Linzer biol. Beitr.	51/2	1119-1162	20.12.2019
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Contribution to the Ichneumoninae (Hymenoptera, Ichneumonidae) of Nepal

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A b s t r a c t : In this study, distributional records for 44 Ichneumoninae (Hymenoptera, Ichneumonidae) from Nepal are given, 40 of them are new findings for the Nepalese forms

24 new species and one new subspecies are described here. The new species are: Aoplus rufomaculatus nov.sp., Benyllus rufoniger nov.sp., Bystra nigromaculata nov.sp., Cratichneumon flavator nov.sp., Ctenichneumon caeruloventris nov.sp., Diphyus nepalensis nov.sp., Diphyus rufofacialis nov.sp., Ichneumon cavigena nov.sp., Ichneumon creutzburgi nov.sp., Ichneumon longigenalis nov.sp., Ichneumon nepalensis nov.sp., Ichneumon politoventris nov.sp., Ichneumon ruficephalus nov.sp., Ichneumon tricoloratus nov.sp., Limerodops punctatus nov.sp., Neolariega nepalensis nov.sp., Ogulnia rufiventris nov.sp., Probolus nepalensis nov.sp., Pseudoamblyteles nepalensis nov.sp., Pseudoamblyteles nepalensis nov.sp., Spilichneumon flavomaculatus nov.sp., Spilichneumon rufator nov.sp. Diphyus quinquecinctus himalayaensis nov.ssp. is described as a new subspecies. For Coelichneumon lineiscutus HEINRICH, the hitherto unknown male is described.

In addition, keys for the females of *Ichneumon* LINNAEUS from the Himalayas and Myanmar, for the known species of *Pseudoamblyteles* HEINRICH, and for the Oriental species of *Spilichneumon* THOMSON are given.

K e y w o r d s : Hymenoptera, Ichneumonidae, Ichneumoninae, Nepal, new species

Introduction

The subfamily Ichneumoninae represents a very large group of Ichneumonidae (Hymenoptera) which is known as endoparasitoids of Lepidoptera. Although this group contains many large and colourful species, our knowledge of the taxonomy and biology of Oriental Ichneumoninae is still incomplete. Up to now, 647 species are listed for the Oriental region in a recent catalogue (YU et al. 2016), but many species remain undescribed yet.

From Nepal, only 27 Ichneumonine species have been reported so far (YU et al. 2016). Here, I present new findings of Nepalese Ichneumoninae deposited in the collections of several European museums and institutions.

Methods

For this publication, I had the opportunity to study Nepalese Ichneumoninae from several collections, namely from Naturkundemuseum Erfurt/Germany (Erfurt), Zoologische

Staatssammlung München/Germany (ZSM), Überseemuseum Bremen/Germany (Bremen), Biologiezentrum Linz/Austria (Linz), and Senckenberg Deutsches Entomologisches Institut Müncheberg/Germany (SDEI).

For the descriptions, I used the nomenclature proposed by BROAD et al. (2018) for body structures. The 1st flagellomeres were measured without the annelli here. The distributional records were taken from the catalogue of YU et al. (2016) and from RIEDEL (2017).

For the measurements an Olympus SZX 7 stereo microscope with dividing eyepiece was used. The figures were taken with an Olympus SC 30 CCD-camera using the AnalySIS getIT software and processed with the Helicon Focus and the Microsoft picture manager softwares.

List of species

Tribe P h a e o g e n i n i

Pseudalomya nepalensis nov.sp. (figs 1-4)

Description: Q: Body length 12.5 mm. Flagellum with 29 flagellomeres, stout and filiform; 1st flagellomere 1.4x as long as wide, all flagellomeres from 3rd flagellomere on about square. Head almost quadrate and covered with whitish hairs. Temple roundly narrowed behind eye, coarsely rugose, c. 0.8x as long as eye. Ocelli small, distance of lateral ocellus to eye 2x ocellar diameter. Occipital carina complete, low medially and slightly lamelliform widened laterally. Frons strongly and concavely impressed medially, rugose-punctate laterally and transversally striate medially, with a strong tooth-like median extension. Face densely punctate. Clypeus flat, 2.2x wider than long, with scattered punctures; apical margin sharp, rounded. Mandible large and wide, with one blunt tooth with rounded tip. Malar space long, c. 1.1x as long as width of mandibular base. Genal carina reaching the lamelliform hypostomal carina far from mandibular base at the tips of strongly narrowed genae, proboscidial fossa strongly narrowed (as in Alomyinae).

Pronotum long, with coarsely rugose-punctate side. Epomia short. Mesoscutum rugose-punctate, slightly shining; notaulus long and deeply impressed, present at frontal 0.6 of mesoscutum. Scutellum moderately elevated, 1.2x longer than wide, densely punctate, without lateral carina. Postscutellum without lateral grooves. Mesopleuron coarsely rugose-punctate, partly with coarse striae. Sternaulus strongly impressed in frontal 0.4 of mesopleuron. Epicnemial carina complete, narrow, almost reaching subtegular ridge. Posterior transversal carina of mesosternum shortly present laterally. Metapleuron coarsely rugose-punctate, juxtacoxal carina partly indistinct. Propodeum long, horizontal part almost 2x longer than declining apical part, rugose. Propodeal spiracle oval, 1.5x longer than wide. Apical transversal carina shortly present laterally, propodeum otherwise without carinae. All trochantelli present and clearly separated from trochanters and femora. Hind coxa densely punctate, without scopa. Hind femur rather stout, 3.8x longer than wide, densely punctate. Fore tibia with one apical spur, mid and hind tibiae with two spurs. Claws large, not pectinate, strongly bent (by 90°) apically.

Areolet pentagonal, slightly wider than long; frontal distance of intercubiti 5x their width. 2nd recurrent vein reaching the middle of areolet. Nervulus postfurcal (by 3x its width). Nervellus of hind wing reclivous, intercepted in 0.75 of its length.

Metasoma amblypygous, strongly depressed and c. 1.4x longer than combined length of head and mesosoma. Sternites completely sclerotized, without median folds. Hypopygium very large, tongue-shaped, almost reaching metasomal apex. 1st tergite 2.2x longer than wide, without carinae or glymma. Spiracles small, roundish, slightly bulging laterally, situated at 2/3 of tergal length. Postpetiolus moderately widened behind spiracles, without separated fields, with very scattered and fine setiferous punctures, shining. All tergites with very fine and scattered setiferous punctures, strongly shining. 2nd tergite 1.1x wider than long, 3rd tergite 1.4x wider than long. Ovipositor sheath short, not reaching beyond metasomal apex.

Colour: Black. Flagellomeres 10-13 with ivory rings. Head mainly dark reddish; scape pale reddish ventrally; mandibular tooth, apical margin of clypeus, frons medially, stemmaticum and occiput black. Mesosoma black with diffuse dark reddish suffusion on collare and upper margin of pronotum, mesoscutum, tegula, subtegular ridge, and wide ventral band of mesopleuron. Coxae black, ± reddish apically. Legs otherwise reddish; tibiae apically and tarsi completely blackish. Wings slightly infuscate; pterostigma black.

R e m a r k : The systematic position of *Pseudalomya* TELENGA has been discussed in the past since it combines several morphological characters of the Alomyinae and Ichneumoninae (see TERESHKIN 2009, QUICKE 2015).

Its general morphology as the long vertex, long pronotum, and elongate horizontal part of propodeum, thickened and large mandibles, depressed metasoma, large tongue-shaped hypopygium and especially the strongly narrowed proboscidial fossa with almost touching genae resembles the genera *Alomya* PANZER and *Megalomya* UCHIDA of Alomyinae. On the other hand, the presence of a clearly separate fore trochantellus and two apical spurs of mid tibia are typical for the subfamily Ichneumoninae. Newer molecular data gave evidence that *Pseudalomya* TELENGA belongs to the tribe Phaeogenini within the subfamily Ichneumoninae and not to the Alomyinae (LAURENNE et al. 2006). The morphological similarities were therefore considered as convergences or possibly as symplesiomorphies (QUICKE 2015).

Pseudalomya nepalensis differs from the type species, Pseudalomya praevara Telenga, 1930 (detailed description and illustration see Tereshkin 2009: 1328-1330 and plate 1) by a slenderer 1st flagellomere, smooth and sparsely punctate postpetiolus and 2nd tergite, black pterostigma and reddish stripe on mesoscutum. The other known species, Pseudalomya takeii Kusigemati, 1984 was not studied here, but probably belongs to a different genus due its unspecialized form of gena and the completely carinate propodeum.

Tribe Heresiarchini

Coelichneumon lineiscutis HEINRICH, 1966, new male

M a t e r i a 1 : Nepal, Nawakot Trisuli Khola, 2200-1600 m, Dhunche, Syabru Bensi, 1♂ 28.IX.1982, leg. Holzschuh (ZSM).

D e s c r i p t i o n : ♂: Body length 13.5 mm. Flagellum with 40 flagellomeres, bristle-shaped; 1st flagellomere 2.5x longer than wide. Tyloids on flagellomeres 9-19, linear, maximally as long as their flagellomeres. Temple strongly and almost linearly narrowed behind eye, dorsally 0.6x as long as eye. Distance of lateral ocellus to eye 1.1x ocellar diameter. Malar space 0.6x as long as width of mandibular base. Notaulus impressed at frontal margin of mesoscutum. Mesoscutum with scattered punctures on lateral fields, shining. Scutellum slightly elevated, as long as wide, with lateral carina in basal 0.4. Hind femur 4.9x longer than wide. 2nd tergite 1.1x longer than wide. Structure otherwise as described for the ♀ (HEINRICH 1966: 224-225).

Colour: Black with rich yellow colouration as described for the \bigcirc (HEINRICH 1966). The colouration differs from \bigcirc by the following features: Scape yellow ventrally, antenna otherwise black. Clypeus and face entirely yellow. Paramedian longitudinal stripes on mesoscutum long, reaching the frontal margin of mesoscutum. Scutellum yellow, with narrow black median stripe. Area superomedia yellow, with small black central spot. Hind coxa black with small yellow spots dorsally and apico-ventrally. 2^{nd} to 6^{th} tergites with large posterolateral yellow spots.

R e m a r k: This species belongs to the *C. flavolineatus*-group of Oriental *Coelichneumon* Thomson containing several closely related taxa (Heinrich 1966) which are difficult to separate. The δ which is described here resembles *C. flavolineatus* (Cameron) by the long paramedian yellow stripes on mesoscutum and lateral carina of the basal scutellum, but differs by the entirely black flagellomeres and reduced yellow colour pattern of the mesosternum.

D i s t r i b u t i o n : Known from Myanmar and Laos (RIEDEL 2017), new record for Nepal.

Poecilojoppoides sanfordi birmanicus HEINRICH, 1969

M a t e r i a 1 : Nepal, Pharping near Kathmandu, $1 \bigcirc 5$.IV.1980, leg. Homann (Bremen).

D i s t r i b u t i o n : The subspecies is known from India and Myanmar, new record for Nepal.

Tribe Platylabini

Platylabus caeruleus (CAMERON, 1901)

M a t e r i a 1 : Nepal, Karnali Prov., Umg. Tamti, 2500-4000 m, 1♂ 9-12.VI.2007, leg. F. Creutzburg (Erfurt).

D i s t r i b u t i o n : Known from India and Laos, new record for Nepal.

Tribe I chneumonini

Achaius erythrothorax HEINRICH, 1965

M a t e r i a 1 : Nepal, Phuldicki, 2225 m, 1 ♀ 8.VIII.1991, leg. Allen (Linz).

D i s t r i b u t i o n : Known from Myanmar, new record for Nepal.

Amblyaenaeus malaisei HEINRICH, 1965

M a t e r i a l : Nepal, Prov. Karnali, Umg. Tamti, 2500-4000 m, $1 \bigcirc 9$ -12.VI.2007, leg. F. Creutzburg (Erfurt).

R e m a r k : Body length 14 mm. Flagellum with 44 flagellomeres, otherwise as originally described (HEINRICH 1965: 118-119).

D i s t r i b u t i o n : Known from India and Myanmar, new record for Nepal.

Aoplus rufomaculatus nov.sp. (figs 5-6)

Holotype: ♀ "Nepal, Umg. Gotichaur, 13.06.1997, 29°12′10′′N 82°18′56′′E, leg. Creutzburg, 2850 m" (SDEI).

D e s c r i p t i o n : φ : Body length 11 mm. Flagellum slender, slightly lanceolate, with 33 flagellomeres; 1st flagellomere 3.5x longer than wide, 14th flagellomere square, widest flagellomeres c. 1.2x wider than long. Temple strongly and almost linearly narrowed behind eye, dorsally c. 0.45x as long as eye. Distance of lateral occllus to eye 1.0x occllar diameter. Frons granulate and with superficial punctures, matte. Face with dense punctures and fine granulation, \pm matte. Clypeus slightly convex, densely punctate, shining; apical margin sharp and straight. Gena with fine dense punctures, 0.7x as wide as eye. Malar space 1.0x as long as width of mandibular base. Mandible slender, with two teeth; lower tooth very small and slightly bent inwards (by c. 30°). Genal carina reaching hypostomal carina away from mandibular base, both carinae low.

Mesosoma with fine and short grey hairs. Notaulus distinctly impressed in frontal 0.4 of mesoscutum. Mesoscutum granulate and with fine dense punctures, matte. Mesopleuron and metapleuron densely and finely rugose-punctate. Speculum finely punctate. Juxtacoxal carina present. Scutellum slightly convex, about as long as wide, with dense punctures and lateral carina in basal half. Area basalis slightly bulging forward medially. Area superomedia hexagonal, about as long as wide, rugose; costula absent. Area petiolaris with transverse rugae and lateral carina. Outer dentiparal edge without apophysis. Hind coxa densely punctate, with small whitish scopa which is 1/4x as long as hind coxa. Legs slender. Hind femur 5.0x longer than wide, with dense punctures. Hind tibia without external denticular spurs. Claws with 1-2 short basal teeth, strongly bent apically.

Areolet almost quadrangular, frontal distance of intercubiti 1x their width; 2nd recurrent vein reaching areolet slightly distal to the middle. Nervulus postfurcal (by 1x its width).

Metasoma oxypygous. Postpetiolus moderately widened apically, without dorsal carina, median field slightly elevated and finely rugose. Gastrocoelus impressed, with fine rugae. Thyridium slightly oblique, 1.5x as wide as the interval. 2nd tergite 1.05x wider than long. 2nd and 3rd tergites granulate and with fine and dense punctures, matte. Following tergites finely granulate and shining. 2nd to 6th sternites with median folds. Ovipositor sheath stab-shaped, distinctly extending beyond metasomal apex (by length of 2nd hind tarsomere).

Colour: Black. Scape red ventrally, flagellomeres 8-12 with ivory stripes. Head reddish; palps, stemmaticum and occiput black; inner orbit yellow. Mesosoma black; pronotum, mesoscutum except black margins, tegula and postscutellum reddish; frontal and upper margins of pronotum, subtegular ridge and scutellum yellow. Petiolus black. Postpetiolus and tergites red; 2nd and 3rd tergites with halfmoon-shaped black spots; 4th and 5th tergites

with black basal bands. Legs mainly red; all trochanters and hind coxa black. Fore and mid femora brown dorsally; hind femur black, red in basal 0.2. Distal tarsomeres \pm brown. Wings slightly yellowish infuscate, pterostigma yellow.

♂ unknown.

Benyllus rufoniger nov.sp. (figs 8-10)

 $Holotype: \circlearrowleft "\underline{Nepal}, P: Mahakali, D: Darchula, Bachtal S Thaisan 18.VI.2017, leg. Weigel, 2910 m mountain mixed forest, <math>3^{rd}$ tent place, N 29°51′12′′ E 80°40′17′′" (Erfurt).

D e s c r i p t i o n : ♀: Body length 9.5 mm. Flagellum filiform, with 31 (right) or 32 (left) flagellomeres; 1st flagellomere 2.4x longer than wide, 15th flagellomere square, widest flagellomeres slightly wider than long; apical flagellomere blunt. Temple distinctly and roundly narrowed behind eye. Distance of lateral ocellus to eye 1.0x ocellar diameter. Vertex and frons granulate and with very superficial punctures, matte. Face with dense punctures, centrally with transverse rugae. Clypeus slightly convex, 2.4x wider than long, with scattered punctures, shining; apical margin sharp and slightly concave. Gena with scattered punctures ventrally, 0.9x as wide as eye. Malar space 1.0x as long as width of mandibular base. Mandible with two teeth, lower tooth slightly smaller than upper one. Genal carina reaching hypostomal carina far away from mandibular base, both carinae low.

Mesosoma with fine and short grey hairs. Notaulus distinctly impressed in frontal 0.5 of mesoscutum. Mesoscutum granulate and with fine dense punctures, matte. Mesopleuron densely punctate dorsally and with fine striation ventrally. Metapleuron finely striate. Juxtacoxal carina present. Scutellum slightly convex, slightly longer than wide, with rather dense punctures and lateral carina in 7/10 of scutellar length. Area basalis trapezoid, wider than long, without median tubercle. Area superomedia hexagonal, about as long as wide, rugose; costula reaching its middle. Area petiolaris moderately impressed, rugose, without lateral carina. Outer dentiparal edge with short and blunt, tooth-shaped apophysis. Hind coxa densely punctate and densely pilose, but without distinct scopa. Legs slender. Hind femur 5.1x longer than wide, with dense punctures. Hind tibia without external denticular spurs. Claws large, not pectinate, strongly bent apically (by 90°).

Areolet pentagonal, frontal distance of intercubiti 3-4x their width; 2nd recurrent vein reaching areolet in the middle. Nervulus postfurcal (by 1x its width).

Metasoma oxypygous. Postpetiolus slightly widened apically, granulate, without dorsal carina, median field not separated. Gastrocoelus not impressed. Thyridium small and kidney-shaped, slightly oblique, 0.3x as wide as the interval. 2nd tergite 1.05x longer than wide. 2nd and 3rd tergites finely granulate, matte, 2nd tergite also with fine superficial punctures. Following tergites finely granulate, but shining. 2nd to 5th sternites with median folds. Ovipositor sheath stab-shaped, moderately extending behind metasomal apex (by length of 3rd hind tarsomere).

Colour: Head and mesosoma mainly reddish-brown, metasoma black. Stripes on flagel-lomeres 8-15 and frontal orbit up to vertex (widened opposite to ocelli) ivory. Scape red, pedicle and flagellum (except ivory ring) black. Frons ventrally and occiput entirely blackish. Narrow upper margin of pronotum and spot on subtegular ridge yellowish. Spot on collare, propleuron ventrally, margins of mesopleuron, ventral margin of metapleuron, area beside postscutellum, frontal and apical margins of propodeum blackish. Fore

and mid legs and hind coxa reddish. Trochanters and trochantelli \pm blackish; hind femur blackish, with diffuse reddish stripe ventrally; hind tibia and tarsus blackish. Wings hyaline, pterostigma reddish.

♂ unknown.

Bovijoppa similis HEINRICH, 1965 (fig. 7)

M a t e r i a l : Nepal central, Bagenati zone, Tasuwa distr., Langtang NP, Dhnuche Bkavknu-Syalbra, 2000-2800 m, $1 \odot 6$ -13.V.1966, leg. P. Cechovsky (Linz).

D i s t r i b u t i o n : Known from Myanmar, new record for Nepal.

Bystra nigromaculata nov.sp. (fig. 11)

Holotype: ♀ "Nepal, Dailekh Distr., Talpokhari S Dailekh 1800 m, 29.V.1998, leg. G. Miksch" (ZSM).

Description on: φ: Body length 14.5 mm. Flagellum strongly lanceolate, with 49 flagellomeres; 1st flagellomere 2.0x longer than wide, 8th flagellomere square, widest flagellomeres c. 2.5x wider than long, preapical flagellomere about square. Temple moderately and roundly narrowed behind eye, dorsally c. 0.4x as long as eye. Distance of lateral ocellus to eye 1.0x ocellar diameter. Frons granulate and with fine dense punctures, matte. Face with coarse and rather dense punctures, shining. Clypeus slightly convex, 2.5x wider than long, with dense punctures medially, without punctures laterally; apical margin blunt and straight. Labrum slightly exposed. Gena densely punctate, 1.0x as wide as eye. Malar space 1.0x as long as width of mandibular base. Mandible rather slender, with two teeth, lower tooth smaller and slightly bent inwards (by c. 30°). Genal carina reaching hypostomal carina close to mandibular base, both carinae low.

Mesosoma with dense, fine and short grey hairs. Side of pronotum with fine dense punctures dorsally, with rather coarse striae ventrally. Notaulus shortly impressed. Mesoscutum granulate and with fine dense punctures, matte. Mesopleuron densely punctate, striate below subtegular ridge and posteroventrally. Speculum smooth. Metapleuron striate-punctate; juxtacoxal carina present. Scutellum slightly convex, about as long as wide, with dense punctures and complete lateral carina. Area basalis partly carinate laterally, with strong median tubercle. Area superomedia hexagonal, about as long as wide, rugose; costula distinct, reaching area superomedia in its middle. Area externa densely punctate. Area petiolaris with transverse rugae and strong lateral carina. Apical transversal carina reaching area petiolaris close to its frontal margin, with narrow lamella at outer dentiparal edge, not tooth-like. Hind coxa densely punctate and densely pilose, but without distinct scopa. Hind femur 3.8x longer than wide, with dense punctures. Hind tibia with numerous denticular spurs externally. Claws not pectinate, strongly bent anically.

Areolet pentagonal, frontal distance of intercubiti 3x their width; 2nd recurrent vein reaching areolet in the middle. Nervulus interstitial.

Metasoma oxypygous. Postpetiolus moderately widened apically, without dorsal carina, fields not separated, with dense punctures. Gastrocoelus slightly impressed, with fine rugae. Thyridium small, transverse, 0.25x as wide as the interval. 2nd tergite 1.1x wider than long. 2nd and 3rd tergites with very fine and dense punctures, matte. Following tergites finely granulate, shining. 2nd to 5th sternites with median folds. Ovipositor sheath

stab-shaped, narrow, distinctly extending beyond metasomal apex (by 0.5x length of 7^{th} tergite).

Colour: Mainly red. Flagellomeres 1-7 red, 8-14 yellowish, 15-16 reddish, following flagellomeres black. Head reddish; palps, mandible except teeth, clypues, face, gena and orbits yellowish; occiput with black spots. Mesosoma red; frontal and upper margins of pronotum, two paramedian and two lateral stripes on mesoscutum, subtegular ridge, prescutellar carina, scutellum, postscutellum, mesopleuron centrally and propodeum posterolaterally diffusely yellowish. Transverse stripe on collare, anterolateral stripes on mesoscutum, scutoscutellar groove, area beside scutellum, areae basalis and externa, area petiolaris, epicnemium behind fore coxae, 3 spots on mesopleuron and spot on metapleuron blackish. Metasoma reddish-yellow; petiolus and wide basal bands of all tergites diffusely brownish. Ovipositor sheath yellowish, with black tip. Legs red; coxae and trochanters yellowish; hind coxa with posterior brown spot. Wings hyaline, pterostigma ochreous.

♂ unknown.

Bystra rufa (CAMERON, 1903)

M a t e r i a l : Nepal, Prov. Karnali, Churta E Hochtal, 3500-3800 m, 1 $\mbox{$\stackrel{\frown}{\sim}$}$ 02.VI.2007, leg. F. Creutzburg (Erfurt).

D e s c r i p t i o n : $\$: Body length 14 mm. Flagellum lanceolate, with 47 flagellomeres; 1st flagellomere 1.5x longer than wide, 7th flagellomere square, widest flagellomeres c. 2.1x wider than long, preapical flagellomere about square. Temple strongly and roundly narrowed behind eye, dorsally c. 0.45x as long as eye. Distance of lateral ocellus to eye 1.1x ocellar diameter. Vertex and frons granulate and with superficial dense punctures, matte. Face with coarse and rather dense punctures, shining. Clypeus slightly convex, 2.1x wider than long, with scattered punctures; apical margin blunt and straight. Labrum slightly exposed. Gena granulate and with superficial dense punctures, 1.0x as wide as eye. Malar space 0.9x as long as width of mandibular base. Mandible rather slender, with two teeth, lower tooth smaller and slightly bent inwards (by c. 40°). Genal carina reaching hypostomal carina close to mandibular base, hypostomal carina weak.

Mesosoma with fine grey hairs. Pronotum with superficial punctures, shining. Notaulus not distinctly impressed. Mesoscutum granulate and with very fine dense punctures, matte. Mesopleuron and metapleuron densely punctate; juxtacoxal carina present. Scutellum slightly convex, about as long as wide, with lateral carina in 7/10 of scutellar length, with rather dense punctures. Area basalis partly carinate laterally, with small median tubercle. Area superomedia hexagonal, about as long as wide, rugose; costula distinct, reaching area superomedia in its middle. Area externa coarsely punctate. Area petiolaris rugose-punctate, with weak lateral carina. Apical transversal carina reaching area petiolaris close to its frontal margin, with narrow lamella at outer dentiparal edge, without apophysis. Hind coxa densely punctate, without scopa. Hind femur 4.2x longer than wide, with dense punctures. Claws not pectinate, strongly bent apically.

Areolet quadrangular, pointed frontally; 2^{nd} recurrent vein reaching areolet in the middle. Nervulus interstitial.

Metasoma oxypygous. Postpetiolus moderately widened apically, without dorsal carina, field not separated, smooth and with scattered and partly denser punctures. Gastrocoelus

distinctly and smoothly impressed, about as long as wide. Thyridium oblique, 0.35x as wide as the interval. 2nd tergite about as long as wide, with very fine and dense punctures, matte. Following tergites finely granulate, shining. 2nd to 4th sternites with median folds. Ovipositor sheath stab-shaped, narrow, distinctly extending behind metasomal apex (by 0.5x length of 7th tergite).

Colour: Mainly red. Flagellomeres 1-5 red, flagellomeres 6-17 slightly paler reddish, following flagellomeres black. Mesosoma red; hind edge of pronotum, subtegular ridge, scutellum and postscutellum yellowish-red; central stripe on pronotum, mesopleuron below subtegular ridge and at posteroventral edge, metapleuron ventrally, scutoscutellar groove and areas beside scutellum and postscutellum black. 1st and 2nd tergites red; following tergites black, 3rd tergite with rectangular basomedian red spot. Legs entirely red. Wings hyaline, pterostigma brown.

d unknown.

R e m a r k: I was not able to study the type material of *Bystra rufa* CAMERON but the original description fits well with this Nepalese specimen except that the areolet is described as pentagonal by CAMERON. Here I give a detailed description of the Nepalese specimen.

D i s t r i b u t i o n : Known from India, new record for Nepal.

Chiaglas nigripes CAMERON, 1902

M a t e r i a l: Nepal, Dailekh distr., N Failekh, 1600 m, 13 1-2.VI.1998, leg. G. Miksch (ZSM). D i s t r i b u t i o n: Widespread in South and Southeast Asia, known from Nepal (GUPTA 1988).

Cratichneumon flavator nov.sp. (figs 15-18)

 $\label{eq:holotype:paratypes:parat$

Description: φ: Body length 13.5 mm. Flagellum filiform, with 36 flagellomeres; 1st flagellomere 2.7x longer than wide, c. 11th flagellomere square, widest flagellomere 1.5x wider than long. Head with short yellowish hairs. Temple strongly and almost linearly narrowed behind eye, dorsally c. 0.7x as long as eye. Distance of lateral ocellus to eye 1.0x ocellar diameter. Frons densely but superficially punctate and granulate. Face densely punctate, shining. Clypeus slightly convex, 2.4x wider than long, with scattered punctures; apical margin sharp and straight. Mandible with two teeth, lower tooth smaller than upper one. Malar space 1.1x longer than width of mandibular base. Gena 1.2x wider than eye, densely punctate. Genal carina reaching hypostomal carina near mandibular base, both carinae low.

Mesosoma with short brownish hairs. Side of pronotum densely punctate dorsally and rugose-striate in ventral 2/3. Notaulus shortly impressed at frontal margin of mesoscutum. Mesoscutum with superficial dense punctures and fine granulation, but \pm shining. Mesopleuron densely punctate, with some striae below subtegular ridge and at posteroventral edge. Metapleuron punctate and striate. Juxtacoxal carina present. Scutellum moderately elevated, 1.2x longer than wide, with scattered punctures, without lateral

carina. Propodeum completely carinate. Area basalis trapezoid, wider than long and wider than area superomedia, without median tubercle. Area superomedia about square, rugose; costula present, reaching area superomedia at its middle. Outer dentiparal edge with small blunt tooth-like lamella. Area petiolaris rugose, with lateral carina. Hind coxa densely rugose-punctate, without scopa. Hind femur densely punctate, 5.0x longer than wide. Hind tibia without denticular spurs externally. Claws large, not pectinate, strongly bent apically (by 90°).

Areolet pentagonal, frontal distance of intercubiti 3x their width, 2nd recurrent vein slightly proximal to its middle. Nervulus slightly postfurcal (by 1x width).

Metasoma oxygygous. Postpetiolus moderately widened, without lateral carina, finely rugose, lateral and median fields not separated. Gastrocoelus quadrangularly impressed, with fine longitudinal ridges. Thyridium slightly oblique, 0.4x as wide as the interval. 2^{nd} tergite about as long as wide. 2^{nd} and 3^{rd} tergites with very fine dense rugose-punctures, \pm matte; 2^{nd} tergite with fine striation between gastrocoeli. Following tergites finely granulate and \pm shining. 2^{nd} to 5^{th} sternites with median folds. Ovipositor sheath slender, stabshaped, widely reaching behind metasoma apex (by length of 2^{nd} hind tarsomere).

Colour: Black with rich yellow colour pattern. Palps reddish. Yellow are rings or stripes on flagellomeres 11-13/14, clypeus except black median-apical spot, face, gena and outer orbit widely, wide frontal and vertical orbits up to occipital carina, frontal and upper margins of pronotum, two long paramedian and two paralateral stripes on mesoscutum, spot on tegula, subtegular ridge, large central spot on mesopleuron, large central spot on metapleuron confluent with area dentipara, scutellum and postscutellum, wide apical band on postpetiolus and large posterolateral spots on 2nd to 7th tergites, 2nd to 5th sternites except blackish lateral spots, hind margin of hypopygium, fore and mid coxae completely, hind coxa except black base, central rings on all femora and tibiae and all 2nd/3rd to 4th tarsomeres. Wings hyaline, pterostigma brown.

♂: Body length 15.5 mm. Flagellum bristle-shaped, with 42 flagellomeres; 1st flagellomere 2.8x longer than wide. Tyloids on flagellomeres 8-17, long-oval, situated medially, maximally 0.5x as long as their flagellomeres. Distance of lateral ocellus to eye 1.0x ocellar diameter. Clypeus densely punctate. Malar space 0.75x as long as width of mandibular base. Mesoscutum densely punctate and granulate, matte. Scutellum moderately elevated, 1.2x wider than long, densely punctate, without lateral carina. Area superomedia slightly hexagonal, 1.2x wider than long. Costula absent. Fore metatarsus with apical tooth. Hind femur 4.8x longer than wide. Areolet pentagonal, frontal distance of intercubiti 2x their width, 2nd recurrent vein slightly distal to its middle. Postpetiolus with slightly elevated median field, with fine longitudinal rugae; lateral field small, c. 0.25 as wide as median field. 2nd tergite 1.2x longer than wide. 2nd and 3rd tergites densely and finely rugose-punctate, matte; 4th tergite rugose-punctate in basal half, finely punctate apically. 2nd tergite with longitudinal striae medially. 2nd to 4th sternites with median folds. Hypopygium with rounded apical margin. Structure otherwise as described for the φ.

Colour: Black with rich yellow coloration, as in \bigcirc . Differences from \bigcirc : palps and base of mandible yellow. Flagellomeres 3-11 with internal yellow stripes. Clypeus and tegula completely yellow. Mesoscutum with two short yellow paramedian stripes which are confluent centrally, black laterally. Areae superomedia and petiolaris yellow, but area dentipara black. 1st to 3rd tergites with wide apical yellow bands, 4th and 5th tergites with

large posterolateral yellow spots, 6th tergite with narrow apical band, 7th tergite with large median yellow spot, 2nd to 4th sternites yellow except lateral black spots, 5th sternite with narrow apical yellow margin, parameres with yellow spots. Tarsi except brown distal tarsomeres yellow.

R e m a r k: The generic position is somewhat questionable since the limits of the genus *Cratichneumon* Thomson are not clearly defined for the Oriental region yet. Townes et al. (1961) had synomymized several of Cameron's genera with *Cratichneumon*, but in his most recent work on Oriental Cratichneumonina, Heinrich (1980) had again separated some genera such as *Lareiga* Cameron and *Sycaonia* Cameron from *Cratichneumon*. A detailed study of the Oriental Cratichneumonina will be necessary in the future to define the generical limits of this subtribe.

Ctenichneumon caeruloventris nov.sp. (figs 12-14)

 $Holotype: \bigcirc "\underline{Nepal}, Khumbu Khumdzung 3900 m, 11.7.62, leg. G. Ebert u. H. Falkner" (ZSM).$

 $\label{eq:paratypes:para$

Description on: Q: Body length 13-14 mm. Flagellum slightly lanceolate, with 45-47 flagellomeres; 1st flagellomere 1.8-2.1x longer than wide, 2nd flagellomere 1.4x longer than wide, 5th flagellomere square, widest flagellomeres c. 1.5x wider than long. Head with erected brown hairs. Temple long, slightly narrowed behind eye, dorsally c. 1.3x as long as eye. Distance of lateral ocellus to eye 1.2-1.4x ocellar diameter. Occiput with transverse rugae. Frons coarsely rugose-punctate. Face with coarse punctures and with transverse rugae medially. Clypeus flat, with scattered punctures. Gena smooth, with very scattered punctures ventrally. Malar space 1.1-1.3x longer than width of mandibular base. Mandible blunt, with two teeth, lower tooth smaller. Genal carina reaching hypostomal carina away from mandibular base, both carinae low.

Mesosoma with erected brown hairs. Notaulus not distinctly impressed. Mesoscutum densely rugose-punctate, median field with some longitudinal rugae. Mesopleuron and metapleuron coarsely rugose-punctate; speculum completely punctate. Juxtacoxal carina indistinct. Scutellum slightly convex, as long as wide, without lateral carina, with scattered punctures. Propodeum coarsely rugulose-punctate. Area superomedia about square; costula absent. Outer dentiparal edge with narrow lamella, not tooth-like. Mid and hind coxae with very scattered punctures ventro-apically, shining; hind coxa without scopa. Hind femur slender, 4.7-4.8x longer than wide, with very scattered punctures. Claws not pectinate.

Areolet pentagonal, frontal distance of intercubiti c. 3x their width; 2nd recurrent vein reaching areolet distal of the middle. Nervulus shortly postfurcal (1x its width).

Metasoma strongly amblypygous. Postpetiole widened apically, without distinct dorsal carina; median field elevated and with fine aciculation. Gastrocoelus distinctly impressed and with fine longitudinal striae; thyridium indistinctly impressed. 2^{nd} tergite 1.2x wider than long, densely punctate and basally with longitudinal rugae, shining. 3^{rd} tergite with finer punctures, 4^{th} tergite with very superficial punctures; all tergites strongly shining. 2^{nd} and 3^{rd} sternites with weak median folds. Ovipositor sheath not extending behind metasomal apex.

Colour: Flagellum black. Body black, with \pm bluish shine; metasoma strongly metallic-blue. All coxae, trochanters and trochantelli black; legs otherwise red; hind tibia infuscate in apical 1/5-1/10; all tarsi blackish. Wings with brownish tint, pterostigma yellowish-red.

♂ unknown.

Ctenichneumon panzeri (WESMAEL, 1845)

M a t e r i a 1 : Nepal, Manangbhot, N 28°40′ E 84°1′, Sabzi-Chu, 3500 m, 1 o 13.VII.1955, leg. F. Lobbichler (ZSM); Nepal, Jumla airport, 29°16′25′′N 82°11′32′′E, 1 2 23.VI.1997, leg. F. Creutzburg (SDEI).

R e m a r k: The ivory coloration is more extended in the Nepalese \circlearrowleft than in the European Material: Collare, wide upper margin of pronotum, tegula, spot at wing base, subtegular ridge, scutellum and postscutellum, large marks on all coxae and apical bands on all tergites ivory. The structure and colouration are otherwise typical.

D is tribution: Widespread in the Palaearctic and Oriental regions, new record for Nepal.

Ctenichneumon victoriae HEINRICH, 1965

M a t e r i a l : Nepal, Kalikot distr., Tila Khola 1600-1700 m, 1♂ 8.VI.1998, leg. G. Miksch (ZSM); Nepal, Maharigaon Nörd., 29°21′24′′N 82°23′21′′E, 3400 m on Euphorbia, 1♀ 20.VI.1997, leg. Creutzburg (SDEI).

D i s t r i b u t i o n : Known from India and Myanmar, new record for Nepal.

Diphyus malaisei (HEINRICH, 1965)

M a t e r i a l : Nepal, Kamali prov., near pass SE Churta, 3400 m, 1♀ 1.V.1995, leg. J. Weipert (ZSM).

D i s t r i b u t i o n : Known from Myanmar, new record for Nepal.

Diphyus nepalensis nov.sp. (fig. 19)

 $Holotype: \bigcirc "\underline{Nepal}, Khumbu Khumdzung, 3900 \, m, 15.6.1962, leg. \, G. \, Ebert \, \& \, H. \, Falkner" \, (ZSM).$

Description on: ♀: Body length 15 mm. Flagellum bristle-shaped, with 52 flagellomeres; 1st flagellomere 2.4x longer than wide, widest flagellomeres 1.2x wider than long. Temple long, moderately and almost linearly narrowed behind eye, dorsally 1.0x as long as eye. Distance of lateral ocellus to eye 1.3x ocellar diameter. Vertex and frons coarsely rugose-punctate. Face coarsely punctate, partly rugose. Clypeus densely punctate, with sharp and straight apical margin. Gena 1.2x wider than eye, with coarse striated rugae, punctate ventrally. Malar space 1.2x longer than width of mandibular base. Mandible with two teeth, lower tooth smaller than upper one. Genal carina reaching hypostomal carina away from mandibular base; both carinae low.

Mesosoma covered with fine brownish hairs. Notaulus not impressed. Mesoscutum densely rugose-punctate, \pm matte. Mesopleuron and metapleuron coarsely rugose-punctate. Juxtacoxal carina present. Scutellum slightly convex, 1.2x longer than wide, without lateral carina, densely punctate. Area superomedia rectangular, 1.5x longer than wide, rugose; costula absent. Area petiolaris rugose, without lateral carina. Outer

dentiparal edge with short, blunt tooth. Hind coxa densely punctate dorsally, with scattered punctures ventrally, without scopa. Hind femur slender, 5.3x longer than wide, with scattered punctures in ventral 1/3. Claws not pectinate.

Areolet pentagonal, frontal distance of intercubiti 5x their width; 2nd recurrent vein reaching areolet slightly distal of its middle. Nervulus postfurcal (2x its width).

Metasoma semi-amblypygous, hypopygium moderately elongate, with some stiff oblique hairs at apical margin. Postpetiole moderately widened, without distinct dorsal carina; median field not distinctly separated, with fine aciculation; lateral field punctate. Gastrocoelus almost triangularly impressed, with some fine longitudinal ridges; thyridium oblique, c. 0.8x as wide as the interval. 2^{nd} tergite 1.1x wider than long. 2^{nd} and 3^{rd} tergites with fine dense punctures and fine granulation, but \pm shining. Following tergites with superficial granulation, strongly shining. 2^{nd} to 4^{th} sternites with weak median folds. Ovipositor sheath not extending behind metasomal apex.

Colour: Black. Flagellomeres 10-16 with yellow stripes. Dark red are mandible except teeth, apical half of clypeus, face, ventral gena, frontal orbit (widened dorsally), scape ventrally, collare and hind edge of pronotum, two paramedian stripes on mesoscutum, tegula and scutellum. 1st tergite black; 2nd and 3rd tergites dark red, with wide apical black bands, following tergites dark red, 7th tergite retracted and not visible. Coxae and trochanters black; legs otherwise red. Wings with distinct brownish infuscation; pterostigma reddish.

♂ unknown.

R e m a r k : This new taxon resembles *Diphyus fuscatorius* (HEINRICH) from Myanmar, but differs by its shorter basal flagellomere, entirely red femora, elongate area superomedia, and median folds on basal sternites.

Diphyus quinquecinctus himalayaensis nov.ssp.

Holotype: ♀ "<u>Westnepal</u>, Simikot, 3100 m, 29°58′25′′N 81°49′07′′E, 18.VI.2001, leg. Creutzburg" (SDEI).

Paratype: \bigcirc "Nepal, Distr. Humla, 20 km NW Simikot, 2 km S Chala 3200 m, 29°59′27′′N 81′37′30′′E, 25.-26.VI.2001, Kaireng Khola, leg. F. Creutzburg" (SDEI).

Description on : Q: Body length 14 mm. Flagellum bristle-shaped, with 48 flagellomeres; 1st flagellomere 2.4x longer than wide, widest flagellomeres 1.2x wider than long. Temple long, moderately and roundly narrowed behind eye, dorsally 1.0x as long as eye. Distance of lateral ocellus to eye 1.3x ocellar diameter. Frons with coarse transverse rugae. Face densely rugose-punctate. Clypeus densely punctate, with sharp and almost straight apical margin. Gena very wide, 1.4x wider than eye, with coarse rugae dorsally, ventrally swollen, shining and with scattered punctures. Malar space 0.8x as long as width of mandibular base. Mandible with two teeth, upper tooth blunt apically, lower tooth very small. Genal carina reaching hypostomal carina away from mandibular base; hypostomal carina slightly widened.

Mesosoma covered with fine brownish hairs. Notaulus not impressed. Mesoscutum densely rugose-punctate and with fine granulation, but \pm shining. Mesopleuron and metapleuron coarsely rugose-punctate. Juxtacoxal carina absent. Scutellum almost flat, 1.3x longer than wide, with fine scattered punctures, without lateral carina. Area superomedia about square, rugose; costula absent. Area petiolaris rugose, bordered by irregular

lateral rugae. Outer dentiparal edge with rather strong, blunt tooth. Hind coxa densely punctate, without scopa. Hind femur 4.3x longer than wide, with scattered punctures in ventral half. Claws not pectinate.

Areolet pentagonal, frontal distance of intercubiti 4x their width; 2nd recurrent vein reaching areolet slightly distal of its middle. Nervulus postfurcal (2x its width).

Metasoma amblypygous, stout and with blunt apex. Hypopygium large, with some stiff oblique hairs. Postpetiole strongly widened; lateral field rugose-punctate, c. 0.6x as wide as median field; median field with coarse longitudinal striation. Gastrocoelus almost triangularly impressed, with some fine longitudinal ridges; thyridium indistinctly impressed. 2nd tergite wide, 1.4x wider than long. 2nd and 3rd tergites very finely and densely rugose-punctate, matte. Following tergites with superficial granulation, strongly shining. 2nd to 4th sternites with median folds. Ovipositor sheath slightly extending behind metasomal apex.

Colour: Black. Antenna reddish, flagellomeres 7-14 yellowish-red, distal flagellomeres reddish-brown. Mandible except teeth, sometimes clypeus laterally and tegula reddish. Wide facial orbit and narrow frontal orbit, spot on collare, hind edge of pronotum and complete scutellum yellow. Metasoma black; wide basal bands and 2nd and 3rd tergites, apical bands of 4th to 7th tergites and apical margins of 2nd to 5th sternites yellow. Coxae black; trochanters black basally and red apically. Legs otherwise red; tibia with subbasal yellowish stripes externally; hind femur in apical 0.5 and hind tibia in apical 0.2 blackish. Wings with yellowish infuscation; pterostigma reddish.

♂ unknown.

R e m a r k: This new subspecies is rather similar to *Diphyus quinquecinctus quinquecinctus* (KRIECHBAUMER, 1882) which is known from Europe and Central Asia (HEINRICH 1978). It differs by the coarser surface structure of the mesosoma, wider yellow colouration of facial orbit, yellow hind margins of 2nd to 5th sternites and mainly reddish instead of yellowish colouration of tibiae and tarsi.

Diphyus rufofacialis nov.sp. (figs 21-23)

<code>Holotype:</code> \circ "Westnepal, Distr. Bajura Simikot, 19 km W Kuwdi Khola 3500 m, 29°53′14′N 81°38′40 $^{\prime\prime}$ E, 05.VII.2001, leg. Creutzburg" (SDEI).

Description on : \circ : Body length 13 mm. Flagellum bristle-shaped, with 39 flagellomeres; 1st flagellomere 3.1x longer than wide, widest flagellomeres about square. Head with fine brownish hairs. Temple moderately and almost linearly narrowed behind eye, dorsally c. 0.7x as long as eye. Distance of lateral ocellus to eye 1.2x ocellar diameter. Occiput and frons transversely striate, frons smooth ventrally. Face coarsely rugosepunctate. Clypeus densely punctate, with sharp and straight apical margin. Gena wider than eye, with dense punctures. Malar space long, 1.5x longer than width of mandibular base. Mandible with two teeth, lower tooth smaller than upper one. Genal carina reaching hypostomal carina away from mandibular base; hypostomal carina slightly elevated.

Mesosoma covered with fine brownish hairs. Notaulus slightly impressed at frontal margin of mesoscutum. Mesoscutum densely rugose-punctate, \pm matte. Mesopleuron and metapleuron coarsely rugose-punctate; speculum punctate and shining. Juxtacoxal carina present. Scutellum slightly convex, as long as wide, without lateral carina, densely

punctate. Area superomedia hexagonal, slightly longer than wide (1.1x), rugose; costula absent. Area petiolaris rugose, with lateral carina. Outer dentiparal edge with short, blunt tooth. Hind coxa densely punctate, without scopa. Hind femur 5.1x longer than wide, densely punctate. Claws not pectinate.

Areolet pentagonal, frontal distance of intercubiti c. 2x their width; 2nd recurrent vein reaching areolet in its middle. Nervulus postfurcal (3x its width).

Metasoma strongly amblypygous. Postpetiole moderately widened, without distinct dorsal carina; lateral field 0.35x as wide as median one, with some superficial rugae; median field moderately elevated, with few fine striae and punctures, largely smooth and shining. Gastrocoelus quadrangularly impressed and with fine longitudinal striae. Thyridium short, transverse, c. 0.5x as wide as the interval. 2nd tergite 1.2x wider than long, with superficial fine punctures and fine granulation, but shining. Following tergites with fine superficial granulation, strongly shining. 2nd sternite with weak median fold. Ovipositor sheath not extending behind metasomal apex.

Colour: Black. Flagellomeres 9-13 with ivory stripes. Clypeus, face, malar space, ventral gena, frontal orbit, scape ventrally, collare and upper margin of pronotum, tegula and subtegular ridge dark red. Scutellum yellow. Metasoma black; 6th tergite with smaller, 7th tergite with larger roundish yellow spot medially. Coxae, trochanters and femora black; femora narrowly red basally and apically; tibiae and tarsi reddish. Wings with yellowish infuscation; pterostigma yellowish.

♂ unknown.

R e m a r k: This new taxon also resembles *Diphyus fuscatorius* (HEINRICH) from Myanmar, but differs by its completely black tergites with yellow spots on 6^{th} and 7^{th} tergites and the almost smooth median field of postpetiolus.

Gyrodonta concava (UCHIDA, 1937)

M a t e r i a l : Nepal East, Kosi Zone, Dhankula Distr., Arun valley, Hille Skidna Bhedetar 2000-2700 m, 1 ♀ 24-28.V.1996, leg. P. Cechovsky (Linz).

D i s t r i b u t i o n : Known from China and Nepal (SHENG et al. 2015).

Ichneumon annaelisae HEINRICH, 1965

M a t e r i a l: Nepal, Khumbu Khumdzung, 3900 m, 1♀ 15.VI.1962, leg. G. Ebert & H. Falkner (ZSM); Nepal West, env. Maharigaon, on Euphorbia, 29°20.24′N 82°23.21′E, 3345 m, 1♀ 20.VI.1997, leg. Creutzburg (SDEI).

D i s t r i b u t i o n : Known from India and Myanmar, new record for Nepal.

Ichneumon cavigena nov.sp. (figs 26-27)

Holotype: ♀ "Westnepal Triurakot, 2050, 29°01′03′′N 82°47′35′′E, 31.05.1997, leg. Creutzburg" (SDEI).

Paratype: ♂ "Nepal: Surkhet distr., 1600-2000 m, 28.V.1998, leg. G. Miksch" (ZSM).

Description: Q: Body length 11 mm. Flagellum stout, slightly lanceolate, with 37 flagellomeres; 1st flagellomere 1.4x longer than wide, c. 4th flagellomere square; widest flagellomeres 1.6x wider than long; preapical flagellomere 0.9x as long as wide. Temple moderately and roundly narrowed behind eye, dorsally 0.8x as long as eye.

Distance of lateral ocellus to eye 1.3x ocellar diameter. Frons and vertex coarsely rugose-punctate. Face densely punctate, partly with transverse rugae; facial orbit with scattered punctures. Clypeus and gena with dense punctures. Malar space 0.9x as long as width of mandibular base. Mandible stout and slightly swollen; upper tooth long and blunt, lower tooth very small and only indicated as a small ridge at ventral margin of upper tooth. Genal carina reaching hypostomal carina far from mandibular base; hypostomal carina lamelliform widened, about 2x wider than distal maxillary palp.

Mesosoma coarsely rugose-punctate, covered with short brownish hairs. Notaulus impressed at frontal margin of mesoscutum. Mesoscutum densely rugose-punctate. Mesopleuron and metapleuron coarsely rugose; speculum smooth, with fine scattered punctures. Juxtacoxal carina indistinct. Scutellum flat, 1.4x wider than long, with rather dense punctures, without lateral carina. Propodeum coarsely rugulose-punctate. Area superomedia slightly longer than wide, about rectangular; costula absent. Hind coxa densely punctate, with weak scopa indicated by a short brush of dense hairs. Hind femur densely punctate, 3.1x longer than wide. Claws not pectinate.

Areolet pentagonal, frontal distance of intercubiti c. 3x their width; 2nd recurrent vein strongly distal to its middle. Nervulus postfurcal.

Metasoma stout, oxypygous. Postpetiolus strongly widened apically, with fine dorsal carina. Lateral field c. 0.7x as wide as median one; both fields with fine dense aciculation. Gastrocoelus distinctly impressed and with fine ridges. Thyridium slightly oblique, c. 0.8x as wide as the interval. 2^{nd} tergite 1.4x wider than long. 2^{nd} and 3^{rd} tergites with dense fine rugose punctures, not distinctly aciculate medially.

Colour: Black. Antenna tricoloured; scape, pedicle and flagellomeres 1-7 orange; flagellomeres 8-13 yellowish, following flagellomeres black. Mandible, palps, clypeus except blackish apical margin, face, ventral gena, hind edge of pronotum, tegula, 1st tergite, apical margin of 4th tergite, complete 5th to 7th tergites and legs (except narrow black basal margin of hind coxa) reddish. Frontal orbit and collare yellowish-red. Subtegular ridge, scutellum and wide apical bands of 1st to 3rd tergites yellow. Wings with brownish tint, pterostigma pale ochreous.

♂: Body length 16 mm. Flagellum bristle-shaped, with 42 flagellomeres; 1st flagellomere 2.1x longer than wide. Tyloids on flagellomeres 6-20, linear, situated in basal 0.7 of flagellomeres. Temple strongly and almost linearly narrowed behind eye, dorsally 1.0x as long as eye. Occiput medially with transverse impression in front of occipital carina. Distance of lateral ocellus to eye 1.3x ocellar diameter. Frons and vertex coarsely rugose-punctate. Face and clypeus densely punctate. Mandible with two teeth; lower tooth smaller than upper one. Malar space 1.0x as long as width of mandibular base. Genal carina absent ventrally, gena concavely excised ventrally; hypostomal carina strongly and lamelliform widened (by 1/2x width of mandibular base), about 2x wider than distal maxillary palp.

Mesosoma covered with grey hairs. Notaulus impressed at frontal margin of mesoscutum. Mesoscutum densely rugose-punctate, but shining. Mesopleuron densely and coarsely punctate, speculum with finer dense punctures. Metapleuron coarsely rugose-punctate; juxtacoxal carina partly indistinct. Scutellum moderately elevated, 1.3x wider than long, with dense punctures, without lateral carina. Area superomedia hexagonal, 1.1x wider than long, rugose; costula weak, reaching area superomedia at its basal 0.4. Area externa punctate. Area petiolaris rugose, lateral carina indistinct. Hind coxa densely

punctate. Hind femur densely punctate, 3.5x longer than wide. Fore metatarsus without apical tooth.

Areolet pentagonal, frontal distance of intercubiti c. 4x their width; 2nd recurrent vein in its middle. Nervulus postfurcal (2x its width).

Postpetiolus strongly widened apically. Lateral field about as wide as median one, punctate; median field elevated, coarsely and longitudinally rugose-punctate. Gastro-coelus strongly impressed and with longitudinal ridges. Thyridium transverse, 0.9x as wide as the interval. 2nd tergite 1.2x wider than long. 2nd to 4th tergites densely and coarsely rugose-punctate; 2nd tergite with longitudinal rugae between gastrocoeli. 2nd to 4th sternites with median folds.

Colour: Black. Flagellum black dorsally and reddish ventrally. Clypeus except narrow black apical margin, face and ventral spot on scape yellow. Collare, tegula, subtegular ridge and scutellum yellow. 1st to 3rd tergites with wide yellowish apical bands (which are more reddish in their frontal third). 4th tergite with narrow apical reddish-yellow band. 5th tergite laterally and at apical third and 6th and 7th tergites completely red. Coxae and trochanters black; small spots on fore and mid coxae and apical margins of fore and mid trochanters yellowish; legs otherwise red; hind femur and hind tibia in their apical 0.2 black. Wings with slighty yellowish tint, pterostigma yellow.

R e m a r k : This new species is characterized by the lamelliform hypostomal carina and colouration of metasoma in both sexes and the ventrally excavated gena in \Im (similar to some $\Im\Im$ of *Ichneumon tuberculipes* WESMAEL).

Ichneumon creutzburgi nov.sp. (fig. 28)

Holotype: ♀ "Nepal, Prov. Karnalo 20 km NW Simikot, 3500 m, 29°58′49′′N 81°38′23′′E, 28.VI.2001 Wacholderwiese Gelbschale, leg. F. Creutzburg" (SDEI).

D e s c r i p t i o n : \circlearrowleft : Body length 12.5 mm. Flagellum bristle-shaped, with 42 flagellomeres; 1st flagellomere 3.0x longer than wide, c. 14th flagellomere square; widest flagellomeres 1.1x wider than long; preapical flagellomere 1.8x longer than wide. Head covered with short brownish hairs. Temple moderately and almost linearly narrowed behind eye, dorsally 0.7x as long as eye. Distance of lateral ocellus to eye 1.8x ocellar diameter. Frons coarsely rugose-punctate. Face rugose-punctate. Clypeus densely punctate, almost flat, apical margin sharp and almost straight.. Gena 1.2x wider than eye, densely punctate. Malar space 1.2x longer than width of mandibular base. Mandible narrow; upper tooth about 3x longer than lower one. Genal carina reaching hypostomal carina away from mandibular base; both carinae low.

Mesosoma covered with brownish hairs. Side of pronotum and mesoscutum densely rugose-punctate, matte. Notaulus not impressed. Mesopleuron and metapleuron coarsely rugose-punctate; juxtacoxal carina complete. Scutellum slightly elevated, about as long as wide, densely punctate, without lateral carina. Propodeum coarsely rugose. Area superomedia square; costula absent. Area petiolaris rugose, with lateral carina. Hind coxa densely punctate, without scopa. Hind femur with scattered punctures in ventral third, 4.4x longer than wide. Claws not pectinate.

Areolet pentagonal, frontal distance of intercubiti c. 3x their width; 2nd recurrent vein slightly distal to its middle. Nervulus postfurcal (3x its width).

Metasoma oxypygous. Postpetiolus strongly widened apically, without dorsal carina. Lateral field c. 0.6x as wide as median one; both fields with coarse longitudinal striation. Gastrocoelus distinctly impressed and with strong ridges. Thyridium slightly oblique, c. 0.9x as wide as the interval. 2^{nd} tergite 1.2x wider than long. 2^{nd} and 3^{rd} tergites densely rugose-punctate, \pm matte; 2^{rd} tergite finely striate medially. Following tergites with fine granulation and shining. Apical tergites slightly compressed, metasomal apex with distinctly narrowed sides. Ovipositor sheath slightly extending behind metasomal apex.

Colour: Black. Flagellomeres 8-13 with ivory rings. Frontal orbit opposite to antennal groove with weak narrow yellowish spot. Scape ventrally reddish. Mesosoma black; tegula reddish; scutellum ivory. Metasoma black; 2nd tergite completely and sides of 3rd tergite narrowly red. Coxae and trochanters black; legs otherwise red; fore tibia frontally and all tarsi yellowish-red. Wings distinctly yellow infuscate; pterostigma yellow.

d unknown.

R e m a r k: This new taxon is characterized by the bristle-shaped flagellum, slender and apically compressed metasoma, and absence of ivory marks on apical tergites as it is found in members of the genus *Stenichneumon* THOMSON, but the structure and width of thyridia are typical for a *Ichneumon* species.

Ichneumon longigenalis nov.sp. (fig. 29)

Holotype: ♀ "Nepal, Umg. Gotichaur, 13.6.1997, 29°12′10′′N 82°18′56′′E, leg. Creutzburg, 2850 m, Weißschale" (SDEI).

D e s c r i p t i o n : ♀: Body length 12 mm. Flagellum bristle-shaped, with 39 flagellomeres; 1st flagellomere 2.8x longer than wide, c. 14th flagellomere square; widest flagellomeres about square, preapical flagellomere 1.2x longer than wide. Head covered with short brownish hairs. Temple moderately and almost linearly narrowed behind eye, dorsally 0.8x as long as eye. Distance of lateral ocellus to eye 1.6x ocellar diameter. Frons and face coarsely rugose-punctate. Clypeus densely punctate, almost flat, apical margin sharp and almost straight. Gena 1.3x wider than eye, densely striate-punctate. Malar space 1.6x longer than width of mandibular base and about as long as 1st flagellomere. Mandible narrow; upper tooth about 3x longer than lower one. Genal carina reaching hypostomal carina far away from mandibular base; both carinae low.

Mesosoma covered with brownish hairs. Side of pronotum and mesoscutum densely rugose-punctate, matte. Notaulus not impressed. Mesopleuron and metapleuron coarsely rugose-punctate; juxtacoxal carina absent. Scutellum moderately elevated, 1.4x wider than long, densely punctate, with lateral carina in basal 0.4. Propodeum coarsely rugose. Area superomedia square; costula absent. Area petiolaris rugose, with lateral carina. Hind coxa densely punctate, without scopa. Hind femur with scattered punctures in ventral 1/5, 4.5x longer than wide. Claws not pectinate.

Areolet pentagonal, frontal distance of intercubiti c. 4x their width; 2nd recurrent vein slightly distal to its middle. Nervulus postfurcal (by 2x its width).

Metasoma oxypygous, but hypopygium slightly elongate (c. 0.5x as long as distance of its apical margin to metasomal apex). Postpetiolus strongly widened apically, without dorsal carina. Lateral field c. 0.5x as wide as median one; median field with coarse regular longitudinal striation. Gastrocoelus distinctly impressed and with strong ridges. Thyridium slightly oblique, 1.0x as wide as the interval. 2nd tergite 1.3x wider than long.

 2^{nd} and 3^{rd} tergites densely rugose-punctate, \pm matte; 2^{nd} tergite with longitudinal rugae medially. Following tergites with fine granulation and shining. Apical tergites slightly compressed, metasomal apex with distinctly narrowed sides. Only 2^{nd} and 3^{rd} sternites with median fold. Ovipositor sheath slightly extending behind metasomal apex.

Colour: Black. Antenna tricoloured: Scape, pedicle and flagellomeres 1-8 red; flagellomeres 9-13 yellowish; following flagellomeres black. Mesosoma black; hind edge of pronotum, tegula and spot on subtegular ridge red; scutellum ivory. Metasoma black; 2nd and 3rd tergites red, 7th tergite with weak median reddish spot. Coxae and trochanters black; legs otherwise (including all trochantelli) red; hind femur narrowly infuscate apically; hind tibia in apical 0.1 and hind tarsus blackish. Wings distinctly yellow infuscate; pterostigma yellow.

♂ unknown.

R e m a r k: This new species resembles *I. creutzburgi* nov.sp. and can be differentiated by the absence of the juxtacoxal carina, longer malar space, reddish base of antenna, completely red 2^{nd} and 3^{rd} tergites and weak reddish spot on 7^{th} tergite.

Ichneumon nepalensis nov.sp. (fig. 30)

<code>Holotype:</code> \bigcirc "Nepal, Maharigaon Nörd. 29°20′24′′N 82°23′21′′E, 3400 m, 20.06.1997, leg. Creutzburg" (SDEI).

Description: $\ \$: Body length 12.5 mm. Flagellum filiform, with 36 flagellomeres; 1st flagellomere 1.9x longer than wide, c. 10th flagellomere square; widest flagellomeres 1.6x wider than long; preapical flagellomere 0.7x as long as wide. Temple moderately and roundly narrowed behind eye, dorsally 0.75x as long as eye. Distance of lateral ocellus to eye 1.1x ocellar diameter. Occiput with transverse rugae. Frons coarsely rugose-punctate. Face and clypeus with scattered punctures, intervals smooth and shining. Gena as wide as eye, with very scattered punctures ventrally. Malar space 1.25x longer than width of mandibular base. Mandible narrow; lower tooth smaller than upper one. Genal carina reaching hypostomal carina away from mandibular base; both carinae low.

Mesosoma covered with reddish hairs. Side of pronotum rugose dorsally and coarsely striate ventrally, collare irregularly striate. Notaulus impressed in frontal fifth of mesoscutum. Mesoscutum densely rugose-punctate. Mesopleuron coarsely punctate and striate. Metapleuron coarsely rugose; juxtacoxal carina present. Scutellum slightly elevated and slightly wider than long, with scattered punctures, without lateral carina. Propodeum coarsely rugose. Area superomedia trapezoid, 1.3x longer than wide; costula weak. Area petiolaris rugose, with transversal striation apically, lateral carina present. Hind coxa densely punctate, with strong scopa (1/4 of coxal length). Hind femur densely punctate, 3.8x longer than wide. Claws not pectinate.

Areolet pentagonal, frontal distance of intercubiti c. 2x their width; 2nd recurrent vein in its middle. Nervulus postfurcal (by 3x its width).

Metasoma oxypygous. Postpetiolus strongly widened apically, without dorsal carina. Lateral field c. 0.55x as wide as median one; both fields with coarse aciculation. Gastrocoelus distinctly impressed and with strong ridges. Thyridium slightly oblique, c. 0.65x as wide as the interval. 2nd tergite 1.2x wider than long. 2nd tergite finely and densely rugose-punctate, matte. 3rd tergite with dense fine punctures, slightly shining. Following

tergites with fine granulation and very superficial punctures, shining. Ovipositor sheath slightly extending behind metasomal apex.

Colour: Black. Head reddish; base of mandible, median frons, stemmaticum and occiput black. Antenna tricoloured; scape, pedicle and flagellomeres 1-8 (except black base of $1^{\rm st}$ flagellomere) red; flagellomeres 9-15 ivory, distal flagellomeres black. Mesosoma black; collare, wide upper margin and ventral edge of pronotum, tegula, subtegular ridge, mesoscutum laterally and (paler) stripes at notauli, and postscutellum red. Scutellum ivory. Metasoma black; base of petiolus, postpetiolus and $2^{\rm nd}$ to $3^{\rm rd}$ tergites red. $6^{\rm th}$ and $7^{\rm th}$ tergites with wide ivory median spots. Coxae and trochanters black, \pm red apically. Legs otherwise red; all femora with diffuse brownish stripes ventrally. Wings slightly yellowish infuscate; pterostigma yellowish.

♂ unknown.

Ichneumon politoventris nov.sp. (fig. 31)

 $\label{eq:holotype:phi} $$Holotype: $\lozenge $ $$"\underline{Nepal}$, Distr. Humla 14 km W Simikot, 3 km NW Sankha La, 4300 m, 29°57′18′N 81°39′30′'E, 29.-30.VI.2001, yellow trap, leg. F. Creutzburg" (SDEI).$

Description: Q: Body length 12.5 mm. Flagellum stout and slightly lanceolate, with 33 flagellomeres; 1st flagellomere 1.4x longer than wide, 2nd flagellomere square; widest flagellomeres 1.8x wider than long; preapical flagellomere 0.7x as long as wide. Temple slightly and roundly narrowed behind eye, dorsally 0.9x as long as eye. Distance of lateral ocellus to eye 1.3x ocellar diameter. Occiput and frons coarsely rugosepunctate. Face densely punctate, but punctation medially and on facial orbit scattered. Clypeus with coarse but scattered punctures, intervals smooth and shining. Gena 1.7x wider than eye, with scattered coarse punctures ventrally. Malar space as long as width of mandibular base. Mandible rather long and thick, with almost parallel upper and lower margins; lower tooth smaller than upper one. Genal carina reaching hypostomal carina far from mandibular base; both carinae low.

Mesosoma covered with brownish hairs. Side of pronotum densely punctate dorsally and rugose ventrally. Notaulus impressed in frontal fifth of mesoscutum. Mesoscutum densely rugose-punctate, but shining. Mesopleuron and metapleuron coarsely rugose-punctate. Juxtacoxal carina present. Scutellum slightly elevated, 1.4x wider than long, with very scattered punctures, without lateral carina. Propodeum coarsely rugose. Area superomedia rectangular, 1.3x longer than wide; costula absent. Area petiolaris rugose, without lateral carina. Tibiae and tarsi with numerous stiff hairs and spurs. Hind coxa densely punctate, but with scattered punctures ventrally, without scopa. Hind femur stout, densely punctate, 3.0x longer than wide. Claws not pectinate.

Areolet pentagonal, frontal distance of intercubiti 3x their width; 2^{nd} recurrent vein slightly distal to its middle. Nervulus postfurcal (2x its width).

Metasoma oxypygous. Postpetiolus strongly widened apically, without dorsal carina. Lateral field 0.5x as wide as median one, punctate and slightly rugose; median field with fine aciculation and some punctures. Gastrocoelus small, slightly impressed and with few superficial ridges. Thyridium small, oblique, c. 0.3x as wide as the interval. 2nd tergite 1.35x wider than long, with fine scattered punctures, otherwise smooth and shining. 3rd tergite with very fine scattered punctures. Following tergites almost smooth, shining. Ovipositor sheath slightly extending behind metasomal apex.

Colour: Black. Head including scape dark reddish, occiput black. Flagellum black, flagellomeres 8-13 with ivory stripes. Mesosoma black; collare, wide upper margin of pronotum, tegula, subtegular ridge, and mesoscutum red. Scutellum yellow. Metasoma red; 6th and 7th tergites reddish-brown, with large median yellow spots. Coxae and trochanters black, partly reddish. Legs otherwise red. Wings moderately brownish infuscate; pterostigma yellowish.

♂ unknown.

R e m a r k: This new taxon is characterized by its unusually smooth structure of basal tergites and very small gastrocoelus and thyridium but is otherwise typical for the genus *Ichneumon*.

Ichneumon rhododendron HEINRICH, 1965

M a t e r i a 1 : Nepal, Prov. Karnali, Umg. Jumla, 2200-2400 m, 1♀ 23/24.05.1995, leg. J. Weipert (Erfurt); Nepal, Prov. Karnali, Gothichaur, 29°12′10′′N 82°18′56′′E, 2850 m, 1♀ 13.VI.1997, 28°11′54′′N 82°18′36′′E, 2900 m, 1♀ 8.VI.2007, leg. F. Creutzburg (Erfurt); Nepal, Maharigaon Nörd. 29°20′24′′N 82°23′21′′E, 3400 m, on Euphorbia spec., 1♀ 20.VI.1991, leg. Creutzburg (SDEI).

R e m a r k: The Nepalese material differs from the original description (HEINRICH 1965: 84-85) by the larger body size (13 mm) and shorter 1st flagellomere which is only 1.2-1.3x longer than wide. The form of mandible, body structure and colouration are otherwise typical.

D i s t r i b u t i o n : Known from Myanmar, new record for Nepal.

Ichneumon ruficephalus nov.sp. (fig. 32)

Holotype: \bigcirc "Nepal Prov. Karnali, Gothichaur 29°11′54′′N 82°18′36′′E, 06.VI.007, 2900 m, leg. F. Creutzburg" (Erfurt).

Paratype: \bigcirc "Nepal: Mahakali/Darchula vic. Thaisan around Brum (holy) lake, N 29°52′16′′ E 80°41′21¯′′, 20.VI.2017 3600 m, leg. A. Weigel \$\frac{1}{3}\$17-09" (Erfurt).

D e s c r i p t i o n : ♀: Body length 14.2-14.7 mm. Flagellum stout, slightly lanceolate, with 42-44 flagellomeres; 1st flagellomere 1.7x longer than wide, 7th flagellomere square; preapical flagellomere 0.7x as long as wide. Temple moderately and almost linearly narrowed behind eye, dorsally 0.7x as long as eye. Distance of lateral ocellus to eye 1.7x ocellar diameter. Frons and vertex coarsely rugose-punctate, matte. Face densely punctate, with transverse rugae centrally. Clypeus and gena with dense punctures. Malar space 1.4x longer than width of mandibular base and 1.5x longer than 1st flagellomere. Genal carina reaching hypostomal carina far from mandibular base; hypostomal carina low.

Mesosoma coarsely rugose-punctate. Notaulus impressed at frontal margin of mesoscutum. Scutellum slightly convex, wider than long, with scattered punctures, without lateral carina. Propodeum coarsely rugose-punctate. Area basalis trapezoid, 2x wider than long. Area superomedia about square, slightly widened apically; costula absent. Hind coxa densely punctate, without scopa. Hind femur basally and in ventral third with scattered punctures, 4.1-4.4x longer than wide. Claws not pectinate.

Areolet pentagonal, frontal distance of intercubiti c. 4x their width. Nervulus postfurcal.

Metasoma oxypygous. Postpetiolus strongly widened apically, dorsal carina present. Median field with fine dense aciculation, lateral field striate and punctate. Gastrocoelus strongly impressed and with coarse ridges. Thyridium almost transverse, c. 0.7x as wide as the interval. 2nd tergite 1.2x wider than long. 2nd and 3rd tergites densely and finely rugose-punctate; 2nd tergite aciculate medially. 4th tergite superficially punctate, shining.

Colour: Head reddish; occiput, area around antennal sockets, lateral stripes between face and clypeus, and labrum black. Antenna tricoloured: Scape, pedicle and flagellomeres 1-7 red, flagellomeres 8-14 with ivory rings, distal flagellomeres black. Mesosoma black; mesoscutum \pm , collare, wide upper margin of pronotum, tegula and subtegular ridge red. Scutellum yellow. Metasoma red, 6^{th} and 7^{th} tergites with median ivory spots. Coxae and trochanters black, with external reddish stripes in holotype. Femora, tibiae and tarsi red; all femora in paratype with ventral blackish stripes. Wings yellowish, pterostigma reddish-yellow.

♂ unknown.

Ichneumon tricoloratus nov.sp. (fig. 33)

Holotype: \bigcirc "Nepal, Maharigaon Nörd. 29°22′26′′N 82°23′26′′E, 4400 m, 18.06.1997, leg. Creutzburg" (SDEI).

D e s c r i p t i o n : \circ : Body length 9 mm. Flagellum filiform, with 35 flagellomeres; 1st flagellomere 1.5x longer than wide, 8th flagellomere square; widest flagellomeres 1.4x wider than long, preapical flagellomere 0.6x as long as wide. Temple parallel behind eye, slightly narrowed apically, dorsally 0.85x as long as eye. Distance of lateral ocellus to eye 1.2x ocellar diameter. Occiput rugose. Frons coarsely rugose-punctate. Face punctate, punctation medially and on facial orbit scattered. Clypeus with scattered punctures, shining. Mandible with two teeth, lower tooth distinct, smaller than upper one. Gena 1.6x wider than eye, with scattered punctures ventrally. Malar space as long as width of mandibular base. Genal carina reaching hypostomal carina far from mandibular base, both carinae low.

Mesosoma covered with reddish hairs. Side of pronotum punctate dorsally and rugose ventrally. Notaulus impressed at frontal margin of mesoscutum. Mesoscutum with dense confluent punctures, shining. Mesopleuron and metapleuron coarsely and densely punctate, partly striate; juxtacoxal carina present. Scutellum almost flat, 1.3x wider than long, without lateral carina, with very scattered punctures. Propodeum coarsely rugose. Area superomedia rectangular, about as long as wide; costula absent. Area petiolaris rugose, without lateral carina. Hind coxa with coarse punctures, punctation very scattered in ventro-apical 1/2. Hind femur with scattered punctures proximally and in ventral half, 3.6x longer than wide. Claws not pectinate.

Areolet pentagonal, frontal distance of intercubiti c. 3x their width; 2^{nd} recurrent vein in the middle. Nervulus strongly postfurcal (3x its width).

Metasoma stout, oxypygous. Postpetiolus moderately widened apically, without distinct dorsal carina. Lateral field 0.65x as wide as median one; median field with rather coarse superficial aciculation. Gastrocoelus slightly impressed, smooth. Thyridium small, slightly oblique, c. 0.5x as wide as the interval. 2nd tergite with fine dense punctures, smooth and shining, with fine rugose striation between thyridia. 3rd tergite with superfi-

cial punctures, shining. Following tergites almost smooth and strongly shining. Ovipositor sheath moderately extending behind metasomal apex (by length of 7th tergite).

Colour: Reddish. Head red; antenna tricoloured: Scape, pedicle and basal flagellomeres red, flagellomeres 9-14 yellowish, flagellomeres 15-19 reddish and flagellomeres 20-35 blackish. Frontal orbit up to vertex with narrow yellow stripe. Occiput partly black. Mesosoma red; propleuron, side of pronotum centrally, margins of mesopleuron and metapleuron, entire mesosternum, area beside scutellum, and basal and apical margins of propodeum blackish. Metasoma red; 1st to 3rd tergites with wide basal black bands; apical band of postpetiolus, posterolateral spots on 2nd to 4th tergites and median spots on 6th and 7th tergites yellow. Legs red; fore and mid trochanters black basally. Wings slightly infuscate; pterostigma yellow.

♂ unknown.

R e m a r k: This new taxon is closely related to I. americanicolor Heinrich and I. annaelisae Heinrich, but differs by its smaller size and extended yellow colouration of the metasoma. It is not impossible that it represents a variant of I. americanicolor from higher mountain areas.

	(adopted from Henrich 1903).
1	Body including legs black; only scutellum, narrow median stripes on 7 th or 6 th to 7 th tergites and upper margin of pronotum ivory. Flagellum short, filiform. Body length 15 mm. Myanmar
-	Body with extended ivory color pattern or metasoma partly red2
2	Very large species, body length 22-24 mm. Black; mesosoma, metasoma and legs with extended ivory coloration. Metasoma without red tergites. Myanmar
-	Smaller species. Metasoma with \pm red tergites
3	Hypostomal carina lamelliform. 1 st to 3 rd tergites with yellow apical bands. 1 st and 5 th to 7 th tergites red, apical tergites without yellow or ivory median spots. Legs completely red. Nepal
-	Hypostomal carina not distinctly wider than genal carina. Colouration of metasoma different, usually apical tergites with distinct yellow or ivory median spots4
4	All tergites red, 2 nd to 4 th tergites with black basal bands. Flagellum filiform, Mesoscutum red. Scutellum ivory or yellow. Body length 9-11 mm
-	All tergites or at least 2 nd and 3 rd tergites red, without black basal bands. Mesoscutum red or black. Body often larger
5	Flagellum red basally, black distally, without ivory ring. 2 nd and 3 rd tergites with diffuse yellowish posterolateral spots, 6 th and 7 th tergites with yellow median spots. Hind coxa with sparse punctures ventrally and with weak scopa
-	Flagellum with ivory ring. 2 nd and 3 rd tergites without yellow posterolateral spots
6	Larger, body length 11 mm. Postpetiolus and 4 th tergite without yellow bands or spots. Postscutellum and frontal orbit reddish. Flagellum two-coloured. Himalayan region of India
-	Smaller, body length 9 mm. Frontal orbits with yellow stripe. Postscutellum, apical band on postpetiolus and posterolateral spots on 2 nd to 4 th tergites yellow. Flagellum tricoloured: red basally, yellowish medially and black distally. Nepal

7	Hind coxa with dense punctures ventrally. Upper mandibular tooth long and thick, lower tooth only indicated by a small rim at lower side of upper tooth. Mesoscutum completely red. Yellow median spots on apical tergites weak. Median field of postpetiolus striate, lateral fields punctate. Flagellum tricoloured: basal flagellomeres red, central flagellomeres with ivory rings, distal ones black. Myanmar, Nepal
-	Hind coxa mainly smooth ventrally, with few very scattered punctures. Mandible not modified: upper tooth not thickened and elongate, lower tooth smaller but distinct. Median field of mesoscutum black. 6 th and 7 th tergites with distinct ivory median spots. Postpetiolus including lateral fields striate. Flagellum black, with ivory ring centrally. Myanmar
8	Postpetiolus with ivory apical band, 2 nd and 3 rd tergites with posterolateral ivory spots. Propodeum with ivory lateral spots. Mesosoma dark reddish-brown, apical tergites with median ivory spots
-	Metasoma tricoloured, 5 th to 7 th tergites with median ivory spots. Propodeum, 2 nd and 3 rd tergites without ivory spots. Mesosoma mainly or completely black
9.	Legs reddish-brown. Mesoscutum with two paramedian longitudinal ivory stripes. 5 th to 7 th tergites with median ivory spots. Metasoma semi-amblypygous: hypopygium moderately elongate. Body length 13 mm. Myanmar
-	All tibiae with subbasal yellowish or ivory rings. Mesoscutum without paramedian ivory stripes. 5 th tergite black, 6 th and 7 th tergites with ivory spot. Metasoma oxypygous: hypopygium short. Body length 12 mm. Myanmar and Himalayan region
10	All tergites red, 6^{th} and 7^{th} tergites with ivory or yellow median spots. Mesoscutum and head mainly red
_	Only 2^{nd} and 3^{rd} tergites red; apical tergites black, with or without ivory spots12
11	2 nd and 3 rd tergites smooth and shining, with exceptionally scattered and fine punctures. Nepal
-	2 nd and 3 rd tergites densely and coarsely rugose-punctate, ± matte. Nepal
12	Flagellum slender and bristle-shaped; 1st flagellomere more than 4x longer than wide. Black; face, clypeus and gena red. Postpetiolus ± red. Small, body length 8 mm. Myanmar
-	Flagellum stouter, 1st flagellomere 2-3x longer than wide. 2nd and 3rd tergites red, 1st tergite black. Larger, body length 12-16 mm
13	6^{th} and 7^{th} tergites without ivory spots, at most 7^{th} tergite with median reddish spot14
-	6 th and 7 th tergites with distinct ivory median spots
14	Malar space 1.6x longer than width of mandibular base. Juxtacoxal carina absent. Scape, pedicle and basal flagellomeres red. 2 nd and 3 rd tergites completely red. 7 th tergite with weak reddish median spot. Hind tibia apically and hind tarsus completely black
-	Malar space 1.2x longer than width of mandibular base. Juxtacoxal carina present. Basal flagellomeres black. 2^{nd} tergite completely and 3^{rd} tergite laterally red. 7^{th} tergite black. Hind tibia and tarsus red
15	Head mainly black; only frons and vertical orbit, gena apically and lateral part of face reddish. Flagellum bristle-shaped, with 42 flagellomeres. Area superomedia almost square. 2 nd and 3 rd tergites completely red. Mesoscutum completely black. Body length 16 mm. Myanmar
-	Head mainly red; only stemmaticum, median frons and antennal grooves black. Flagellum filiform, with 37 flagellomeres. Area superomedia longer than wide. Body length 12-12.5 mm
16	3 rd tergite red with black basal band, 5 th to 7 th tergites with ivory spots. Body length 12 mm. Myanmar

Lareiga abdominalis (UCHIDA, 1925)

M a t e r i a 1 : Nepal, Karnali Prov., Umg. Tamti, 2500-4000 m, 1♂ 9-12.VI.2007, leg. F. Creutzburg (Erfurt); Nepal Central, Bagmati Zone, Rasuwa district, Langtang Nat. Park, Dhunde-Bharkha-Syabru, 2000-2800 m, 1 ♀ 6-13.v.1996, leg. P. Cechovsky (Linz).

R e m a r k : The Nepalese specimens differ from the description given by HEINRICH (1980: 163-164) by: Postpetiole and dentiparal edges with yellowish spots. Small, body length 9.5 mm.

D i s t r i b u t i o n : Known from China and Myanmar, new record for Nepal.

Limerodops punctatus nov.sp. (fig. 20)

 $\label{eq:holotype:phi} Holotype: @ "Nepal, Distr. Humla, 14 km W Simikot 3km NW Sankha La, 4300 m, 29°57′18′N 81°39′30′′E 29.-30.VI.2001, leg. F. Creutzburg yellow trap" (SDEI).$

D e s c r i p t i o n : ♀: Body length 11.5 mm. Flagellum bristle-shaped, with 40 flagellomeres; 1st flagellomere 2.0x longer than wide, 6th flagellomere square, widest flagellomeres 1.2x wider than long, preapical flagellomere square. Temple slightly and almost linearly narrowed behind eye, dorsally 0.7x as long as eye. Distance of lateral ocellus to eye 1.3x ocellar diameter. Vertex punctate, smooth and shining. Frons rugose-punctate medially and punctate laterally. Face punctate, partly rugose. Clypeus slightly convex, with scattered punctures, apical margin sharp and straight. Gena 1.3x wider than eye, with coarse scattered punctures ventrally. Malar space as long as width of mandibular base. Mandible with two teeth, lower tooth smaller than upper one. Genal carina reaching hypostomal carina away from mandibular base; both carinae low.

Mesosoma covered with fine brownish hairs. Notaulus not impressed. Side of pronotum punctate dorsally and striate ventrally. Mesoscutum with dense punctures, intervals smooth and shining. Mesopleuron densely punctate; metapleuron coarsely rugose-punctate. Juxtacoxal carina absent. Scutellum slightly convex, 1.2x wider than long, with scattered punctures, without lateral carina. Area superomedia about square, rugose; costula absent. Area petiolaris rugose, without lateral carina. Outer dentiparal edge with short, blunt tooth. Hind coxa with scattered punctures ventrally, without scopa. Hind femur 3.7x longer than wide, with very scattered punctures in ventral 2/3. Claws not pectinate, moderately bent apically.

Areolet pentagonal, frontal distance of intercubiti 3x their width; 2^{nd} recurrent vein distinctly distal of its middle. Nervulus postfurcal (3x its width).

Metasoma amblypygous; hypopygium elongate, covering basal 2/3 of ovipositor sheath. Postpetiolus moderately widened, without distinct dorsal carina; median field not distinctly separated, with coarse but superficial aciculation; lateral field punctate. Gastrocoelus and thyridium not impressed. $2^{\rm nd}$ tergite 1.4x wider than long, following tergites \pm compressed, metasoma continously narrowed from $3^{\rm rd}$ tergite on. $7^{\rm th}$ tergite long. $2^{\rm nd}$ and $3^{\rm rd}$ tergite with fine scattered punctures, intervals smooth and shining. Following tergites almost smooth and strongly shining. $2^{\rm nd}$ to $4^{\rm th}$ sternites with median folds. Ovipositor sheath not extending behind metasomal apex.

Colour: Black. 2nd and 3rd tergites completely red. Coxae, trochanters and fore and mid trochantelli black; legs otherwise red; hind tibia infuscate in apical 0.1; mid tarsus brown, hind tarsus blackish. Wings with distinct brownish infuscation; pterostigma yellow.

♂ unknown.

R e m a r k: Due to the characteristical form of metasoma (2^{nd} tergite widest and metasoma narrowed from 3^{rd} tergite on, 7^{th} tergite long), this new species belongs to *Limerodops* HEINRICH. This genus has been only known from the Holarctic region so far and is newly reported from the Oriental region here.

Neolareiga nepalensis nov.sp. (figs 34-35)

Holotype: ♀ "Nepal, Prov. Mahakali, Distr. Darchula, Bachtal S Thaisan, 29°51′12′′N 80°40′17′′E, 2017-06-08, A. Kopetz" (Erfurt).

Description: Q: Body length 14 mm. Flagellum filiform, with 41 flagellomeres; 1st flagellomere 2.3x longer than wide, c. 12th flagellomere square, widest flagellomeres c. 1.1x wider than long, preapical flagellomere square. Temple strongly and almost linearly narrowed behind eye, dorsally 0.35x as long as eye. Ocelli large, distance of lateral ocellus to eye 0.8x ocellar diameter. Frons granulate and finely punctate, matte. Face with fine dense punctures and granulation, matte medially, ± shining laterally. Clypeus flat, 2.5x wider than long, with rather coarse punctures; apical margin sharp and straight. Gena densely punctate, 0.75x as wide as eye. Malar space 0.9x as long as width of mandibular base. Mandible normally shaped, with two teeth, lower one smaller and not bent inwards. Genal carina reaching hypostomal carina far from mandibular base, both carinae low.

Side of pronotum finely rugose-punctate dorsally, with longitudinal rugae ventrally. Notaulus impressed in frontal 0.3 of mesoscutum. Mesoscutum with fine dense punctures and granulation, matte. Mesopleuron and metapleuron densely rugose-punctate. Juxtacoxal carina present. Scutellum moderately convex, slightly longer than wide, densely punctate, without lateral carina. Propodeum finely rugose-punctate. Area basalis without median tubercle. Area superomedia about rectangular, slightly longer than wide; costula absent. Apical transversal carina slightly lamelliform, with blunt tooth at outer dentiparal edge. Hind coxa finely and densely punctate, without scopa. Hind femur slender, 5.0x longer than wide, with dense fine punctures. Claws not pectinate.

Areolet pentagonal, frontal distance of intercubiti c. 4x their width; 2nd recurrent vein reaching areolet in its middle. Nervulus postfurcal (3x its width).

Metasoma strongly oxypygous. Postpetiole slightly widened apically, without distinct dorsal carina or fields, finely rugose and superficially punctate. Gastrocoelus slightly impressed, with fine longitudinal striae; thyridium oblique, 0.7x as wide as the interval. 2nd tergite 1.2x wider than long. All tergites finely granulate and slightly shining; 2nd tergite with some fine superficial punctures on lateral margins. 2nd to 4th sternites with median folds. Ovipositor sheath slender, widely extending behind metasomal apex (by length of 2nd hind tarsomere).

Colour: Head reddish; two paramedian stripes on face, stemmaticum, base of mandible and occiput black. Antenna black; scape red ventrally, flagellomeres 11-14 with ivory rings. Mesosoma black; hind edge of pronotum and small spot on subtegular ridge

yellowish; upper margin of pronotum, tegula, diffuse frontal and lateral stripes on mesoscutum and complete scutellum red. 1st tergite black, metasoma otherwise black, with dark metallic-blue shine. Legs black; fore femur and tibia reddish-yellow frontally. Wings hyaline; pterostigma black.

∂ unknown.

R e m a r k: This new species differs from the other known species of this genus, *Neolareiga rufocoerulea* HEINRICH, 1980, by its stouter basal flagellomeres, black colouration of mesosoma and 1st tergite and larger thyridium.

Ogulnia maculata nov.sp. (figs 41, 43, 44)

Holotype: & "Nepal, 2900 m Mt. Everest dist. 25.8.-20.9.1999, leg. V. Gurko" (Linz).

D e s c r i p t i o n : ♂: Body length 14 mm. Flagellum bristle-shaped, with 46 flagellomeres; 1st flagellomere 2.9x longer than wide. Tyloids on flagellomeres 9-23, linear, longest tyloids c. 0.6x as long as their flagellomeres. Temple long, widened behind eye and narrowed apically, dorsally 1.2x longer than eye. Distance of lateral ocellus to eye 1.2x ocellar diameter. Head with fine punctures, shining. Clypeus almost smooth; apical margin slightly bi-concave, with strong median tooth. Genal carina reaching hypostomal carina close to mandibular base. Head and mesosoma with dense whitish hairs. Notaulus impressed in frontal 1/3 of mesoscutum. Mesoscutum and mesopleuron with coarse dense punctures, shining. Scutellum moderately convex, without lateral carina. Area superomedia rectangular, 1.3x longer than wide; costula absent. Hind femur 4.2x longer than wide. Claws strong, without teeth.

Postpetiolus moderately widened, with scattered punctures, smooth and shining. Gastro-coelus and thyridium smoothly impressed, thyridium c. 0.5x as wide as the interval. 2nd tergite 1.1x wider than long. 2nd to 5th tergites with rather dense punctures, shining.

Colour: Black with rich ivory colour pattern. Ivory are stripes on flagellomeres 16-18, clypeus (except blackish apical tooth), mandible, face, gena, frontal orbit up to vertex, scape ventrally, collare, spot on lateral edge and stripe on upper margin of pronotum, tegula, subtegular ridge, small diffuse spot on lower mesopleuron, two triangular central spots on mesoscutum, praescutellar ridge, scutellum, spot on postscutellum, spot on area spiraculifera frontal to propodeal spiracle, area superomedia (except central blackish spot), apical half of propodeum except area petiolaris, posterolateral spots on postpetiolus, large fronto-lateral spots on 2nd and 3rd tergites (on 2nd tergite confluent medially), lateral margins and narrow apical margins of 3rd to 6th tergites, large roundish mark on 7th tergite, coxae and trochanters mainly, lateral spot on hind coxa and hind trochanter. Femora blackish, with ivory apical spots; tibiae ivory in the basal 2/3, infuscate apically; tarsi ivory except darkened distal tarsomeres. Pterostigma reddish-brown.

♀ unknown.

R e m a r k : This new taxon runs to *O. fuscitarsis* CAMERON from Darjeeling in the key of Oriental *Ogulnia*-species (HEINRICH 1965: 160-161), but can be separated by the different colouration of basal tergites and legs.

Ogulnia rufiventris nov.sp. (figs 42, 45, 46)

Holotype: & "562 Nepal: Dailekh Distr., N Dailekh, 1600 m, 1.-2.VI.1998, leg. G. Miksch" (ZSM).

D e s c r i p t i o n : ♂: Body length 16.3 mm. Flagellum bristle-shaped, with 43 flagellomeres; 1st flagellomere 2.7x longer than wide. Tyloids on flagellomeres 4-18, long-oval, longest tyloids c. 0.6x as long as their flagellomeres. Temple long, moderately and almost linearly narrowed behind eye, dorsally 0.8x as long as eye. Distance of lateral ocellus to eye 1.2x ocellar diameter. Head with fine punctures, shining; face with fine granulate and dense punctures. Clypeus smooth, with scattered punctures; apical margin slightly bi-concave, with strong median tooth. Malar space 0.3x as long as width of mandibular base. Genal carina reaching hypostomal carina close to mandibular base. Mesosoma covered with short grey hairs. Notaulus impressed in frontal 1/5 of mesoscutum. Mesoscutum with fine, dense punctures, ± shining. Mesopleuron with dense punctures and some fine striae ventrocaudally. Scutellum moderately convex, about as long as wide, with strong lateral carina in its basal 0.8. Area superomedia 1.3x longer than wide, rounded frontally and with slightly narrowed sides apically; costula present, reaching area superomedia in its frontal 0.25. Hind femur 3.9x longer than wide. Claws strong, without teeth.

Areolet pointed frontally; 2nd recurrent vein slightly proximal to its middle. Nervulus slightly postfurcal.

Metasoma slender. Postpetiolus slightly widened, with dense punctures. Gastrocoelus slightly impressed, 2x longer than wide. Thyridium weak, oblique, 0.25x as wide as the interval. 2^{nd} tergite 1.35x longer than wide. 2^{nd} to 4^{th} tergites with fine dense punctures, \pm shining.

Colour: Black. Cream yellow are palps, mandible except teeth, clypeus, face, ventral 2/3 of gena, stripe on frontal orbit, scape ventrally, propleuron, frontal and upper margins of pronotum, tegula, subtegular ridge, large spot in ventral mesopleuron and mesosternum, central spot on mesoscutum, apical spot on scutellum, spot on postscutellum, upper division of metapleuron, area posteroexterna, all coxae and trochanters (hind coxa and trochanter with lateral black stripes). 1st tergite black; metasoma otherwise reddish. Fore and mid femora, tibiae and tarsi reddish; femora with ventral brownish stripes. Hind femur reddish-brown; hind tibia reddish-yellow, brown in apical 0.2; hind tarsus brown. Wings hyaline pterostigma dark brown.

 \circ unknown.

R e m a r k: This new species differs from all other known Ogulnia-species by its carinate scutellum, densely punctate postpetiolus and red metasoma without yellow or ivory colour patterns.

Probolus nepalensis nov.sp. (fig. 38)

Holotype: ♀ "Nepal Khumbu Khumdzung 3900 m, 11.7.62, leg. G. Ebert u. H. Falkner" (ZSM).

D e s c r i p t i o n : ♀: Body length 13.5 mm. Flagellum with 43 flagellomeres, slightly lanceolate; 1st flagellomere 1.6x longer than wide, 6th flagellomere square, widest flagellomeres c. 1.5x wider than long. Head covered with brownish hairs. Temple parallel behind eye, slightly narrowed apically, dorsally 1.2x longer than eye. Ocelli small, distance of lateral ocellus to eye 2.5x ocellar diameter. Frons impressed centrally, coarsely rugose-punctate. Face, clypeus and gena with coarse dense punctures. Clypeus slightly convex, apical margin rounded. Malar space 1.1x longer than width of mandibular base.

Genal carina reaching hypostomal carina far from mandibular base, hypostomal carina lamelliform elevated.

Mesosoma with long brownish hairs. Notaulus indistinct. Mesopleuron including speculum coarsely rugose-punctate. Metapleuron with coarse longitudinal rugose-striation; juxtacoxal carina indistinct. Scutellum slightly convex, with rather dense fine punctures, without lateral carina. Hind coxa densely punctate, without scopa. Hind femur 4.0x longer than wide, densely punctate. Claws not pectinate.

Areolet almost quadrangular, frontal distance of intercubiti 1x their diameter. Nervulus postfurcal (2x its width).

Metasoma amblypygous, strongly shining. Median field of postpetiolus not hump-like raised but roundly and distinctly elevated above lateral fields on the border between petiolus and postpetiolus, with some longitudinal rugae, but shining. Lateral field with some striae. Gastrocoelus slightly impressed. Thyridium not developed. 2nd tergite with very fine microsculpture and scattered fine punctures; 3rd tergite with very scattered punctures. Sternites completely sclerotized. Structure otherwise as described for the genus by HEINRICH (1974: 24-25).

Colour: Black. Stripes on flagellomeres 6-11, small spot on vertex, short stripe on outer orbit and apical 2/3 of scutellum yellow. Sternites and 2nd and 3rd tergites reddish. Legs black; fore femur apically and frontal side of fore tibia reddish-brown. Wings yellowish, pterostigma reddish-brown.

♂ unknown.

R e m a r k: The known Palaearctic species of the genus *Probolus* WESMAEL are closely related and show little structural differences (HORSTMANN 2000). The new taxon differs from the European members of this genus by the structure of the flagellum and postpetiolus but is otherwise typical. In the key of HEINRICH (1974), this new species runs to *P. discolor* HEINRICH, but can be differentiated by the lack of lateral carina of the scutellum, shorter basal flagellomeres and black subtegular ridge.

Pseudoamblyteles genator nov.sp. (figs 24, 37)

<code>Holotype:</code> \bigcirc "Nepal, Maharigaon Nord, 29°21′24′′N 82°23′21′′E, 3400 m, 20.06.1997, leg. Creutzburg" (SDEI).

Description on : \circ : Body length 15 mm. Flagellum bristle-shaped, with 40 flagellomeres; all flagellomeres longer than wide; 1st flagellomere 3.8x longer than wide. Head covered with long erected brownish hairs, densely and coarsely punctate. Temple long, moderately and roundly narrowed behind eye, dorsally c. 0.9x as long as eye. Distance of lateral ocellus from eye 1.7x ocellar diameter. Frons rugose-punctate. Face densely punctate. Clypeus with scattered punctures apically, with sharp and straight apical margin. Gena with dense punctures. Malar space as long as width of mandibular base. Mandible with two teeth; lower tooth much smaller than upper one. Genal carina faint ventrally, not reaching hypostomal carina; hypostomal carina lamelliform widened (about as wide as distal maxillary palpomere).

Mesosoma coarsely and densely punctate, covered with brownish hairs. Mesopleuron coarsely punctate, slightly rugose at caudal margin. Metapleuron coarsely punctate, juxtacoxal carina indistinct. Scutellum moderately elevated, wider than long, with lateral carina in basal half. Area basalis with strong median tubercle. Area superomedia almost

square, coarsely rugose; costula absent. Outer dentiparal edge with small tooth. Hind coxa densely punctate, covered with dense brownish hairs, but without scopa. Hind femur 4.2x longer than wide, densely punctate. Claws strongly pectinate.

Areolet pentagonal, frontal distance of intercubiti 4x their width; 2nd recurrent vein distal to its middle. Nervulus postfurcal (3x its width).

Metasoma amblypygous. Lateral field of postpetiolus c. 0.8x as wide as median field, median field elevated and striate. Gastrocoelus strongly impressed, with oblique ridges. Thyridium large, slightly oblique, 1.6x wider than the interval. 2nd tergite 1.2x wider than long, densely but finely punctate, aciculate between thyridia. 3rd tergite with fine and dense punctures, shining. 2nd and 3rd sternites with strong median folds. Hypopygium with apical brush of stiff hairs (as in *Eutanyacra*). Ovipositor sheath slightly extending behind metasomal apex.

Colour: Black, without bluish shine. 2^{nd} and 3^{rd} tergites reddish, gastrocoelus infuscate. Femora and tibiae reddish; tip of hind tibia very narrowly infuscate; mid tarsus brownish, hind tarsus black. Wings slightly infuscate, pterostigma yellowish.

♂ unknown.

R e m a r k : This new taxon is closely related to *P. nepalensis*, but differs by the finer surface structure of mesosoma, incomplete genal carina and widened hypostomal carina.

Pseudoamblyteles nepalensis nov.sp. (figs 25, 36)

Holotype: ♀ "Nepal, Khumbu Khumdzung 3900 m, 17.VII.62, leg. G. Ebert u. H. Falkner" (ZSM).
Paratypes:♀ "Nepal, Khumbu Khumdzung 3900 m, 25.VII.62, leg. G. Ebert u. H. Falkner" (ZSM);
♀ "Nepal, Prov. Karnali, Churta E Hochtal, 3500-3800 m, 02.VI.2007, leg. F. Creutzburg"
(Erfurt);♀ "Nepal, Umg. Gothichaur, ca.2850 m, 29°12′10′′N 82°18′56′′E, 09.061997,
Weißschale, leg. Creutzburg" (SDEI).

Description: Q: Body length 13-14 mm. Flagellum bristle-shaped, with 38-39 flagellomeres, all flagellomeres longer than wide; 1st flagellomere 3.8-4.0x longer than wide. Head covered with long erected brownish hairs, densely and coarsely punctate. Temple long, moderately and roundly narrowed behind eye, dorsally c. 0.9x as long as eye. Distance of lateral ocellus from eye 1.2-1.6x ocellar diameter. Frons and face rugose-punctate. Clypeus densely punctate, with sharp and straight apical margin. Gena with dense punctures. Malar space length 1.1x width of mandibular base. Mandible with two teeth, lower tooth much smaller than upper one. Genal carina complete, reaching hypostomal carina far from mandibular base; both carinae low.

Mesosoma very coarsely and densely rugose-punctate, covered with brownish hairs. Mesopleuron and metapleuron coarsely rugose-punctate, sometimes with longitudinal and rugose striation, juxtacoxal carina indistinct. Scutellum moderately elevated, wider than long, with lateral carina in basal half. Area basalis with strong median tubercle. Area superomedia almost square, coarsely rugose; costula absent, Outer dentiparal edge with small blunt tooth. Hind coxa densely punctate, covered with dense brownish hairs, but without distinctly separated scopa. Hind femur 4.5-4.9x longer than wide, densely punctate, sometimes with scattered punctures in dorsal third. Claws strongly pectinate.

Areolet pentagonal, frontal distance of intercubiti 4x their width; 2nd recurrent vein in or distal to its middle. Nervulus postfurcal (2x its width).

Metasoma amblypygous. Lateral field of postpetiolus c. 0.7x as wide as median field, median field elevated and with fine irregular aciculation or coarser striation. Gastrocoelus strongly impressed, with oblique ridges. Thyridium large, almost transversal, 1.6x wider than the interval. $2^{\rm nd}$ tergite 1.1x wider than long, densely punctate and finely granulate, aciculate between thyridia. $3^{\rm rd}$ tergite with superficial and dense punctures, shining. $2^{\rm nd}$ and $3^{\rm rd}$ sternites with strong median folds. Hypopygium with apical brush of stiff oblique hairs (as in Eutanyacra). Ovipositor sheath slightly extending behind metasomal apex.

Colour: Black, with \pm strong bluish-metallic shine. 2^{nd} and 3^{rd} tergites reddish, 2^{nd} tergite darkened in basal 1/5, in one paratype 3^{rd} tergite black in apical half. Coxae and trochanters black; legs otherwise reddish; hind tibia black in apical 0.1-0.2; fore and mid tarsi brownish or black, hind tarsus black. Wings slightly infuscate, pterostigma yellowish. 3 unknown.

R e m a r k: The surface structure of the mesosoma in this new taxon is similar to *Pseudoamblyteles homocerus* (WESMAEL). It differs by a slenderer hind femur, reddish 2^{nd} and 3^{rd} tergites and slightly blue-metallic shine of mesosoma and metasoma.

Key to the ♀♀ of known Pseudoamblyteles species:

Setanta nedumalba HEINRICH, 1974

M a t e r i a 1 : Nepal, environment of Gotichaur, 29°12′10′′N 82°18′56′′E, 2850 m, 1 \bigcirc 13.VI.1997, leg. Creutzburg (SDEI); Nepal, Mahangaon Nörd., 29°22′28′′N 82°23′26′′E, 3400 m, Weißschale, 1 \bigcirc 20.06.1997, leg. Creutzburg (SDEI).

R e m a r k: The Nepalese material differs from the original description (HEINRICH 1974: 447-448) by wider flagellum (widest flagellomeres c. 1.4x wider than long), completely red fore and mid tibiae and black tegula. One specimen has two short paramedian ivory stripes on mesoscutum and larger ivory spots on facial orbit and gena. The juxtacoxal carina is complete in both specimens. Structure and colouration is otherwise typical, but the colour and flagellar structure seems to be rather variable in *S. nedumalba* HEINRICH. The separation of *S. nedumalba* HEINRICH and *S. himalayensis* (CAMERON) is therefore questionable, and both species might be synonyms.

D i s t r i b u t i o n : Known from Myanmar, new record for Nepal.

Spilichneumon flavomaculatus nov.sp. (fig. 39)

Holotype: ♀ "<u>Nepal,</u> Prov. Jumla, Mahangaon, 29°21′30′′N 82°23′46′′E, 3725 m, 16.06.1997, leg. Creutzburg" (SDEI).

Description: φ: Body length 14 mm. Flagellum stout and filiform, with 38 flagellomeres; 1st flagellomere about as long as wide, following flagellomeres (except the distal one) wider than long, preapical flagellomere 1.1x wider than long. Head with long and scattered erected pale hairs. Temple long, moderately and roundly narrowed behind eye, dorsally 0.75x as long as eye. Distance of lateral ocellus to eye 1.3x ocellar diameter. Stemmaticum densely punctate; frons with scattered punctures, frontal orbits almost smooth. Face moderately bulging centrally, with coarse scattered punctures. Clypeus almost flat, 2.2x wider than long, with scattered punctures and sharp rounded apical margin. Gena about as wide as eye, smooth, with very scattered punctures ventrally. Mandible large and stout, with two teeth; lower tooth very small and slightly bent inwards. Malar space 0.4x as long as width of mandibular base. Genal carina reaching hypostomal carina far from mandibular base, both carinae low.

Mesosoma with erected pale hairs. Pronotum with elongate collare and swollen upper margins, side of pronotum smooth, with scattered punctures. Epomia short. Notaulus not impressed. Mesoscutum smooth and shining, with denser punctures in frontal half and scattered punctures caudally. Mesopleuron with scattered coarse punctures. Epicnemial carina narrow, reaching subtegular ridge. Metapleuron with dense coarse punctures; juxtacoxal carina present. Scutellum almost flat, about as long as wide, with scattered fine punctures, without lateral carina. Propodeum long. Area basalis not carinate and without median tubercle. Area superomedia almost rectangular, with rounded frontal side, rugose, 1.5x longer than wide. Costula not indicated. Area petiolaris rugose, with lateral carina. Legs stout. Fore and mid tibiae with numerous external spurs. Hind coxa smooth and shining, with scattered punctures apically, without scopa. Hind femur stout, finely granulate and with scattered setiferous punctures, 3.2x longer than wide. Distal hind tarsomere long and moderately curved, about as long as 2nd hind tarsomere. Claws strong, not pectinate, distinctly bent apically (by 90°).

Areolet wider than long, pentagonal, frontal distance of intercubiti c. 5x their width; 2nd recurrent vein reaching areolet widely distal of the middle. Nervulus postfurcal (2x its width).

Metasoma amblypygous, hypopygium long, but not reaching metasomal apex. Postpetiolus widened apically, without distinct dorsal carina; median field not separated, with fine aciculation and some fine punctures, lateral field with fine scattered punctures. Gastrocoelus small and slightly impressed, 2x longer than wide and with some fine longitudinal ridges; thyridium not impressed. 2nd tergite 1.2x longer than wide, with fine rather dense punctures, smooth and shining. Following tergites with fine scattered punctures, shining. 2nd and 3rd sternites with median folds. Ovipositor sheath slightly extending behind metasomal apex.

Colour: Black with rich yellow colouration. Yellow are stripes on flagellomeres 9-14, palps partly, clypeus (except black apex and sides), face, wide frontal orbit up to occipital carina, gena, propleuron, collare and wide upper margin of pronotum, large central spots on mesoscutum, mesopleuron and metapleuron, spot on tegula, subtegular ridge, praescutellar carina, scutellum, spot on postscutellum, area dentipara of propodeum, basal half of 2nd tergite, large lateral spots on 3rd to 7th tergites, small median spot on 7th tergite, sides of 2nd to 6th sternites, all coxae except black bases, basal rings on fore and mid tibiae and subbasal ring on hind tibia, basal rings on tarsomeres except black distal tarsomeres. Wings hyaline; pterostigma brown, yellowish at proximal margin.

♂ unknown.

Spilichneumon rufator nov.sp. (fig 40.)

Holotype: ♀ "<u>Nepal</u>, Mahangaon Nörd., 29°22′28′′N 82°23′26′′E, 4400 m, 18.06.1997, leg. Creutzburg" (SDEI).

Paratypes: $\bigcirc\bigcirc$ "Nepal, Prov. Jumla, Maharigaon 29°21′30′′N 8°23′46′′E 3725 m, 16.06.1997, leg. Creutzburg" (SDEI and coll. Riedel).

Description on : φ : Body length 13.5-14 mm. Flagellum stout and filiform, with 40 flagellomeres; all flagellomeres (except distal one) wider than long; 1st flagellomere 1.1x wider than long; preapical flagellomere 1.2x wider than long. Head with long and scattered erected pale hairs. Temple moderately and roundly narrowed behind eye, dorsally 0.65x as long as eye. Distance of lateral ocellus to eye 1.0x ocellar diameter. Frons coarsely rugose-punctate. Face with coarse rather dense punctures. Clypeus almost flat, 2.25x wider than long, with rather dense punctures and sharp rounded apical margin. Gena 1.5x wider than eye, with scattered punctures ventrally. Mandible large and moderately swollen centrally, with two teeth, lower tooth small and not bent inwards. Malar space 0.4-0.5x as long as width of mandibular base. Genal carina reaching hypostomal carina far from mandibular base, hypostomal carina slightly elevated.

Mesosoma covered with pale hairs. Pronotum with elongate collare and swollen upper margin, sides with scattered punctures and some striae at caudal margin. Epomia short. Notaulus not impressed. Mesoscutum smooth and shining, with denser punctures in frontal half and scattered punctures caudally. Mesopleuron with scattered coarse punctures, coarsely striate in ventral half. Epicnemial carina narrow, reaching subtegular ridge. Metapleuron coarsely punctate-striate; juxtacoxal carina present. Scutellum almost flat, 1.2x wider than long, with scattered fine puncture, without lateral carina. Propodeum long. Area basalis not carinate and without median tubercle. Area superomedia almost rectangular, with rounded frontal side, rugose, 2.0x longer than wide. Costula not indicated. Area petiolaris rugose, with lateral carina. Legs stout. Fore and mid tibia with numerous external spurs. Hind coxa smooth and shining, with scattered punctures, without scopa. Hind femur stout, finely granulate and with scattered setiferous punctures, 3.0-3.3x longer than wide. Distal hind tarsomere long and moderately curved, about as long as 2nd hind tarsomere. Claws strong, not pectinate, distinctly bent apically (by 90°).

Areolet wider than long, pentagonal, frontal distance of intercubiti c. 5x their width; 2nd recurrent vein reaching areolet distal to the middle. Nervulus postfurcal (2x width).

Metasoma amblypygous, hypopygium long, but not reaching metasomal apex. Postpetiole widened apically, without distinct dorsal carina; median field not separated, partly with fine aciculation and punctures, lateral field with fine scattered punctures. Gastrocoelus small and slightly impressed, 2x longer than wide, smooth; thyridium not impressed. 2nd tergite about as long as wide, with fine scattered punctures, shining. Following tergites with fine scattered punctures, shining. 2nd and 3rd sternites with median folds. Ovipositor sheath slightly extending behind metasomal apex.

Colour: Largely red. Antenna tricoloured: Scape, pedicle and flagellomeres 1-7 red, flagellomeres 8-16 yellowish, following flagellomeres black. Head red; palps yellow-red; frontal orbit or entire inner orbit up to vertex and sometimes spot on malar space yellow. Mesosoma red; black are propleuron, side of pronotum centrally, wide margins of mesopleuron and metapleuron, complete mesosternum, scuto-scutellar groove, area beside scutellum, basomedial spot and apical margin of propodeum. Yellow are collare and wide upper margin of pronotum, central spot of mesoscutum (in one specimen paramedi-

an stripes on mesoscutum confluent apically), sometimes subtegular ridge, complete scutellum and postscutellum. Metasoma red; basal bands or transversal stripes of 2nd to 6th tergites black; 7th tergite with median yellow spot; in one specimen central spot on postpetiolus and apical stripes of 2nd to 6th tergites yellowish. Legs red; trochanters and basoventral spots on all femora black; yellow are subbasal rings of all tibiae and mid and hind tarsomeres except brownish tips. Wings slightly yellowish infuscate, pterostigma yellow.

♂ unknown.

Key to the $\Diamond \Diamond$ of the known Oriental *Spilichneumon* species:

- Body with ± reddish colour (at least mesoscutum and parts of head red)......2

Stenichneumon (Myermo) appropinquans (CAMERON, 1897)

M a t e r i a 1 : Nepal, Dailekh distr., N Dailekh 1600 m, 1 \bigcirc 1-2.VI.1998, leg, G. Miksch (ZSM); Nepal, Kathmandu, Shivaburi Watersheet, 27°46′16.0′ N 85°24′26.8′ E, 1880-1950 m, 1 \bigcirc 17.IV.1994, leg. E. & J. Hüttinger (Linz).

R e m a r k : Hind coxa of $\c \bigcirc$ with a ventral flange-like projection at apical margin.

D i s t r i b u t i o n : Widesprad in the Eastern Palaearctic and Oriental regions, known from Nepal (GUPTA 1988).

Stenichneumon maculitarsis (CAMERON, 1903)

M a t e r i a 1 : Nepal: Dailekh District, Talpokhari S Dailekh, 1800 m, 1♀ 29.V.1998, leg. G. Miksch (ZSM).

R e m a r k : Hind coxa of \circ without a ventroapical flange.

Distribution: Widespread in the Oriental region, known from Nepal (GUPTA 1988).

Xestojoppa olivacea CAMERON, 1901

M a t e r i a 1 : Nepal, Nawakot Trisuli Khola, 1600-2200 m, Dhunche-Syabru Beasi, 1♂ 28.IX.1982, leg. Holzschuh (ZSM).

D i s t r i b u t i o n : Known from India and Myanmar, new record for Nepal.

Discussion

Although some of the Nepalese Ichneumoninae species mentioned here are typical

members of the Oriental fauna, the findings also suggest some affinities to the Ichneumonine fauna of the Palaearctic region, e.g. the new subspecies of the widespread Palaearctic species *Diphyus quinquecinctus* Kriechbaumer, a relatively high number of typical members of the genus *Ichneumon* LINNAEUS, and the occurence of genera such as *Limerodops* HEINRICH and *Pseudoamblyteles* HEINRICH which have only been found in the Palaearctic or Holarctic regions so far.

Acknowledgment

I thank F. Gusenleitner and M. Schwarz (Biologiezentrum Linz/Austria), S. Schmidt (Zoologische Museum München/Germany), A. Taeger (Senckenberg Deutsches Entomologisches Institut Müncheberg/Germany) and H. Riemann (Überseemuseum Bremen/Germany) for the generous loan of their Nepalese Ichneumoninae. I also thank J. Müller (Jena/Germany) who sorted the Nepalese Ichneumoninae from the Naturkundemuseum Erfurt and M. Hartmann (Erfurt/Germany) who kindly sent this material for determination.

Zusammenfassung

In der vorliegenden Arbeit werden neue nepalesische Fundorte von 44 Arten der Unterfamilie Ichneumoninae (Hymenoptera, Ichneumonidae) angegeben, 40 dieser Arten werden erstmalig aus Nepal gemeldet.

24 Arten und eine Unterart werden neu beschrieben. Die neue Arten sind: Aoplus rufomaculatus nov.sp., Benyllus rufoniger nov.sp., Bystra nigromaculata nov.sp., Cratichneumon flavator nov.sp., Ctenichneumon caeruloventris nov.sp., Diphyus nepalensis nov sp., Diphyus rufofacialis nov.sp., Ichneumon cavigena nov.sp., Ichneumon creutzburgi nov.sp., Ichneumon longigenalis sp. nov., Ichneumon nepalensis nov.sp., Ichneumon politoventris nov.sp., Ichneumon ruficephalus nov.sp., Ichneumon tricoloratus nov.sp., Limerodops punctatus nov.sp., Neolariega nepalensis nov.sp., Ogulnia maculata nov.sp., Ogulnia rufiventris nov.sp., Probolus nepalensis nov.sp., Pseudoamblyteles nepalensis nov.sp., Pseudoamblyteles genator nov.sp., Spilichneumon flavomaculatus nov.sp., Spilichneumon rufator nov.sp. Diphyus quinquecinctus himalayaensis nov.ssp. wird als eine neue Unterart und für Coelichneumon lineiscutus HEINRICH das bisher unbekannte Männchen beschrieben.

Zusätzlich werden Bestimmungsschlüssel für die Weibchen der Gattung *Ichneumon* LINNAEUS aus dem Himalaya und aus Myanmar, für die bekannten Arten der Gattung *Pseudoamblyteles* HEINRICH und für die orientalischen Arten der Gattung *Spilichneumon* THOMSON gegeben.

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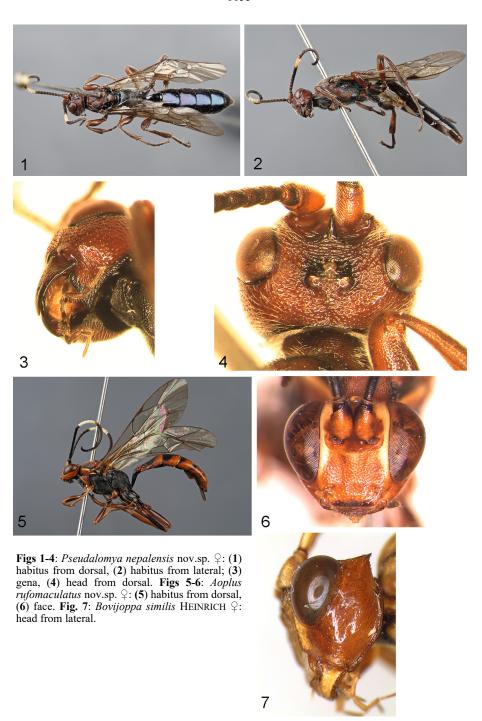
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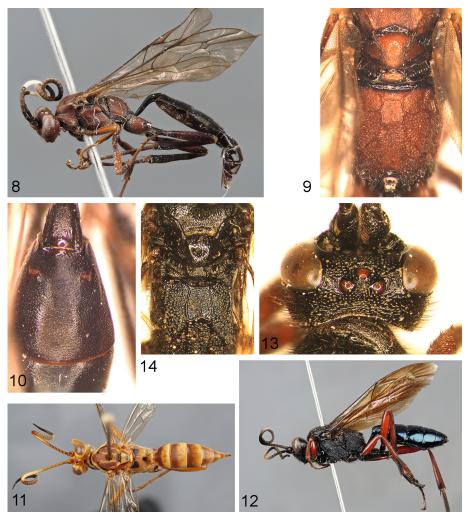
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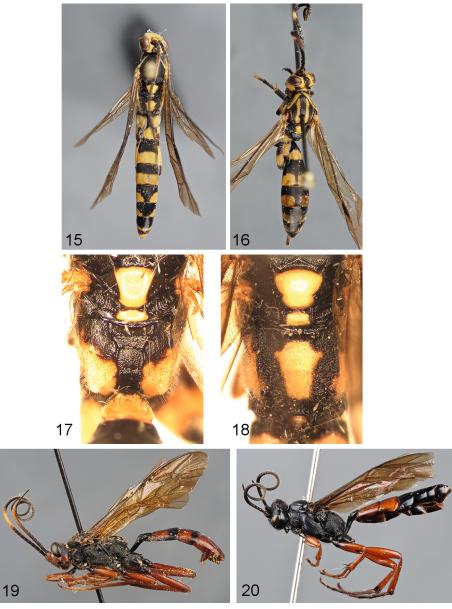
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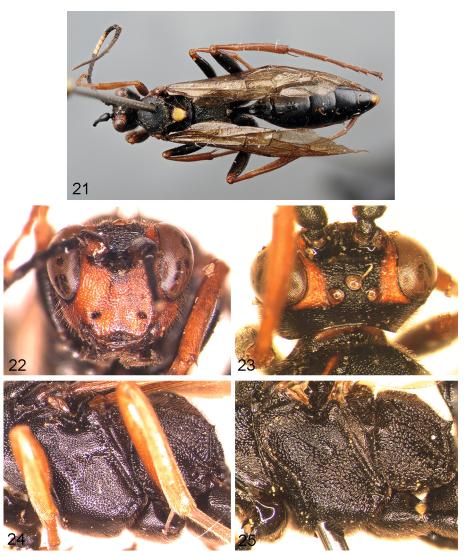




Figs 8-10: Benyllus rufoniger nov.sp. $\ \$: (8) habitus from lateral, (9) propodeum, (10) basal tergites. Fig. 11: Bystra nigromaculata nov.sp. $\$: habitus from dorsal. Figs 12-14: Ctenichneumon caeruloventris nov.sp. $\$: (12) habitus from lateral, (13) head of $\$ from dorsal, (14) propodeum.



Figs 15-18: Cratichneumon flavator nov.sp.: (15) habitus of \Diamond , (16) habitus of \Diamond , (17) propodeum of \Diamond , (18) propodeum of \Diamond . Figs 19-20: Habitus from lateral: (19) Diphyus nepalensis nov.sp. \Diamond , (20) Limerodops punctatus nov.sp. \Diamond .

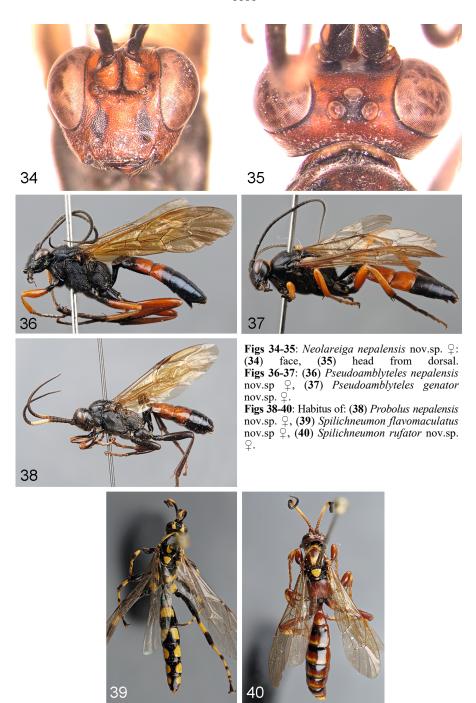


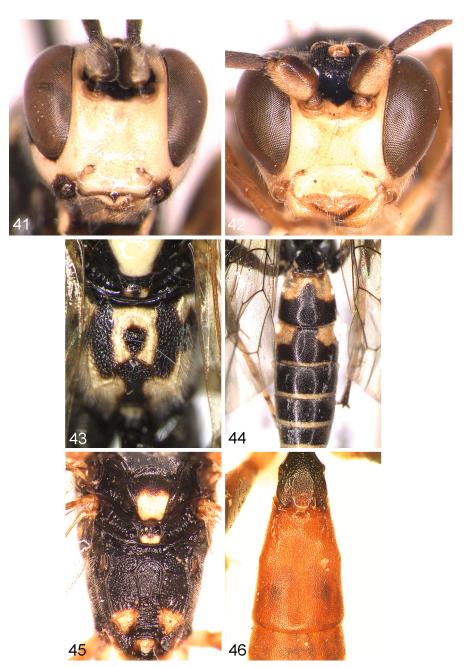


Figs 26-29: Habitus from dorsal: (26) Ichneumon cavigena nov.sp. φ , (27) Ichneumon cavigena nov.sp. φ , (28) Ichneumon creutzburgi nov.sp. φ , (29) Ichneumon longigenalis nov.sp. φ .



Figs 30-33: Habitus from dorsal: (30) *Ichneumon nepalensis* nov.sp. \bigcirc , (31) *Ichneumon politoventris* nov.sp. \bigcirc , (32) *Ichneumon ruficephalus* nov.sp. \bigcirc , (33) *Ichneumon tricoloratus* nov.sp. \bigcirc .





Figs 41-46: Ogulnia maculata nov.sp. \circlearrowleft : (41) face, (43) propodeum, (44) basal tergites; Ogulnia rufiventris nov.sp. \circlearrowleft : (42) face, (45) propodeum, (46) basal tergites.

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Band/Volume: <u>0051_2</u>

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Artikel/Article: Contribution to the Ichneumoninae (Hymenoptera, Ichneumonidae) of

Nepal 1119-1162