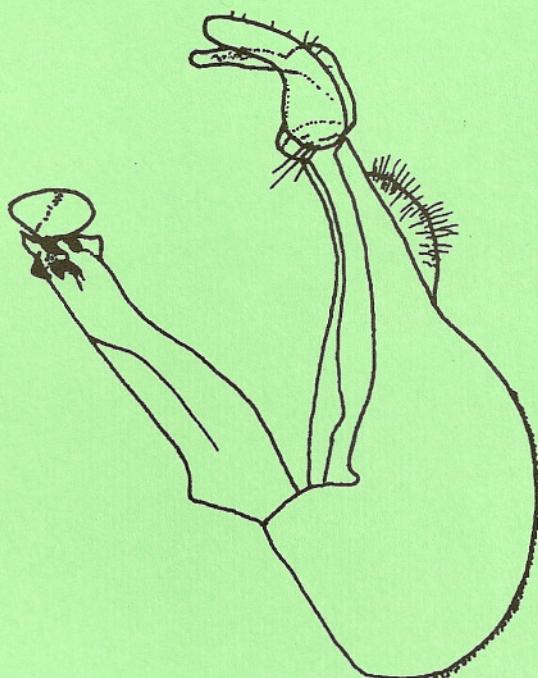


Dipteron

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The subgenus *Neocnemodon* GOFFE, 1944 (Diptera, Syrphidae) on the Balkan Peninsula and description of *Heringia (Neocnemodon) larusi* spec. nov.

[Die Untergattung *Neocnemodon* GOFFE, 1944 (Diptera, Syrphidae) auf der Balkanhalbinsel und Beschreibung von *Heringia (Neocnemodon) larusi* spec. nov.]

Ante VUJIĆ (Novi Sad)

Abstract: In this paper the species of the subgenus *Neocnemodon* GOFFE, 1844 occurring on the Balkan Peninsula are analysed. *Heringia (Neocnemodon) larusi* spec. nov. is described and figured, based on material from Kopaonik mountain (Serbia) and the Italian Alps. The new species is closely related to *H. (N.) pubescens* (DELLUCCHI & PSCHORN-WALCHER, 1955). Records and distributional data are presented for six species of the subgenus from the examined area. *H. (Neocnemodon) fulvimanus* (ZETTERSTEDT, 1843) is excluded from the Balkan fauna.

Key words: Syrphidae, *Neocnemodon*, new species, Balkan Peninsula

Zusammenfassung: In dieser Arbeit werden die Arten der Untergattung *Neocnemodon* GOFFE, 1844 auf der Balkanhalbinsel analysiert. *Heringia (Neocnemodon) larusi* spec. nov. wird basierend auf Material aus dem Kopaonik Gebirge (Serbien) und den italienischen Alpen beschrieben und abgebildet. Die neue Art ist nahe mit *H. (N.) pubescens* (DELLUCCHI & PSCHORN-WALCHER, 1955) verwandt. Meldungen und Verbreitungssangaben werden für sechs Arten der Untergattung aus dem Untersuchungsgebiet angeführt. *H. (Neocnemodon) fulvimanus* (ZETTERSTEDT, 1843) wird von der Fauna des Balkan ausgeschlossen.

Stichwörter: Syrphidae, *Neocnemodon*, neue Art, Balkanhalbinsel

Introduction: The European species of *Neocnemodon* (as *Cnemodon*) were revised by DELUCCHI & PSCHORN-WALCHER (1955), recognizing six species treated in recent European literature. There are considerable difficulties in distinguishing females, larval and puparial stages of *Heringia RONDANI*, 1856 and *Neocnemodon* GOFFE, 1944. *Neocnemodon* was formally synonymized with *Heringia* by ROTHE-RAY & GILBERT (1989). Based on the structure of the aedeagus, CLAUSSEN et al.

(1994) recognised two subgenera of the genus *Heringia*: *Heringia* sensu stricto (aedeagus simple) and *Neocnemodon* (aedeagus two-segmented). They erected two species groups for the Palaearctic species of *Neocnemodon*: the *hispanica*-group (third antennal segment elongated and surstylus toothed dorsally) and the *latitarsis*-group (third antennal segment short, surstylus simple).

During the past few years many specimens of *Neocnemodon* have been collected on the Balkan Peninsula. The present paper gives the results of these faunistic investigations.

Results:

Heringia (Neocnemodon) hispanica-group

The taxon "*Pipizella herringii* (ZETTERSTEDT, 1843) var. *hispanica* STROBL, 1909" was revalidated as a species and placed in the subgenus *Neocnemodon* by CLAUSSEN et al. (1994). This is the only European species of the subgenus with characteristic toothed basal part of surstylus.

1. *Heringia (Neocnemodon) hispanica* (STROBL, 1909)

This Mediterranean species was collected near the Adriatic and Aegean coasts in the biome of Mediterranean maritime evergreen woodlands and maquis.

Distribution: Europe: narrow Mediterranean belt (Spain, France, Italy, Croatia, Greece); **Balkan Peninsula:** Croatia, Greece.

Published records: CLAUSSEN et al. (1994); Greece: Crete, Euboa.

New records: Croatia: Dubrovnik YH 34 (UTM-grid), Slano, 8.v.1984, 1 ♀, leg. Radnović (Institute of Biology, Novi Sad, IBNS), 1 ♂, leg. Radnović (Musée Zoologique, Lausanne).

Heringia (Neocnemodon) latitarsis-group

The six European species related to *H. (Neocnemodon) latitarsis* (EGGER, 1865) are included in a key by DELUCCHI & PSCHORN-WALCHER (1955). Their key is to the males only, since the females could not previously be distinguished. The species belonging to the *latitarsis*-group range throughout the northern and central part of the Palaearctic. They are missing from southern and Mediterranean Europe. On the Balkan Peninsula, the populations of most species occur in coniferous and beech woods, near streams, rivers and lakes, and in mountainous areas.

2. *Heringia (Neocnemodon) brevidens* (EGGER, 1865)

The species appears in Pannonian plains, lowlands and hilly areas of central parts of the Balkan Peninsula. *H. (Neocnemodon) brevidens* (EGGER, 1865) appears

to prefer the oak and polydominant deciduous forests. The known flight period is in the late summer (12.vii-24.viii).

Distribution: from Great Britain through central Europe and Siberia to the Far East; **Balkan Peninsula:** Serbia.

Published records: Serbia: VUJIĆ & GLUMAC (1994) (Fruška gora), VUJIĆ et al. (1998) (Obedska bara).

New records: Serbia: Deliblatska peščara EQ 06, 7.viii.1989, 1 ♂ 1 ♀, leg. Vujić; Malinik and Dubašnica (Klisura Lazareve reke EP 77, 12.vii.1985, 1 ♀, leg. Radišić P.; 13.viii.1994, 1 ♀, leg. Šimić, 24.viii.1995, 1 ♂ 2 ♀♀, leg. Vujić, 1 ♀, leg. Tepavčević, 1 ♀, leg. Radišić, M.) (IBNS).

3. *Heringia (Neocnemodon) larusi* spec. nov.

Type material: Holotype: Serbia: Kopaonik, Samokovska reka DN 89, 1500 m, 22.vi.1991, 1 ♂, leg. Vujić (Natural History Museum, Belgrade, NHMB: coll. 595773: Inv. No. 27).

Paratypes: Serbia: Kopaonik, Klisura Samokovske reke DP 70, DN 89, 800-1500 m, 16.vi-5.vii.1986 and 1991, 24 ♂♂ 5 ♀♀, leg. Radišić, Radnović & Vujić (1 ♀, Allotype, same data as holotype, NHMB: coll. 595773: Inv. No. 28); Jasle-Jablanova ravan DN 89, 1400 m, 14.vi.1986, 4 ♂♂, leg. Vujić, 23.vi.1991, 3 ♂♂, leg. Radnović & Vujić; Jankove bare DN 89, 1400 m, 15.vi.1986, 3 ♂♂, leg. Vujić; Italia: "Südtirol, Val di Planol, oberhalb Planol, 1600-1800 m, 6.vii.1988", 1 ♂, leg. Claussen (CC).

Remarks: The holotype and allotype are deposited at Natural History Museum in Belgrade, Yugoslavia (NHMB). Most of the paratypes are preserved in the collection of Institute of Biology, University of Novi Sad, Yugoslavia (IBNS), except for three males in the private collection of Claus Claussen, Flensburg, Germany (CC).

Etymology: The species has been named after the bird genus *Larus*, and refers to the shape of postanal lamella, similar to the head of a sea gull. A noun in genitive case.

Diagnosis: *H. (Neocnemodon) larusi* spec. nov. is similar to *H. (Neocnemodon) pubescens* (DELUCCHI & PSCHORN-WALCHER, 1955) and *H. (Neocnemodon) vitripennis* (MEIGEN, 1822), but differs in male genitalia, wing and front basitarsus. Shape of surstylus (figure 5) is intermediary between *H. pubescens* (figure 6) and *H. vitripennis* (figure 7); postanal lamella shaped like the head of a sea gull in lateral view (figure 9), more pigeon-like in *H. pubescens* (figure 8); the microtrichia on the wing (figure 13) more reduced than in *H. pubescens*; the hollow on the inner side of front basitarsus simple (figure 10); mesoscutum black haired, while predominantly pale in *H. vitripennis*.

Description: ♂ (figures 1, 2, 5, 9, 10, 13): **Head:** Third antennal segment oval, slightly longer than broad, red-brown baso-ventrally. Face shining, black haired. Frons shining, covered with black hairs. Hairs on eyes of medium size, dark-grey.

Thorax: Predominantly black haired. Mesoscutum dusted along the middle. Legs black except pale knees, top of tibiae, and basal 3-4 tarsomers of front and middle legs. Coxae of middle and hind legs and hind trochanters with distinct spurs. Metatarsus of front legs with simple hollow on the inner side (figure 10). Wing darkened, almost completely covered by microtrichia, except areas on cells r and m (figure 13).

Abdomen: Tergites dull medially, black haired. Sternites without median protuberance.

Genitalia (figures 1, 2): Clearly different from related species. Shape of surstylos (figure 5) intermediate between *H. pubescens* (figure 6) and *H. vitripennis* (figure 7). Postanallamella sea gull-like in lateral view (figure 9).

♀ (figure 14): **Head:** Predominantly pale haired, except black hairs on frons and around antennal bases. Frons width at the level of antennae compared with head width 1:2,6.

Thorax: Pale haired, scutellum without long marginal hairs or bristles. Wing cells m and cu with more reduced microtrichia than in the male (figure 14).

Abdomen: Shining, covered with pale hairs.

Size: ♂: body length 7,5-8,5 mm; ♀: body length 6,8-8,0 mm.

Distribution: Serbia and Italia.

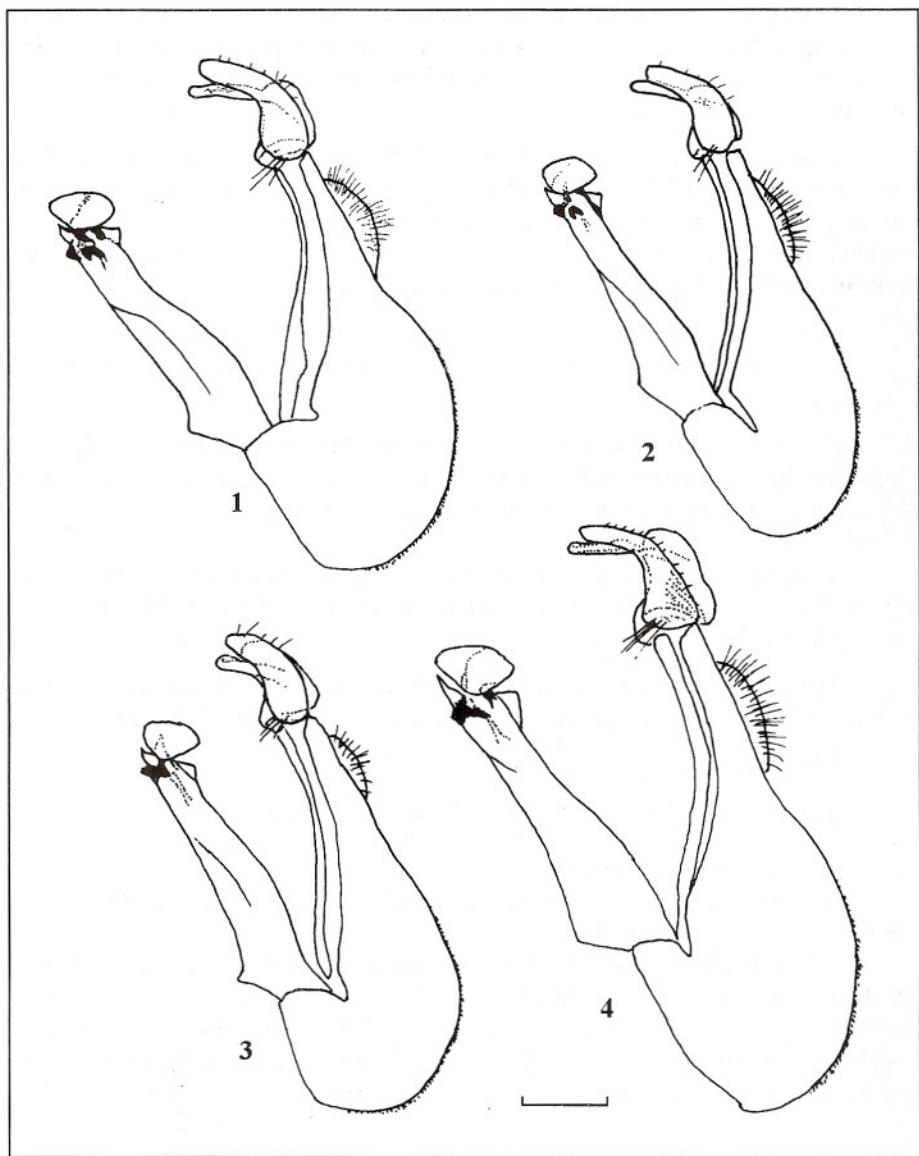
H. (Neocnemodon) larusi spec. nov. was collected on Kopaonik mountain in western Serbia and in the Italian Alps.

At the type-locality the population of this species appears sympatrically with *H. (Neocnemodon) pubescens*, but later in the season. *H. pubescens* flies in May, and *H. larusi spec. nov.* in the second half of June. The species was found in coniferous forests on mountain plateau at 1400-1500 m and in mixed coniferous and beech forests in the gorge of the Samokovska river.

4. *Heringia (Neocnemodon) latitarsis* (EGGER, 1865)

H. (Neocnemodon) latitarsis is the most distributed *Neocnemodon* species on the Balkan Peninsula. It appears in all types of forest communities from Pannonian hills to high Dinaric mountains.

Distribution: From Ireland through central Europe to the Caucasus; **Balkan Peninsula:** all parts, except Albania and Greece.



Figures 1-4: Male genitalia, lateral view: 1-2: *Heringia (Neocnemodon) larusi* spec. nov. (paratypes, Kopaonik, Serbia); 3: *H. (N.) pubescens* (Kopaonik, Serbia); 4: *H. (N.) vitripennis* (Durmitor, Montenegro). Scale 0,2 mm.

Unverified references: LANGHOFFER (1919) (Croatia: Fužine); BANKOWSKA (1967) (Bulgaria: Stara Planina, Sliven); LAMBECK (1968) (Slovenia: Bled, Vintgar).

Published records: Montenegro: ŠIMIĆ (1987) (Durmitor); Serbia: VUJIĆ & ŠIMIĆ (1994) (Vršačke planine); VUJIĆ & GLUMAC (1994) (Fruška gora).

New records: Croatia: Krapina, 1 ♂ 1 ♀, leg. Hensch (Bosnia Herzegovina Museum, Sarajevo, BHMS); Bosnia and Herzegovina: Konjuh CQ 00, 900 m, 30.vii.1989, 1 ♂, leg. Radović; Jahorina CP 04, 1500 m, 14.vi.1991, 6 ♀♀, leg. Vujić; Montenegro: Durmitor, Kanjon Komarnice CN 36, 1300 m, 22.viii.1984, 1 ♀, leg. Vujić; Crno jezero CN 47, 1500 m, 27.viii.1984, 1 ♂ 1 ♀, leg. Vujić; Serbia: Fruška gora, Brankovac DR 00, 400 m, 21.v.1991, 2 ♂♂, leg. Vujić; Paragovo DR 00, 300 m, 30.iv.1994, 1 ♂, leg. Vujić; Glavica DR 00, 300 m, 25.iv.1994, 1 ♂, leg. Vujić; Deliblatska peščara EQ 06, 7.viii.1989, 1 ♂ 1 ♀, leg. Vujić; Tara, Gorušica CP 76, 12.vii.1985, 1 ♂, leg. Radnović; Kopaonik, Samokovska reka DP 70, DN 89, 800-1500 m, 2.v.-5.vii., 4 ♂ 26 ♀, leg. Šimić, Božićić, Radnović & Vujić; Stara Planina, Živadinov dol, 12.vii.1991, 1 ♀ leg. Milankov; Malinik and Dubašnica, Klisura Lazareve reke EP 77, 700 m, 29.iv.1995, 1 ♂, leg. Vujić; Macedonia: Baba EL 14, 500 m, 17.vi.1990, 1 ♀, leg. Vujić; Kožuf, Došnica FL 04, 1000 m, 16.vii.1990, 2 ♂, leg. Milankov & Radović (IBNS).

5. *Heringia (N.) pubescens* (DELUCCHI & PSCHORN-WALCHER, 1955)

H. (Neocnemodon) pubescens is the mountainous species on the Balkan Peninsula, occupying altitudes above 1000 m. The most numerous populations were found in the coniferous and beech forests. The species flies in the spring, one or two weeks after snow melt.

Distribution: From Great Britain through central Europe to the Far East, and from Finland to Bulgaria; **Balkan Peninsula:** Slovenia, Bosnia and Herzegovina, Montenegro, Serbia and Bulgaria.

Unverified references: BANKOWSKA (1967) (**Bulgaria:** Stara Planina, Sliven).

New data: Slovenia: Kamniške Alpe, Kamniška Bistrica VM 63, 1400 m, 21.v.1989, 1 ♀, leg. Vujić; Matkov Kot VM 64, 1400 m, 25.v.1989, 2 ♂, leg. Vujić; Julijske Alpe, Kranjska gora VM 05, 1000 m, 23.v.1989, 1 ♂ 1 ♀, leg. Vujić; Menina VM 82, 700 m, 24.v.1989, 1 ♂, leg. Vujić; Bosnia and Herzegovina: Konjuh CQ 00, 900 m, 13.v.-25.vi., 5 ♂♂ 1 ♀, leg. Vujić; Jahorina CP 04, 1500 m, 14.v.-14.vi., 10 ♂♂, leg. Vujić; Montenegro: Durmitor, Crno jezero CN 47, 1500 m, 4.-24.vi., 3 ♂♂ 3 ♀ ♀, leg. Vujić; Kanjon Sušice CN-38, 1200 m, 2.vi.1994, 1 ♂, leg. Vujić; Serbia: Tara CP 76, 1000 m, 17.vii.1985, 1 ♀, leg. Radnović; Kopaonik, Samokovska reka DP 70, DN 89, 20.v.-21.vi., 49 ♂♂ 14 ♀♀, leg. Božićić, Radnović, Šimić & Vujić; Kadijevac DN 89, 1300 m, 21.v.1986, 3 ♂♂, leg. Vujić; Velika reka DN 89, 1300 m, 23.v.1986, 3 ♂♂, leg. Vujić; Jasle-Jablanova ravan DN 89, 1400 m, 20.v.1986, 10 ♂♂ 1 ♀, leg. Radnović & Vujić, 23.v.1993, 1 ♂, leg. Vujić; Čeperske bačije DN 89, 1400 m, 22.v.1993, 1 ♂, leg. Šimić; Srebrenac DN 89, 1000 m, 24.v.1987, 1 ♂, leg. Vujić; Stara Planina,

Dojkinačka reka FN 49, 1000 m, 30.v.1988, 1 ♂, leg. Vujić; Dubašnica, Dubašnica lunga EP 78, 1100 m, 16.v.1993, 1 ♂, leg. Vujić, 15.v.1994, 1 ♂, leg. Vujić; Demizlok EP 77, 1000 m, 14.v.1994, 1 ♂, leg. Vujić (IBNS).

6. *Heringia (Neocnemodon) vitripennis* (MEIGEN, 1822)

Cnemodon fulvimanus (ZETTERSTEDT, 1843) of ŠIMIĆ, 1987

H. (Neocnemodon) vitripennis is known from few localities on the Balkan Peninsula. All specimens were found in deciduous forests at different altitudes, during summer.

Distribution: all Palaearctic, except north Africa; **Balkan Peninsula:** Montenegro, Serbia, Bulgaria.

Unverified references: DRENSKI (1934) (Bulgaria: Rodopi).

Published records: ŠIMIĆ (1987) (Montenegro: Durmitor, Pitomine, 10.vii.1983, 1 ♂, det. Šimić as *Cnemodon fulvimanus*); VUJIĆ & GLUMAC (1994) (Serbia: Fruška gora).

New records: Serbia: Kopaonik, Samokovska reka DP 70, 800 m, 19.vii.1985, 1 ♂, leg. Vujić.

Discussion: The male of *H. (Neocnemodon) larusi* spec. nov. can be separated from related species of the subgenus as follows:

1. Mesoscutum predominantly pale haired, cell cu with partly reduced microtrichia, surstylus long and strongly curved (figure 7) *H. (Neocnemodon) vitripennis* (MEIGEN, 1822)
- Mesoscutum black haired, cell cu completely covered by microtrichia, surstylus shorter and less curved (figure 5,6) 2
2. Postanallamella sea gull-like in lateral view (figure 9), surstylus longer and more curved (figure 5), the microtrichia on cell m partly reduced (figure 13) *H. (Neocnemodon) larusi* spec. nov.
- Postanallamella pigeon-like (figure 8), surstylus short and curved only on the top (figure 6), cell m completely covered by microtrichia *H. (Neocnemodon) pubescens* (D. & P.-W.)

The females of the *latitarsis*-group of the subgenus *Neocnemodon* from the Balkan Peninsula can be partly distinguished by following key:

1. Cell cu almost completely covered by microtrichia 2
- Microtrichia on cell cu reduced at least in basal third 3

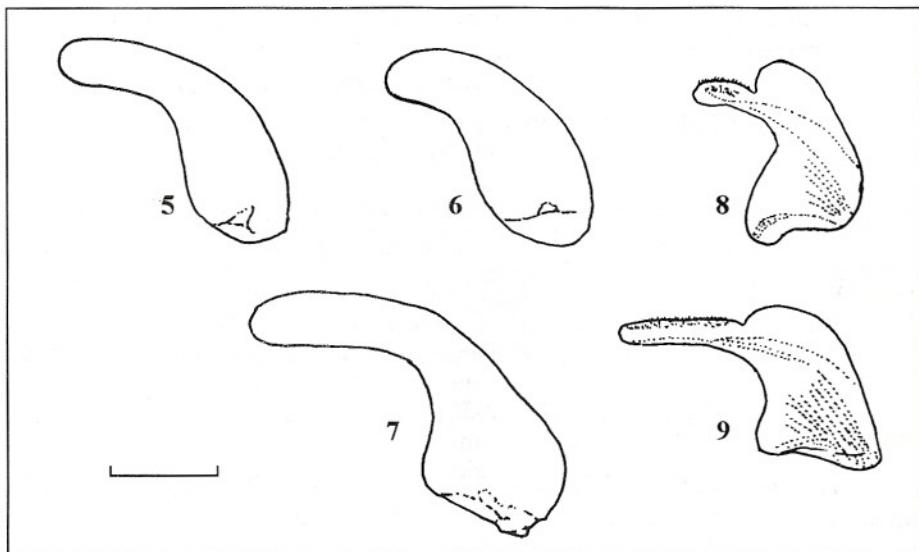
2. Microtrichia on cell m in posterior half and on cell cu near costal vein reduced (figure 14) *H. (Neocnemodon) larusi* spec. nov.
 (determination is not reliable without male)
- Cells m and cu almost completely covered by microtrichia
 *H. (Neocnemodon) pubescens* (D. & P.-W.)
3. Frons narrow, frons width in relation to head width, at the level of antennae, 1:2,3 *H. (Neocnemodon) brevidens* (EGGER, 1865)
- Frons larger, frons width in relation to head width, in the level of antennae, 1:2,6 and more *H. (Neocnemodon) latitarsis* (EGGER, 1865)
 *H. (Neocnemodon) vitripennis* (MEIGEN, 1822)

Remark: Thirty six females from the collection are still undetermined.

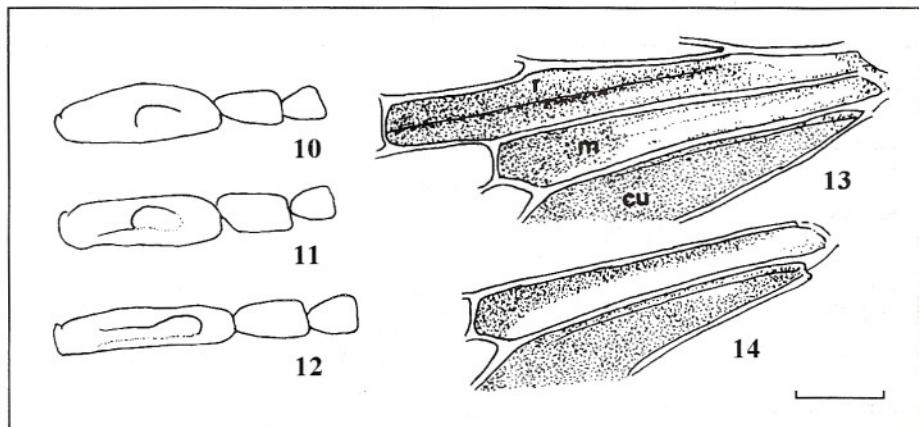
The only record of *H. (Neocnemodon) fulvimanus* (ZETTERSTEDT, 1843) on the Balkan Peninsula was cited (as *Cnemodon*) for Durmitor mountain in Montenegro (ŠIMIĆ, 1987). A sample from the collection is redetermined as *H. (Neocnemodon) vitripennis* and on this basis *N. fulvimanus* is excluded from the Balkan fauna.

Table 1: Characters to distinguish ♂♂ of *Neocnemodon pubescens*, *N. larusi* spec. nov. and *N. vitripennis*

Character	<i>Neocnemodon pubescens</i>	<i>Neocnemodon larusi</i> spec. nov.	<i>Neocnemodon vitripennis</i>
hairs on mesoscutum	from predominantly black to mixed pale and many black	predominantly black	predominantly pale
hollow on front basitarsus	simple, located in apical half (figure 11)	simple, located in apical half (figure 10)	elongated, extends from basal to the apical fourth (figure 12)
microtrichia on wing cell r	almost completely covered	slightly reduced in basal half (figure 13)	clearly reduced in basal half
postanal lamella	pigeon-like (figure 8)	sea gull-like (figure 9)	sea gull-like (figure 4)
surstylus	shorter and broader swollen in apical third (figure 6); see SPEIGHT & SMITH (1975) for variability	longer, swollen in apical half (figures 1, 2, 5)	broad in basal third narrow and swollen in apical two third (figure 7)



Figures 5-9: Surstylus (5-7) and postanal lamella (8-9), lateral view: 5,9: *Heringia (Neocnemodon) larusi* spec. nov. (paratypes, Kopaonik, Serbia); 6,8: *H. (N.) pubescens* (Kopaonik, Serbia); 7: *H. (N.) vitripennis* (Durmitor, Montenegro). Scale 0,1 mm.



Figures 10-14: Front leg tarsomers 1-3 (10-12) and wing cells r, m and cu (13-14): 10,13: male, 14: female *Heringia (Neocnemodon) larusi* spec. nov. (paratype, Kopaonik, Serbia); 11: *H. (N.) pubescens* (Kopaonik, Serbia); 12: *H. (N.) vitripennis* (Durmitor, Montenegro). Scale 0,2 mm.

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Author: Dr. Ante VUJIĆ, Institute of Biology, Faculty of Science, University of Novi Sad, Trg Dositeja Obradovića 2, 21000 Novi Sad, Yugoslavia
 E-mail: antev@unsim.im.ns.ac.yu

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Tel.: 0431-180582

E-mail: kassebeer@email.uni-kiel.de

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