) present. |
| :--- | :--- | :--- | :--- | :--- |

## Abdomen, pelta, campaniform sensilla:

(0) absent


Abdomen, pelta, area of occupation of sculpture:

## (0) covering the whole pelta

(1) present medially and/or anteriorly, but weak or absent posteriorly
(2) present on the margins, but weak or absent medially


| C73 | C56 | C98 | C81 | Abdomen, pelta, sculpture, shape of median reticles: (0) longitudinally elongated <br> and smaller in relation to marginal reticles; (1) not longitudinally elongated, <br> similar to marginal reticles. |
| :--- | :--- | :--- | :--- | :--- |

Abdomen, pelta, sculpture, shape of median reticles:
(0) longitudinally elongated and smaller in relation to marginal reticles
(1) not longitudinally elongated, similar to marginal reticles


| C74 | C57 | C99 | C82 | Abdomen, pelta, internal markings on sculpture: (0) absent; (1) present. |
| :--- | :--- | :--- | :--- | :--- |

## Abdomen, pelta, internal markings on sculpture:

(0) absent

(1) present


| C75 | C58 | C100 | C83 | Abdominal tergite II, major posteroangular setae, shape of apex: (0) acute to <br> blunt; (1) expanded to capitate. |
| :--- | :--- | :--- | :--- | :--- |

## Setae, shape of apex:

(0) acute to blunt
(1) expanded to capitate


| C76 | C59 | C101 | C84 | Abdominal tergite II, median area, sculpture: (0) absent; (1) present. |
| :--- | :--- | :--- | :--- | :--- |

## Abdominal tergite II, median area, sculpture:

(0) absent

(1) present


| C77 | C60 | C102 | C85 | Abdominal tergite II, median area, type of sculpture: (0) reticulated, with <br> equiangular or irregular reticles; (1) transverse lines; ( - ) not applicable. |
| :--- | :--- | :--- | :--- | :--- |
| C78 | - | C103 | - | Tergite II, sculpture, internal markings: (0) absent; (1) present. |

## Abdominal tergite II, median area, type of sculpture:

(0) reticulated, with equiangular or irregular reticles
(1) transverse lines


| C79 | C61 | C104 | C86 | Abdominal tergites II-VII, wing-retaining setae, number: (0) two or less pairs; <br> (1) three pairs; (2) four or more pairs |
| :--- | :--- | :--- | :--- | :--- |

## Abdominal tergites II-VII, wing-retaining setae, number:

(0) two or less pairs

(2) four or more pairs


| C80 | C62 | C105 | C87 | Abdominal tergite IX, setae S2, length in males: (0) similar or longer than setae <br> S1; (1) distinctly shorter than setae S1; (-) not applicable. |
| :--- | :--- | :--- | :--- | :--- |
| C81 | C63 | C106 | C88 | Abdominal tergite IX, setae S3, length in males: (0) similar or longer than setae <br> S1; (1) distinctly shorter than setae S1; (-) not applicable. |

## Abdominal tergite IX, setae S2/S3, length in males:

(0) similar or longer than setae S 1
(1) distinctly shorter than setae S1

(1)


| C82 | C64 | C107 | C89 | Abdominal tergite IX, setae S1, shape of apex: (0) acute to blunt; (1) expanded <br> to capitate. |
| :--- | :--- | :--- | :--- | :--- |
| C83 | C65 | C108 | C90 | Abdominal tergite IX, setae S2, shape of apex: (0) acute to blunt; (1) expanded <br> to capitate. |


| C84 | C66 | C109 | C91 | Abdominal sternite VIII, male pore plate: (0) absent; (1) present. |
| :--- | :--- | :--- | :--- | :--- |

## Abdominal sternite VIII, male pore plate:

(0) absent

(1) present


| - | C67 | - | C92 | Abdominal sternite VIII, pore plate(s), reticulate texture: (0) absent; (1) present. |
| :--- | :--- | :--- | :--- | :--- |
| C85 | - | C110 | - | Sternites, male pore plates, gland texture: ( 0 ) punctuated; (1) reticulated; $(-)$ not <br> applicable. |

Sternites, male pore plates, gland texture:
(0) punctuated


| C86 | C68 | C111 | C93 | Abdominal sternite VIII, male pore plate, appearance: (0) small median circular, <br> oval or irregular pore plate; (1) transverse band reaching the laterals of sternite <br> or close to it, covering from a fourth to a half of sternite length; (2) big pore <br> plate, covering almost or all of sternite length; (3) thin transverse band restricted <br> to median area of sternite, always posterior to the row of discal setae, less than a <br> fourth of sternite length; (4) three separate plates: two anteroangular and one <br> transverse band posterior to discal setae, which might be interrupted medially or <br> not; (-) not applicable. |
| :--- | :--- | :--- | :--- | :--- |

## Abdominal sternite VIII, male pore plate, appearance:

(0) circular, oval or irregular plate medially (2) plate covering almost or all the sternite
(1) wide transverse band
(3) thin transverse band (4) two anteroangular bands and one transverse band


> (1)


| C87 | C69 | C112 | C94 | Abdominal sternites, occurrence of male pore plates: (0) VIII; (1) VIII-VII; (2) <br> VIII-VI; (3) VIII-V; (4) VIII-IV; (-) not applicable. |
| :--- | :--- | :--- | :--- | :--- |

## Abdominal sternites, occurrence of male pore plates:

(0) VIII
(1) VIII-VII
(2) VIII-VI
(3) VIII-V
(4) VIII-IV


| C88 | C70 | C113 | C95 | Abdominal tergite VIII, male pore plate: (0) absent; (1) present. |
| :--- | :--- | :--- | :--- | :--- |

## Abdominal tergite VIII, male pore plate:

(0) absent

(1) present


| C89 | C71 | C114 | C96 | Abdominal segment IX, visible female spermatheca: (0) absent; (1) present. |
| :--- | :--- | :--- | :--- | :--- |

Abdominal segment IX, visible female spermatheca:
(0) absent


| C90 | C72 | C115 | C97 | Abdominal segment IX, female spermatheca, shape: (0) slender (up to 12.5 <br> micrometers of diameter); (1) thickened (more than 15 micrometers of diameter, <br> but not swollen) (2) swollen medially (-) Not applicable. |
| :--- | :--- | :--- | :--- | :--- |

## Abdominal segment IX, female spermatheca, shape:

(0) slender

(1) thickened
(2) swollen medially


| C91 | C73 | C116 | C98 | Fore legs, femur, maximum width in relation to mid femur's maximum width <br> (females): (0) at most 1.5 x larger; (1) more than 1.5 x larger. |
| :--- | :--- | :--- | :--- | :--- |
| C92 | C74 | C117 | C99 | Fore legs, femur, maximum width in relation to mid femur's maximum width <br> (males): (0) at most 1.5 x larger; (1) more than 1.5 x larger. |

Fore legs, femur, maximum width in relation to mid femur's maximum width:
(0) at most $1.5 x$ larger

(1) more than 1.5 x larger


| C93 | C75 | C118 | C100 | Fore legs, femur, tubercle: (0) absent; (1) present. |
| :--- | :--- | :--- | :--- | :--- |
| C94 | C76 | C119 | C101 | Fore legs, tibia, tubercle: (0) absent; (1) present. |

Fore legs, femur/tibia, tubercle:
(0) absent


| C95 | C77 | C120 | C102 | Fore legs, ventral hamus, size: (0) small and thin, not strongly projected <br> laterally; (1) large and thick, strongly projecting to the side. |
| :--- | :--- | :--- | :--- | :--- |

## Fore legs, ventral hamus, size:

(0) small and thin
(1) large and thick, projecting to the side


| C96 | C78 | C 121 | C 103 | Fore legs, tarsal tooth in females: (0) absent; (1) present. |
| :--- | :--- | :--- | :--- | :--- |
| C 97 | C 79 | C 122 | C 104 | Fore legs, tarsal tooth in females, size: (0) small (length equal or less than half of <br> basal width of tarsus); (1) enlarged (length more than half of basal width of <br> tarsus). |
| C98 | C 80 | C 123 | C 105 | Fore legs, tarsal tooth in males: (0) absent; (1) present. |
| C99 | C 81 | C 124 | C106 | Fore legs, tarsal tooth in males, size: (0) small (length equal or less than half of <br> basal width of tarsus); (1) enlarged (length more than half of basal width of <br> tarsus). |

## Fore legs, tarsal tooth:

(0) absent
(1) present


## Fore legs, tarsal tooth, size:

(0) small (length equal or less than half of basal width of tarsus) (1) enlarged (length more than half of basal width of tarsus)

| C 100 | C 82 | C 125 | C 107 | Fore wings, duplicated cilia: (0) absent; (1) present. |
| :--- | :--- | :--- | :--- | :--- |

## Fore wings, duplicated cilia:

(0) absent

(1) present
(1)


| C101 | C83 | C126 | C108 | Fore wings, margins, shape: (0) parallel-sided; (1) constricted medially. |
| :--- | :--- | :--- | :--- | :--- |

Fore wings, margins, shape:
(0) parallel-sided

(1) constricted medially
(1)

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Fore wings, first pair of basal setae, size in relation to second pair: (0) shorter than pair $2 ;(1)$ sub equal or longer than pair $2 ;(-)$ not applicable.
Fore wings, first pair of basal setae, size in relation to second pair:
(1) subequal or longer


| C103 | C84 | C128 | C109 | Fore wings, first pair of basal setae, shape of apex: ( 0 ) acute to blunt; (1) <br> expanded to capitate. |
| :--- | :--- | :--- | :--- | :--- |

## Setae, shape of apex:

(0) acute to blunt


| C 104 | C 85 | C 129 | C 110 | Fore wing clavus, sculpture on dorsal surface: (0) absent; (1) present. |
| :--- | :--- | :--- | :--- | :--- |

Fore wing clavus, sculpture on dorsal surface:
(0) absent


