New species and new records of ichneumon wasps,
with descriptions of two new species of Melalphacharops Uchida, 1928
(Hymenoptera: Ichneumonidae)

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Abstract – Palaearctic, Oriental, Australasian, Afrotropical and Neotropical species of the
subfamilies Campopleginae, Hybrizontinae, Mesochorinae and Ophioninae of Ichneumonidae
(Hymenoptera) are treated. Two new species of Campopleginae are described, Melalphacharops
nitens sp. nov. from Taiwan, and Melalphacharops chryseus sp. nov. from Australia, the latter
representing the first described species of the genus from the Australasian region. The following
new country records are presented: Campopleginae: Melalphacharops everese (Uchida, 1957) from
Taiwan, Microcharops tibialis (Cresson, 1872) from Paraguay, Lemaphagus curtus
Townes, 1965 from Hungary, Phobocampe confusa (Thomson, 1887) from North Macedonia,
Rhimphoctona megacephalus (Gravenhorst, 1829) from Lebanon; Hybrizontinae: Ghilaromma
fuliginosi (Wilkinson, 1930) from Hungary; Mesochorinae: Mesochorus laricis Hartig, 1838 from
Hungary; Ophioninae: Dicamptus pellucidus (Kriechbaumer, 1894) from Kenya, Dictyonotus
nigrocyaneus (Tosquinet, 1903) from Eritrea, Enicospilus cederbergi Johansson, 2018 from
Hungary, Enicospilus exoticus (Morley, 1912) from French Guiana, Enicospilus leucocotis
(Tosquinet, 1896) from Tanzania, Enicospilus quiets (Seyrig, 1935) from Tanzania, Ophion
areolaris Brouns, 1889 from Hungary, Thyreodon atriventris (Cresson, 1874) from French Guiana
and Nicaragua, and Thyreodon maculipennis Cresson, 1874 from Nicaragua.

Key words – taxonomy, species description, distribution, Palaearctic region, Oriental region,
Australasian region, Afrotropical region, Neotropical region, Campopleginae, Hybrizontinae,
Mesochorinae, Ophioninae

INTRODUCTION

Identification of the Ichneumonidae (Hymenoptera) material of the Hungarian
Natural History Museum, Budapest (HNHM) resulted in two new species and
several new faunistic records, which are presented in this paper. Taxonomy
and nomenclature follow Yu & Horstmann (1997) and Yu et al. (2016).
Morphological terminology follows Gauld (1991) and Gauld et al. (1997);
however, in cases of wing veins the corresponding terminology of Townes (1969) is also used. Identifications were based on the works of Ashmead (1905), Uchida (1928, 1932, 1957), Sonan (1930), Townes (1970), Kusigemati (1967, 1987), Kasparyan (1976), Gauld & Mitchell (1978), Horstmann (1980, 2004), Brock (1982), Gauld (1984, 1988), Gupta (1987), Achterberg (1999), Gauld & Jansen (2004), Sedivy (2004), Riedel (2018), Varga (2017), Johansson (2018), Vas et al. (2022), and on examination of adequate type materials (at least from photos of scientific quality). The specimens were identified by the author using a Nikon SMZ645 stereoscopic microscope. Label data of type specimens are given verbatim, with additions and explanations in square brackets if necessary.

RESULTS

Taxonomy

Family: Ichneumonidae Latreille, 1802
Subfamily: Campopleginae Förster, 1869
Genus: Melalophacharops Uchida, 1928

Type species: Melalophacharops tamanukii Uchida, 1928, original designation

Diagnosis: head lenticular; apical margin of clypeus impressed, sharp; scutellum convex in profile, lateral carina at most basally discernible; areolet absent; nervellus not intercepted by discoidella; axillus vein present; sub-basal cell of hind wing relatively narrow; hind basitarsus with a distinct midventral row of closely spaced, short hairs, the row appearing like a sharp carina; suture separating first tergite from first sternite situated distinctly below mid-height at basal third of first metasomal segment; glymma small to virtually absent; ovipositor sheath about as long as apical depth of metasoma (diagnosis based on Townes (1970), Gauld (1984) and Gupta (1987)).

Melalophacharops nitens sp. nov.
(Figs 1–2)

Diagnosis – The new species can be identified among the known species of the genus by the following character states in combination: ocular-ocellar distance 1.2× as long as ocellus diameter; face granulate and weakly rugulose; malar space 0.7× as long as basal width of mandible; scutellum almost evenly convex in profile; mesopleuron punctate-granulate with oblique wrinkles anterior to speculum and below speculum; ventral part of epicnemial carina slightly elevated; lateromedian longitudinal carina of propodeum strong, lateral longitudinal carina obsolescent behind costula, anterior transverse carina complete and strong, posterior transverse carina strong but its median section absent; area superomedia small, pentagonal, slightly longer than wide, its lateral sides right behind costulae subparallel to slightly convergent, posteriorly opened; area petiolaris medially rather distinctly impressed; glymma very small, narrow, barely discernible; scapus and pedicellus yellow, dorsally more or less brownish; tegula brownish yellow; first tergite of metasoma black, second tergite blackish to dark brown, laterally and subapically narrowly orange-brown, third and following tergites dorsally dark brown, laterally orange to orange-brown; fore and middle legs orange, except fore coxa and trochanter yellow and apical tarsomeres brownish; hind coxa black, apically orange-brown, trochanter and trochantellus pale orange, femur orange, tibia orange, basally and apically brownish, tarsus brownish.

Figs 1–2. Melalophacharops nitens sp. nov., 1 = habitus, holotype, 2 = propodeum, series of short lines in the midline indicate the distinct impression, not surface sculpture (photo by Zoltán Vas, drawing by Viktória Szőke)
Description – Female (Figs 1–2). Body length ca. 5 mm, fore wing length ca. 3.5 mm.

Head: Antenna with 24–26 flagellomeres; first flagellomere ca. 4× as long as its apical width; preapical flagellomeres subquadrate to slightly longer than wide. Head transverse, matt, hairs dense and short. Ocular-ocellar distance 1.2× as long as ocellus diameter, distance between lateral ocelli 1.3× as long as ocellus diameter. Inner eye orbits weakly indented, about parallel. Gena finely coriaceous, very short, strongly narrowed behind eyes, in dorsal view 0.35–0.4× as long as eye width. Occipital carina complete, reaching hypostomal carina distinctly before base of mandible; hypostomal carina slightly elevated. Frons almost flat, transversely rugose on granulate background, median longitudinal carina absent. Face almost flat in profile, granulate and weakly rugulose. Clypeus very weakly separated from face, flat in profile, granulate with rather weak rugulosity and indistinct traces of punctures, small, its apical margin truncate, sharp. Malar space 0.7× as long as basal width of mandible. Mandible wide and short, lower margin with relatively wide flange from base towards teeth, flange obliquely but relatively abruptly narrowed before teeth; upper mandibular tooth slightly longer and wider than lower tooth.

Mesosoma: Mesosoma relatively stout, matt, with dense, short hairs. Pronotum with strong, transverse wrinkles on lower half, upper half granulate; epomia strong. Mesoscutum rugulose on granulate surface with weak traces of punctures, slightly shorter than wide, convex in profile; notaulus not developed. Scuto-scutellar groove wide and moderately deep. Scutellum almost evenly convex in profile, rugulose with rather weak punctures, lateral carina discernible only at extreme base. Mesopleuron distinctly punctate on finely granulate surface, with moderately strong, oblique wrinkles anterior to speculum and below speculum; speculum large, smooth or very finely granulate. Epicnemial carina complete, strong, pleural part bent to anterior margin of mesopleuron reaching it at about its middle height, transversal part (i.e., the part at the level of sternaulus running through the epicnemium to the ventral edge of pronotum) not developed, ventral part (behind fore coxae) slightly elevated. Sternaulus indistinct. Posterior transverse carina of mesosternum complete, elevated. Metanotum ca. 0.4× as long as scutellum. Metapleuron with weak traces of punctures, dorsally weakly sculptured, ventrally more or less rugulose-granulate, juxtacoxal carina distinct, long, reaching posterior margin of metapleuron; submetapleural carina complete, elevated. Pleural carina of propodeum complete; propodeal spiracle small, circular, separated from pleural carina by 2× its length, connected to pleural carina by a weak ridge. Propodeum short, convex in lateral view, granulate before anterior transverse carina, rugose behind anterior transverse carina, posteriorly with a median impression. Propodeal carinae: lateromedian longitudinal carina strong; lateral longitudinal carina obsolescent behind costula; anterior transverse carina, including costula, complete and strong; posterior transverse carina strong.
but its median section absent. Area basalis triangular, about as long as its anterior width, posteriorly more or less merged into a single, short longitudinal carina. Area superomedia small, pentagonal, slightly longer than wide, its lateral sides right behind costulae subparallel to slightly convergent, posteriorly opened. Area petiolaris confluent with area superomedia, medially rather distinctly impressed. Fore wing without areolet, 3rs-m absent, second recurrent vein (2m-cu) postfurcal, intercubitus (2rs-m) as long as to longer than abscissa of M between 2rs-m and 2m-cu, their angle obtuse; distal abscissa of Rs long, straight; nervulus (cu-a) postfurcal by about its width, distinctly inclivous; postnervulus (abscissa of Cu1 between 1m-cu and Cu1a + Cu1b) intercepted distinctly above its middle by Cu1a; lower external angle of second discal cell almost right-angled. Hind wing with nervellus (cu-a + abscissa of Cu1 between M and cu-a) vertical, straight, not intercepted by discoidella (Cu1); discoidella spectral, proximally not connected to nervellus; axillus vein present. Coxae finely granulate with weak punctures. Hind femur ca. 5 × as long as high. Inner spur of hind tibia 0.6–0.7 × as long as first tarsomere of hind tarsus. Hind basitarsus with a distinct midventral row of closely spaced, short hairs, the row appearing like a sharp carina. Tarsal claws small, about as long as arolium, pectinate.

Metasoma: Metasoma compressed, shagreened (except first tergite almost smooth) with weak, barely discernible traces of punctures, and with moderately sparse, short hairs. First tergite relatively stout, 2.7–2.9 × as long as its apical width, 1.4 × as long as second tergite; glymma very small, narrow and shallow, indistinct; dorsomedian carina of first tergite indistinct. First sternite not reaching level of spiracle. Second tergite 1.2 × as long as its apical width; thyridium subcircular, relatively large, its distance from basal margin of tergite 0.5–0.6 × as long as its length. Posterior margins of apical tergites slightly concave, not excised. Ovipositor sheath slightly longer than apical depth of metasoma; ovipositor strong, weakly upcurved, dorsal subapical notch distinct.

Colour: Flagellum brown, scapus and pedicellus yellow, dorsally more or less brownish. Head black, palpi yellowish, mandible yellow, mandibular teeth brownish. Mesosoma black, tegula brownish yellow. Metasoma: first tergite black; second tergite blackish to dark brown, laterally and subapically narrowly orange-brown; third and following tergites dorsally dark brown, laterally orange to orange-brown. Wings subhyaline, wing veins and pterostigma brown. Fore and middle legs orange, except fore coxa and trochanter yellow and apical tarsomeres brownish. Hind leg: coxa black, apically orange-brown; trochanter and trochantellus pale orange; femur orange; tibia orange, basally and apically brownish; tarsus brownish. Hairs greyish.

Male: Unknown.

Distribution – Taiwan.

Etymology – The specific epithet nitens is a Latin one-termination participle treated as an adjective, meaning beautiful, elegant.
Remarks on identification – Among the species of the genus, due to its slightly similar propodeal carination, *Melalophacharops nitens* sp. nov. is most similar to *Melalophacharops balajensis* Kusigemati, 1987, described and known from Nepal (KUSIGEMATI 1987). The latter species can be readily distinguished from the new species by its much shorter ocular-ocellar distance (ca. 0.5× as long as ocellus diameter), shorter malar space (0.5× as long as basal width of mandible), differently shaped area superomedia (its lateral sides strongly convergent behind costulae), not distinctly impressed area petiolaris, and different surface sculpture of propodeum (cf. KUSIGEMATI (1987: fig. 2)), predominantly dark coxae, and much more extensively orange-coloured metasoma (postpetiolus orange, following tergites orange with minor blackish markings).

*Melalophacharops chryseus* sp. nov.
(Figs 3–4)

_Type material_ – Holotype: male, “Australia, Queensland, Townsville, 1900, leg. Bíró L.”; specimen card-mounted, id. HNHM-HYM 155164. Paratypes: two males, same label data; specimens card-mounted, id. HNHM-HYM 155165, 155166. Holotype and paratypes are deposited in the HNHM.

![Image 1](image1.png)

**Figs 3–4.** *Melalophacharops chryseus* sp. nov., 3 = habitus, holotype, 4 = propodeum, surface sculpture not indicated (photo by Zoltán Vas, drawing by Viktória Szőke)
Diagnosis – The new species can be identified among the known species of the genus by the following character states in combination: ocular-ocellar distance 0.6–0.7× as long as ocellus diameter; face rugose; malar space 0.4–0.5× as long as basal width of mandible; scutellum almost evenly convex in profile; mesopleuron rugose-punctate with strong, oblique wrinkles anterior to speculum and below speculum; ventral part of epicnemial carina slightly elevated; lateromedian longitudinal carina of propodeum strong except behind costula shortly obsolete, lateral longitudinal carina weak behind costula, anterior transverse carina complete and strong, posterior transverse carina only laterally developed; area superomedia pentagonal, wider than long, its lateral sides behind costulae obsolete, posteriorly opened; glymma very small, barely discernible; scapus and pedicellus bright yellow with a narrow, brown stripe dorsally; tegula bright yellow; metasoma pale orange with a narrow, blackish band on posterior margin of second tergite; fore and middle legs, including coxae, ivory; hind leg, including coxa, pale orange, except tarsus more or less brownish.

Description – Male (Figs 3–4). Body length ca. 6.5 mm, fore wing length ca. 5.5 mm.

Head: Antenna with 41 flagellomeres; first flagellomere ca. 3.5× as long as its apical width; preapical flagellomeres slightly longer than wide. Head transverse, matt, hairs dense and moderately long. Ocular-ocellar distance 0.6–0.7× as long as ocellus diameter, distance between lateral ocelli 1.3× as long as ocellus diameter. Inner eye orbits strongly indented, about parallel. Gena finely coriaceous, very short, very strongly narrowed behind eyes, in dorsal view 0.3× as long as eye width. Occipital carina complete, reaching hypostomal carina distinctly before base of mandible; hypostomal carina slightly elevated. Frons flat, rugose, median longitudinal carina absent. Face weakly convex in profile, rugose to rugose-punctate. Clypeus very weakly separated from face, almost flat in profile, punctate, small, its apical margin truncate, sharp. Malar space 0.4–0.5× as long as basal width of mandible. Mandible wide and short, lower margin with relatively wide flange from base towards teeth, flange obliquely narrowed at teeth; upper mandibular tooth slightly longer and wider than lower tooth.

Mesosoma: Mesosoma relatively stout, matt, with rather dense pilosity, hairs long, especially on scutellum and propodeum, except on mesoscutum short. Pronotum with rather strong, transverse wrinkles on lower two-thirds, upper third finely granulate; epomia strong. Mesoscutum densely rugulose-punctate on granulate surface, slightly shorter than wide, convex in profile; notaulus not developed. Scuto-scutellar groove wide and deep. Scutellum almost evenly convex in profile, rugose, lateral carina discernible only at extreme base. Mesopleuron impressed along speculum, strongly rugose-punctate with rather strong, oblique wrinkles anterior to speculum and below speculum; speculum large, polished, smooth. Epicnemial carina complete, strong, pleural part bent
to anterior margin of mesopleuron reaching it slightly below its middle height, transversal part (i.e., the part at the level of sternaulus running through the epicnemium to the ventral edge of pronotum) not developed, ventral part (behind fore coxae) slightly elevated. Sernaulus anteriorly impressed. Posterior transverse carina of mesosternum complete, slightly elevated. Metanotum ca. 0.4× as long as scutellum. Metapleuron with weak punctures, dorsally weakly sculptured, subpolished, ventrally rugose, juxtacoxal carina basally discernible; submetapleural carina complete, elevated. Pleural carina of propodeum complete; propodeal spiracle elongate oval, separated from pleural carina by less than its length, connected to pleural carina by a distinct ridge. Propodeum short, convex in lateral view, strongly rugose. Propodeal carinae: lateromedian longitudinal carina mostly strong, but behind costula shortly obsolete, at extreme posterior end somewhat weakened; lateral longitudinal carina weak behind costula; anterior transverse carina, including costula, complete and strong; posterior transverse carina only laterally developed. Area basalis triangular, about as long as its anterior width, or shorter and posteriorly merged into a single longitudinal carina. Area superomedia pentagonal, wider than long, its lateral sides behind costulae obsolete, posteriorly opened. Area petiolaris confluent with area superomedia, weakly impressed. Fore wing without areolet, 3rs-m absent, second recurrent vein (2m-cu) postfurcal, intercubitus (2rs-m) slightly to distinctly longer than abscissa of M between 2rs-m and 2m-cu, their angle obtuse; distal abscissa of Rs long, straight; nervulus (cu-a) postfurcal by about its width, weakly inclivous; postnervulus (abscissa of Cu1 between 1m-cu and Cu1a + Cu1b) intercepted little above its middle by Cu1; lower external angle of second discal cell almost right-angled. Hind wing with nervellus (cu-a + abscissa of Cu1 between M and cu-a) slightly recivous, curved, not intercepted by discoidella (Cu1); discoidella spectral, proximally not connected to nervellus; axillus vein present. Coxae very finely coriaceous. Hind femur ca. 5.3–5.5× as long as high, basally narrowed. Inner spur of hind tibia as long as first tarsomere of hind tarsus. Hind basitarsus with a distinct midventral row of closely spaced, short hairs, the row appearing like a sharp carina. Tarsal claws small, about as long as arolium, weakly pectinate.

Metasoma: Metasoma compressed, finely coriaceous to shagreened with weak, barely discernible traces of punctures, and with dense, short hairs. First tergite elongate, 4× as long as its apical width, 1.4–1.5× as long as second tergite; glymma very small and shallow, indistinct, barely discernible; dorsomedian carina of first tergite absent. First sternite not reaching level of spiracle. Second tergite 2× as long as its apical width; thyridium oval, shallow, its distance from basal margin of tergite subequal to its length. Posterior margins of apical tergites not excised. Claspers apically evenly rounded.

Colour: Flagellum brown, scapus and pedicellus bright yellow with a narrow, brown stripe dorsally. Head black, palpi ivory, mandible yellow, mandibular teeth brown. Mesosoma black, tegula bright yellow. Metasoma pale orange with
a narrow, blackish band on posterior margin of second tergite, last tergite and claspers brown. Wings hyaline, wing veins and pterostigma brown. Fore and middle legs, including coxae, ivory, apical tarsomeres slightly darker. Hind leg, including coxa, pale orange, except tarsus more or less brownish. Hairs with a yellowish, golden tinge, especially on scutellum, metapleuron and propodeum.

Female: Unknown.

Distribution – Australia (Queensland). It is the first species of the genus described from the Australian continent, and from the Australasian region.

Etymology – The specific epithet *chryseus* is the masculine form of the Latinised Greek adjective *chryseus, -a, -um*, meaning gold-coloured; it refers to the golden pilosity and bright colouration of the new species.

Remarks on identification – The colouration of *Melalophacharops chryseus* sp. nov. is most similar to that of *Melalophacharops persicus* Vas, 2022, recently described from Iran (Vas et al. 2022). The latter species can be readily distinguished from the new species by its dark coxae and rather different propodeal carination (lateromedian carina right behind costula well developed, then obsolescent toward apex, showing a reversed pattern of development as compared to the new species, cf. Vas et al. (2022: fig. 16)).

The female of the new species is unknown. Except of the presence of a diagnostically short ovipositor (sheath about as long as apical depth of metasoma), females only differ insignificantly from males in other species of *Melalophacharops* where both sexes are known (namely, *Melalophacharops papilionis* (Ashmead, 1905), *Melalophacharops tamanukii* Uchida, 1928, *Melalophacharops everese* (Uchida, 1957)). Therefore, the Diagnosis given above is expected to apply for the hitherto unknown female as well.

Faunistics and biogeography

Campopleginae

*Lemophagus curtus* Townes, 1965


*Remarks* – First record for Hungary, collected during the Hungarian Biodiversity Research Society’s Biodiversity Days. This species is widely distributed in the Palaearctic region, and it was introduced to the USA (Yu et al. 2016).
Melalophcharops everese (Uchida, 1957)

Material examined – Taiwan: Formosa [= Taiwan], Taihorin [= Dalin], IV.1910, leg. H. Sauter, 1 female and 1 male.
Remarks – First record for Taiwan. This species was described and known from Japan (UCHIDA 1957, YU et al. 2016). The specimens from Taiwan are slightly longer (6–7 mm) than the 5 mm body length given by UCHIDA (1957) and KUSIGEMATI (1967) for Japanese specimens; otherwise they are very similar in all taxonomically important character states, therefore their conspecificity is fairly convincing.

Microcharops tibialis (Cresson, 1872)

Material examined – Paraguay: date unknown, leg. Fiebrig, 1 male.
Remarks – First record for Paraguay. This species is widely distributed in the Neotropical and Nearctic regions (Yu et al. 2016).

Phobocampe confusa (Thomson, 1887)

Remarks – First record for North Macedonia. This species is widely distributed in the Western Palaearctic and Nearctic regions (Yu et al. 2016).

Rhimphoctona megacephalus (Gravenhorst, 1829)

Remarks – First record for Lebanon. This species is widely distributed in the Palaearctic region (Yu et al. 2016).

Hybrizontinae

Ghilaromma fuliginosi (Wilkinson, 1930)

Material examined – Hungary: Pest County, Páty, Mézeshegy, VI.2022, leg. Z. Vas, 1 female.
Remarks – First record for Hungary. This species is widely distributed in the Palaearctic region (Yu et al. 2016); its occurrence was expected in Hungary (Vas & Bakardzsiév 2019).

Mesochorinae

Mesochorus laricis Hartig, 1838


Remarks – First records for Hungary. This species is known from several countries of the Palaearctic region (Yu et al. 2016, Riedel 2018).

Ophioninae

Dicamptus pellucidus (Kriechbaumer, 1894)


Remarks – First record for Kenya. This species is known from several countries of the Afrotropical region (Yu et al. 2016).

Dictyonotus nigrocyaneus (Tosquinet, 1903)

Material examined – Eritrea: Asmara, date unknown, 1 female.

Remarks – First record for Eritrea. This species is known from a few countries of the Afrotropical region (Yu et al. 2016); the Eritrean record represents northernmost occurrence of the species in the region.

Enicospilus cederbergi Johansson, 2018

Material examined – Hungary: Hajdú-Bihar County, Hajdúszoboszló, reptér [= airport], 11.VI.2022, leg. V. Szőke & Z. Vas, light trap, 1 female.

Remarks – First record for Hungary, collected during the Hungarian Biodiversity Research Society’s Biodiversity Days. This species was recently described from Sweden (Johansson 2018).
Enicospilus exoticus (Morley, 1912)

Remarks – First record for French Guiana. This species is known from several countries of the Neotropical region (Yu et al. 2016).

Enicospilus leucocotis (Tosquinet, 1896)

Material examined – Tanzania: D. O. Africa [= German East Africa], Manow, date unknown, 1 female.
Remarks – First record for Tanzania. This species is known from several countries of the Afrotropical region (Yu et al. 2016).

Enicospilus quietus (Seyrig, 1935)

Material examined – Tanzania: Mawingu Camp, East Usambara, 5°8’37.35”S, 38°35’0.87”E, 988m, 12–14.V.2022, leg. Sz. Sáfián, 1 female.
Remarks – First record for Tanzania. This species is known from some countries of the Afrotropical region (Yu et al. 2016), and was recently reported from Ghana (Vas 2022).

Ophion areolaris Brauns, 1889

Remarks – First record for Hungary. This species is widely distributed the Western Palaearctic region (Yu et al. 2016).

Thyreodon atriventris (Cresson, 1874)

Remarks – First records for French Guiana and Nicaragua. This species is widely distributed in the Neotropical region (Yu et al. 2016).
Thyreodon maculipennis Cresson, 1874


Remarks – First record for Nicaragua. This species is known from a few countries of Mesoamerica (Yu et al. 2016).

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