

On the generic status of the Afrotropical *Nyctemera* species

(Lepidoptera, Arctiidae)

by

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Abstract: All Afrotropic *Nyctemera* species proved not to be congeneric with any true Oriental *Nyctemera* and its relatives. They should be allocated into four genera: *Podomachla* STRAND, 1909 **stat. nov. et stat. rev.**, with elongate hind legs of $\sigma\sigma$, double apical valva processes and without subunci: *P. apicalis* (WALKER, 1854) **comb. nov.**, *P. antinorii* (OBERTHÜR, 1880) **stat. rev. et comb. nov.**, *P. acraeina* (DRUCE, 1882) **comb. nov.**, *P. arieticornis* (STRAD, 1909), **comb. n.**, *P. chromis* (DRUCE, 1882) **comb. nov.**, *P. usambarae* (OBERTHÜR, 1893) **comb. nov.**, *P. virgo* (STRAND, 1909) **comb. nov.**, probably, *Deilemema insularis* TALBOT, 1929 also belongs to this genus; *Chiomachla* STRAND, 1909 **stat. nov. et stat. rev.**, is characterised by sexually modified fore tarsi and presence of long subunci (socii): *Ch. leuconoe* (HOPFFER, 1858) **comb. nov.**, *Ch. restricta* (BUTLER, 1894) **comb. nov.**, *Ch. insulare* (BOISDUVAL, 1833) **comb. nov.**, *Ch. perspicua* (WALKER, 1854) **comb. nov.**, *Ch. transitella* (STRAND, 1909) **comb. nov.**, *Ch. seychellensis* (HAMPSON, 1908) **comb. nov.**, *Ch. pallescens* (OBERTHÜR 1890) **comb. nov.**, *Ch. chalcosidia* (HAMPSON, 1910) **comb. nov.**, *Ch. gracilis* (SAALMÜLLER, 1884) **comb. nov.**, *Ch. torbeni* (WILTSHIRE, 1983) and probably *Nyctemera pallescens* OBERTHÜR, 1890. A new genus, *Afronyctemera* DUBATOLOV **gen. nov.**, is described for *Deilemema itokina* AURIVILLIUS, 1904; it is characterised by an absence of sexual modifications to the legs and by flat valvi with short triangular processes. All other species having light wings with dark margins should be transferred into the genus *Xylecata* SWINHOE, 1904; they are: *X. druna* Swinhoe, 1904, *X. hemixantha* (AURIVILLIUS, 1904) **comb. nov.**, *X. bififormis* (MABILLE, 1878) **comb. nov.**, *X. ugandicola* (STRAND, 1909) **comb. nov.**, *X. uniformis* (PLÖTZ, 1880) **comb. nov.**, *X. xanthura* (PLÖTZ, 1880) **comb. nov.**, and probably *Deilemema glauca* (FAWCETT, 1916) and *D. ratrayi* SWINHOE, 1904. The latter genus is characterised by short valvi with a narrow hook-like sclerotized apical process, a membranose finger-like ventral process and by the presence of very large strong spine-like cornuti on the vesica. The allocation of *Nyctemera crassiantennata* OBERTHÜR, 1916 is uncertain.

The catalogue compiled by GOODGER & WATSON (1995) listed 26 African species within the genus *Nyctemera* HÜBNER, [1820]. At the beginning of 20th century, most were considered to be members of the genus *Deilemema* HÜBNER, [1820]. Nevertheless, both genera contained the Oriental, not Afrotropical type species (WATSON, FLETCHER & NYE, 1980). In a first revision of the Afrotropical *Deilemema* species, STRAND, based on sexual specialisations of the legs, separated five Afrotropical species groups into the latter genus, two of which he described as separate subgenera: *Chiomachla* STRAND, 1909, with sexual modification of the fore tarsi, and *Podomachla* STRAND, 1909, with sexual modifications to the hind legs. Later, WATSON et al. (1980) designated the type species for both subgenera, *N. leuconoe*

HOPFFER, 1858 for the former, and *N. apicalis* WALKER, 1854 for the latter. During studies of the σ genitalia of the Oriental and Afrotropical tiger-moth genera, I found that at least the last species differs significantly from all Oriental relatives. This led me to examine the σ genitalia of the Afrotropical Nyctemerini more carefully. Due to the courtesy of Dr. D. V. LOGUNOV, I received a series of the Afrotropical *Nyctemera* species from the Manchester Museum (MMUM) collection for dissection. In addition, specimens from the Zoological Institute in St.-Petersburg, Russia (ZIN) and Siberian Zoological Museum of the Institute of Animal Systematics and Ecology in Novosibirsk, Russia (SZMN) were also studied. After examining all these species it became clear that both of STRAND's subgenera differ significantly from all Oriental Nyctemerini genera, and that his subgenera should be raised to genera. A short review of these genera is given below.

***Podomachla* STRAND, 1909 stat. nov. et stat. rev.**

Ann. Soc. Ent. Belg. 53: 326, 329, 339.

Type species: *Nyctemera apicalis* WALKER, 1854, designated by WATSON et al., 1980: 155.

Diagnosis. The main character of the genus is abnormally long hind legs in $\sigma\sigma$ (fig. 1-4), all parts of which are lengthened, including the femora, tibiae and tarsi. When folded, the hind leg is twice as long as the others. The hind tibia has a longitudinal groove on its innerside, with a cluster of very long stout hairs. The hind tarsus is narrower at the base and wider at the apex. Another noticeable character is the presence of two white areas on the fringe of the dark forewing, and one on the hindwing; but this character is also shared with the next genus and the Oriental *Coleta* ROEPKE, 1949. The abdomen lacks any dark markings dorsally. In addition, the forewing venation is characterised by a presence of small radial cell; the tympanus is hemispherical with small depressions.

σ genitalia (fig. 10-12). The most important character of the genus is the presence of two very closely located apical processes on the valva, divided by a small membranose area; the costal edge of the valva being curved almost to a right angle. Uncus simple, hook-like, with an oval ventral enlargement; there are no subuncal or socii branches. Aedeagus narrow, S-like in shape, without a strong widening at base of the ductus ejaculatorius, vesica very small.

Remarks. Neither the Oriental Nyctemerini nor the Afrotropical genera have such two closely located apical processes on the valvae and the sexual modifications to the hind legs; so, these characters form very remarkable autapomorphies to this genus and good evidence for its generic status.

***Podomachla apicalis* (WALKER, 1854) comb. nov.** (colour plate 5, fig. 3)

Nyctemera apicalis WALKER, 1854; List Spec. lepid. Ins. Coll. Br. Mus. 2: 395; type locality: [Ghana] "Ashanti" + "——?" + "Zoolu Country, South Africa" + "Port Natal" + "Sierra Leone".

Material. Sierra Leone: 1 ♀, no other data (MMUM); Kenya: 1 ♂, British East Africa, Kibwesi, 4.IV.1917 (MMUM); Tanzania (German East Africa): 1 ♀, west bank of Lake Victoria, Forest Kibira in 5 km S from Bukoba, 7.VI.1912, TROITSKII leg. (ZIN); 3 ♂♂, west bank of Lake Victoria, plantation of Eismann-Marukku near Bukoba, 24.VI.1912, TROITSKII

leg. (ZIN, SZMN); South Africa: 2 ♂♂, 1 ♂, Natal, Weenen, coll. by G.H. BURN (MMUM); 2 ♀♀, Natal, HOWICK (MMUM); 2 ♀♀, Kwa-Zulu-Natal, Kokstad, Ngeli Forest, 28.IV.2004, P. USTJUZHANIN leg. (SZMN).

Diagnosis. According to STRAND (1909), the species is characterised by a tetra- or triangular projection to the dark ground colouration on the medial-basal field inside the white oblique discal band towards the base of vein Cu_1 . So, the inner edge of the pale spot between the cubital veins is strongly convex to the wing's base. The hind tarsus (fig. 3) is twice as narrow in the basal part, so that it looks like an elongated club.

♂ genitalia (fig. 10-11). The species is characterised by rhombus-like valvae with the costal margin slightly curved between the right subbasal angle and the apical processes. The dorsal apical process is noticeably longer than the ventral one and lacks dentations on its dorsal surface.

Remarks. I have studied the ♂ genitalia of this species from Kenya, Tanzania and South Africa and could not find any noticeable distinctions between them; so *P. apicalis* Wlk. looks to be widely distributed throughout the Afrotropics.

***Podomachla antinorii* (OBERTHÜR, 1880) stat. rev. et comb. nov.**

(fig. 8, colour plate 5, figs. 1, 2)

Nyctemera Antinorii OBERTHÜR, 1880; Ann. Mus. Civ. Stor. Nat. Genova **15**: 174-175 (46-47), pl. 1, fig. 1; type locality: "da Bagamayo, da Zanzibar e dall' Abissinia" [Tanzania, Ethiopia].

Material. Tanzania: 1 ♂, 5 km S from Bukoba, Forest Kibira, 1.VI.1912, TROITSKII leg. (ZIN); Cameroun: 1 ♀, Bitey Ja River, 2000 ft, X-XI.1910 (MMUM).

Diagnosis. This can be easily separated from the former species by the broadly triangular projection of the dark ground colouration of the medial-basal field inside the white oblique discal band towards the base of vein Cu_1 . So, the inner edge of the pale spot between the cubital veins is straight. The hind tarsus (fig. 4) is only 1.5 times narrower at the base than at apex, so it does not look like a club.

♂ genitalia (fig. 12). The most distinctive part of the genitalia is a very deep cavity between the right subbasal angle of the valva and its apical processes. The dorsal apical process is equal to the ventral one in length and is covered with slight but noticeable dentations on its dorsal surface.

Remarks. Although described as a good species, for a long time this taxon was treated just as a synonym of the former one (Strand, 1909, Gaede, 1926; Bryk, 1937; Goodger, Watson, 1995). Nevertheless, a different genitalia structure shows the good specific status of *P. antinorii* OBT. Both of the specimens studied have identical wing patterns with that illustrated in the original description.

Additional species. Based on the leg structure, STRAND (1909) transferred several species into this group which I consider to be the genus *Podomachla* STRAND, they are:

P. acraeina (DRUCE, 1882), **comb. n.**; Proc. Zool. Soc. London **1882**: 780 (*Nyctemera*); type locality: Nigeria "Calabar" (GOODGER & WATSON, 1995);
P. arieticornis (STRAND, 1909), **comb. n.**; Ann. Soc. Ent. Belg **53**: 330, 346-347 ([*Deilemera*]); type locality: "Victoria in Kamerun";
P. chromis (DRUCE, 1882), **comb. n.**; Proc. Zool. Soc. London **1882**: 780, t. LXI, fig. 2 (*Nyctemera*); type locality: West Africa (Goodger, Watson, 1995);
P. usambarae (OBERTHÜR, 1893), **comb. n.**; Ét. d'Ent.'17: 32, t. I, fig. 8 (*Nyctemera*); type locality: Tanzania "Usambara" (GOODGER & WATSON, 1995);
P. virgo (STRAND, 1909), **comb. n.**; Ann. Soc. Ent. Belg. **53**: 332, 348 ([*Deilemera*]); type locality: "Tamatave, Madagaskar".

Deilemera insularis TALBOT, 1929; Bull. Hill Mus. **3**: 58-59; type locality: "St. Thomas", is most probably a member of this genus also, because it was described as "allied to *arieticornis* STRAND", while no sexual changing to the legs were mentioned in the original description.

***Chiromachla* STRAND, 1909 stat. nov., rev.**

Annals Soc. ent. Belg. **53**: 326, 327, 333.

Type species: *Nyctemera leuconoe* HOPFFER, 1858, designated by WATSON et al. (1980: 155).

Diagnosis. The main character of the genus is sexual modifications to the σ fore tarsi (fig. 5-7), while the hind legs are normal; STRAND (1909) mentioned this character as the most important for the group. Moreover, the fore tarsus structure is highly specialised within each species, and should be studied when separating species. The fore tibia bears several long rough light hairs, their tops nearly reaching the apex of the tarsus. Another important character is the presence of two white areas on the fringe of the dark forewing and one such area on the hindwing; but this character is common in both the former genus and the Oriental *Coleta* ROEPKE, 1949. Abdomen grey, usually with a dorsal row of dark spots. In addition, forewing vein R_2 arise from radial stock, or there is a small radial cell; tympanus like a semispherical bulb, slightly depressed.

σ genitalia. The genus is characterised by the presence of long curved subunci which seems to be formed by sclerotized socii. Uncus straight, or hook-like. Valvae narrowly triangular, continued into a single apical processus. Aedeagus not narrow and very slightly curved.

Remarks. Neither the Oriental Nyctemerini nor the Afrotropical genus have such strong development of the socii and sexual changes to the fore tarsi; so these characters represent very remarkable autapomorphies of this genus and well support the generic status of *Chiromachla* Strand. Unfortunately, I am unable to study the type species of the genus, just the closely related *Ch. restricta* BTL. and two others.

***Chiromachla restricta* (BUTLER, 1894) comb. nov.** (colour plate 5, fig. 4)

Leptosoma restrictum BUTLER, 1894; Proc. Zool. Soc. London **1894**: 585; type locality: "Sabaki Valley" [Kenya].

Material. Kenya: 1 σ , "Kibwezi, B.E. Africa, 31 July 1917" (MMUM).

Diagnosis. According to STRAND (1909), the species is characterised by a wide dark margin on the hindwings, the white oblique discal band tapering to a pointed end; sometimes it nearly touches the external margin, and a yellow spot is situated between the antennae bases on the head. In addition, it should be noted that the forewing is dark with a single oblique white discal band and several yellowish longitudinal lines at the wing base. A projection of the dark ground colouration of the medial-basal field inside the white oblique discal band towards the base of vein Cu_1 is very weak, broad and difficult to see. The basal unit of the fore tarsus (fig. 5) is club-shaped, half the length of the tibia, and it bears a few rough hairs in the apical section; the two central units are slightly broader. Two apical units are narrow and long. The length of the basal unit is equal to the combined length of the two apical or two central units. The fore tarsus is slightly roundly curved. The long rough hairs on the fore tibia are very slightly curved at their apex.

σ genitalia (fig. 13). The species is characterised by slightly curved and not very narrow sclerotised socii, a nearly straight and long uncus, with apex strongly but roundly curved downwards, and with the apical valva processus slightly curved upwards.

Chiomachla torbeni (WILTSHIRE, 1983) **comb. nov.** (colour plate 5, figs. 5-6)
Nyctemera torbeni WILTSHIRE, 1983; Fauna Saudi Arabia 5: 307-308, pl. 2, fig. 11, 11a, figs 11b-f; type locality: "Yemen Arab Republic (N Yemen): Wadi Dhabab".

Diagnosis. According to the original description, this species is similar to *Ch. restricta* (BTL.) due to the absence of the white streak beyond the forewing cell, and by a wide dark border on the hindwings, and may be separated by a larger oblique discal band, which widens towards the tornal angle, while in the former species it is tapering in that direction. Unfortunately, there is no information about the fore legs in the original description.

σ genitalia (fig. 9) is also similar to *Ch. restricta* (BTL.) as the nearly straight uncus is strongly curved downwards at the apex, and by the long curved subunci (socii). The species under consideration could also be distinguished by the valva apex, which is not slightly curved upwards.

Chiomachla insulare (BOISDUVAL, 1833) **comb. nov.** (colour plate 5, fig. 7)
Leptosoma insulare BOISDUVAL, 1833; Faune Entomol. Madagascar, Bourbon et Maurice: 84, pl. 84, fig. 1; type locality: Madagascar; Reunion I. (GOODGER & WATSON, 1995).
=*Leptosoma consors* BUTLER, 1879; Ann. Mag. Nat. Hist. (5) 3: 192; type locality: "Johanna Island" [COMORES] (GOODGER & WATSON, 1995).
=*Nyctemera rosana* MABILILE, 1879; Ann. Soc. Ent. France (5) 9: 304; type locality: Madagascar (GOODGER & WATSON, 1995).
=[*Deilemera*] *howa* STRAND, 1909; Ann. Soc. Ent. Belg. 53: 328, 337, 338; type locality: "Madagascar".
=*D. [eilemera pallescens]* v. *madagascarica* STRAND, 1909; Ann. Soc. Ent. Belg. 53: 337-338; type locality: "Madagascar".

Material. [Madagascar]: 3 $\sigma\sigma$, without labels (MMUM).

Diagnosis. According to STRAND (1909), the species is similar to the former by presence of a light semihyaline streak at the forewing base beyond the cell, the brownish, not blackish, tone of the forewing ground colour, a white spot on head between the antennae bases, and differs by a thinner light oblique discal band in the middle part of the wing, not crossed by dark veins, and by absence of the dark spot between the middle part of vein Cu_2 and the anal margin. In addition, the basal unit of the fore tarsus (fig. 6) is club-shaped, its length is half of the tibia, and its apical half is covered with rough hairs; the two middle units are short and wide, the two apical units are narrow and the distal one is longer. The tarsus is strongly curved between the first and second units.

σ genitalia (fig. 14). The species is characterised by a very strong curves to the narrow sclerotized socii, so the socii apices are bent proximally. Uncus broad, S-shaped. The valva apex gradually tapers into the apical processus.

Chiromachla perspicua (WALKER, 1854) **comb. nov.** (colour plate 5, fig. 8)

Nyctemera perspicua WALKER, 1854; List Specimens lepid. Insects Coll. Br. Mus. 2: 398-399; type locality: "West Africa" + "Sierra Leone" + "———?".

= *Nyctemera fallax* HOLLAND, 1893; Ent. News 4: 59; type locality: "Valley of the Ogove" [Gabon] (GOODGER & WATSON, 1995).

Material. 1 σ , without label, probably from West Africa (MMUM); Sierra Leone: 1 \varnothing , "E. Coll. LEECH. Freetown, W. Africa" (MMUM).

Diagnosis. According to STRAND (1909), the species can be distinguished by presence of a light semihyaline streak at the forewing base beyond the cell, the brownish, not blackish tone of the forewing ground colour, the presence of a white spot on the head between the antennae bases, a very wide light oblique discal band, in the middle part of the wing crossed by dark veins, and by the presence of a dark spot between the middle part of vein Cu_2 and the anal margin. In addition, the fore tarsus (fig. 7) basal unit is not club-shaped but just slightly wider than other units, and is covered with rough hairs; the tarsus is noticeably curved in a helical manner.

σ genitalia (fig. 15). The species is characterised by slightly curved and very narrow sclerotized socii, and by a nearly straight and long uncus with the apex slightly curved downwards. The apical valva processus is slightly S-like at its apex.

Additional species. STRAND (1909), based on the sexual modifications of the fore legs, transferred some species to this group that I consider to be members of the genus *Chiromachla* STRAND, they are:

Ch. leuconoe (HOPFFER, 1858) **comb. nov.**; Mber. K. preuss. Akad. Wiss. 1857: 422 (*Nyctemera*); type locality: Mozambique (WATSON et al., 1980; GOODGER & WATSON, 1995), the type species of the genus; *Ch. transitella* (Strand, 1909) **comb. nov.**; Ann. Soc. Ent. Belg. 53: 329, 336 (*D[eilemera]*); type locality: "D. O. Afrika, Neuwied-Ukerewe" [Tanzania] (GOODGER & WATSON, 1995).

Later, GAEDE (1926) added additional species to this group:

Ch. seychellensis (HAMPSON, 1908) **comb. nov.**; Ann. Mag. Nat. Hist. (8) 1: 485 (*Deilemera*); type locality: Seychelles "Mahé" (GOODGER & WATSON, 1995),
Ch. pallescens (OBERTHÜR, 1890) (s. str.) **comb. nov.**; Ét. d'Ent.'13: 15 (47), pl. 4, fig. 41 (*Nyctemera*); type locality: Comores "Anjouan" (GOODGER & WATSON, 1995);
Ch. chalcosidia (HAMPSON, 1910) **comb. nov.**; Ann. Mag. Nat. Hist. (8) 5: 460, t. XXXVIII, fig. 22 (*Deilemera*); type locality: Zaire "Katanga, Kambove" (GOODGER & WATSON, 1995);
Ch. gracilis (SAALMÜLLER, 1884) **comb. nov.**; Lepidopteren von Madagascar: 179, pl. 5, fig. 66 (*Nyctemera*); type locality: Madagascar "Nosy Be" (GOODGER & WATSON, 1995).

Most probably, *Nyctemera pallescens* OBERTHÜR, 1890; Ét. d'Ent.'13: 15 (47), pl. 4, fig. 41; type locality: Comores "Anjouan" (GOODGER & WATSON, 1995), as may be judged by the forewing pattern, also belongs to this genus.

Afronyctemera DUBATOLOV **gen. nov.**

Type species: *Deilemera itokina* AURIVILLIUS, 1904; Arkiv f. Zoologi 2 (4): 40, f. 31; type locality: "Itoki Na N'golo" [Cameroun]. (colour plate 5, fig. 9)

Material. Rwanda: 2 ♂♂, Butare, XII.1976, II.1978, A. POPOUDINA leg. (SZMN).

Diagnosis. Head covered with flattened brownish scales, without a light-coloured spot between the antennae bases. Palpi nearly straight, porrect, apical unit and distal part of the second unit black. Proboscis long. Antennae bipectinate with very long branches. Tegulae and patagiae brown, without light margins. Epiphysys as long as fore tibia. Middle tibia with a single apical pair of spurs, hind one with two pairs of spurs, which are longer than the diameter of the tibia. There are no sexual modifications to the legs. Abdomen grey with a dorsal row of dark brown spots. Veins R_2 and R_3 stalked, their long common branch emerging from the cell's apex. There are no white areas on a dark wing fringe. Tympanum is hemispherical and has no depression.

Forewings brown, with a narrow oblique discal band and a longitudinal stripe from base beyond the cell. Hindwings white with a brown margin.

♂ genitalia (fig. 16-19). Uncus S-shaped, with a ventral widening; no subunci or sclerotized socii present. Valva flat, elongate, with two short apical angular processes, which are set apart, and a small tooth between them; costa of valva with a wide triangular widening. Aedeagus narrow, S-shaped, with a strong widening at the base of the ductus ejaculatorius.

Remarks. Judging by the structure of the ♂ genitalia, the new genus exhibits plesiomorphic states in some of its characters; these states can be considered as ancestral for their apomorphic states in the genus *Podomachla*. There are two disposed short apical angular processes, which in *Podomachla* are nearly fused by their bases. Both genera are similar in that they have a triangular widening on the costa of the valva and a ventral widening to the uncus. Nevertheless, it is impossible to put both groups into the same genus, because *A. itokina* AURIV. does not have the very important *Podomachla* characters, like the very close location of the apical valva processes, very long hind legs in ♂♂, and the presence of two white areas in the dark fringe to the forewings. Moreover, there is no Oriental Nyctemerini

genus that might be treated as related to *Afronyctemera* **gen. nov.**: all they have is a less flat valvae with short angular processes, which is strongly reminiscent of some of the Ocnogynagena group members like *Lithosarctia* (*Ocnogynodes*) *y-album* (OBERTHÜR, 1886); but this looks to be a convergence.

Xylecata SWINHOE, 1904 **stat. rev.**

Trans. Ent. Soc. London **1904**: 148.

Type species: *Xylecata druna* SWINHOE, 1904.

Diagnosis. Head covered with flattened black and white scales, without a light spot between the antennae bases. Palpi nearly straight, porrect, apical unit and distal part of the second unit black. Proboscis long. Antennae bipectinate with very long branches. Tegulae and patagiae blackish, with light margins. Epiphysys as long as the fore tibia. Middle tibia with a single apical pair, hind one with two pairs of spurs, which are longer than the diameter of the tibia. There are no sexual modifications to the legs. Abdomen grey with a dorsal row of vestigial dark brown spots. Forewing with a small radial cell. There are no white areas on a dark fringe of a wing. Tympanum hemisemispherical with no depressions.

The wing pattern of all species in this genus are similar: they have light coloured wings with a brown external and apical border; the light colouration of the forewings is much darker in ♂♂ than in ♀♀.

♂ genitalia (fig. 20-21). Tegumen broad, uncus long, straight, curved downwards at the apex. Valvae very short with a narrow hook-like sclerotised apical process and a membranous finger-like ventral process. Aedeagus short, triangular, vesica with three very large strong spine-like cornuti.

Remarks. Unfortunately, it was impossible to study the type species of this genus; so the characters of the genus are based on related species:

Xylecata hemixantha (AURIVILLIUS, 1904) (colour plate 5, fig. 10)

Deilemera hemixantha AURIVILLIUS, 1904; Arkiv Zool. **2** (4): 41; type locality: Cameroun (GOODGER & WATSON, 1995).

Material. Rwanda: 1 ♂, Butare, I.1977, A. POPOUDINA leg. (SZMN).

Diagnosis. According to GAEDE (1926), the species is characterised by rectangular apical spot on the hindwings and the hindwing border is reduced to a series of spots at vein apices.

According to the ♂ genitalia structure, the genus *Xylecata* should not be considered a member of either the Nyctemerini or Callimorphini. Moreover, such a cornuti structure is not typical to all Palearctic, Oriental and other Afrotropical members of Callimorphini, Nyctemerini, Arctiini, Micrarctiini and Spilosomini, so this genus probably should be excluded from the Nyctemerini. Such cornuti and a similar valva structure are found in the members of the North and Central American clade *Euchaetes* sensu JACOBSON & WELLER (2002). So, relationship between these groups should be studied more carefully.

Additional species. According to the typical wing pattern, several species should be transferred to *Xylecata* SWINHOE, they are:

Xylecata druna SWINHOE, 1904; Trans. Ent. Soc. London **1904**: 148; type locality: Gabon (GOODGER & WATSON, 1995), the type species of the genus;

X. biformis (MABILLE, 1878), **comb. nov.**; Bull. Soc. Zool. France **3**: 87 (*Nyctemera*); type locality: Madagascar (GOODGER & WATSON, 1995), figured by GAEDE, 1926: fig. 19b;

X. crassiantennata (OBERTHÜR, 1916); Ét. lep. comp. **11**: 262, pl. CCCLXX, fig. 3096; type locality: "malgaches ... provenant de Fianarantsoa, Antsianaka et Fénérive".

X. ugandicola (STRAND, 1909), **comb. nov.**; Ann. Soc. Ent. Belg. **53**: 331, 348-349 (*D. [eilemera]*); type locality: "Uganda" figured by GAEDE, 1926: fig. 19a;

X. uniformis (PLÖTZ, 1880), **comb. nov.**; Stett. Ent. Ztg. **41**: 83 (*Deilemera*); type locality: "Eningo" [W. Africa] (GOODGER & WATSON, 1995), know to me by the original description;

X. xanthura (PLÖTZ, 1880), **comb. nov.**; Stett. Ent. Ztg. **41**: 82 (*Leptosoma*); type locality: Cameroun "Victoria" (GOODGER & WATSON, 1995), figured by GAEDE, 1926: fig. 19a, as *simplex*.

According to BRYK (1937) *Deilemera glauca* (FAWCETT, 1916); Proc. Zool. Soc. London **1916**: 709, f. 11; type locality: Kenya "Meru" (GOODGER & WATSON, 1995) is similar to *xanthura*, so it should also be transferred into the genus *Xylecata*. *Deilemera rattrayi* SWINHOE, 1904; Trans. Ent. Soc. London **1904**: 147; type locality: "Kampala" Uganda (GOODGER & WATSON, 1995), is only known from the description by GAEDE (1926); it does not differ noticeably from other *Xylecata* species and it is probably also a member of this genus.

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References

- AURIVILLIUS, C. (1904): Beiträge zur Kenntnis der Insectenfauna von Kameroun. – Arkiv Zool. **2** (4): 1-68, Stockholm.
- BOISDUVAL, J. B. A. D. (1833): Faune Entomologique de Madagascar, Bourbon et Maurice. 1-270 pp, Paris.
- BRYK, F. (1937) Arctiidae, subfam. Callimorphinae et Nyctemerinae. – Lep. Cat. **82**: 1-105, W. Junk, Berlin.
- BUTLER, A.G. (1879): On a collection of Lepidoptera from the Island of Johanna. – Ann. Mag. Nat. Hist. (5) **3**: 186-192, London.

- BUTLER, A.G. (1894): On a collection of Lepidoptera from B. E. Africa made by Dr J. W. GREGORY between March & August 1893. Proc. Zool. Soc. London **1894**: 557-593, London.
- DRUCE, H. (1882): Descriptions of a new genus and some new species of Heterocera. – Proc. Zool. Soc. London–**1882**: 777-782, London.
- FAWCETT, J.M. (1916): Notes on a collection of Heterocera made by Mr W. FEATHER in British East Africa, 1911-13. – Proc. Zool. Society London–**1916**: 707-737, London.
- GAEDE, M. (1926): VII. Subfamilie: Nyctemerinae. In: SEITZ, A. Die Gross-Schmetterlinge der Erde **14**: 113-117, Taf. 18-19. – Alfred Kernen, Verlag, Stuttgart.
- GOODGER, D. T. & WATSON, A. (1995): The Afrotropical Tiger-Moths. An illustrated catalogue, with generic diagnosis and species distribution, of the Afrotropical Arctiinae (Lepidoptera: Arctiidae). 1-55 pp. – Apollo Books Aps., Stenstrup, Denmark.
- HAMPSON, G. F. (1908): On the moths collected during the cruise of the “Valhalla” during the winter 1905-6 by Mr E.G.B. MEADE-WALDO. – Ann. Mag. Nat. Hist. (8) **1**: 474-492, London.
- HAMPSON, G. F. (1910): Descriptions of new African moths. – Ann. Mag. nat. Hist. (8) **5**: 439-464, London.
- HOLLAND, W. J. (1893): New African Nyctemeridae & Liparidae. – Ent. News **4**: 59-64, Philadelphia.
- HOPFFER, H.C. (1858): Hr Peters übergab die Fortsetzung van Diagnosen der neuen von ihm in Mosambique gesammelten und von Hrn HOPFFER bearbeiteten Schmetterlinge .. – Monatsberichte der Königlich Preussischen Akademie der Wissenschaften zu Berlin **1857**: 421-424, Berlin.
- HÜBNER, J. (1816-[1826]): Verzeichniss bekannter Schmettlinge [sic!]. - Augsburg.
- JACOBSON, N. L. & S. J. WELLER (2002): A cladistic study of the Arctiidae (Lepidoptera) by using characters of immatures and adults. – Thomas Say publications in entomology. 98 pp. – Entomological Society of America, Lanham, Maryland.
- MABILLE, P. (1878): Lepidoptera Africana. – Bull. Soci. Zool. France **3**: 81-95, Paris.
- MABILLE, P. (1879-1880): Recensement des Lépidoptères hétérocères observés jusqu'à ce jour à Madagascar. – Ann. Soc. Ent. France (5) **9**: 291-348, Paris.
- OBERTHÜR, CH. (1879 [1880]): Spedizione Italiana nell'Africa Equatoriale. – Ann. Mus. Civico Storia Nat. Genova **15**: 129-186, t. 1, map, Genova.
- OBERTHÜR, CH. (1886): Nouveaux Lépidoptères du Thibet. – Ét. Ent. **11**: 13-38, 7 pl., Rennes.
- OBERTHÜR, CH. (1890): Lépidoptères des îles Comores. – Ét. Ent. **13**: 1-15, Rennes.
- OBERTHÜR, CH. (1893): Lépidoptères d'Afrique. – Ét. Ent. **17**: 17-33, Rennes.
- OBERTHÜR, CH. (1916): Suite de la revision des espèces nouvelles de la Lépidoptères malgaches. – Ét. Lép. Comp. **11**: 247-262, pl. CCCLXX, Rennes.
- PLÖTZ, C. (1880): Verzeichniss der von Professor Dr. R. BUCHHOLZ in West Africa gesammelten Schmetterlinge. – Stett. Ent. Z. **41**: 76-88, Stettin.
- SAALMÜLLER, M. (1884): Lepidopteren von Madagascar **I**: 1-246 pp., Frankfurt.
- STRAND, E. (1909): Zur Kenntniss der Afrikanischen Arten der Arctiidengattungen *Deilemema* Hb., *Eohemera* AURIV., *Secusio* WALKER, *Utetheisa* Hb., und *Axiopoeniella* Strand. – Annales de la Société Entomologique de Belge **53**: 324-357, Bruxelles.

- SWINHOE, C. (1904): New species of Eastern, Australian and African Heterocera in the National Collection. – Trans. Ent. Soc. London **1904**: 139-158, London.
- TALBOT, G. (1929): New moths from the islands of St. Thomas and Principe. – Bull. Hill Museum **3**: 57-67. – John Bale, sons & Danielsson, Ltd., London.
- WALKER, F. (1854): List of the Specimens of Lepidopterous Insects in the Collection of the British Museum **2**: 279-581, London.
- WATSON, A., FLETCHER, D. S. & I. W. B. NYE (1980): The Generic Names of Moths of the World. **2**: 228 p. – Trustees of the Brit. Mus. (Nat. Hist.), London.
- WILTSHIRE, E.P. (1983): Insects of Saudi Arabia. Lepidoptera: Fam. Cossidae, Spingidae, Thyretidae, Geometridae, Lymantriidae, Arctiidae, Agaristidae, Noctuidae, Ctenuchidae (Part 3). – Fauna of Saudi Arabia **5**: 293-332, Basel.

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Colour plate 5, p. 285

- Fig. 1: *Podomachla antinorii* (OBERTHÜR, 1880), ♂, Tanzania, 5 km S from Bukoba, Forest Kibira, I.VI.1912, TROITSKII leg. (ZIN).
- Fig. 2: *Podomachla antinorii* (OBERTHÜR, 1880), ♀, Cameroun, Biteye Ja River, 2000 ft, X-XI.1910 (MMUM).
- Fig. 3: *Podomachla apicalis* (WALKER, 1854), ♂, South Africa, Natal, Weenen, coll. by G.H. BURN (MMUM).
- Fig. 4: *Chiromachla restricta* (BUTLER, 1894), ♂, Kenya, Kibwezi, 31.VII.1917 (MMUM).
- Fig. 5: *Chiromachla torbeni* (WILTSHIRE, 1983), ♂, holotype, Yemen Arab Republic (N Yemen): Wadi Dhabab, 19.X.1981, TORBEN B. LARSEN leg., from: WILTSHIRE (1983).
- Fig. 6: *Chiromachla torbeni* (WALKER, 1983), ♀, allotype, Yemen Arab Republic (N Yemen): Wadi Annah, 1400 m, 22.V.1980, TORBEN B. LARSEN leg., from: WILTSHIRE (1983).
- Fig. 7: *Chiromachla insulare* (BOISDUVAL, 1833), ♂, [Madagascar], without label (MMUM).
- Fig. 8: *Chiromachla perspicua* (WALKER, 1854), ♂, without label, probably from West Africa (MMUM).
- Fig. 9: *Afronyctemera itokina* (AURIVILLIUS, 1904), ♂, Rwanda, Butare, XII.1976, A. POPOUDINA leg. (SZMN).
- Fig. 10: *Xylecata hemixantha* (AURIVILLIUS, 1904), ♂, Rwanda, Butare, I.1977, A. POPOUDINA leg. (SZMN).

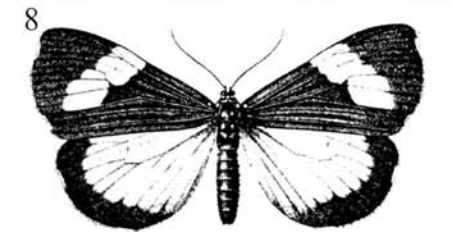
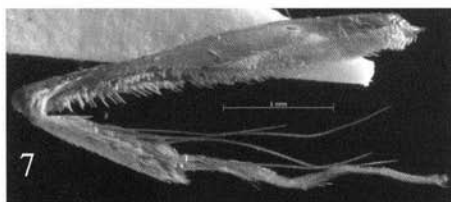
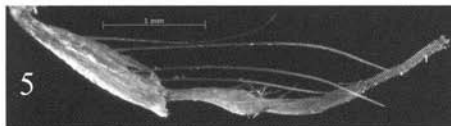
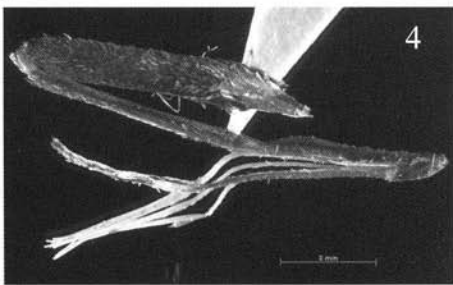
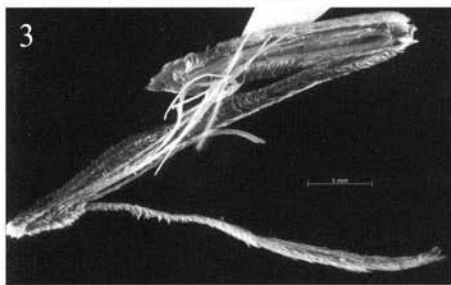
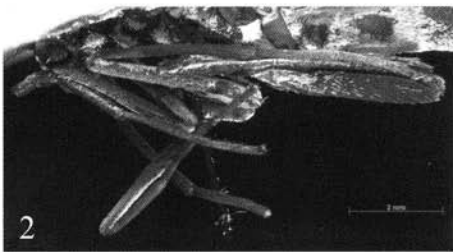
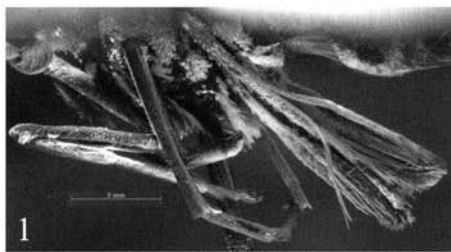


Fig. 1: ♂ legs, *Podomachla apicalis* (WALKER, 1854), South Africa, Natal, Weenen, coll. by G.H. BURN (MMUM).

Fig. 2: ♂ legs, *Podomachla antinorii* (OBERTHÜR, 1880), Tanzania, 5 km S from Bukoba, Forest Kibira, 1.VI.1912, TROITSKII leg. (ZIN).

Fig. 3: ♂ hind leg, *Podomachla apicalis* (WALKER, 1854), South Africa, Natal, Weenen, coll. by G.H. BURN (MMUM).

Fig. 4: ♂ hind leg, *Podomachla antinorii* (OBERTHÜR, 1880), Tanzania, 5 km S from Bukoba, Forest Kibira, 1.VI.1912, TROITSKII leg. (ZIN).

Fig. 5: ♂ fore tibia and tarsus, *Chiromachla restricta* (BUTLER, 1894), Kenya, Kibwezi, 31.VII.1917 (MMUM).

Fig. 6: ♂ fore tibia and tarsus, *Chiromachla insulare* (BOISDUVAL, 1833), [Madagascar], without label (MMUM).

Fig. 7: ♂ fore tibia and tarsus, *Chiromachla perspicua* (WALKER, 1854), without label, probably from West Africa (MMUM).

Fig. 8: *Podomachla antinorii* (OBERTHÜR, 1880), ♀, figure from the original description (OBERTHÜR, 1880: t. 1, fig. 1).

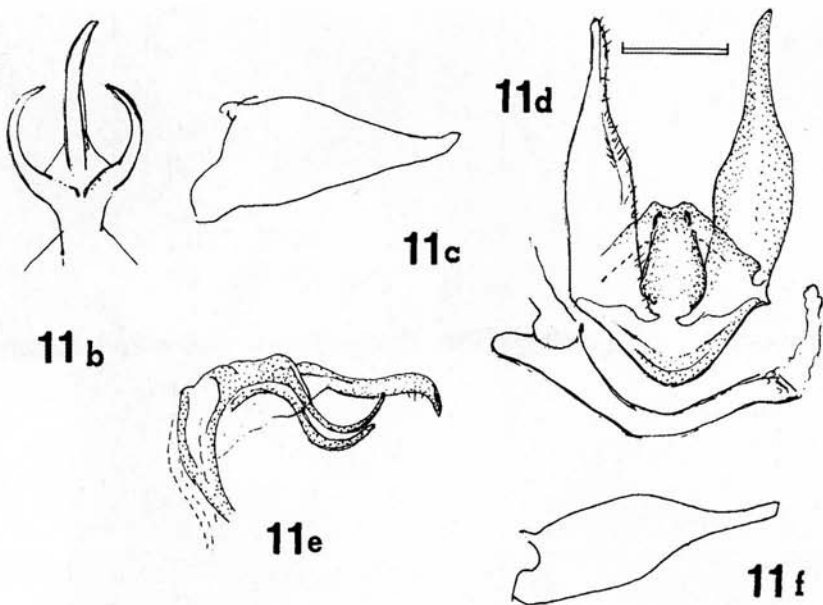


Fig. 9: ♂ genitalia of *Chiromachla torbeni* (WILTSHIRE, 1983), from the original description (WILTSHIRE, 1983: 308, figs 11 b-f). b – uncus, ventral view, c – right valve (N Yemen types), d-f of Asir ♂, d – ventral view of saccus and valves after separation of tegumen; aedeagus separated below, e – tegumen and uncus and socii in alteral view, f – right valve.

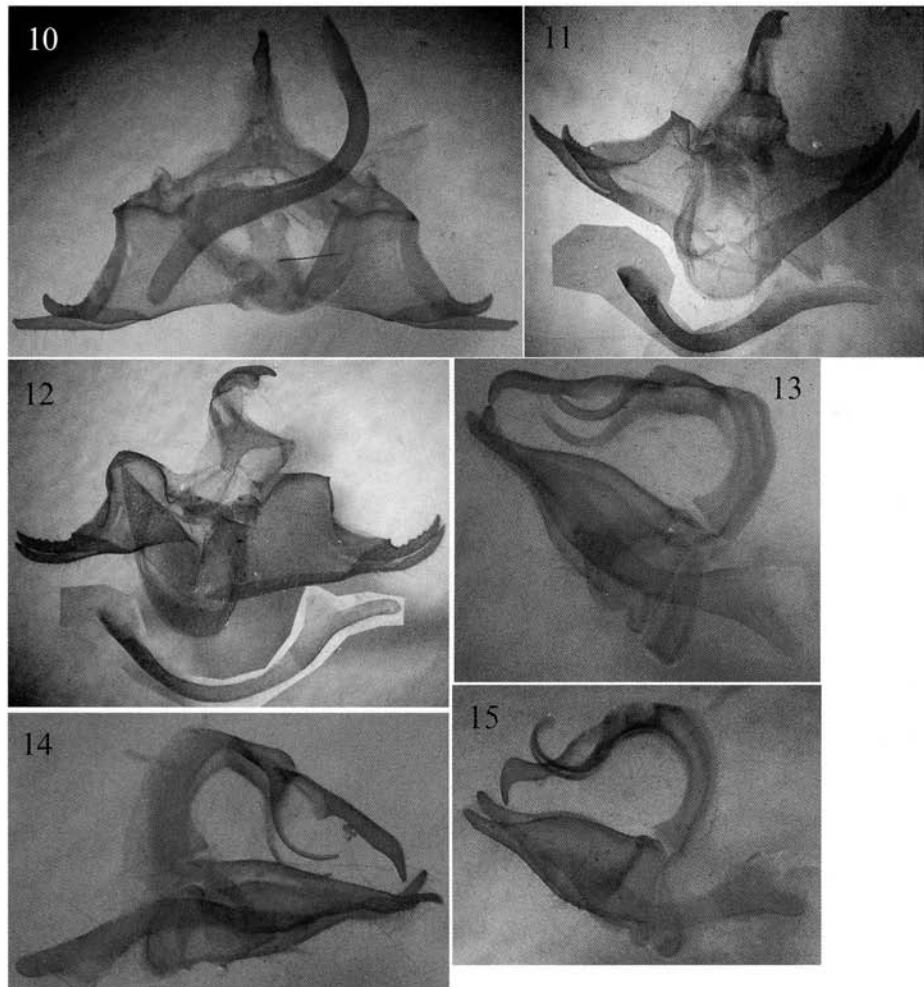


Fig. 10: ♂ genitalia of *Podomachla apicalis* (WALKER, 1854), South Africa, Natal, Weenen, coll. by G.H. BURN (MMUM).

Fig. 11: ♂ genitalia of *Podomachla apicalis* (WALKER, 1854), Tanzania, west bank of Lake Victoria, plantation of Eismann-Marukku near Bukoba, 24.VI.1912, TROITSKII leg. (ZIN).

Fig. 12: ♂ genitalia of *Podomachla antinorii* (OBERTHÜR, 1880), Tanzania, 5 km S from Bukoba, Forest Kibira, 1.VI.1912, TROITSKII leg. (ZIN).

Fig. 13: ♂ genitalia of *Chiromachla restricta* (BUTLER, 1894), Kenya, Kibwezi, 31.VII.1917 (MMUM).

Fig. 14: ♂ genitalia of *Chiromachla insulare* (BOISDUVAL, 1833), [Madagascar], without label (MMUM).

Fig. 15: ♂ genitalia of *Chiromachla perspicua* (WALKER, 1854), ♂, without label, probably from West Africa (MMUM).

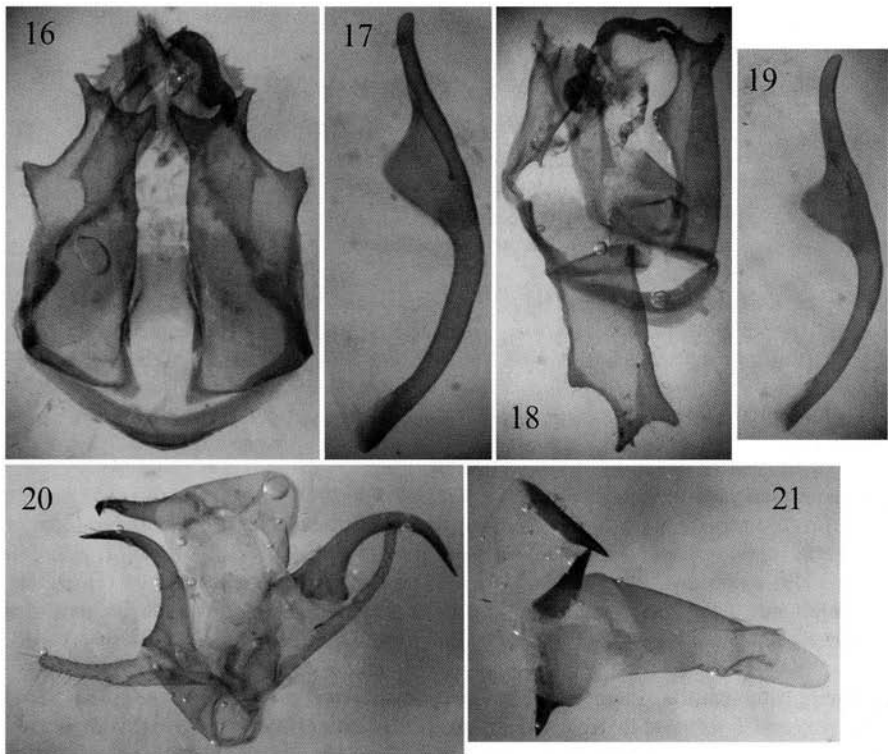
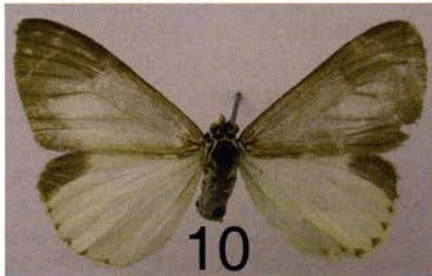
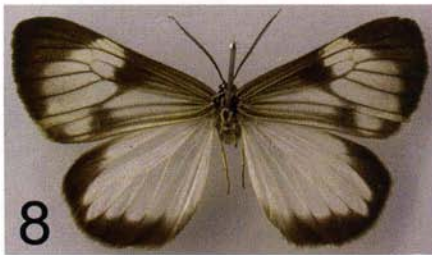


Fig. 16-17: ♂ genitalia of *Afronyctemera itokina* (AURIVILLIUS, 1904), Rwanda, Butare, XII.1976, A. POPOUDINA leg. (SZMN); 16 – general view, 17 – aedeagus.

Fig. 18-19: ♂ genitalia of *Afronyctemera itokina* (AURIVILLIUS, 1904), Rwanda, Butare, II.1978, A. POPOUDINA leg. (SZMN); 18 – general view, 19 – aedeagus.

Fig. 20-21: ♂ genitalia of *Xylecata hemixantha* (AURIVILLIUS 1904), Rwanda, Butare, I.1977, A. POPOUDINA leg. (SZMN); 20 – general view, 21 – aedeagus.

Colour plate 5/ Farbtafel 5



Colour plate 6/ Farbtafel 6



Fig. 1: *Tatargina* (s. str.) *picta* (WALKER, [1865] 1864), China, Yunnan, Haba mts., Hutiao vill., h=2100 m, 21-26.VI.1996, S. MURZIN leg.

Fig. 2: *Tatargina* (*Hindargina*) *pannosa* (MOORE, 1879), Nepal, Mahakali, Banku, 660 m, 20.VI.1995, anonymous leg.

Fig. 3-4: *Tatargina* (*Hindargina*) *sipahi* (MOORE, 1872), lectotype, India, Bombay, upperside (3) and underside (4).

Colour plate 5/ Farbtafel 5 (p. 285)

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