Entomofauna

ZEITSCHRIFT FÜR ENTOMOLOGIE

Band 19, Heft 1: 1-32 ISSN 0250-4413 Ansfelden, 31. März 1998

Contribution to the knowledge of the caddisfly fauna of the Philippines, III
(Insecta: Trichoptera)

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Abstract / Zusammenfassung

Key words: Insecta, Trichoptera, new species, taxonomy, Philippines.

54 new species of Trichoptera are described from the Philippine Islands. / Es werden 54 neue Köcherfliegenarten von den Philippinen beschrieben: *Rhyacophila negrosana* **sp. nov.**, *R. cataractae* **sp. nov.**, *Agapetus baptos* **sp. nov.**, *Hydroptila lingigi* **sp. nov.**, *Gunungiella balsahana* **sp. nov.**, *Chimarra danaokana* **sp. nov.**, *C. ophiognatha* **sp. nov.**, *C. furti* **sp. nov.**, *C. babuyana* **sp. nov.**, *Diplectrona candidana* **sp. nov.**, *Hydropsyche buenafei* **sp. nov.**, *H. davisi* **sp. nov.**, *H. gorostizai* **sp. nov.**, *H. negrosensis* **sp. nov.**, *H. cebuensis* **sp. nov.**, *Cheumatopsyche saltorum* **sp. nov.**, *C. georgulmeri* **sp. nov.**, *C. nathanbanksi* **sp. nov.**, *C. longinosnavasi* **sp. nov.**, *Polyplectropus assimulans* **sp. nov.**, *P. basimaculatus* **sp. nov.**, *P. perspersus* **sp. nov.**, *P. crocallis* **sp. nov.**, *Paranyctiophylax noctiflavus* **sp. nov.**, *Ecnomus minostylos* **sp. nov.**, *E. typhlodes* **sp. nov.**, *E. paratyphlodes* **sp. nov.**, *E. pilophorus* **sp. nov.**, *Psychomyia palawanella* **sp. nov.**, *P. panayella* **sp. nov.**, *P. mindorella* **sp. nov.**, *P. negrosella* **sp. nov.**, *P. suriganella* **sp. nov.**, *Tinodes mandalagana* **sp. nov.**, *T. aningalani* **sp. nov.**, *T. patagana* **sp. nov.**, *T. reminigia* **sp. nov.**, *Paduniella panayica* **sp. nov.**, *P. bidentosa* **sp. nov.**, *Abaria triquetra* **sp. nov.**, *A. heliantha* **sp. nov.**, *Drepanocentron palawanicum* **sp. nov.**, *D. cayasani* **sp. nov.**, *Lepidostoma fraterna* **sp. nov.**, *Goera siccana* **sp. nov.**, *Adicella visayana* **sp. nov.**, *Setodes egregius* **sp. nov.**, *Leptocerus circumflexus* **sp. nov.**, *L. ultimus* **sp. nov.**, *Oecetis intramontana* **sp. nov.**, *O. panayensis* **sp. nov.**, *O. alticolaria* **sp. nov.**, *O. peterseni* **sp. nov.**, *O. cohaesa* **sp. nov.**

The male genitalia are illustrated in detail. The diagnostic differences to related or similar species are indicated briefly. / Die männlichen Genitalien werden abgebildet. Die diagnostischen Unterschiede zu verwandten oder ähnlichen Arten werden aufgezeigt.

Introduction

The present article continues the description of Philippine caddisflies. The previous contributions (MEY 1990, 1995, 1997) have brought the number of known species up to nearly 200. The total number of the autochthonous caddisfly fauna of the Philippine archipelago is roughly estimated to range between 350 and 450 species. This means, that just half of the existing species is known todate, and that another part of about 150 species has to be detected and described. The search for the remaining unknown species and its taxonomic study are surely a time consuming process. However, it is not an endless story in contrast to other insect orders, e.g. Coleoptera, Diptera, Lepidoptera. Further intensive collecting will reveal the majority of the yet unknown species within a reasonable period of time.

Material and Methods

Most of the material was collected by the author. During 2 expeditions the following islands have been visited: Palawan and Panay (1995), Negros and Mindanao (1996). The collecting localities are indicated in Map 1.

Additional material came from following sources:

- Museum of Comparative Zoology Cambridge (MCZ),
- Museum of Natural History Washington (MNHW),
- Bishop Museum Honolulu (BMH),
- coll. Roland MÜLLER (St. Gallen),
- coll. Jan PETERSEN, (Puerto Princesa).

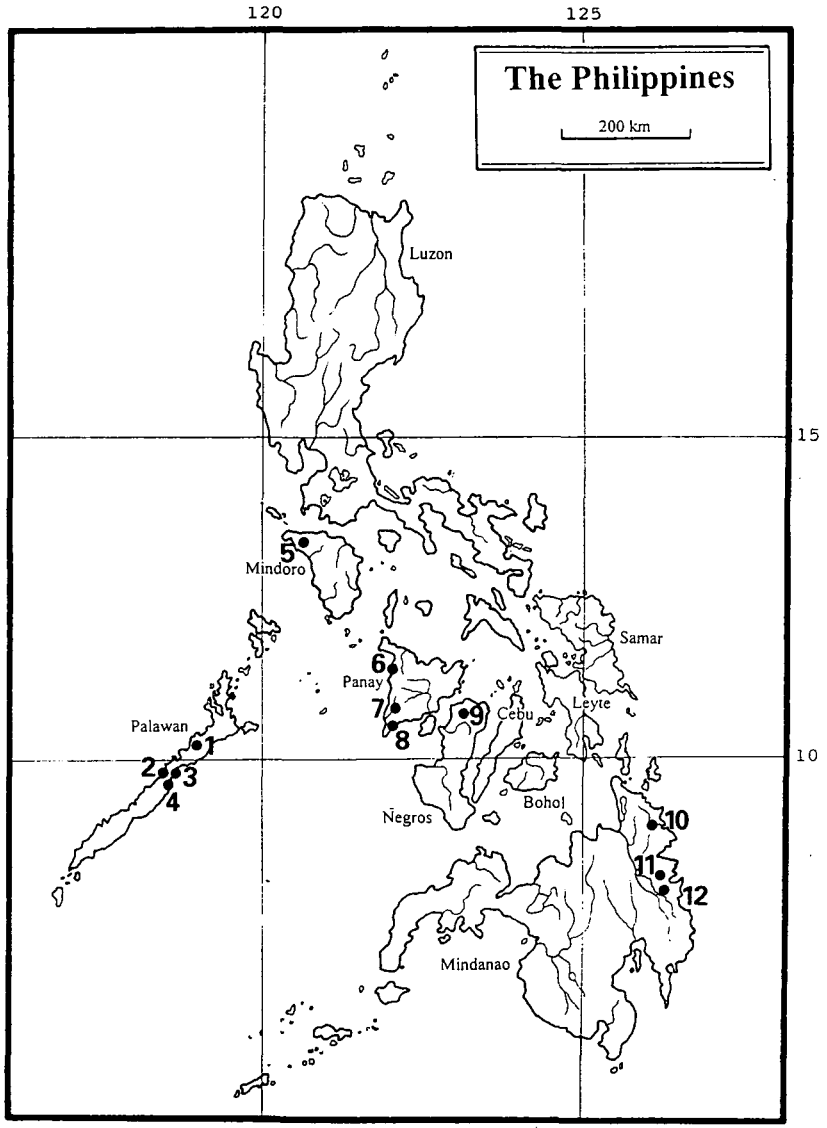
All type material is deposited preliminarily in the Museum für Naturkunde Berlin, except the material in the ownership of the mentioned museums. Paratypes of some species are stored in coll. H. MALICKY (Lunz am See). After completing the taxonomic work on the caddisflies of the Philippines a considerable part of the material is to be transferred to an adequate Philippine institution for permanent storage.

The specimens were collected during the day using the customary hand-net. The largest numbers were obtained by collecting with a mercury-vapour light source. A portable Honda Ex 350 generator was used as the power unit. In addition, 2 superactinic 15W fluorescent tubes powered by a dry battery were in operation.

Most species were preserved in 70 % ethanol, and only a small number were killed in ethyl-acetate or cyanide vapour jars for dry preservation as pinned specimens. The material preserved and permanently stored in ethanol, was placed in small glass vials. Printed locality labels were placed within individual vials, to which the identification labels were added. The individual vials were then sorted by taxa and put into larger jars for permanent storage. Examination and drawing of male genitalia was done after the entire abdomen had been cleared in boiling KOH, washed and replaced in ethanol.

Illustrations were prepared with the aid of a Wild drawing equipment on a Wild M8 stereomicroscope.

The shape of the genitalic structures in lateral, ventral and dorsal view varies between species and provides clear key characters for species separation and recognition. They are best appreciated by studying and comparing the figures rather than in long descriptions or written keys.



Map 1: Location of the collecting sites in the Philippines during the expeditions 1995 and 1996: 1 - Cayasan, Babuyan-river, 2 - Balsahan, 3 - Irawan-river, Puerto Princesa, 4 - Luszviminda, 5 - Lingang, NE Mamburao, 6 - Culasi, St. Vincente, 7 - Aningalan, 8 - San Bernardino, 9 - Patag, 10 - Tago, Meme-river, 11 - Lingig, 12 - Mt. Agtuuganon.

Species descriptions

Rhyacophilidae

***Rhyacophila negrosana* sp. nov.** (Figs 1-4)

Material: Holotype ♂, 2 ♀♀ paratypes, Negros, Mt. Mandalagan, Patag, 700m, 20-25.5.1996, leg. W.MEY.

Length of forewing 5,5 mm; head brown dorsally, with white ocelli; antennae yellow, darker towards tip; maxillary palpi yellowish, second joint bulbous, with long bristles; legs yellowish, spurs brown; wings brown, with scattered white spots, pterostigma slightly darker; male genitalia in Figs. 1-4.

A member of the *R. castanea* group, next to *R. yora* MALICKY, 1989 from Sumatra. It is the second species, which lacks the lateral arms of the ventral process of the phallic apparatus. This reduction is regarded a convergence. Segment 10 has no protruding teeth. This character points to a relationship with *R. ainola* MALICKY, 1989 from Sumatra and some other species from the SE Asian continent.

***Rhyacophila cataractae* sp. nov.** (Figs 5-6)

Material: Holotype ♂, Negros, Mt. Mandalagan, Patag, 700m, 20-25.5.1996, caught in daytime, near a waterfall, leg. W. MEY.

Length of forewing 7 mm; head and thorax brown, setal warts paler; ocelli white; antennae brown, not so dark in the distal part; femora and coxae light brown to whitish, tibiae and tarsi brown; forewings unicolorly brown; male genitalia in Figs. 5-6.

The species belongs to the *R. yosiiana* group and is closely related to *R. tenebrosa* MEY, 1997 from Mindanao, but has more slender inferior appendages, and lacks the process of segment 10.

Glossosomatidae

***Agapetus baptos* sp. nov.** (Figs 7-8)

Material: Holotype ♂, Palawan, Balsahan, 20 km E of Puerto Princesa, 3.4.1995; 1 ♂ paratype, Palawan, Cayasan, brook to Babuyan river, 5.4.1995; 2 ♂♂, 11 ♀♀ paratypes, Panay, Antique, Aningalan, spring brook, 10.4.1995, all leg. W. MEY.

Length of forewing 2,2 - 2,6 mm; head and thorax brown, setal warts pale brown; ocelli surrounded with black; antennae and palpi brown; legs dark brown; forewings brown, fork 3 and 4 with a long stalk; subcosta of hindwing reaching crossvein r-rs, fork 1 lacking; male genitalia in Figs. 7-8.

A. baptos sp. nov. is related to *A. curvidens* ULMER, 1930 and *A. agtuuganonis* MEY, 1997 from Mindanao. It is easily identifyable by the dark inferior appendages, the ventrally sclerotised segment 10 and the conspicuous shape of the cornutus in the phallic apparatus.

Hydroptilidae

***Hydroptila lingigi* sp. nov.** (Figs 9-10)

Material: Holotype ♂, 2 ♂♂ 1 ♀ paratypes, Mindanao, Surigao del Sur, Lingig, 28.5.1996, leg. W. MEY; 1 ♂ paratype, Mindanao, Surigao del Sur, Tago, Meme river, 150m, 14.6.1996, leg. R. MÜLLER.

Length of forewing 2 mm; head with light brown vertex and dark brown setal warts; pilosity yellow; antennae with 25 joints; flagellomeres yellow, with a basal and subapical

brown ring; thorax and legs yellowish; forewing with indistinct pattern of pale and dark spots, apex dark; male genitalia in Figs. 9-10.

This conspicuous species is obviously the sister species of *H. bengkoka* WELLS, 1990 from Northern Sulawesi. They differ in the form of segment 10 and in the inferior appendages.

Philopotamidae

***Gunungiella balsahana* sp. nov.** (Figs 11-12)

Material: Holotype ♂, 1 ♂ 1 ♀ paratypes, Palawan, Balsahan, 20 km E of Puerto Princesa, 3.4.1995, leg. W. MEY.

Length of forewing 3 - 3,8 mm; head and thorax pale brown, setal warts paler; antennae yellowish, with dark hairs towards tip; ocelli black; second joint of maxillary palpi with stiff bristles, 3rd and 5th joint very long, 2nd and 4th joint of equal length; legs brown, spurs 2.4.4., hindtibial spurs darkbrown; forewings brown; costa and subcosta thick, discoidal cell short, crossveins appearing as white patches forming a line; costa of hind wing with 3 basal frenular bristles and 10 further bristles before the middle; male genitalia in Figs. 11-12.

The species is separated from all other Philippine members of the genus by the elongate second joint of the inferior appendages. Apart from this formation, the new species is probably related to *G. polyspinosa* MEY, 1995 from Mindoro.

***Chimarra danaokana* sp. nov.** (Figs 13-15)

Material: Holotype ♂, Negros, Mt. Mandalagan, Patag, affluent to Lake Danao, 1200m, 21.5.1996, leg. W. MEY.

Length of forewing 5,5 mm; head and thorax brown, with golden brown hairs; setal warts and frons light brown; antennae dark brown; palpi and legs brown; spurs 1.4.4.; foretarsi of male enlarged; praetarsus with differently shaped ungues; forewing light brown; discoidal cell short and broad, fork 1 and 2 sessile; male genitalia in Figs. 13-15.

C. danaokana sp. nov. is related to *C. adiatulla* MALICKY, 1993 from Sibuyan. The species differ in the architecture of the 10th segment and in the shape of the inner sides of the inferior appendages.

***Chimarra ophiognatha* sp. nov.** (Figs 16-17)

Material: Holotype ♂, 1 ♀ paratype, Negros, Mt. Mandalagan, Patag, at the light, 700m, 20.-25.5.1996, leg. W. MEY.

Length of forewing 4,8 - 5,5 mm; head and thorax brown; ocelli white; eyes grey; setal warts yellowish; antennae and palpi brown; scapus yellow; legs brown, with darker spurs; forewing light brown; discoidal cell nearly rectangular, fork 5 very long, with a short stalk; male genitalia in Figs. 16-17.

The new species is remarkable by its long and slender inferior appendages, which make the species unmistakeable. A similar form of genitalia is found in *C. bacillorum* MEY, 1990 described from Luzon.

***Chimarra furti* sp. nov.** (Figs. 18-20)

Material: Holotype ♂, 63 ♂♂ 24 ♀♀ paratypes, Palawan, Cayasan, Bubuyan river, 5.-6.4.1995; 2 ♂♂ 11 ♀♀ paratypes, Palawan, Puerto Princesa, Irawan river, 7.4.1995; 1 ♂ 3 ♀♀, Palawan, Luszviminda, 50 km SE of Puerto Princesa, 4.4.1995; all leg. W. MEY.

Length of forewing 4,5 - 5,8 mm; head and thorax pale brown; setal warts yellowish; frons brown; eyes black; flagellomeres of antennae with brown basal half; maxillary palpi brown, last joint as long as third; legs yellow, spurs brown; praetarsus of male forlegs

enlarged and with unevenly shaped ungues; forewings pale brown; discoidal cell thickened basally; male genitalia in Figs. 18-20.

C. furti sp. nov. is easily recognisable by its elongate 10th segment and by the bifid inferior appendages. Together with the next species, *C. babuyana* sp. nov., they represent a distinct evolutionary line within the many other Philippine species groups.

***Chimarra babuyana* sp. nov.** (Figs 21-22)

Material: Holotype ♂, 7 ♂♂ 2 ♀♀ paratypes, Palawan, Cayasan, Bubuyan river, at light, 5.-6.4.1995; 5 ♂♂ 1 ♀ paratypes, Palawan, Puerto Princesa, Irawan river, 7.4.1995, at light; all leg. W. MEY.

Length of forewing 4,7 - 5,4 mm; head and thorax brown; setal warts yellowish; antennae and palpi light brown; second joint of maxillary palpi with stiff bristles at the inner side; legs yellow, spurs brown; male foretibia enlarged; praetarsus with differently shaped ungues; forewings pale brown; discoidal cell nearly rectangular and with a curved stalk, proximal base of discoidal cell swollen and forming a small plate; male genitalia in Figs. 21-22.

The new species is related to the foregoing *C. furti* sp. nov. However, the prolongation of the 10th segment is much shorter, the inferior appendages darkened and simple, and the phallic apparatus has a long cornutus.

Hydropsychidae

***Diplectrona candidana* sp. nov.** (Figs 23-25)

Material: Holotype ♂, Negros, Mt. Mandalagan, Patag, 700m, at light, 20.-25.5.1996, leg. W. MEY.

Length of forewing 9 mm; head and thorax dark brown to black; eyes hemispherically protruding; antennae dark brown, with yellowish tips, first 7 flagellomeres with a black, oblique line; maxillary palpi darkbrown, 5th joint longer than other joints together; forewings brown, with a weak, white fascia, crossing base of discoidal cell, fork 1 stalked, fork 2 sessile; male genitalia in Figs 23-25.

The new species is similar to *C. luteocapitis* MEY, 1990 from Luzon in the structure of the male genitalia. However, the coloration of both species is quite different.

***Hydropsyche buenafei* sp. nov.** (Figs 26-27)

Material: Holotype ♂, 3 ♀♀ paratypes, Negros, Mt. Mandalagan, Patag, Lake Danao, 1200m, at light, 21.5.1996, leg. W. MEY.

Length of forewing 9 mm; head and thorax brown, with golden brown pilosity; eyes black; antennae yellow, with dark annulations; maxillary palpi brown; legs yellowish; forewings yellowish brown, with numerous pale spots dispersed over the whole wing; male genitalia in Figs. 26-27.

The species is very similar to *H. davisi* sp. nov. The differences are most pronounced in the form of endothecal processes of the phallic apparatus and in the 10th segment.

Derivatio nominis: The species is named after Alexander BUENAFEI, the Philippine guide of the excursion to Lake Danao.

***Hydropsyche davisi* sp. nov.** (Figs 28-29)

Material: Holotype ♂, 5 ♂♂ 1 ♀ paratypes, Negros, Mt. Mandalagan, Patag, 20.-25.5.1996, at light, leg. W. MEY; 4 ♂♂ paratypes (NHMW), Mindanao, Mt. Apo School, 15 km SW Davao, 500m, 22.-31.10.1965, leg. D. DAVIS; 1 ♂ paratype (NHMW), same place, 7.-9.11.1965, leg. D. DAVIS.

Length of forewing 7 - 8,8 mm; head and thorax yellow brown; antennae, palpi and legs yellowish; distal half of antennae brownish; forewings yellowish brown, with indistinct reticulation in the membrane; hindwings pale; male genitalia in Figs. 28-29.

There are some slight differences between the specimens from Negros and from Mindanao. The Mindanao individuals have the median endothecal processes more slender, and the aedeagal tip is more stout and bent.

The new species is closely related to *H. buenafei* sp. nov. and *H. negrosensis* sp. nov. The species can be separated by the structure of the phallic apparatus only.

Derivatio nominis: The species is named after its first collector D. R. DAVIS, the Lepidoptera curator of the Natural History Museum Washington.

***Hydropsyche negrosensis* sp. nov.** (Figs 30-31)

Material: Holotype ♂, 34 ♂♂ 2 ♀♀ paratypes, Negros, Mt. Mandalagan, Patag, 20.-25.5.1996, at light, leg. W. MEY.

Length of forewing 6,9 - 7,5 mm; head and thoracal nota yellow brown; antennae, palpi and legs; setal warts on head and mesoscutellum pale brown; forewings yellow brown, with an indistinct reticulate pattern, somewhat darkened towards apical wing margin; male genitalia in Figs. 30-31.

H. negrosensis sp. nov. is related to the sympatrically occurring *H. davisi* sp. nov. and to *H. mindanensis* MEY, 1997 from Mindanao. The species can be determined only by examining the phallic apparatus. The females show no morphological differences in their genitalia.

***Hydropsyche gerostizai* sp. nov.** (Figs 32-34)

Material: Holotype ♂, 5 ♂♂ paratypes, Negros, Mt. Mandalagan, Patag, 20.-25.5.1996, at light, leg. W. MEY.

Length of forewing 5,8 - 6,2 mm; head and thoracal nota yellowish brown; palpi and legs yellowish; flagellomeres of antennae brown in distal half, yellow basally, black on articulations; eyes black; forewing yellow brown, with numerous pale spots in the membrane, especially in the apical region; male genitalia in Figs. 32-34.

The new species is obviously related to *H. muelleri* MEY, 1997 from Mindanao. The species differ in the structure of the phallic apparatus.

Derivatio nominis: Named in honor of Adrian GEROSTIZA, the reliable Philippine guide during the expedition in 1996.

***Hydropsyche cebuensis* sp. nov.** (Figs 35-36)

Material: Holotype ♂, 6 ♂♂ 4 ♀♀ paratypes, Negros, Mt. Mandalagan, Patag, 20.-25.5.1996, at light, leg. W. MEY; 1 ♂ paratype (MNHW), Cebu, 7,25 km W Cebu City, 400m, 21.-29.9.1965, leg. D. DAVIS; 9 ♂♂ 4 ♀♀ paratypes, Panay, Antique, St. Reminigio, Aningalan, ca. 900m, 9.4.1995, at light, leg. W. MEY.

Length of forewing 6,8 - 7,3 mm; head and thorax yellow brown; palpi and legs light yellowish; antennae yellow, first flagellomeres with dark annulation in the basal half; mesoscutellum pale brown; forewings yellowish brown, with indistict reticulation and pale spots; male genitalia in Figs. 35-36.

This species is easily identifyable by the lateral endothecal appendages of the phallic apparatus and the upturned midprocess of the aedeagal tip.

***Cheumatopsyche saltorum* sp. nov.** (Figs 37-39)

Material: Holotype ♂, 2 ♂♂ 1 ♀ paratypes, Negros, Mt. Mandalagan, Patag, trail to Lake Danao, 21.5.1996, leg. W. MEY.

Length of forewing 5,6 - 6 mm; head and thorax black; antennae yellow brown, 12 mm long; maxillary palpi black, 2nd joint with long bristles; legs dark brown, spurs 2.4.4., spurs on foretibia very small; forewings dark brown, with a narrow white fascia in the middle, crossing over base of discoidal cell to arculus; hind wing without discoidal cell, fork 1 present, crossvein m-cu between bifurcation of M and Cu; male genitalia in Figs. 37-39.

The new species is similar to *C. incomptaria* MEY, 1997 from Mindanao and the following species, but differs by the shape of segment 10 and the inferior appendages.

***Cheumatopsyche georgulmeri* sp. nov.** (Figs 40-42)

Material: Holotype ♂, 13 ♀♀ paratypes, Palawan, Cayasan, Babuyan river, 5.-6.4.1995, at light, leg. W. MEY.

Length of forewing 6 - 7 mm; head and thorax dark brown; antennae red brown, without oblique lines but with black articulations; maxillary palpi brown; legs light brown; forewing covered with golden brown hairs; membrane grey, with darkened patches in the apical half especially around the base of all forks; hindwing grey, without fork 1; male genitalia in Figs. 40-42.

C. georgulmeri sp. nov. is related to the foregoing species from Panay and to *C. incomptaria* MEY, 1997 from Mindanao.

Derivatio nominis: Named in memory of Georg ULMER, who had contributed so much to the knowledge of Trichoptera of the Philippines.

***Cheumatopsyche nathanbanksi* sp. nov.** (Figs 43-45)

Material: Holotype ♂, Palawan, Cayasan, Babuyan river, 5.-6.4.1995, leg. W.MEY.

Length of forewing 5,8 mm; head and thorax black; underside of antennae pale yellow, upperside with dark articulations; palpi and legs brown; forewing with grey membrane, costal and radial areas with black hairs, 3 white complete fascia present and a 4th at pterostigma, oblique and short, base of 2nd and 3rd fascia filled with goldbrown hairs, remaining parts of wing covered with brown hairs; apex of hindwings dark around a short white spot, fork 1 lacking; male genitalia in Figs. 43-45.

This pretty and colourful species is related to *C. costalis* BANKS, 1913 due to the similarity of the genitalia. However, the forewing pattern are entirely different.

Derivatio nominis: Named in memory of Nathan BANKS, who described more than 50 caddisfly species from the Philippines.

***Cheumatopsyche longinosnavasi* sp. nov.** (Figs 46-48)

Material: Holotype ♂, 3 ♂♂ 1 ♀ paratypes, Panay, Antique, San Reminigio, Aningalan, 10.4.1995, netted in the daytime on a small brook, leg. W. MEY.

Length of forewing 5 - 5,3 mm; head and thorax dark brown; scapus and pedicellus brown, flagellum yellow, with a white tip; palpi and legs brown, tarsi paler, spurs 2.4.4.; forewings brown, with a large white patch from C to base of discoidal cell and 3 smaller white spots in the postcubital and anal area; discoidal cell obliquely closed in both wings; male genitalia in Figs. 46-48.

C. longinosnavasi sp. nov. is a near relative of *C. nathanbanksi* sp. nov., but they both are clearly distinct. The main differences are the form of the second joint of inferior appendages and the pattern of the forewings.

Derivatio nominis: Named in memory of Longinos NAVAS, who had published some papers on caddisflies of the Philippines.

Polycentropodidae

***Polyplectropus assimulans* sp. nov.** (Figs. 49-50)

Material: Holotype ♂, 1 ♂ 3 ♀♀ paratypes, Negros, Mt. Mandalagan, Patag, 20.-25.5.1996, at light, leg. W. MEY.

Length of forewing 6,6 - 7,6 mm; head and thorax brown, with darkbrown pilosity; flagellomeres of antennae with dark brown base and a light distal part; legs and palpi pale brown; spurs 3.4.4.; fore- and hindwings densely covered with brown hairs, scattered yellow spots on the forewings; male genitalia in Figs. 49-50.

The new species is most closely related to the following *P. perspersus* sp. nov. from Panay. From it, it differs in the shape of the inferior appendages, especially when seen from ventral side.

***Polyplectropus perspersus* sp. nov.** (Figs 51-52)

Material: Holotype ♂, Panay, Antique, St. Reminigio, Aningalan, 9.-10.4.1995, ca. 900m, leg. W. MEY.

Length of forewing 7,2 mm; head and thorax dark brown, setal warts slightly paler, pilosity black and brown; antennae with brown flagellomeres, each bearing a yellow ring before articulation; palpi brown; legs pale brown, tarsi yellowish, spurs 3.4.4.; forewings with brown membrane and brown hairs; numerous yellow spots dispersed over the whole wing; discoidal cell comparatively long, forks 1, 3 and 5 stalked, PCu rectangularily curved before running into hind margin; male genitalia in Figs. 51-52.

P. perspersus sp. nov. is closely related to the foregoing species and to *P. cardinis* MEY, 1990 from Luzon. The form of the inferior appendages are diagnostic for either species in this group.

***Polyplectropus crocallis* sp. nov.** (Figs. 53-55)

Material: Holotype ♂ (pinned), 3 ♂♂ paratypes, Negros, Mt. Mandalagan, Patag, 20.-25.5.1996, at light, leg. W. MEY.

Length of forewing 5,5 - 5,7 mm; head and thorax dark brown; eyes black; antennae orange; maxillary palpi brown; labial palpi yellowish; legs brown, spurs 3.4.4.; forewings brown, with numerous, small white spots dispersed over the distal half; hindwings with brown hairs; male genitalia in Figs. 53-55.

The male genitalia of *P. crocallis* sp. nov. resembles *P. hamatiformis* MEY, 1990 from Luzon. However, segment 9 is much shorter, the inner branch of the superior appendages is not twisted and the inferior appendages are rounded.

***Polyplectropus basimaculatus* sp. nov.** (Figs 56-57)

Material: Holotype ♂, 1 ♂ 3 ♀♀ paratypes (pinned), Mindanao, Davao orientale, Boston, Mt. Agtuuganon range, 28.5. - 7.6.1996, at light, leg. W. MEY.

Length of forewings 9 - 11 mm; head brown, with light brown setal warts; pilosity on vertex, frons and scapus orange; antennae dark brown, with pale articulations; eyes grey; palpi brown; thorax nearly black, with orange brown hairs; legs brown, spurs 3.4.4.; forewings black, only the immediate base densly covered with golden orange hairs; male genitalia in Figs. 56-57.

This species is very remarkable for its orange coloration of thorax and forewing bases. In contrast to most species of the genus the forewings of *P. basimaculatus* sp. nov. are without the numerous small spots. Related species are *P. eubolus* MEY, 1997 and *P. philippinensis* ULMER, 1930 both known from Mindanao. The species differ mainly in the structure of the superior and inferior appendages of the male genitalia and in the external appearance of the adults.

Paranyctiophylax noctiflavus **sp. nov.** (Figs 58-59)

Material: Holotype ♂ (pinned), 1 ♂ 5 ♀♀ paratypes, Palawan, Cayasan, Babuyan-river, 5.-6.4.1995, at light, leg. W. MEY; 1 ♂ paratype, Palawan, Puerto Princesa, Irawan-river, 7.4.1995, at light, leg. W. MEY.

Length of forewings 3 - 4 mm; head and thorax brown; setal warts dark brown; pilosity on pronotum and frons white; antennae yellow, with brown tip; palpi brown; legs paler brown, spurs 3.4.4.; forewing yellowish brown; medial cell closed, fork 4 sessile; male genitalia in Figs. 58-59, with 4-5 weak cornuti.

P. noctiflavus sp. nov. is similar to *P. padangensis* MALICKY, 1993 from Sumatra and *P. temburongensis* MALICKY, 1993 from Brunei. The new species is distinct by a much smaller ventral process on segment 9, by an undivided segment 10 and by the presence of cornuti in the phallic apparatus.

Ecnomidae

Ecnomus minostylus **sp. nov.** (Figs 60-62)

Material: Holotype ♂, 2 ♂♂ 3 ♀♀ paratypes, Palawan, Cayasan, Babuyan-river, 5.-6.4.1995, at light, leg. W. MEY; 1 ♂, 5 ♀♀ paratypes, Palawan, Puerto Princesa, Irawan-river, 7.4.1995, at light, leg. W. MEY.

Length of forewing 3,5 - 3,9 mm; head yellowish white; setal warts brown; antennae yellow, with brown hairs around the articulations of flagellomeres; joint 1 to 4 of maxillary palpi with brown base and pale distal part; legs brown, spurs 2.4.4.; mid tibia and tarsus of female slightly enlarged; forewing with brown and yellow patches; fork 1 present; male genitalia in Figs. 60-62.

The new species is related to *E. tumidus* ULMER, 1930 and possibly to *E. viganus* NAVAS, 1923.

Ecnomus typhlodes **sp. nov.** (Figs 63-64)

Material: Holotype ♂, 2 ♂♂ 1 ♀ paratypes, Panay, Antique, San Reminigio, Aningalan, 9.4.1995, at light, leg. W. MEY.

Length of forewing 4,8 mm; head and thorax brown; frons and vertex with yellow pilosity; antennae yellow, articulations indistinctly lined; eyes black; maxillary palpi brown; legs brown, joints dark brown on the tips, spurs 3.4.4.; forewing with the usual, indistinct pattern of pale and dark patches; male genitalia in Figs. 63-64.

E. typhlodes sp. nov. resembles *E. pseudotenellus* ULMER, 1930 from Sumatra and the following species. The male genitalia have a slightly asymmetric form.

Ecnomus paratyphlodes **sp. nov.** (Figs. 65-66)

Material: Holotype ♂, Panay, Antique, San Reminigio, Aningalan, small brook, 10.4.1995, leg. W. MEY.

Length of forewing 3,2 mm; head and pronotum pale brown; setal warts dark brown; antennae yellow; maxillary palpi brown; labial pali light brown; legs pale brown, spurs 3.4.4.; forewing pale grey brown, with some light spots; male genitalia in Figs. 65-66.

The species is related to *E. typhlodes* sp. nov. It differs by the more slender appendages of the male genitalia and the much smaller body size.

Ecnomus pilophorus **sp. nov.** (Figs. 67-68)

Material: Holotype ♂, 1 ♂ paratype, Negros, Mt. Mandalagan, Patag, 20.-25.5.1996, at light, leg. W. MEY.

Length of forewing 4,5 mm; head and thorax brown; eyes black; antennae yellow; palpi and legs pale brown; spurs 3.4.4.; forewings densely covered with brown and yellow hairs forming an indistinct pattern; male genitalia in Figs. 67-68.

E. pilophorus sp. nov. shows resemblance to E. pseudotenellus ULMER, 1930 from Sumatra and *E. addi* MALICKY, 1994 from Bismarck Archipelago. The long superior appendages and strongly curved inferior appendages are diagnostic features of the new species.

Psychomyidae

***Psychomyia mindorella* sp. nov.** (Figs. 69-70)

Material: Holotype ♂, 5 ♂♂ 5 ♀♀ paratypes, Mindoro, Mamburao, Lingang, 7.3.1994, at light, leg. W. MEY.

Length of forewing 3,1 - 3,3 mm; head and thorax brown; setal warts paler; pilosity grey; eyes black, with short hairs; antennae yellowish; maxillary palpi brown; fore legs brown, other legs light brown, spurs 2.4.4.; forewings brown; male genitalia in Figs. 69-70.

The new species belongs to the species group, which has the external branch of inferior appendages simple and straight. Related species are *P. muelleri* MALICKY, 1993 from Sibuyan and *P. panayella* sp. nov. from Panay.

***Psychomyia panayella* sp. nov.** (Figs 71-72)

Material: Holotype ♂, 1 ♀ paratype, Panay, Antique, Culasi, St. Vincente, 11.4.1995, small brook, 400m, captured during day, leg. W. MEY.

Length of forewing 3,2 mm; head and thorax brown, setal warts paler, pilosity grey; eyes black, with short hairs; antennae yellow; maxillary palpi brown; forelegs brown, mid- and hindlegs light brown, spurs 2.4.4.; forewings brown, with a paler area along the hind margin; male genitalia in Figs. 71-72.

Judging by the phallic apparatus the nearest relatives of the new species are *P. mindorella* sp. nov. from Mindoro and *P. muelleri* MALICKY, 1993 from Sibuyan. However, the different structure of the 3 pairs of genitalic appendages allow an easy identification of the species.

***Psychomyia palawanella* sp. nov.** (Figs 73-74)

Material: Holotype ♂, 2 ♂♂ 14 ♀♀ paratypes, Palawan, Cayasan, Babuyan-river, 5.-6.4.1995, at light, leg. W. MEY.

Length of forewing 2,8 - 3,2 mm; head and thorax brown; setal warts paler; pilosity grey; eyes black, with short hairs; antennae yellowish; maxillary palpi brown; fore legs brown, mid and hindlegs light brown, spurs 2.4.4.; forewings brown; male genitalia in Figs. 73-74.

The new species differs from the related *P. bruneiensis* MALICKY, 1993 and *P. dara* MALICKY, 1993 by the simple median side of the superior appendages.

***Psychomyia negrosella* sp. nov.** (Figs 75-76)

Material: Holotype ♂ (pinned), 6 ♂♂ 24 ♀♀ paratypes, Negros, Mt. Mandalagan, Patag, 20.- 25.5.1996, at light, leg. W. MEY; 59 ♂♂ 82 ♀♀ paratypes, Panay, Antique, San Reminigio, Aningalan, 900m, 9.- 10.4.1995, at light, leg. W. MEY; 1 ♂ 1 ♀ paratypes, Panay, Antique, Culasi, St. Vincente, 400m, 11.4.1995, leg. W. MEY.

Length of forewing 3 - 4,2 mm; head and thorax brown; setal warts darker; pilosity grey; eyes black, with short hairs; antennae yellowish, brownish towards tip; maxillary

palpi brown; fore legs brown, mid and hindlegs light brown, spurs 2.4.4.; forewings light brown; male genitalia in Figs. 75-76.

P. negrosella sp. nov. is related to *P. muelleri* MALICKY, 1993 from Sibuyan. It can be distinguished by the basal tooth of the superior appendages.

***Psychomyia suriganella* sp. nov.** (Figs 77-78)

Material: Holotype ♂, 3 ♂♂ 7 ♀♀ paratypes, Mindanao, Surigao del Sur, Tago, Meme-river, 15.6.1996, at light, leg. R. MÜLLER.

Length of forewing 2,8 - 3,2 mm; head and thorax brown; setal warts paler; pilosity grey; eyes black, with short hairs; antennae yellowish; maxillary palpi brown; fore legs brown, mid and hindlegs light brown, spurs 2.4.4.; forewings brown; male genitalia in Figs. 77-78.

Males are readily distinguished from congeners by the conspicous row of black teeth on the median side of the superior appendages.

***Tinodes mandalagana* sp. nov.** (Figs. 79-80)

Material: Holotype ♂, 7 ♂♂ 19 ♀♀ paratypes, Negros, Mt. Mandalagan, Patag, 20.-25.5.1996, at light, leg. W. MEY; 1 ♂ 1 ♀ paratypes, Panay, Antique, San Reminigio, Aningalan, 9.- 10.4.1995, at light, leg. W. MEY.

Length of forewing 3,5 - 4,0 mm; head and thorax brown; antennae yellowish, last flagellomeres darker; maxillary palpi brown; legs light brown; forewing pale brown, membrane with a white double point near crossvein rs-m, another spot on bifurcation of M 1+2 and at the end of Sc; male genitalia in Figs. 79-80.

The species is related to *T. miostyllos* MEY, 1997 from Mindanao. It can be separated easily by the different shape of the inferior appendages of the male genitalia, especially in ventral view.

***Tinodes aningalani* sp. nov.** (Figs 81-82)

Material: Holotype ♂, 10 ♂♂ 4 ♀♀ paratypes, Panay, Antique, San Reminigio, Aningalan, 750-850m, 9.4.1995, at light; 4 ♂♂ 7 ♀♀ paratypes, Panay, Antique, Culasi, St. Vincente, 11.4.1995, at light; 4 ♂♂ 1 ♀ paratypes, Panay, Iloilo, San Berhardino, 12.4.1995, at light, all leg. W. MEY.

Length of forewing 3 - 4 mm; head and thorax brown; antennae yellowish, brown towards tip; maxillary palpi brown; legs light brown, spurs 2.4.4.; forewings brown, with a white spot in the membrane around crossvein r-m; fork 1 lacking in forewing; male genitalia in Figs. 81-82.

T. aningalani sp. nov. is related to *T. mandalagana* sp. nov. It is distinguished in the male genitalia by the more simple inferior appendages and the enlarged cornuti of the phallic apparatus.

***Tinodes patagana* sp. nov.** (Figs. 83-84)

Material: Holotype ♂, Negros, Mt. Mandalagan, Patag, 20.- 25.5.1996, leg. W. MEY.

Length of forewing 3,1 mm; head and thorax dark brown; pilosity black; eyes grey; antennae, legs and palpi dark brown; forewings covered with dark brown hairs, basal third with erected bristles; male genitalia in Figs. 83-84.

T. patagana sp. nov. belongs to a group of species, which is defined by the loss of the inner process of the inferior appendages in the male genitalia. The new species is closly related to *T. reminigia* sp. nov. from Panay and *T. adjuncta* BANKS, 1937 from Mindanao.

***Tinodes reminigia* sp. nov.** (Figs 85-86)

Material: Holotype ♂, Panay, Antique, San Reminigio, Aningalan, 800m, large brook, 9.4.1995, leg. W. MEY.

Length of forewing 5 mm; head and thorax dark brown; first joints of antennae yellow, remaining flagellomeres brown, with a yellow base; maxillary palpi dark brown; labial palpi paler; coxae and femora yellowish, tibiae brown, spurs 2.4.4.; forewings dark brown; discoidal cell short and broad, fork 1 lacking; male genitalia in Figs. 85-86.

The species is related to *T. patagana* sp. nov. from Negros. The species differ mainly by the spines of the paramers and by the shape of the inferior appendages.

***Paduniella panayica* sp. nov.** (Figs 87-88)

Material: Holotype ♂, 12 ♂♂ 28 ♀♀ paratypes, Panay, Antique, San Reminigio, Aningalan, 9.- 10.4.1995, at light; 2 ♂♂ 17 ♀♀ paratypes, Panay, Antique, Culasi, St. Vincente, 11.4.1995, at light, all leg. W. MEY.

Length of forewing 2,5 - 3 mm; head and thorax brown; hairs grey; eyes black, with short hairs; antennae yellowish, flagellomeres of basal half with a brown annulation; maxillary palpi brown, 6-segmented, last 3 joints of equal length; legs pale brown, spurs 2.4.4.; forewing light brown; veins thick; apex acute; male genitalia in Figs. 87-88.

The new species is a close relative of *P. bidentosa* sp. nov. from Palawan. It is distinguished by the slender and unfused superior appendages, which are broad and fused in *P. bidentosa* sp. nov.

***Paduniella bidentosa* sp. nov.** (Figs 89-90)

Material: Holotype ♂, 9 ♀♀ paratypes, Palawan, Cayasan, Babuyan-river, 5.- 6.4.1995, at light; 1 ♂ paratype, Palawan, Puerto Princesa, Irawan-river, 7.4.1995, at light, all leg. W. MEY.

Length of forewing 2,2 - 2,7 mm; head and thorax brown; hairs grey; eyes black, with short hairs; antennae yellowish, flagellomeres of basal half with brown ring after articulation; maxillary palpi brown, 6-segmented, last 3 joints of equal length; legs pale brown, spurs 2.4.4.; forewing light brown; veins thick; apex acute; male genitalia in Figs. 89-90.

P. bidentosa sp. nov. is similar to *P. panayica* sp. nov. The tips of the inferior appendages of the male genitalia are more pointed than in *P. panayica* sp. nov.

Xiphocentronidae

***Abaria triquetra* sp. nov.** (Figs 91-93)

Material: Holotype ♂, 1 ♂ paratype, Palawan, Cayasan, Babuyan-river, 5.- 6.4.1995, leg. W. MEY.

Length of forewing 2,5 mm; head and thorax brown; antennae light brown; maxillary palpi yellowish white; legs brown, with yellow tarsi; forewings with brown hairs, apex pointed; male genitalia in Figs. 91-93.

The new species differs from all other species of the region in having harpune shaped inferior appendages, which lacks small spines. Another distinctive character are the apically narrowed superior appendages.

***Abaria heliantha* sp. nov.** (Figs 94-96)

Material: Holotype ♂, 2 ♂♂ 2 ♀♀ paratypes, Palawan, 20 km East of Puerto Princesa, Balsahan, 3.4.1995, small springbrook, leg. W. MEY.

Length of forewing 2,6 - 3 mm; head and thorax brown; setal warts slightly paler; antennae brown; palpi yellowish white; legs brown to dark brown, tarsi of fore and middle legs yellow, spurs 1.4.3. (♂), spurs of foretibia very small; forewing dark brown, densely

covered with scales from base towards apex; a large white spot on the base, in the middle and on the apex of the wing; male genitalia in Figs. 94-96; phallic apparatus reaching anteriorly into the middle of segment 6.

The species is very close to *A. mindorocola* MEY, 1995 from Mindoro and Panay, but can be separated by the scaling of the forewings and the shorter inferior appendages of the male genitalia.

***Drepanocentron palawanicum* sp. nov.** (Figs 97-100)

Material: Holotype ♂, 3 ♀♀ paratypes, Palawan, 20 km East of Puerto Princesa, Balsahan, small brook, 3.4.1995, leg. W. MEY.

Length of forewing 3 mm; head and thorax brown; eyes black; antennae yellow, with darker tips; palpi yellowish white; legs brown, with yellow tarsi; hind tibia of male with a long specialised spur, nearly as long as the first tarsal segment (Fig. 97); forewing brown, covered with black, scaled hairs; hind wing with two strips of scaled hairs in radial and cubital area; male genitalia in Figs. 98-100.

The species resembles *D. mindoricum* MEY, 1995 from Mindoro, but is quite distinct by the specialised spur on male hind tibia, the scaled hindwings and the spiny, inner side of the inferior appendages of the male genitalia.

***Drepanocentron cayasani* sp. nov.** (Figs 101-104)

Material: Holotype ♂, 4 ♂♂ 7 ♀♀ paratypes, Palawan, Cayasan, Babuyan-river, 5.-6.4.1995, leg. W. MEY.

Length of forewing 2,8 - 3 mm; head and thorax brown; antennae yellow, darker apically; palpi yellowish white; legs brown, tarsi yellow, spurs 2.4.3., specialised spur on male hind tibia very similar to subapical spur (Fig. 101); forewing bronzy brown, entirely covered with scaled hairs; apex of males rounded, more pointed in females; male genitalia in Figs. 102-104.

D. cayasani sp. nov. is remarkable by its nearly unmodified spur of the male hindtibia.

Lepidostomatidae

***Lepidostoma fraterna* sp. nov.** (Figs 105-108)

Material: Holotype ♂, 3 ♂♂ paratypes, Negros, Mt. Mandalagan, Patag, 20.-25.5.1996, at light, leg. W. MEY.

Length of forewing 6,5 mm; head and thorax brown; setal warts pale brown; antennae yellow, scapus brown; maxillary palpi of male two segmented, with a elongate first joint and a smaller, rounded second joint; forewings brown; costa simple, only one, broad anal vein, no groove; hindwing with short discoidal cell (Fig. 105); male genitalia in Figs. 106-108.

The new species is very similar to *L. sibuyana* MALICKY & CHANTARAMONGKOL, 1994. It is distinguished by the different structure of the tip of the inferior appendage in the male genitalia, the long anal vein and the lacking widening of costa in the forewings.

Goeridae

***Goera siccana* sp. nov.** (Figs 109-112)

Material: Holotype ♂ (pinned), Panay, Antique, Culasi, St. Vincente, 400m, at light, 11.4.1995, leg. W. MEY; 1 ♂ paratype, Panay, Iloilo, San Bernhardino, road to San José, at light, 12.4.1995, leg. W. MEY.

Length of forewing 6 mm; head and thorax brown, setal warts paler, with clubbed setae having a black annulation before tip; antennae brown; scapus as long as distance between

eyes; maxillary palpi longer than scapus, second joint grey, with a deep cavity, surrounded by broad scales; legs brown, fore and middle tibia dark brown, spurs 2.4.4.; underside of abdomen yellow; mesal process of male segment 6 formed of 3 prongs (Fig. 109); forewings brown, with clubbed shaped hairs in the costal area, at the pterostigma and at all veins; male genitalia in Figs. 110-112.

G. siccana sp. nov. is related to *G. rolandmuelleri* MALICKY, 1993 described from the nearby Sibuyan island. Both species can be distinguished immediately by the shape of the second joint of the inferior appendages.

Leptoceridae

***Adicella visayana* sp. nov.** (Figs 113-115)

Material: Holotype ♂, 1 ♂ 2 ♀♀ paratypes, Panay, Antique, Culasi, St. Vincente, 400m, at light, 11.4.1995, leg. W. MEY.

Length of forewing 4,7 - 5 mm; head and thorax yellow brown; eyes black; antennae yellow, with black articulations; maxillary palpi yellow, covered with long hairs; legs light brown, spurs 1.2.2., inner spur of midtibia half as long as first tarsal joint; forewings yellowish brown, some black spots on the hindmargin, apex acute; hind wings with long dark hairs on hind margin; male genitalia in Figs. 113-115.

The new species is a close relative of the Mindoro species *A. mangyana* MEY, 1995 and *A. ordinaria* MEY, 1995. *A. paramyngyana* MEY, 1997 from Mindanao also belongs to this species group. The pallic apparatus and the inferior appendages exhibit the distinctive characters in this group.

***Setodes egregius* sp. nov.** (Figs 116-118)

Material: Holotype ♂, 1 ♀ paratype, Palawan, Cayasan, Babuyan-river, 5.- 6.4.1995, at light; 2 ♂♂ paratypes, Palawan, Puerto Princesa, Irawan-river, 7.4.1995, at light, all leg. W. MEY.

Length of forewing 4 - 4,2 mm; head and thorax brown; setal warts somewhat paler; eyes black; antennae light brown; two last segments of maxillary palpi annulate; legs brown, midtibia with a row of black spines, spurs 0.2.2.; forewing brownish, with patches of black hairs in anal and cubital region; hindwing with stem of R and RS completly lacking; male genitalia in Figs. 116-118.

The appendages of the male genitalia of this species are very peculiar within *Setodes* spp. At the moment a near relative can not be named. The species depicted by SCHMID (1987) belong to different species groups.

***Leptocerus circumflexus* sp. nov.** (Figs 119-121)

Material: Holotype ♂, 1 ♂ paratype, Palawan, Cayasan, Babuyan-river, 5.- 6.4.1995, at light, leg. W. MEY.

Length of forewing 3 mm; head and thorax black; scapus greyish, antennae dark brown, with white patches on articulations; maxillary palpi brown; legs brown, fortarsi with whitish dorsal patches; forewings dark brown, 2 white spots in the costal area, extending beyond middle of wing; male genitalia in Figs. 119-121.

L. circumflexus sp. nov. is related to *L. cheesmannae* KIMMINS, 1962 from New Guinea. It can be separated easily by the different architecture of the phallic apparatus of the male genitalia.

***Leptocerus ultimus* sp. nov.** (Figs 122-124)

Material: Holotype ♂, 1 ♀ paratype, Palawan, Cayasan, way to Sabang, small brook, 7.4.1995, leg. W. MEY.

Length of forewing 4 mm; head and thorax dark brown; eyes black; maxillary palpi brown, with all segments of nearly equal length; antennae red yellow with black articulations, scapus dark brown; legs brown, spurs 0.2.2.; forewings with acute apex; discoidal cell narrow and long, R1 conspicously curved around end of SC; male genitalia in Figs. 122-124.

The species is remarkable for its simplified structure of all appendages in the male genitalia. There is no related species known from the region up to now.

***Oecetis intramontana* sp. nov.** (Figs 125-127)

Material: Holotype ♂, Negros, Mt. Mandalagan, Patag, trail to Lake Danao, ca. 1000m, 20.5.1997, small brook, leg. W. MEY.

Length of forewing 6,3 mm; head and thorax brown; lateral warts besides the eyes with row of inwardly directed long bristles; antennae yellow; maxillary palpi greyish; legs light brown; forewings with golden brown hairs, spots of darker hairs in the fringe and on the crossveins; hindwing membrane grey, with dark veins; male genitalia in Figs. 125-127, phallic apparatus with five small cornuti.

O. intramontana sp. nov. resembles *O. flavicoma* MEY, 1997. It is distinguished by the longer appendages, the insymmetrical segment 10 and the bent inferior appendages.

***Oecetis panayensis* sp. nov.** (Figs 128-130)

Material: Holotype ♂, 1 ♀ paratype, Panay, Antique, San Reminigio, Aningalan, 900m, 9.- 10.4.1995, at light; 1 ♀ paratype, Panay, Antique, Culasi, St. Vincente, 11.4.1995, at light, all leg. W. MEY.

Length of forewing 7 mm; head and thorax yellowish brown, with some darker spots; antennae yellow, first flagellomere twice as long as the following joints, articulations black; maxillary palpi light brown, all joint of nearly the same length; legs yellowish; forewing with transparent membrane and darker veins; crossveins and bifurcations brown, with brown shadows on the adjacent membrane; brown patches in the base of costal area and on the outer wing margin; male genitalia in Figs. 128-130.

The new species is closely related to *O. graphata* MEY, 1997 from Mindanao and *O. oecetinellae* MEY, 1990 from Luzon. The species can be separated by the different form of the 10th segment and by the phallic apparatus of the male genitalia.

***Oecetis alticolaria* sp. nov.** (Figs. 131-132)

Material: Holotype ♂, 2 ♂♂ 1 ♀ paratypes, Panay, Antique, San Reminigio, Aningalan, 900m, 9.4.1995, at light, leg. W. MEY.

Length of forewing 4,5 - 4,8 mm; head and thorax yellow; eyes black; antennae yellow, with fine black articulations; palpi and legs yellowish; forewings yellowish grey, apex acute, crossveins and bifurcations brown; fusion of SC and R1 in front of midpoint of discoidal cell; male genitalia in Figs. 131-132.

O. alticolaria sp. nov. is closely related to the next species, *O. peterseni* sp. nov. from Palawan.

***Oecetis peterseni* sp. nov.** (Figs. 133-134)

Material: Holotype ♀ (pinned), 41 ♂♂ 60 ♀♀ paratypes, Palawan, Cayasan, Babuyan-river, 5.- 6.4.1995, at light, leg. W. MEY.

Length of forewing 3,4 - 3,7 mm; head and thorax yellow; eyes black; antennae yellow, with fine black articulations; palpi and legs yellowish; forewings yellowish grey, apex of both wings acute, crossveins and bifurcations brown; male genitalia in Figs. 133-134.

O. peterseni sp. nov. can be separated from the related *O. alticolaria* sp. nov. by its smaller size and by several differences in the male genitalia.

Derivatio nominis: The species is dedicated to Jan S. PETERSEN, who was my companion and guide on Palawan and Panay.

Oecetis cohaesa **sp. nov.** (Figs 135-136)

Material: Holotype ♂, 6 ♂♂ 1 ♀ paratypes, Panay, Antique, Culasi, St. Vincente, 400m, 11.4.1995, at light, leg. W. MEY.

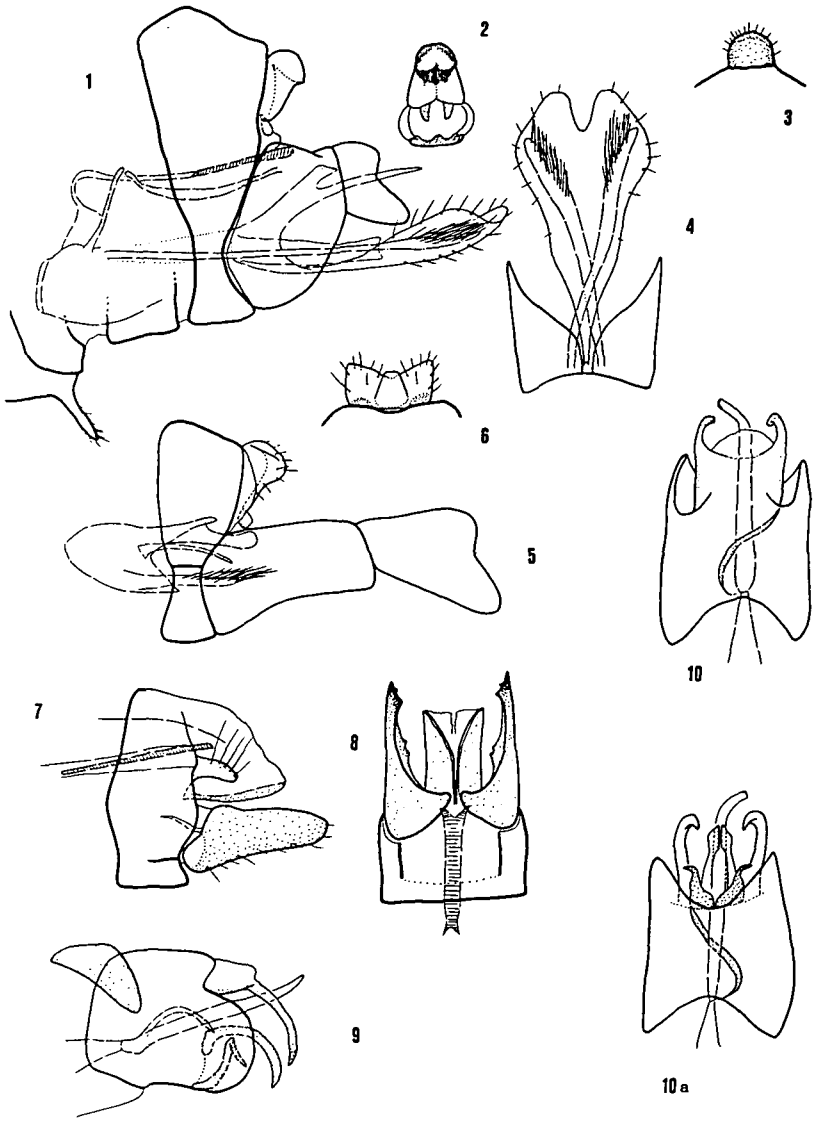
Length of forewing 6 - 6,5 mm; head and thorax brown; antennae yellow, with black articulations; maxillary palpi yellow, about as long as forelegs; legs brown; midtibia with a row of small, black spines; underside of abdomen yellow, tergites brown, tergites 6 to 8 with fine, regularly reticulate surface pattern, tergites divided mid-dorsally, tergit 8 not shield like; forewings with light grey membrane, darker patches around the crossveins and along the other veins; discoidal cell long, SC and R joining after midpoint of opposite discoidal cell, forming a thick vein; male genitalia in Figs. 135-136.

In genitalic structure this species resembles *O. koyana* KIMMINS, 1955 from Borneo in having an asymmetric phallic apparatus with two dark spines and similar inferior appendages. The most striking difference is the form of segment 10, being vestigial in *O. cohaesa* sp. nov. and well developed in *O. koyana*.

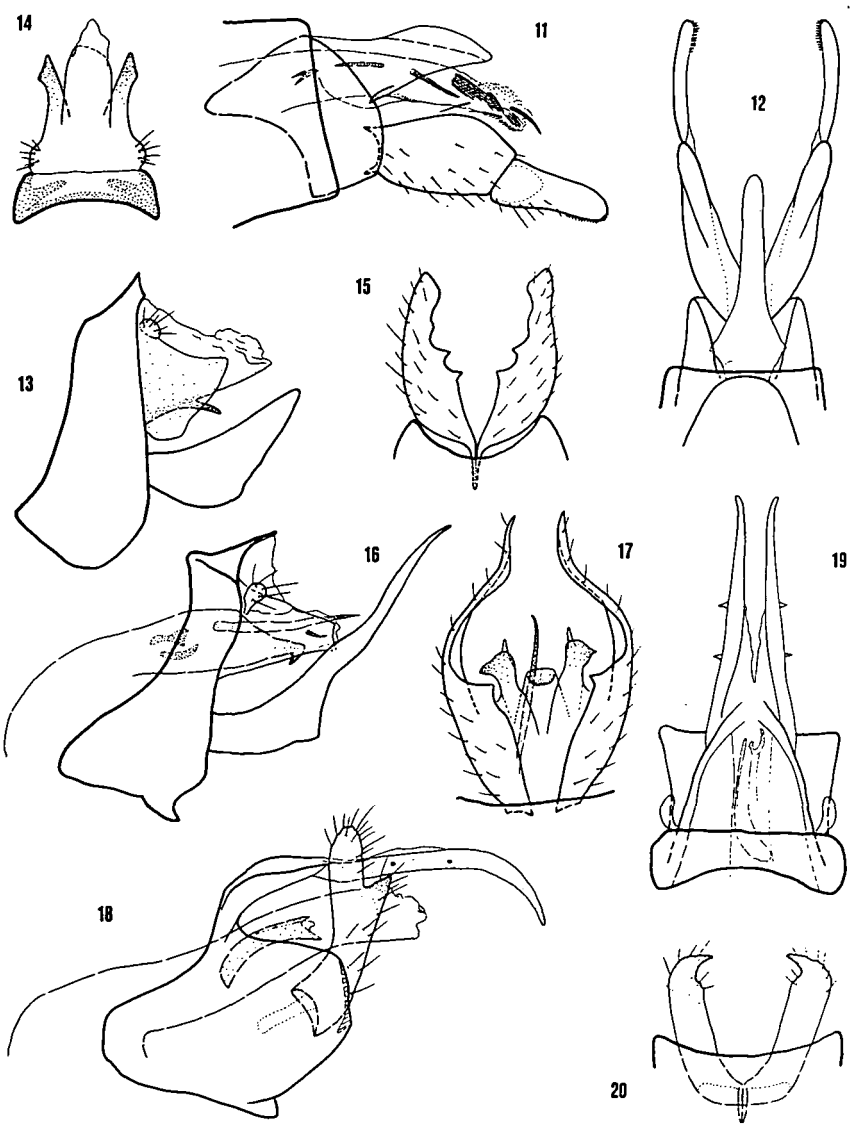
Acknowledgements

I am indebted to Roland MÜLLER and Jan PETERSEN for collecting and sending caddisfly material from the Philippines. My further thanks go to Oliver S. FLINT (NHMW), Philip D. PERKINS (MCZ) and Scott E. MILLER (BMH) for the loan of specimens and types deposited in their collections.

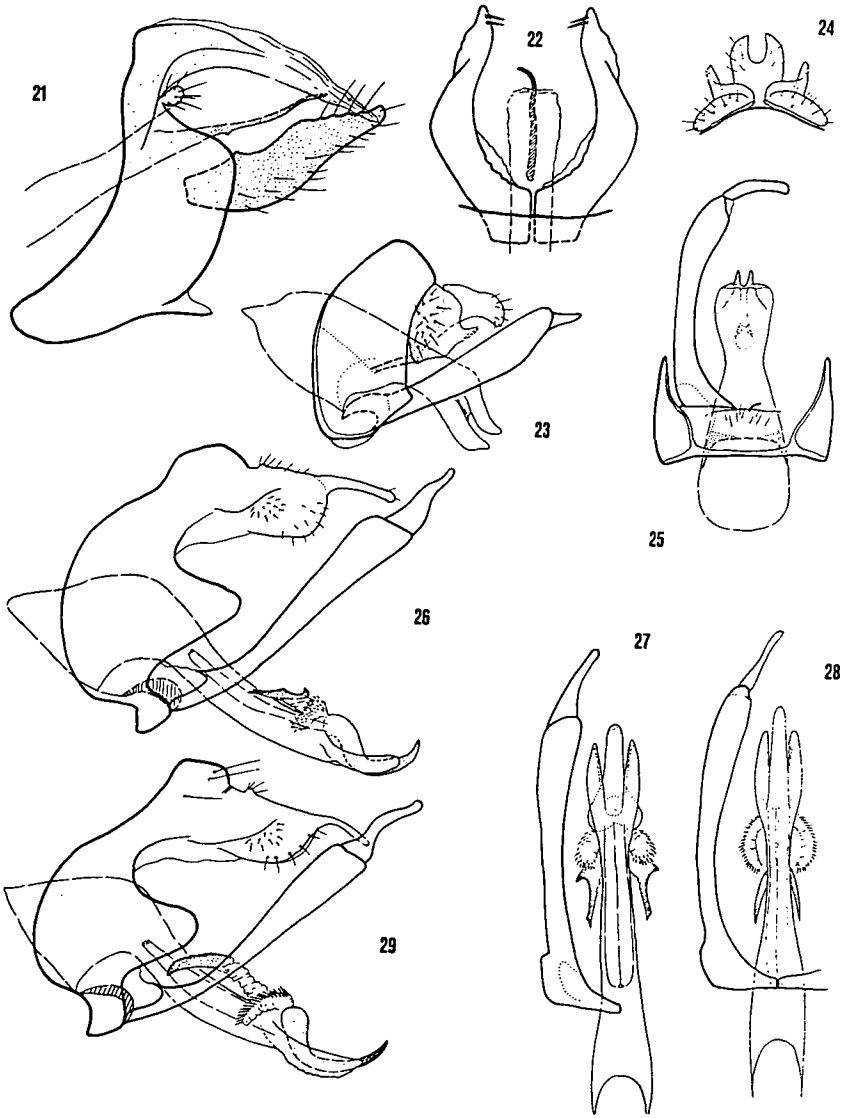
The Philippine project is being supported by the Deutsche Forschungsgemeinschaft (Me 1085/5-1).



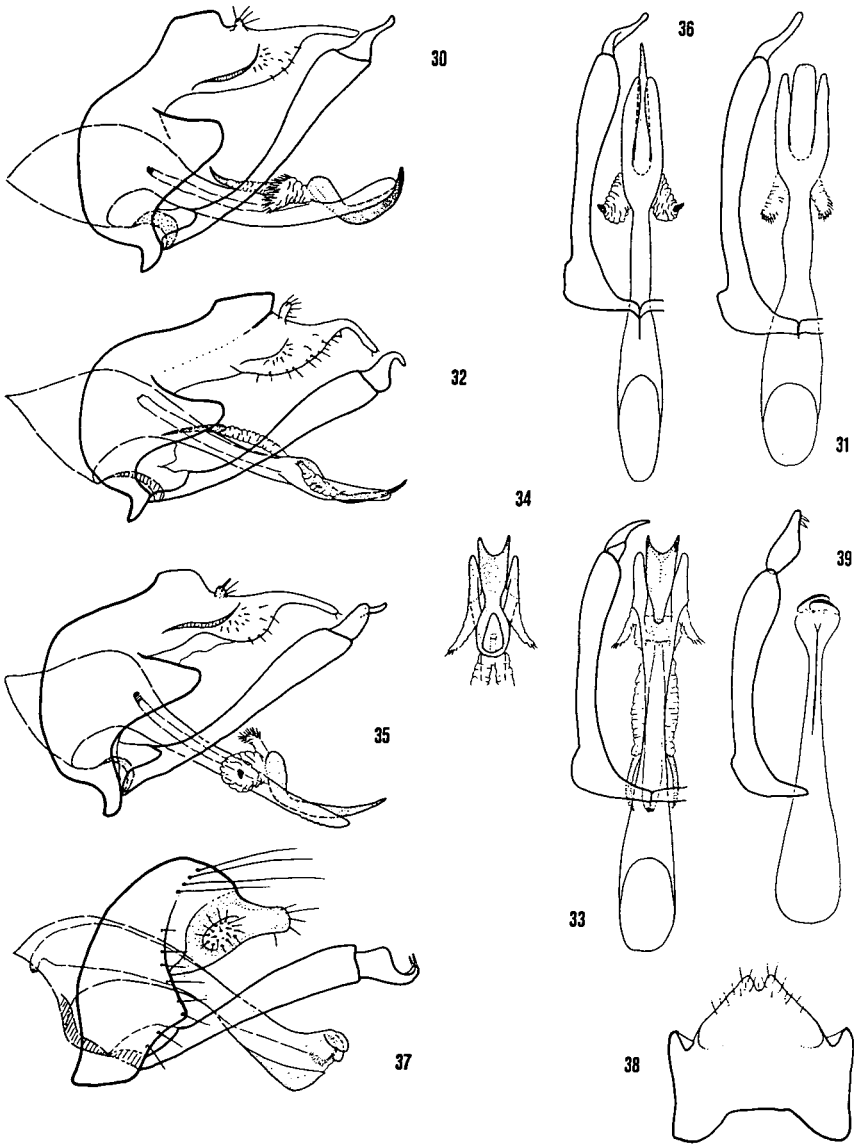
Figs 1-10a. Male genitalia of: *Rhyacophila negrosana* sp. nov., 1 - lateral, 2 - segment 10, caudal, 3 - dorsal, 4 - ventral process and paramers, ventral; *R. cataractae* sp. nov., 5 - lateral, 6 - dorsal; *Agapetus baptos* sp. nov., 7 - lateral, 8 - ventral; *Hydroptila lingigi* sp. nov., 9 - lateral, 10 - dorsal, 10a - ventral.



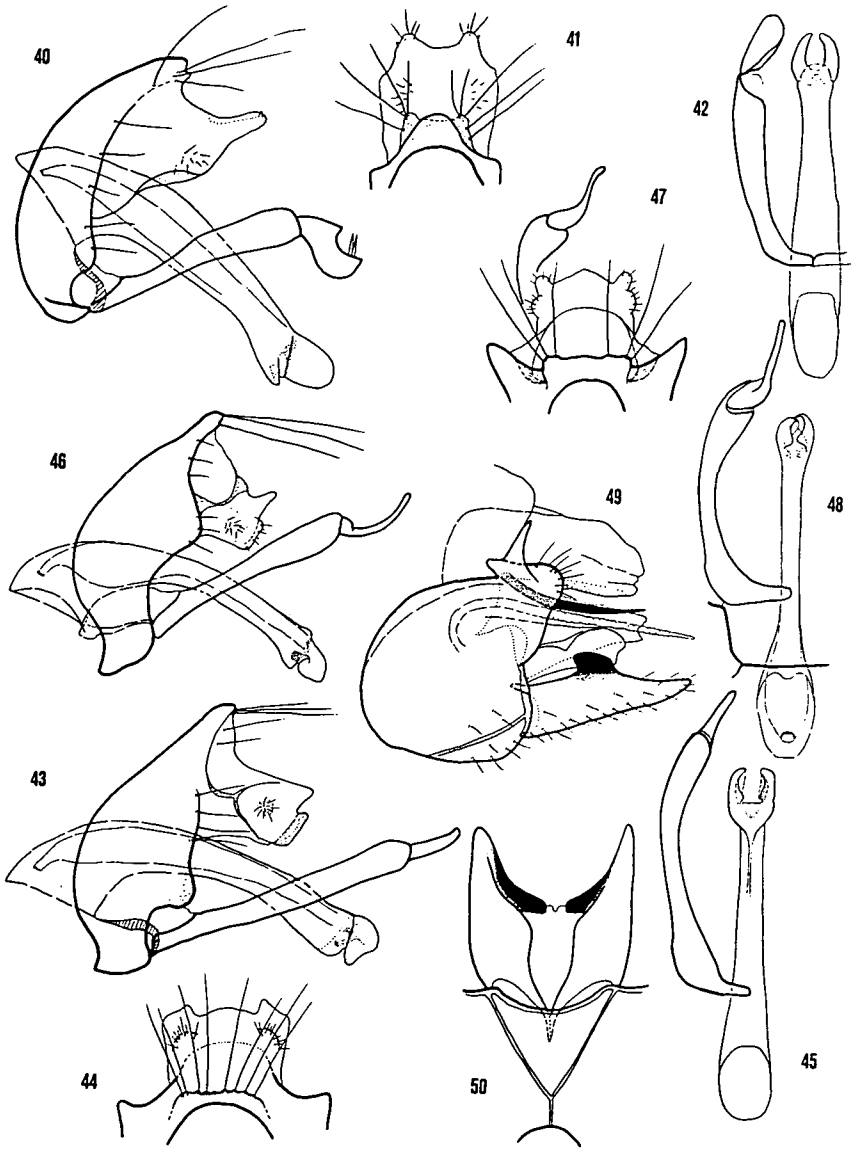
Figs 14-20. Male genitalia of: *Gunungiella balsahana* sp. nov., 11 - lateral, 12 - dorsal; *Chimarra danaokana* sp. nov., 13 - lateral, 14 - dorsal, 15 - ventral; *C. ophiognatha* sp. nov., 16 - lateral, 17 - ventral; *C. furti* sp. nov., 18 - lateral, 19 - dorsal, 20 - ventral.



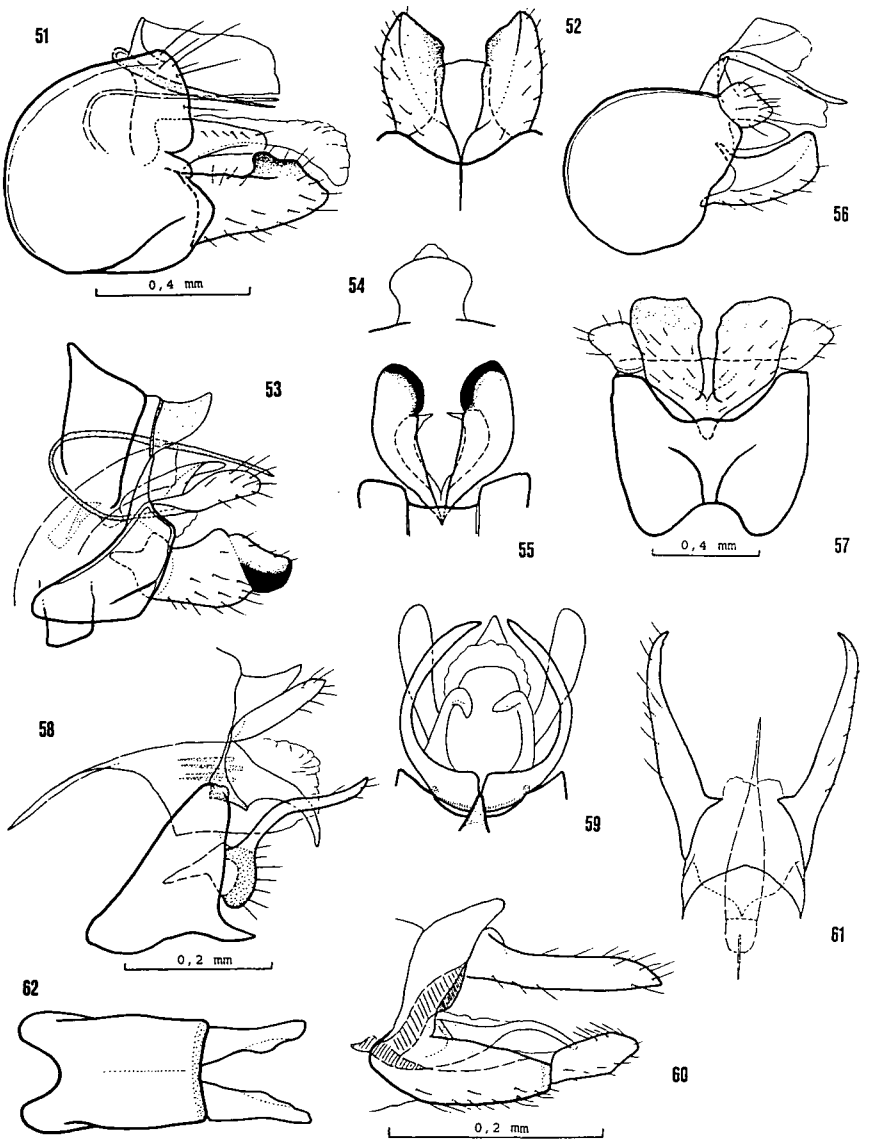
Figs 21-29. Male genitalia of: *Chimarra babuyana* sp. nov., 21 - lateral, 22 - ventral; *Diplectrona candidana* sp. nov., 23 - lateral, 24 - dorsal, 25 - ventral; *Hydropsyche buenafei* sp. nov., 26 - lateral, 27 - ventral; *H. davisi* sp. nov., 28 - ventral, 29 -lateral.



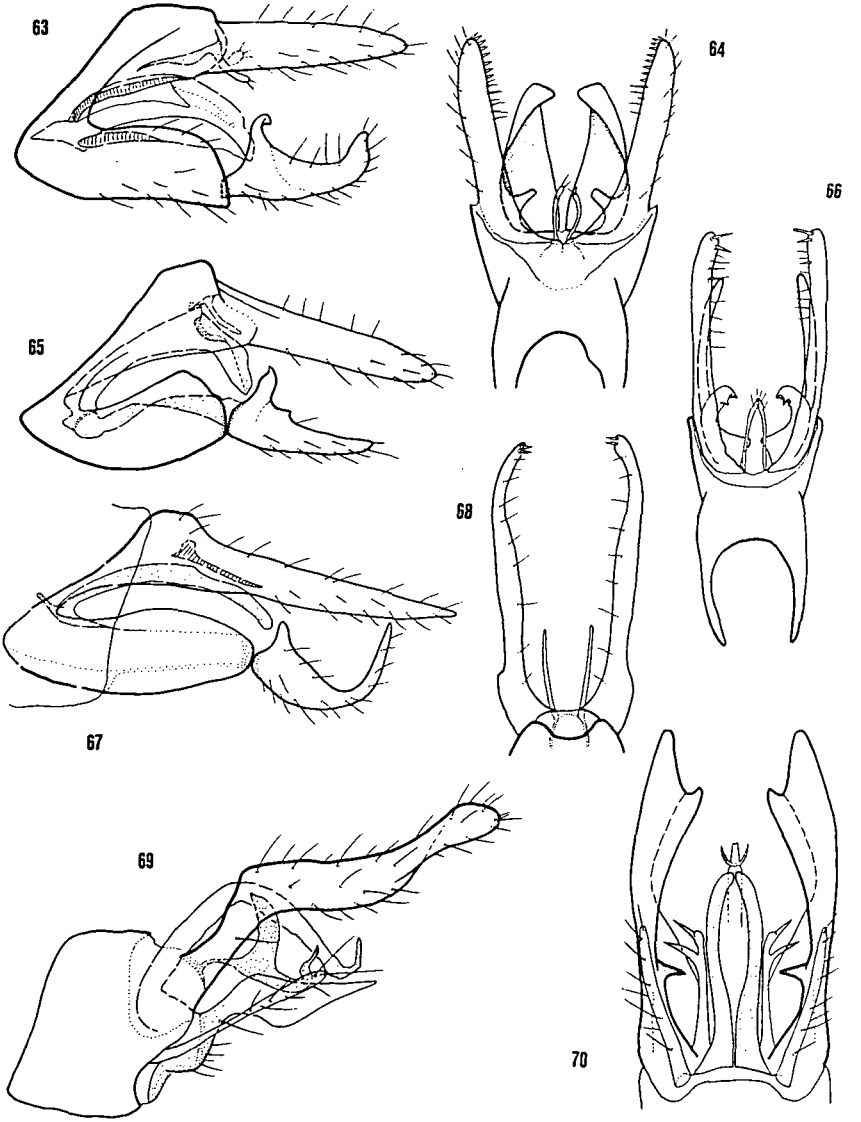
Figs 30-39. Male genitalia of: *Hydropsyche negrosensis* sp. nov., 30 - lateral, 31 - ventral; *H. gerostizai* sp. nov., 32 - lateral, 33 - ventral, 34 - tip of aedeagus, dorsal; *H. cebuensis* sp. nov., 35 - lateral, 36 - ventral; *Cheumatopsyche saltorum* sp. nov., 37 -lateral, 38 - dorsal, 39 - ventral.



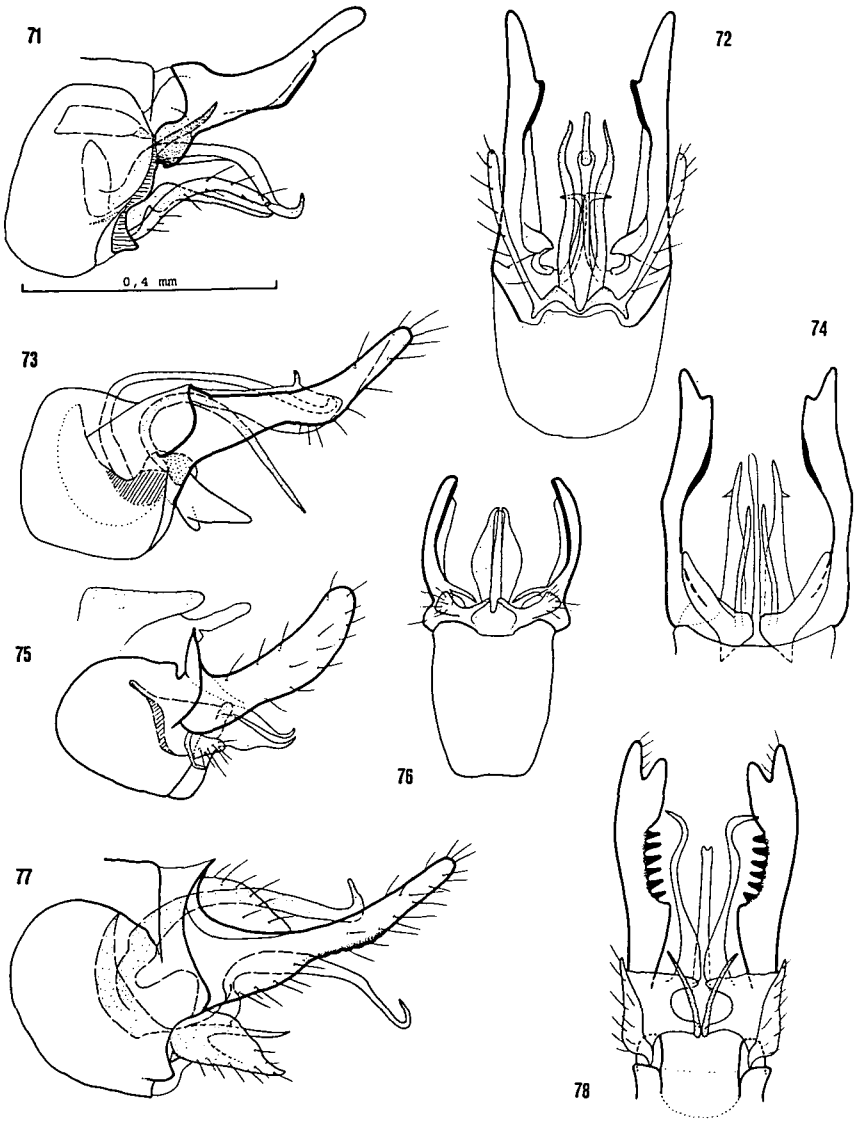
Figs 40-50. Male genitalia of: *Cheumatopsyche georgulmeri* sp. nov., 40 - lateral, 41 - dorsal, 42 - ventral; *C. nathanbanksi* sp. nov., 43 - lateral, 44 - dorsal, 45 - ventral; *C. longinosnavasi* sp. nov., 46 - lateral, 47 - dorsal, 48 - ventral; *Polyplectropus assimulans* sp. nov., 49 - lateral, 50 - ventral.



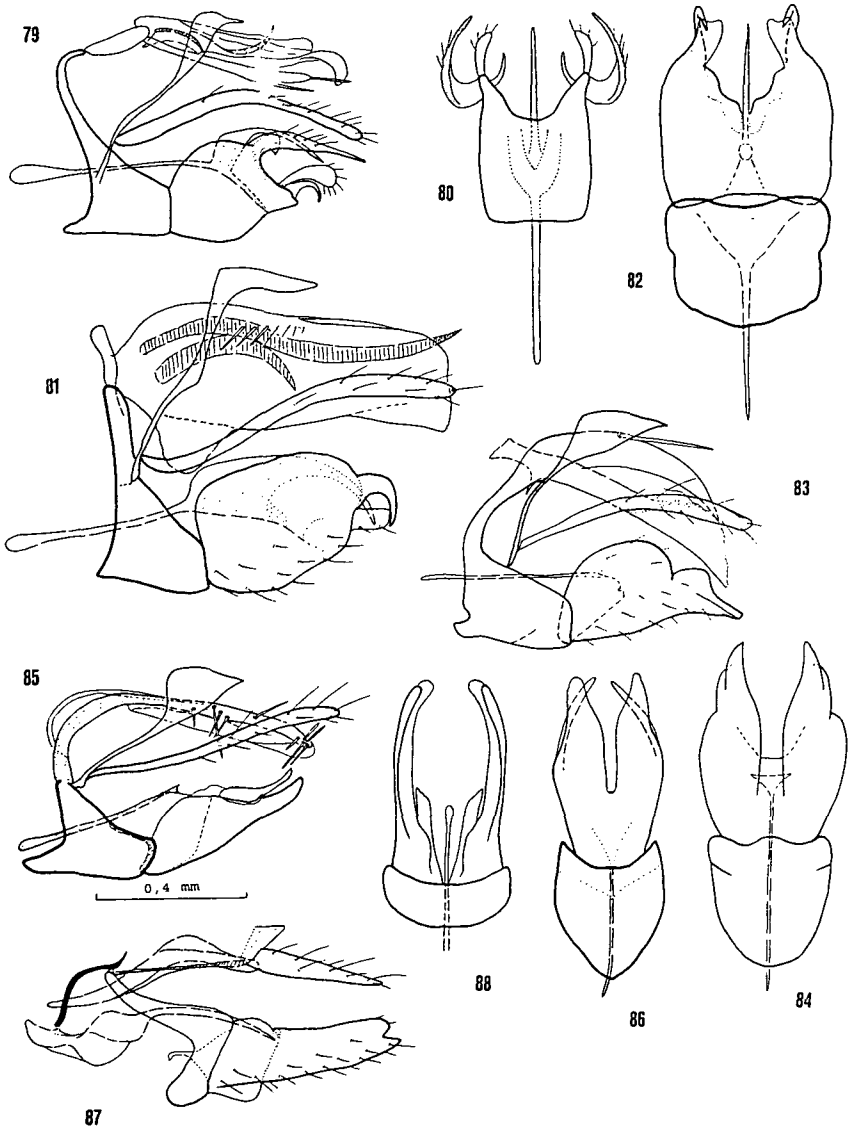
Figs 51-62. Male genitalia of: *Polyplectropus perspersus* sp. nov., 51 - lateral, 52 - ventral; *P. crocallis* sp. nov., 53 - lateral, 54 - dorsal, 55 - ventral; *P. basimaculatus* sp. nov., 56 - lateral, 57 - ventral; *Paranyctiophylax noctiflavus* sp. nov., 58 - lateral, 59 - ventrocaudal; *Ecnomus minostylus* sp. nov., 60 - lateral, 61 - dorsal, 62 - ventral.



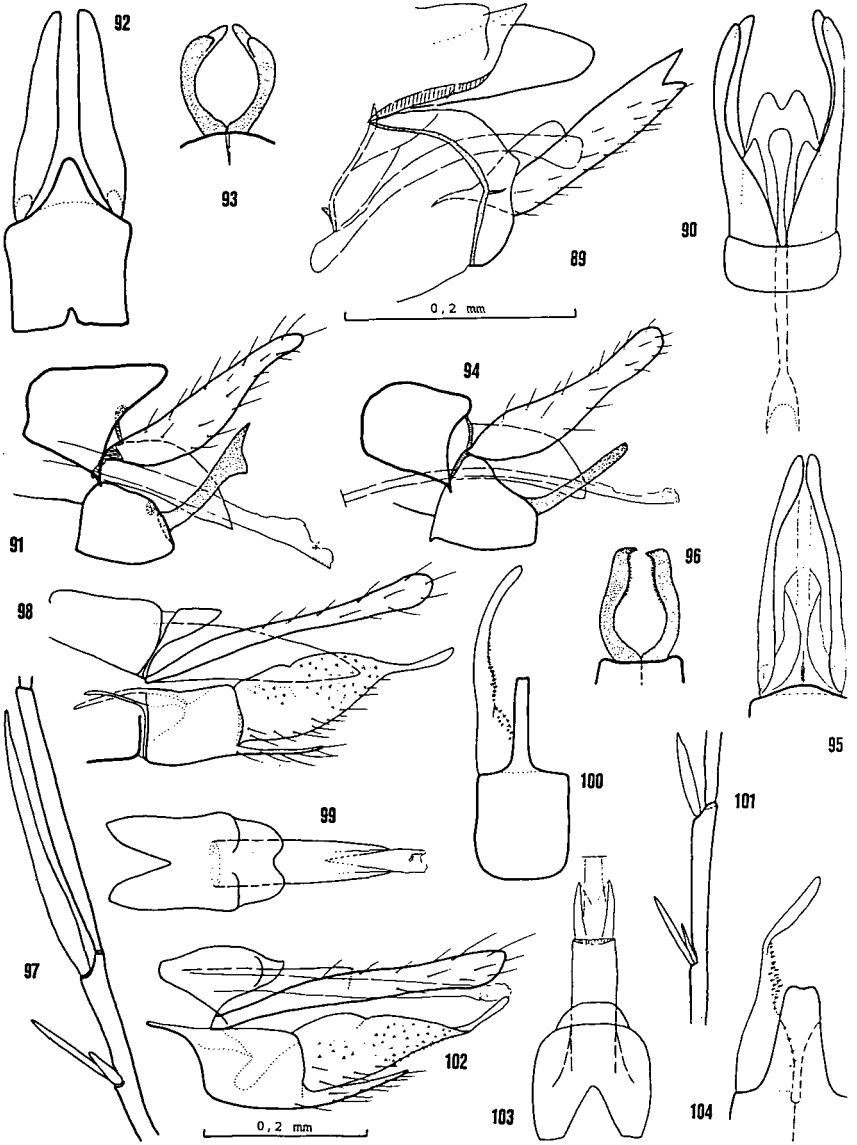
Figs 63-70. Male genitalia of: *Ecnomus typhlodes* sp. nov., 63 - lateral, 64 - dorsal; *E. paratyphlodes* sp. nov., 65 - lateral, 66 - dorsal; *E. pilophorus* sp. nov., 67 - lateral, 68 - dorsal; *Psychomyia mindorella* sp. nov., 69 - lateral, 70 - ventral.



Figs. 71-78. Male genitalia of: *Psychomyia panayella* sp. nov., 71 - lateral, 72 - ventral; *P. palawanella* sp. nov., 73 - lateral, 74 - ventral; *P. negrosella* sp. nov., 75 - lateral, 76 - ventral; *P. suriganella* sp. nov., 77 - lateral, 78 - ventral.



Figs 79-88. Male genitalia of: *Tinodes mandalagana* sp. nov., 79 - lateral, 80 - ventral; *T. aningalani* sp. nov., 81 - lateral, 82 - ventral; *T. patagana* sp. nov., 83 - lateral, 84 - ventral; *T. reminigia* sp. nov., 85 - lateral, 86 - ventral; *Paduniella panayica* sp. nov., 87 - lateral, 88 - ventral.



Figs 89-104. Male genitalia of: *Paduniella bidentosa* sp. nov., 89 - lateral, 90 - ventral; *Abaria triquetra* sp. nov., 91 - lateral, 92 - dorsal, 93 - ventral; *A. heliantha* sp. nov., 94 - lateral, 95 - dorsal, 96 - ventral; *Drepanocentron palawanicum* sp. nov., 97 - modified spur, 98 - lateral, 99 - dorsal, 100 - ventral; *D. cayasani* sp. nov., 101 - modified spur, 102 - lateral, 103 - dorsal, 104 - ventral.

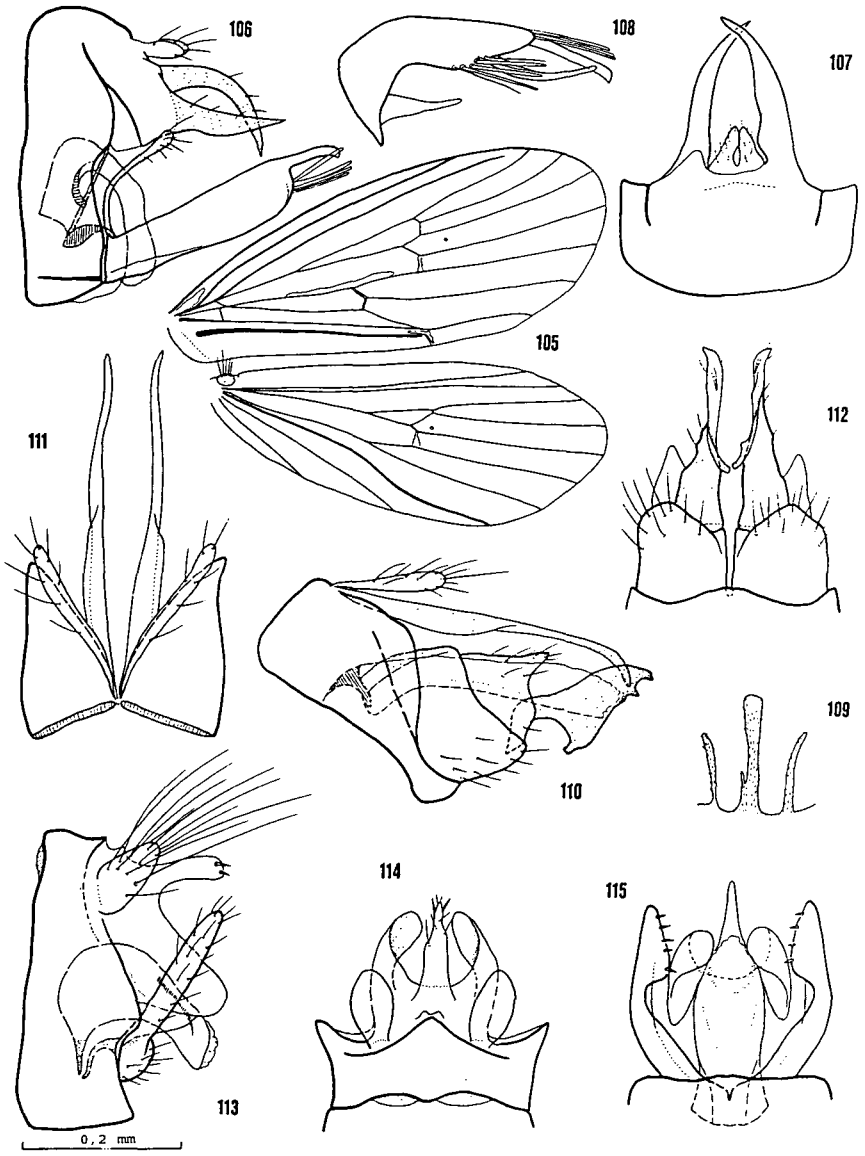
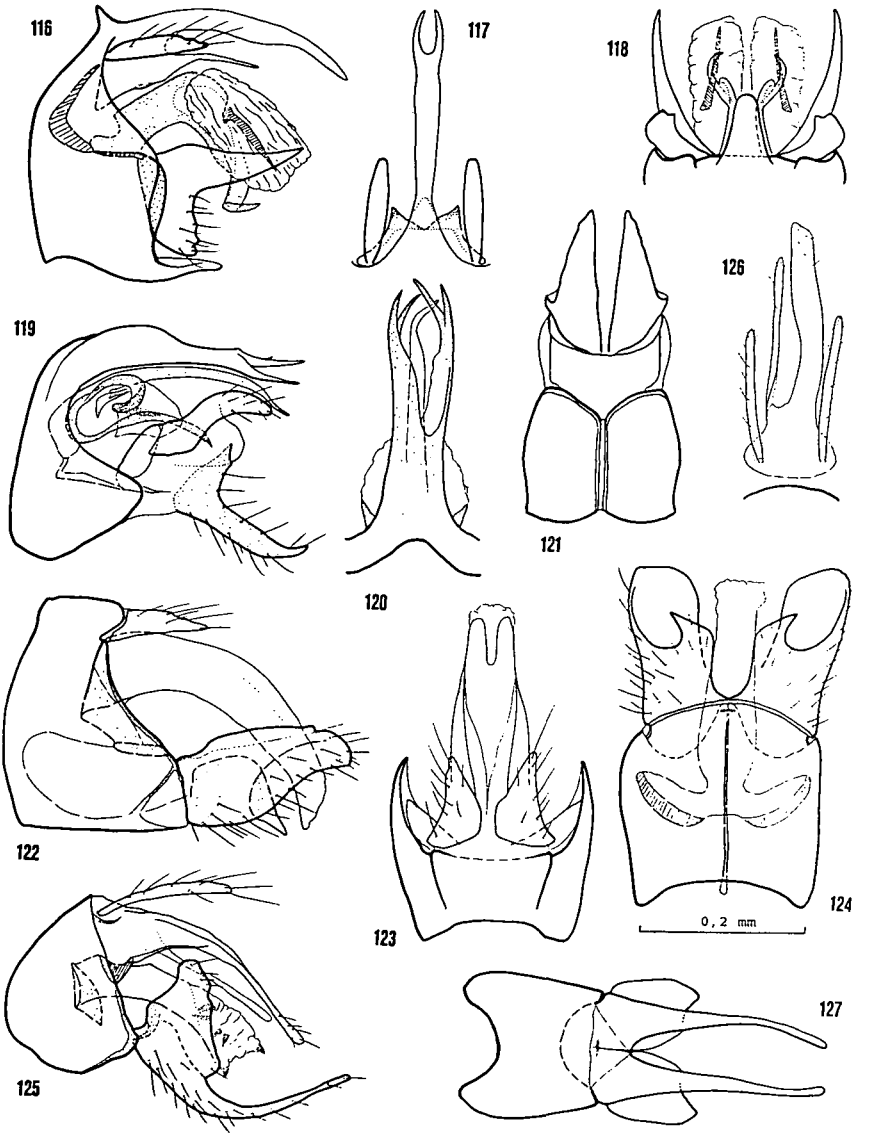
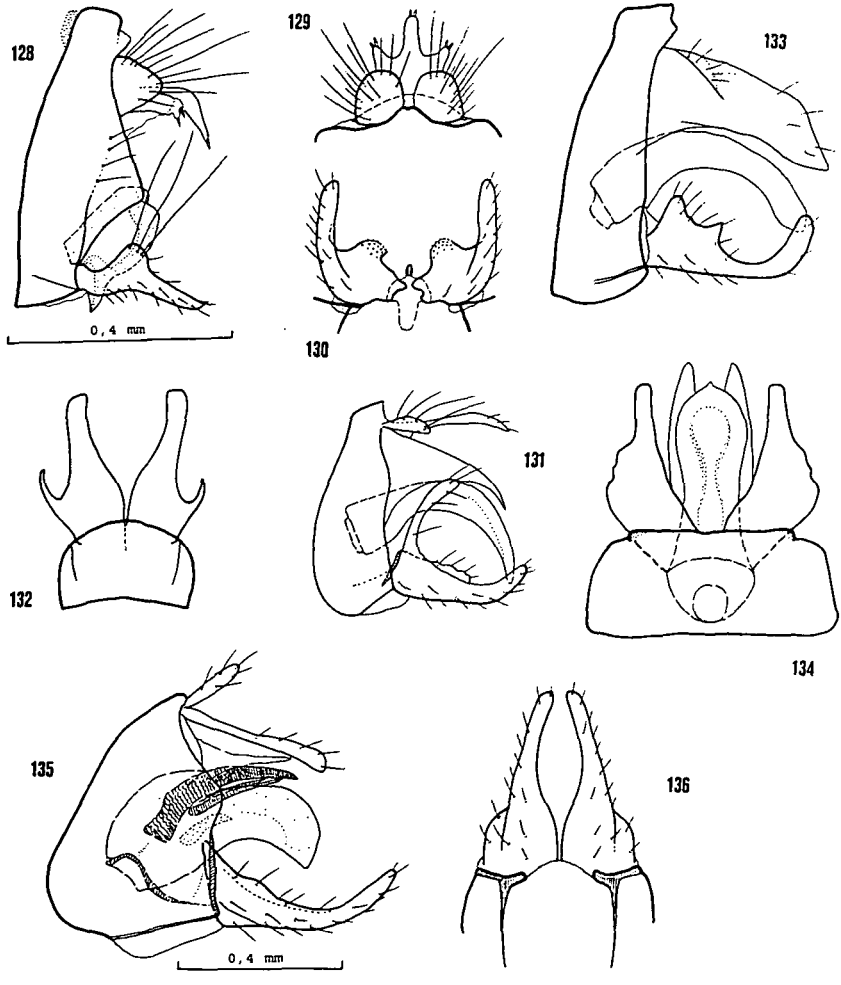


Fig. 105. Male wing venation of *Lepidostoma fraterna* sp. nov.; **Figs 106-115.** Male genitalia of: *Lepidostoma fraterna* sp. nov., 106 - lateral, 107 - dorsal, 108 - inferior appendage, ventral; *Goera siccana* sp. nov., 109 - ventral process of sternite 6, 110 - lateral, 111 - dorsal, 112 - ventral; *Adicella visayana* sp. nov., 113 - lateral, 114 - dorsal, 115 - ventral.



Figs 116-127. Male genitalia of: *Setodes egregius* sp. nov., 116 - lateral, 117 - dorsal, 118 - ventral; *Leptocerus circumflexus* sp. nov., 119 - lateral, 120 - dorsal, 121 - ventral; *L. ultimus* sp. nov., 122 - lateral, 123 - dorsal, 124 - ventral; *Oecetis intramontana* sp. nov., 125 - lateral, 126 - dorsal, 127 - ventral.



Figs. 128-136. Male genitalia of: *Oecetis panayensis* sp. nov., 128 - lateral, 129 - dorsal, 130 - ventral; *O. alticolaria* sp. nov., 131 - lateral, 132 - ventral; *O. peterseni* sp. nov., 133 - lateral, 134 - ventral; *O. cohaesa* sp. nov., 135 - lateral, 136 - ventral.

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Literaturbesprechung

MASCHEWSKY, W. 1996: Handbuch der Chemikalienunverträglichkeit (MCS). - Medi Verlag, Hamburg, 271 S.

Das MCS-Syndrom ("Chemikalienunverträglichkeit" oder "chemische Mehrfachempfindlichkeit") muß seit Jahren als Erklärungsversuch für all die diffusen Krankheitsbilder herhalten, die vermutlich auf die massenhafte Freisetzung neuer chemischer Verbindungen in die Biosphäre zurückzuführen sind. Die höchst unterschiedliche Reaktion der Menschen auf dieselbe Schadstoffkombination/-konzentration beruht auf verschiedenen Faktoren. Als wesentliche Ursache kristallisiert sich in letzter Zeit die genetische Konstitution des Individuums heraus. Die Fähigkeit zur Metabolisierung und Ausleitung giftiger Substanzen hängt ganz entscheidend von der enzymatischen Ausstattung etc. der Zellen bzw. Organe ab. Außerdem scheinen die Ernährung sowie nicht umweltbedingte Erkrankungen wie die Immunschädigung, psychische oder Stoffwechselstörungen entscheidende Faktoren für MCS zu sein. Im vorliegenden Buch wird der Versuch unternommen, anhand zahlreicher vorliegender Studien zu MCS zu einem interdisziplinären Erklärungsansatz für das Syndrom zu kommen. Daran schließen sich Ausführungen zu Diagnostik und Behandlung an, die jedoch erkennen lassen, daß MCS viel Krankheitsbilder zusammenfaßt, die nicht alle unbedingt mit Noxen der Biosphäre in Zusammenhang stehen und daß die beste Therapie immer noch die Vermeidung der betreffenden Substanzen bzw. Substanzgemische ist. Unter Berücksichtigung der anschließenden Kapitel wie "MCS, Persönlichkeit und Psychiatrisierung", "Handlungsmöglichkeiten für Betroffene und Helfer" sowie Adressen und Literaturverweisen ist das vorliegende Buch bevorzugt Betroffenen zu empfehlen, die sich über ihre Erkrankung genauer informieren wollen und die dort Bestätigung finden, daß es sich bei ihrem Leiden keineswegs um Hypochondrie, sondern um eine handfeste Erkrankung handelt. Weiterer Forschungsbedarf besteht!

Michael CARL

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