

A review of the genus *Ateleute* (Hymenoptera: Ichneumonidae: Ateleutinae) of North America with description of a new species

Обзор рода *Ateleute* (Hymenoptera: Ichneumonidae: Ateleutinae) Северной Америки с описанием нового вида

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Abstract. A taxonomic review of the genus *Ateleute* Förster, 1869 in North America is provided. A new species, *Ateleute multicolor* sp. nov., is described from the State of Veracruz, Mexico. Within the subfamily Ateleutinae, unusual colour pattern of the new species is similar to that of only three species of *Tamaulipeca* Kasparyan, 2001 occurring in Amazonia. *Ateleute carolina maculator* Kasparyan et Hernández, 2001 is redescribed. The diagnoses and colour photographs of all Mexican species of *Ateleute* and a key to the species of *Ateleute* occurring in Mexico are provided.

Резюме. Выполнен обзор рода *Ateleute* Förster, 1869 Северной Америки. Новый вид *Ateleute multicolor* sp. nov. описан из штата Веракруз (Мексика). Среди представителей подсемейства Ateleutinae необычная окраска нового вида похожа на окраску лишь трёх видов рода *Tamaulipeca* Kasparyan, 2001 из Амазонии. Переописан подвид *A. carolina maculator* Kasparyan et Hernández, 2001. Даны диагнозы и цветные фотографии всех мексиканских видов рода *Ateleute*, а также определительный ключ видов этого рода, обитающих в Мексике.

Key words: taxonomy, key, Mexico, North America, Neotropical Region, Ichneumonidae, Ateleutinae, *Ateleute*, *Tamaulipeca*, new species

Ключевые слова: систематика, ключ, Мексика, Северная Америка, Неотропическая область, Ichneumonidae, Ateleutinae, *Ateleute*, *Tamaulipeca*, новый вид

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Introduction

Traditionally, the genus *Ateleute* Förster, 1869 was considered to belong to the tribe Cryptini (Hymenoptera: Ichneumonidae: Cryptinae), as the only genus of the subtribe Ateleutina (Townes, 1967, 1970). Subsequently, Kasparyan with coauthors revised the Cryptini of Mexico

and described from this country three new species and subspecies of *Ateleute* and the second genus in the Ateleutina, *Tamaulipeca* Kasparyan, 2001 (Kasparyan & Hernández, 2001; Kasparyan & Ruíz-Cancino, 2005). Recently, Santos et al. (2018) based on molecular phylogenetic analysis raised the taxonomic status of Ateleutina to the subfamily level and described

in this subfamily the third genus, *Duwalia* Santos, 2018, from Australia.

The genus *Ateleute* is distributed almost worldwide and comprises about 40 described species (Yu et al., 2016; Santos et al., 2018), including twenty species described from Madagascar by Seyrig (1952). New species of *Ateleute* were recently described from China (Sheng et al., 2011, 2013) and South America (Bordera & Sääksjärvi, 2012; Santos et al., 2018). Only one species, *A. carolina* Townes, 1967, occurs in the Nearctic Region, and one, *A. linearis* Förster, 1871 (type of the genus), in Europe, including the northern part of European Russia (Hellén, 1967; Humala, 2006, 2019).

Species of *Ateleute* have been recorded as parasitoids of the genera *Astala* Davis, 1964, *Cryptothelia* Duncan, 1841 and *Oiketiscus* Guilding, 1827 (Lepidoptera: Psychidae) (Yu et al., 2016; Santos et al., 2018).

The aim of this article is to review the species of the North American fauna of *Ateleute*, to describe a new species and to give an identification key to the species occurring in Mexico.

Material and methods

The new species is described from the material collected by M. López-Ortega in the State of Veracruz, Mexico, using Malaise traps. The material used in this study is deposited at Instituto de Biología, Universidad Nacional Autónoma de México, D.F., México (UNAM), Universidad Autónoma de Tamaulipas, Cd. Victoria, Tamaulipas, Mexico (UAT) and Zoological Institute of the Russian Academy of Sciences, St Petersburg, Russia (ZIN). Moreover, in 1999 the author examined the holotype of *A. carolina* and the material of about 30 other species of *Ateleute* of the World fauna (twelve of them were already identified) when visiting the H.K. Townes collection in the American Entomological Institute, Gainesville, Florida, USA (AEI; recently the collection has been moved to the Utah State University, Logan, Utah, USA).

Morphological terminology generally follows that of Townes (1969, 1970). Most of layered photographs (Figs 1–16) were taken in ZIN with an

Olympus OM-D E-M1 digital camera attached to an Olympus SZX10 stereomicroscope, then images were combined using Helicon Focus Pro (version 7.6.6) software. Several photographs (Figs 17–21) were taken in UAT.

Taxonomy

Order Hymenoptera

Family Ichneumonidae

Subfamily Ateleutinae

Ateleutina Townes, 1967: 181 (as subtribe of Cryptini); Townes, 1970: 142, 297, 490 (key, description, figure).

Ateleutinae: Santos, 2017: 672 (as subfamily, **status promotus**); Santos et al., 2018: 1057–1078 (molecular phylogeny; biogeography; descriptions of new genus and species from Australia and a new species from South America; key to genera).

Type genus: *Ateleute* Förster, 1869, by monotypy.

Remarks. In support of considering this taxon as a subfamily, it is necessary to distinguish some of its peculiar features, which probably indicate the great age of this group. First, it is a globally distributed (predominantly Gondwanan) group, including Australia with an endemic genus. The second feature is the specialisation of the subfamily on Psychidae as hosts, one of the most primitive lepidopteran families at the base of Ditrysia and of the superfamily Tineoidea. And third, the presence of an unusual primitive areolet in *Ateleute* (probably, reversion or atavism) with a strongly elongate anterior side of the areolet (median portion of *Rs*) (Figs 7, 15), is somewhat similar to the character state present in the ancestral families of the Ichneumonoidea (Praeichneumonidae, Tanychoridae, Eoichneumonidae) and, among recent groups, for example, in the genera *Xenothyris* Townes, 1969 and *Poecilocryptus* Cameron, 1901 (Labeninae), which branched off early in the evolution.

Genus *Ateleute* Förster, 1869

Ateleuta Schulz, 1906: 99 (unjustified emendation).

Talorga Cameron, 1911: 63; Townes, 1957: 117 (synonymisation).

Tsirirella Seyrig, 1952: 45; Townes, 1957: 117 (synonymisation).

Psychostenus Uchida, 1955: 32; Townes, 1957: 117 (synonymisation).

Type species: *Ateleute linearis* Förster, 1871, by monotypy.

Ateleute carolina carolina Townes, 1967

Ateleute carolina Townes, 1967: 181; Kasparyan & Hernández, 2001: 227, 229 (as subspecies; description in key).

Holotype (examined). Female, **USA, South Carolina**, “Greenville, emerged from case of *Astala confederata* [Grote et Robinson, 1868] (Psychidae), Feb. 23, 1963, Peter Huttenschwiler”, Townes collection (AEI).

Distribution. USA (South Carolina).

Ateleute carolina maculator Kasparyan

et Hernández, 2001

(Figs 1–6)

Ateleute carolina maculator Kasparyan et Hernández, 2001: 227, 229 (description in key, Fig. 6; Costa Rica, Mexico); Kasparyan & Ruíz-Cancino, 2005: 57, 58, 61 (diagnosis, Fig. 30).

Holotype (examined). Female, **Costa Rica, Guanacaste**, Santa Rosa Park, 24.X.1977, coll. D.H. Janzen (AEI).

Paratypes (examined). **Mexico, Tamaulipas**, Gómez Farías: Los Cedros, yellow trap, 25.II.1995, coll. J. Coronado & L. Hernandez, 1 female; same locality, Malaise trap, 8.V–3.VII.1999, coll. S. Hernandez, 8 females (UAT). **Costa Rica, Guanacaste**, 29.IX and 6.XII.1977, coll. D.H. Janzen, 2 females (AEI).

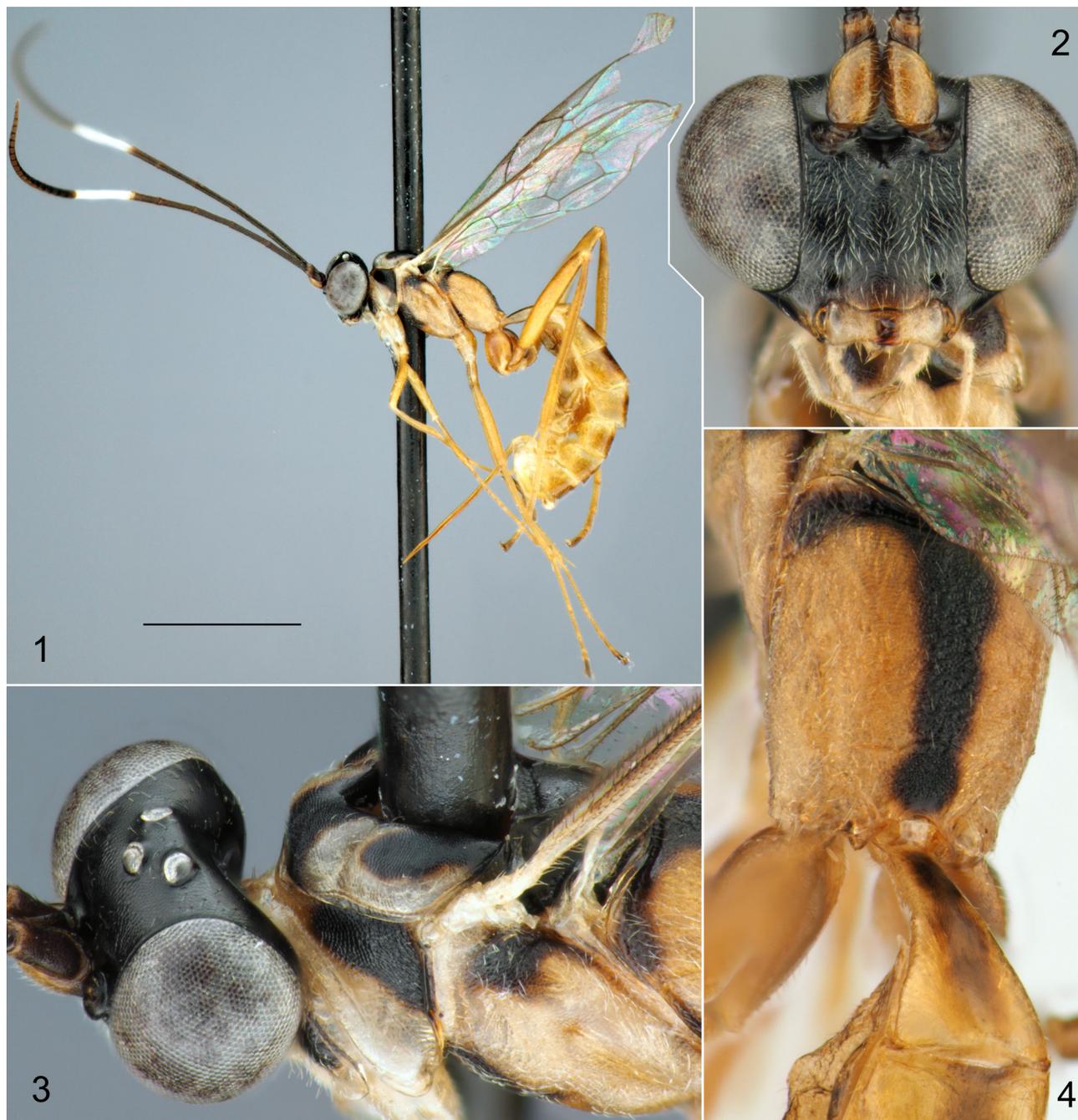
New material examined. **Mexico, Veracruz**, Municipio Teocelo, Tejerías, 19°21'N 96°54'W, 924 m a.s.l., Malaise trap, November 2018, coll. M. López-Ortega, 1 female (ZIN).

Redescription. *Female* (Fig. 1). Fore wing length 3.9 mm. Body length about 5.8 mm.

Antenna with 29 flagellomeres; flagellum about 5.9 mm long, about as long as body. Flagellomeres 1–4 cylindrical, 6.0–8.0 times as long as wide; flagellomeres 5, 7 and 12 about 3.5, 2.3 and 1.2 times as long as wide, respectively; flagellomeres 6–9 weakly compressed, 1.5–1.7 times as wide as minimum width of flagellomere 1; flagellomeres 11 to subapical ones more or less cylindrical, slightly flattened ven-

trally, each forming a finely scabrous plate sensory area without visible setae; flagellum in apical third strongly tapered towards apex. Head very strongly narrowed backward. Vertex and temples with strongly smoothed fine granulation, almost polished on orbits. Temple narrow at middle, in profile about 0.25 times as long as eye. Frons distinctly evenly granulate, with very scarce short thin setae and indistinct punctures. Face and clypeus matt, finely coriaceous, with moderately dense punctures and rather long setae; clypeus convex, at lower margin widely truncate and thin (Fig. 2). Malar space about 0.7 times as long as basal mandibular width. Mandible with teeth of subequal length; subbasal convexity of mandible polished, large (about half as long as mandible). Occipital carina absent dorsally, distinct laterally, extending directly to base of mandible. Shortest distance between lateral ocellus and eye about 1.4 times the maximum diameter of lateral ocellus.

Pronotum granulate with short longitudinal rugosity before its hind margin and with rather long rugae in its lower corner; epomia present as rather long oblique carina extending from the middle of anterolateral margin of pronotum to pronotal transverse depression laterad of collar. Mesoscutum evenly and finely granulate; central lobe with scarce moderately short setae; lateral lobes with very small scarce punctures and with short setae on lateral margins (Fig. 3). Notaulus long and deep. Scuto-scutellar groove almost smooth. Scutellum with fine smoothed granulation and scarce small punctures; lateral carinae of scutellum extending from its anterior margin to about 0.75 of scutellum length. Mesopleuron with wide band of more or less uniform granulation extending from its upper anterior corner to lower posterior corner; remainder of mesopleuron matt, obscured by shallow scabrosity and moderately long setae, especially just above sternaulus and before lower 0.6 of epimeron. Speculum with smoothed granulation. Mesopleural pit deep and large. Prepectal carina entirely absent. Sternaulus deep in anterior 0.6 of mesopleuron. Posterior transverse carina of mesosternum complete. Pleural carina separating metapleuron and propodeum very thin;

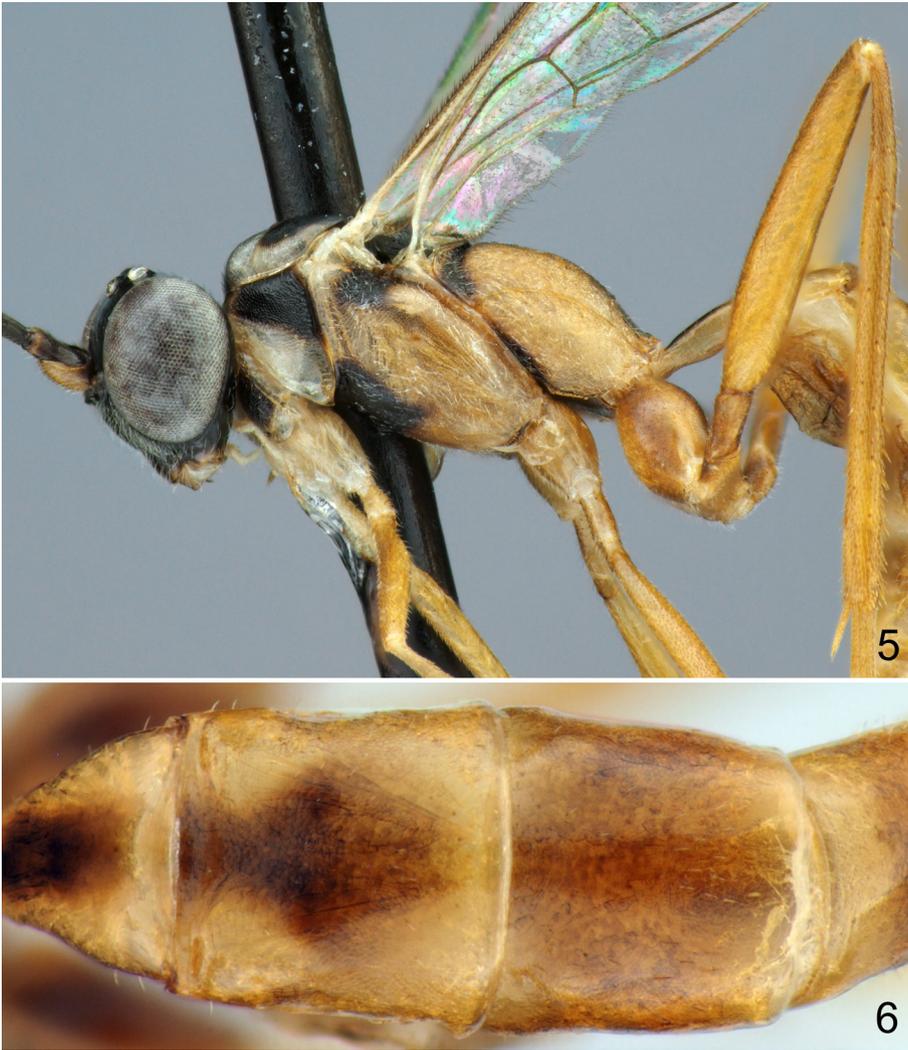


Figs 1–4. *Ateleute carolina maculator* Kasparyan et Hernández, 2001, female. **1**, habitus, lateral view; **2**, head, anterior view; **3**, head and anterior part of metasoma, dorsolateral view; **4**, propodeum and base of metasoma, posterodorsal view. Scale bar: 2.0 mm.

submetapleural carina distinct (Fig. 5). Metapleuron and propodeum strongly matt, very finely scabrous, with irregular fine granulation and sparse setae. Propodeum with basal transverse carina absent; apical transverse carina distinct; basal area and areola merged into a long black indistinct area (delimited laterally by sub-

parallel discontinuous carinae) being 2.6 times as long as apical area (Fig. 4).

Fore wing with areolet large (Fig. 1); anterior side of areolet (second section of radial vein) 3.3 times as long as vein *2rs-m*; vein *3rs-m* almost unpigmented. Nervulus weakly postfurcal; postnervulus intercepted slightly below its middle



Figs 5–6. *Ateleute carolina maculator* Kasparyan et Hernández, 2001, female. **5**, head, mesosoma and base of metasoma, lateral view; **6**, tergites 2–3 of metasoma, dorsal view.

(at lower 0.42). Hind wing with nervellus intercepted at lower 0.28; brachiella distinct in basal 0.2. Hind leg with second tarsomere 1.2 times as long as tarsomeres 4 and 5 combined.

First tergite of metasoma smooth, without longitudinal striae (Figs 4, 6), twice as long as its posterior width. Tergites 2–7 with very fine smoothed granulation; tergites 2 and 3 with very scarce short setae (Fig. 6); subsequent tergites with punctures very fine but denser and with setae longer. Ovipositor sheath about 0.55 times as long as hind tibia or about 1.4 times as long as first tergite; ovipositor with very indistinct nodus, dorsal valve between nodus and ovipositor apex 1.2–1.3 times as long as hind tarsomere 2.

Coloration (Figs 1–6). Head black; mandible light yellowish with dark teeth. Antenna black; scape ventrally and pedicel apically light red-

dish yellow; flagellomeres 6–9 completely white. Mesosoma dull yellowish with black markings; legs and metasoma predominantly yellowish to pale reddish yellow. Propleuron black with margins white; pronotum with anterior margin and entire lower lateral corner whitish yellow. Mesonotum black with large whitish anterolateral markings on mesoscutum (Fig. 3) and whitish apical spot on scutellum. Mesopleuron in upper part and mesosternum in anterior 0.35 with black markings (Figs 1, 3). Metanotum (including postscutellum), transverse groove at base of propodeum and wide median longitudinal band on propodeum black (Figs 3, 4). Legs light reddish yellow with fore coxa and trochanter white; all apical tarsomeres darkened (Figs 1, 5). Metasoma pale brownish yellow with brownish markings on all tergites and sternites (Figs 1, 5, 6).

Remarks. This subspecies was briefly described in the key by Kasparyan & Hernández (2001). Here, it is redescribed based on the holotype and an additional specimen from the State of Veracruz.

Comparison. Only three Mexican species of Ateleutinae, *Ateleute carolina*, *A. tinctoria* Kasparyan et Hernández, 2001 (Figs 17, 18) and *Tamaulipeca clypeator* Kasparyan et Hernández, 2001 (Figs 20, 21), have a white mesoscutum with large longitudinal black markings (Figs 1, 3); other species of *Ateleute* have the mesoscutum either reddish or black. *Ateleute carolina* differs from *A. tinctoria* in the predominantly yellowish rufous metasoma and hind coxae (Figs 1, 4; *vs.* black and white dorsally in *A. tinctoria*, see Figs 17, 19). *Ateleute carolina maculator* differs from the nominate subspecies occurring in the Nearctic Region mainly in the blackish median longitudinal mark on the propodeum (Fig. 4) and dark subtegular ridge (whitish in the nominate subspecies).

Ateleute grossa Kasparyan et Hernández, 2001 (Figs 7, 8)

Ateleute grossa Kasparyan et Hernández, 2001: 229 (description, Fig. 1; Mexico); Kasparyan & Ruíz-Cancino, 2005: 57–60 (redescription, Fig. 24; Mexico); Khalaim et al., 2018: 4 (Figs 1, 2; Mexico: Veracruz); Santos et al., 2018: 1068, 1073 (Figs 5D, G; redescription; Costa Rica, host).

Holotype (examined). Female, **Mexico**, *Tamaulipas*, Gómez Farías, Alta Cimas, Malaise trap (2), 3.VII–7.VIII.1999, coll. S. Hernandez (UAT).

Diagnosis. Size larger than in other Neotropical species of *Ateleute* (except for *A. boitata* Santos, 2018): fore wing 8.7 mm long (*vs.* 4.0–5.0 mm in congeners). Antenna with 37 flagellomeres (*vs.* 27–32 flagellomeres in most of congeners). Head black; mesoscutum completely black; metasoma black with base of tergite 1 and apical band on tergites 1–8 white (Fig. 8). Ovipositor sheath 0.75 times as long as hind tibia.

Comparison. *Ateleute grossa* is very close to the South American *A. boitata*, but the latter species is distinguished by the predominantly reddish mesopleuron and metapleuron, completely reddish propodeum and legs (except yellow hind tibia and tarsus), while in *A. grossa* all these parts

are yellowish and the propodeum has a large black dorsolateral spot.

Bionomics. Recorded as a parasitoid of *Oiketiscus kirbyi* (Guilding, 1827) in Costa Rica (Santos et al., 2018).

***Ateleute multicolor* sp. nov.**
(Figs 9–16)

Holotype. Female, **Mexico**, *Veracruz*, Xalapa, Unidad de Servicios Bibliotecarios y de Información (USBI), 19°30'N 96°55'W, 1279 m a.s.l., Malaise trap T1, July 2017, coll. M. López-Ortega (UNAM).

Diagnosis. *Ateleute multicolor* sp. nov. can easily be distinguished from other American congeners by its brighter coloration (Fig. 9): head and mesosoma completely reddish, metasomal tergites black with white apical bands on tergites 1, 2 and 6–8 (similar to that in the Amazonian species of the genus *Tamaulipeca*; see Bordera & Sääksjärvi, 2012: 110, Fig. 9), antennal flagellum with 23 flagellomeres (*vs.* 28–37 in other American species of *Ateleute*), and lateral part of prepectal carina present (Fig. 13).

Description. *Female* (holotype) (Fig. 9). Fore wing length 3.9 mm. Body length about 5 mm.

Antenna with 23 flagellomeres; flagellum 5.2 mm long, about as long as body. Flagellomeres 1–4 cylindrical, 6.0–8.0 times as long as wide; flagellomeres 5, 7 and 12 about 3.0, 1.8 and 1.2 times as long as wide, respectively; flagellomeres 5–9 (or 10) compressed, about twice as wide as minimum width of flagellomere 1; flagellomeres 11 to subapical ones more or less cylindrical, slightly flattened ventrally, with short dense sensory setae; flagellum from middle to apex strongly tapered. Head very strongly narrowed backward (Fig. 11). Vertex and temple with very smooth fine granulation, almost polished on orbits. Temple narrow at middle, in profile about 0.4 times as long as compound eye. Frons distinctly and evenly granulate. Face matt, finely granulate, in lateral depression partly with thin transverse striation; punctures very small and sparse; setae moderately long, sparse (Fig. 12). Clypeus convex, matt, finely granulate, with punctures sparse but larger than on face (Fig. 12); lower margin of clypeus truncate; anterior margin of truncation thin, arcuate,

with weak angulation at middle in profile. Malar space about 0.6 times as long as basal mandibular width. Mandible with lower tooth slightly longer than upper tooth, with subbasal convexity about 0.4 times the length of mandible. Occipital carina distinct laterally, absent dorsally, joining hypostomal carina before mandible. Shortest distance between lateral ocellus and eye subequal to maximum diameter of lateral ocellus.

Pronotum granulate with short longitudinal rugosity along hind margin and on pronotal transverse depression; epomia present behind anterior margin of pronotum, long and oblique, ending before transverse depression. Mesoscutum evenly and finely granulate; lobes with minute sparse punctures and sparse setae on lateral margins, median parts of lobes smoother and almost impunctate. Notaulus long and deep (Figs 11, 13). Scuto-scutellar groove smooth, with transverse rugae. Scutellum with smoothed granulation; lateral carinae of scutellum short, extending to its anterior 0.35. Mesopleuron more or less evenly granulate, with some oblique longitudinal rugae below subtegular depression and in lower part above median part of sternaulus (Fig. 13). Lateral section of prepectal carina (in front of sternaulus) distinct. Speculum with smoothed granulation. Mesopleural pit deep and large, situated far anterior to mesepimeron. Sternaulus sinuate, deep, reaching base of mid coxa. Posterior transverse carina of mesosternum complete. Metapleuron separated from propodeum by a distinct pleural carina; submetapleural carina present, anteriorly expanded into a distinct tooth (Fig. 13). Metapleuron and propodeum with very fine granulation partly fused with fine striation. Basal area of propodeum absent; areola partly delimited by two longitudinal carinae just behind basal transverse carina; basal transverse carina present near middle of propodeum; apical transverse carina complete; apical area subdivided by weak median longitudinal carinae (these carinae stronger laterally) (Fig. 16).

Fore wing with areolet large (Figs 9, 15), receiving second recurrent vein in its basal 0.33; anterior side of areolet (second section of radial vein) 3.2 times as long as *2rs-m*; vein *3rs-m* almost

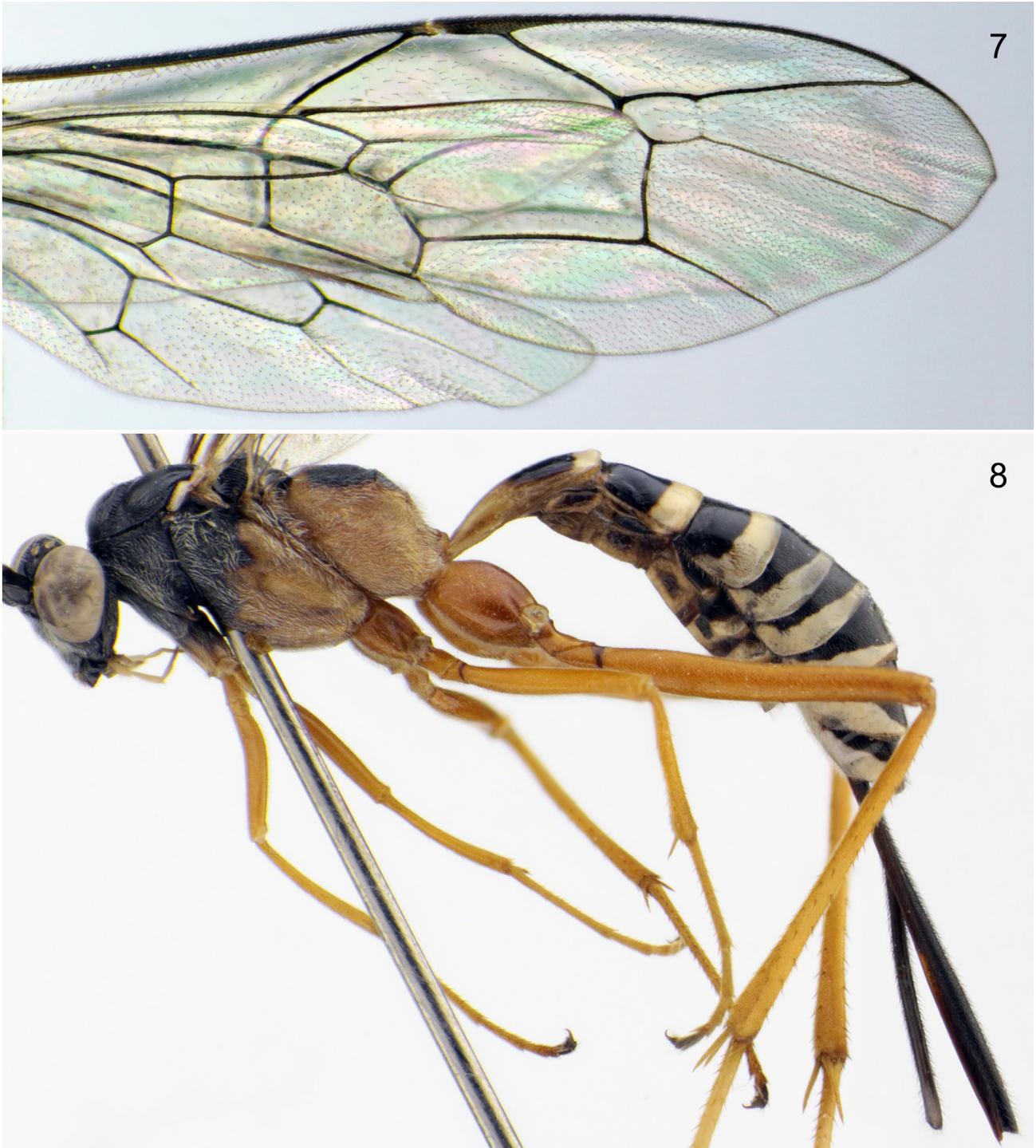
unpigmented. Nervulus interstitial. Postnervulus intercepted slightly above its middle (in anterior 0.55). Hind wing with nervellus intercepted at lower 0.38; brachiella distinct in basal 0.4. Hind leg with second tarsomere 1.1 times as long as tarsomeres 4 and 5 combined.

First tergite of metasoma shining, with dense longitudinal striae, twice as long as its posterior width (Fig. 14). Tergites 2–7 polished; tergites 2 and 3 with very sparse short setae, subsequent tergites with longer setae (laterally setae somewhat denser). Ovipositor sheath about half as long as hind tibia, or 1.1 times as long as first tergite; ovipositor with weak nodus; dorsal valve between nodus and ovipositor apex 1.05 times as long as hind tarsomere 2.

Coloration (Fig. 9). Head, scape of antenna and mesosoma completely reddish ferruginous; pedicel and basal half of first flagellomere brownish ferruginous; flagellum black, flagellomeres 5–9 white (flagellomeres 5 and 9 black ventrally, white in apical 0.5 and in basal 0.4, respectively; Fig. 9). Fore and mid legs with coxae and bases of trochanters whitish; apical halves of trochanters and trochantelli completely brownish; femora brownish ferruginous, basally brownish; tibiae and tarsi dull brownish. Hind coxa and trochanter blackish (trochanter basally whitish); hind femur reddish brown, darker at base; hind tibia uniformly dull brownish; hind tarsus pale brownish. Metasomal tergites black; posterior 0.15 of first tergite, posterior 0.65 of second tergite (Figs 13, 14) and hind dorsal margin of tergite 6 white; tergites 7 and 8 dorsally (at least in their exposed posterior halves) extensively white, laterally below spiracles pale brown.

Male. Unknown.

Comparison. The new species is morphologically apart from other *Ateleute* species because it possesses an antennal flagellum with 23 flagellomeres (*vs.* 26–37 flagellomeres in other *Ateleute* species), basal (anterior) transverse carina of propodeum distinct (Fig. 15), and first tergite longitudinally striate (unlike other Neotropical species). The colour pattern of the new species (Fig. 9) is also unknown among other species of *Ateleute*, but it is very similar to that of three



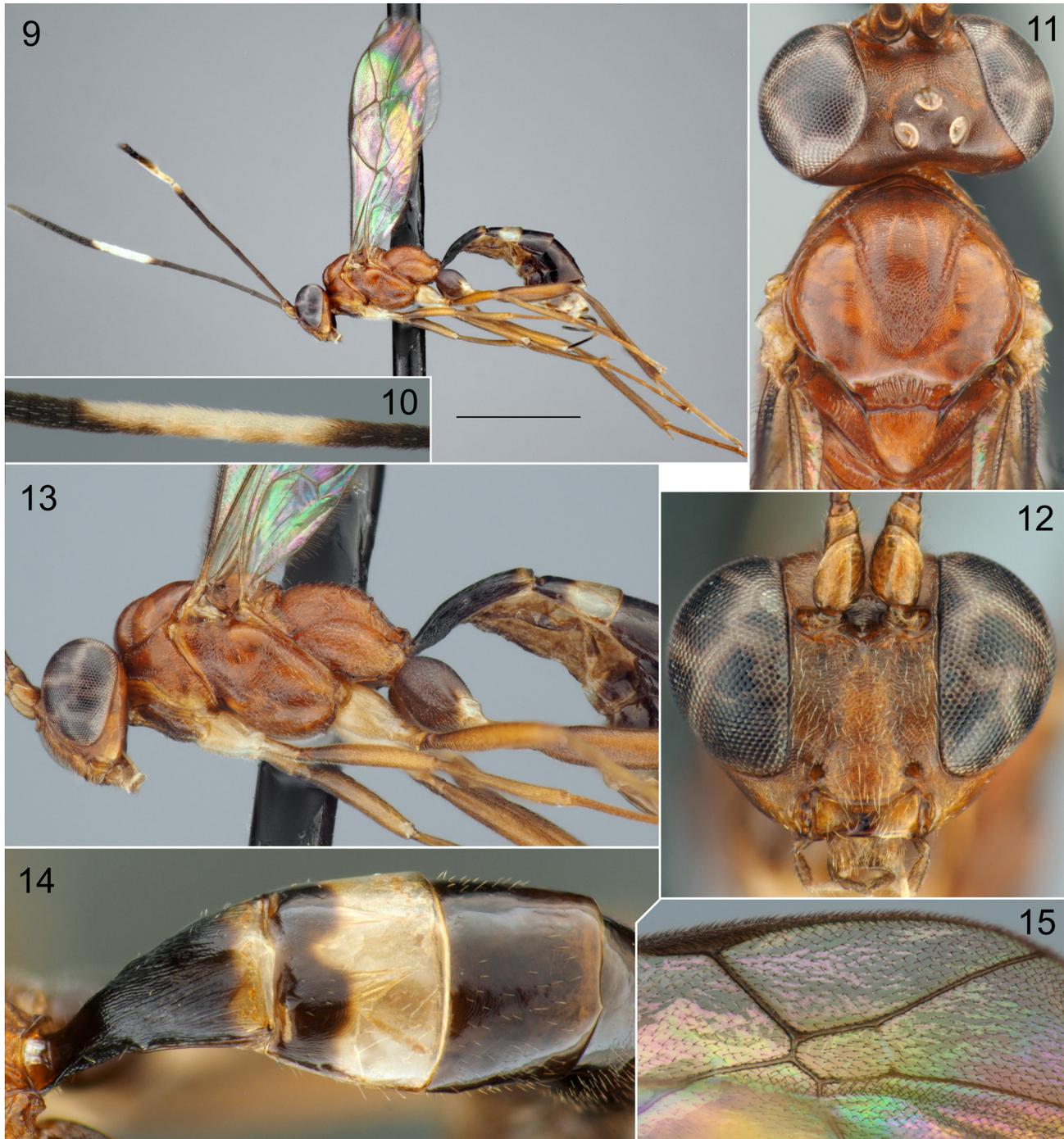
Figs 7–8. *Ateleute grossa* Kasparyan et Hernández, 2001, female (modified from Khalaim et al., 2018). 7, fore and hind wings; 8, body, lateral view.

West Amazonian species of the genus *Tamaulipeca* (Bordera & Sääksjärvi, 2012: Figs 9A–C).

Etymology. The species name is a Latin adjective *multicolor* (many-coloured), due to its polychrome pattern of body coloration.

Ateleute tinctoria Kasparyan et Hernández, 2001 (Figs 17–19)

Ateleute tinctoria Kasparyan et Hernández, 2001: 229 (description, Figs 7–10; Mexico); Kasparyan &



Figs 9–15. *Ateleute multicolor* sp. nov., female (holotype). **9**, habitus, lateral view; **10**, flagellomeres 5–9, dorsolateral view; **11**, head and mesonotum, dorsal view; **12**, head, anterior view; **13**, head, mesosoma and base of metasoma, lateral view; **14**, tergites 1–3 of metasoma, dorsal view; **15**, portion of fore wing with areolet. Scale bar: 2.0 mm.

Ruíz-Cancino, 2005: 60 (redescription, Figs 31–34; Mexico).

Holotype (examined). Female, **Mexico**, *Tamaulipas*, Gómez Farías, Los Cedros, 30.I–6.II.1999, Malaise trap 1, coll. S. Hernandez & C. Covarrubias (UAT).

Diagnosis. Female. This species may be easily distinguished by the following characters: predominantly white coloration of mesopleuron, metapleuron, dorsal parts of scutellum and posterior half of propodeum (except its blackish apical



Figs 16–19. *Ateleute* spp., females: *A. multicolor* sp. nov., holotype (16) and *A. tinctoria* Kasparyan et Hernández, 2001, holotype (17–19). **16**, propodeum, posterodorsal view; **17**, habitus, lateral view; **18**, mesonotum, dorsal view; **19**, propodeum, hind coxae and base of metasoma, dorsal view. Scale bar: 2.0 mm.

area); mesoscutum black with anterolateral and submedian whitish markings (Fig. 18); hind coxa dorsally white, bordered with black (Fig. 19); tergites 1–4 (sometimes also 5–7) black basally,

broadly white on hind margins (Figs 17, 19); ovipositor sheath fulvous in basal half and blackish in apical half (Fig. 17).

Male. Unknown.



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Figs 20–21. *Tamaulipecta clypeator* Kasparyan et Hernández, 2001, female (holotype). 20, habitus, lateral view; 21, body, dorsal view. Scale bar: 2.0 mm.

A key to genera of Ateleutinae and species of *Ateleute* occurring in Mexico

1. Areolet in fore wing absent; veins 3-Rs and 3-M distinctly divergent (Fig. 20). Clypeus with strong median tooth apically *Tamaulipecta*
 – Areolet in fore wing present, its fore and hind sides parallel, distal part of *rm* partly unpigmented (Figs 1, 7, 9). Clypeus apically truncate, without apical tooth (Figs 2, 12) *Ateleute* 2

2. Head and mesosoma completely reddish. Metasomal tergites black with white apical band on tergites 1, 2 and 6–8 (Figs 9, 11–14). Mesoscutum completely reddish ferruginous. Antenna with 23 flagellomeres. Prepectal carina present laterally *A. multicolor* sp. nov.
 – Head black (mandible and clypeus sometimes white). Metasomal tergites predominantly yellowish (Fig. 1) or black with extensive white pattern (Figs 8, 17). Mesoscutum completely black or black with white markings. Antenna with 27–37

- flagellomeres. Prepectal carina completely absent 3
3. Mesoscutum completely black. Metasoma black with base of tergite 1 and apical band on tergites 1–8 white (Fig. 8). Fore wing 8.7 mm long. Antenna with 37 flagellomeres. Ovipositor sheath 0.75 times as long as hind tibia ***A. grossa***
- Mesoscutum black with large anterolateral white spots (Figs 3, 18). Colour pattern of metasoma not as above. Fore wing 3.7–5.1 mm long. Antenna with 27–32 flagellomeres. Ovipositor sheath about half as long as hind tibia 4
4. Metasomal tergites 1–4 (sometimes also 5–7) black anteriorly and white posteriorly; tergite 8 (usually also 5–7) yellowish rufous (Figs 17, 19). Clypeus entirely white; propleuron, mesopleuron, metapleuron, propodeum and dorsal part of hind coxa predominantly white with black markings ***A. tinctoria***
- Metasoma pale yellowish rufous, with brown or blackish markings dorsally (Figs 1, 6). Clypeus and propleuron blackish (Figs 1–3); mesosoma (except prothorax), mesopleuron (except blackish prepectus), metapleuron and propodeum (except T-shaped median blackish spot) pale yellowish rufous (Figs 1, 3–5) ***A. carolina maculator***

Discussion

Recently, five main evolutionary lineages of Ateuletinae were recognised based on the analysis of five molecular loci of 41 species, while the genus *Ateleute* was shown to be paraphyletic with respect to *Tamaulipeca* (Santos et al., 2018). Two of these lineages are represented by morphologically well-defined genera, the Australian genus *Duvalia* and the Neotropical genus *Tamaulipeca*, respectively. The third clade comprises all Old World species of the genus *Ateleute*, including the European type species *A. linearis*. This clade is characterised by the first metasomal tergite with longitudinal striae, the propodeum without longitudinal carinae and other characters (Santos et al., 2018).

The fourth lineage includes two closely related species, the South American *A. boitata* and the North American *A. grossa* (Santos et al., 2018). Both the species are characterised by the large body (fore wing length 8.7–10 mm), the antenna with 36–37 flagellomeres, and metasomal tergites black with wide posterior white bands on each tergite (Fig. 7), while in other Neotropical *Ate-*

leute species the fore wing length is 3.7–6.1 mm and the antenna has 28–35 flagellomeres.

The fifth lineage comprises most of South American species of *Ateleute*. All of them have a similar colour pattern (head and mesosoma black, legs and metasoma mostly yellowish brown or reddish brown), the first metasomal tergite usually without distinct longitudinal striae, and the propodeum sometimes with weak longitudinal carinae (Bordera & Sääksjärvi, 2012).

Thus, the lineages recognised based on the molecular analysis by Santos et al. (2018) can also be defined morphologically, at least in part. *Ateleute multicolor* sp. nov. morphologically does not correspond with any mentioned group and stays apart from other *Ateleute* taxa as it has an antenna with 23 flagellomeres (*vs.* 26–37 flagellomeres in other species of *Ateleute*), a distinct prepectal carina dorsal of the sternaulus, a distinct basal (anterior) carina of the propodeum (Fig. 15), the scutellum with short lateral carinae (Fig. 11) and the first tergite with longitudinal striae (without striae in other Neotropical species of *Ateleute*). The colour pattern of the new species (Fig. 9) clearly differs from that in other *Ateleute* species, but, surprisingly, it almost completely corresponds with the colour pattern of three Amazonian species of *Tamaulipeca* (Bordera & Sääksjärvi, 2012: Figs 9A–C). It should be noted that the Mexican species *T. clypeator* strongly differs in the colour pattern from its Amazonian congeners, but resembles *A. carolina* in having the predominantly fulvous body and black mesoscutum with dorsolateral white markings (Figs 1, 20).

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References

- Bordera S. & Sääksjärvi I.E.** 2012. Western Amazonian Ateleutina (Hymenoptera, Ichneumonidae, Cryptinae). *Journal of Hymenoptera Research*, **29**: 83–118. <https://doi.org/10.3897/jhr.29.3661>
- Cameron P.** 1911. On two undescribed genera and three new species of Ichneumonidae from Borneo. *Entomologist*, **44**: 63–65. <https://doi.org/10.5962/bhl.part.22057>
- Hellén W.** 1967. Die Ostfennoskandischen Arten der Kollektivgattungen Phygadeuon Gravenhorst und Hemiteles Gravenhorst (Hymenoptera, Ichneumonidae). *Notulae entomologicae*, **47**: 81–116.
- Humala A.E.** 2006. On the insect fauna of Kivach Nature Reserve. *Trudy Karel'skogo Nauchnogo Tsentra Rossiyskoy Akademii Nauk*, **10**: 153–159. (In Russian).
- Humala A.E.** 2019. New faunistic records of Ichneumonidae (Hymenoptera) from the European North of Russia. *Proceedings of the Russian Entomological Society*, **90**: 91–107. https://doi.org/10.47640/1605-7678_2019_90_91
- Kasparyan D.R. & Hernández A.S.** 2001. A new genus and four new species of the subtribe Ateleutina from Mesoamerica (Hymenoptera: Ichneumonidae, Cryptinae). *Zoosystematica Rossica*, **9**(1): 227–233.
- Kasparyan D.R. & Ruíz-Cancino E.** 2005. *Cryptini de México (Hymenoptera: Ichneumonidae: Cryptinae)*. *Avispas parasíticas de plagas y otros insectos*, **1**. Victoria: Universidad Autónoma de Tamaulipas. 289 p.
- Khalaim A.I., Kasparyan D.R. & López-Ortega M.** 2018. New records and descriptions of Ichneumonidae (Hymenoptera) from Mexico. *Zootaxa*, **4486**(1): 1–30. <https://doi.org/10.11646/zootaxa.4486.1.1>
- Santos B.F.** 2017. Phylogeny and reclassification of Cryptini (Hymenoptera, Ichneumonidae, Cryptinae), with implications for ichneumonid higher-level classification. *Systematic Entomology*, **42**(4): 650–676. <https://doi.org/10.1111/syen.12238>
- Santos B.F., Alvarado M., Sääksjärvi I.E., Noort S. van, Villemant C. & Brady S.G.** 2018. Molecular phylogeny of Ateleutinae (Hymenoptera: Ichneumonidae): systematics and biogeography of a widespread parasitoid wasp lineage. *Zoological Journal of the Linnean Society*, **185**(4): 1057–1078. <https://doi.org/10.1093/zoolinnean/zly072>
- Schulz W.A.** 1906. *Spolia hymenopterologica*. Paderborn: Junfermann. 356 p. <https://doi.org/10.5962/bhl.title.59757>
- Seyrig A.** 1952. Les Ichneumonides de Madagascar. IV. Ichneumonidae Cryptinae. *Mémoires de l'Académie Malgache*, **19**: 1–213.
- Sheng M.L., Broad G.R. & Sun S.P.** 2011. Two new species of Ateleute Förster (Hymenoptera, Ichneumonidae, Cryptinae) with a key to the Oriental species. *ZooKeys*, **141**: 53–64. <https://doi.org/10.3897/zookeys.141.1912>
- Sheng M.L., Sun S.P., Ding D.S. & Luo J.G.** 2013. *Ichneumonid fauna of Jiangxi, Hymenoptera: Ichneumonidae*. Beijing: Science Press. 569 p. (In Chinese with English summary).
- Townes H.K.** 1957. A review of the generic names proposed for old world ichneumonids, the types of whose genotypes are in Japan, Formosa or North America. *Proceedings of the Entomological Society of Washington*, **59**(3): 100–120.
- Townes H.K.** 1967. A new Ateleute from the United States. *Proceedings of the Entomological Society of Washington*, **69**(2): 181–182.
- Townes H.K.** 1969. The genera of Ichneumonidae, part 1. *Memoirs of the American Entomological Institute*, **11**: 1–300.
- Townes H.K.** 1970. The genera of Ichneumonidae, part 2. *Memoirs of the American Entomological Institute*, **12**: 1–537.
- Uchida T.** 1955. Eine neue Gattung und zwei neue Arten der Schlupfwespen (Hym. Ichneumonidae). *Insecta Matsumurana*, **19**: 29–34.
- Yu D.S.K., van Achterberg C. & Horstmann K.** 2016. *Taxapad 2016, Ichneumonoidea 2015* [database on flash-drive]. Nepean, Ontario, Canada.

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