

**Reviewing the African tiger-moth genera: 1. A new genus, two new subgenera and a species list from the expedition to Malawi by V. KOVTUNOVICH & P. USTJUZHANIN in 2008-2009, with further taxonomic notes on South African Arctiinae**

(Lepidoptera, Arctiidae: Arctiinae)

by

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**Abstract:** 28 species of Arctiinae were collected in Malawi by V. KOVTUNOVICH and P. USTJUZHANIN in 2008-2009, among them *Amerila brunnea bipartitoides* HÄUSER & BOPPRÉ, 1997, *Amerila hubo* (WALKER, 1855), *Amerila howardi* (PINHEY, 1955), *Amerila makadara* HÄUSER & BOPPRÉ, 1997, *Afrosparactia unipuncta* (HAMPSON, 1905), "*Spilosoma*" *rhodesiana* (HAMPSON, 1900), *Afroarctia kenyana* (ROTHSCHILD, 1933), *Teracotona submaculata* (WALKER, 1855), *Teracotona translucens* (GRÜNBERG, 1907), *Teracotona approximans* (ROTHSCHILD, 1917) were recorded from Malawi for the first time. Based on different ♂ genitalia structure, the genus *Alytarchia* WALLENGREN, 1863 [*A. amanda* (BOISDUVAL, 1847) and *A. leonina* (WALKER, [1865])] is separated from *Argina* HÜBNER, [1819] and *Spilosoma sulphurea* BARTEL, 1903 is transferred to the genus *Menegites* KIRIAKOFF, 1954 and *S. nyasica* (HAMPSON, 1911) to *Leucaloe* Butler, 1875. *Ustjuzhania* **gen. nov.** is described for *Spilosoma chionea* (HAMPSON, 1900) (a first record from Malawi) and *S. lineata* Walker, 1855 (the type species); it differs from the *Spilosoma* CURTIS, 1825 species by the dorsally bulbous uncus, presence of fields of spine-like cornuti and armament of the VIII tergite. Based on vesica structure, *U. albida* (BARTEL, 1903) is raised to specific status. *U. lineata malawica* **subspec. nov.** is described from South Malawi and characterized by the transformation of spiniculi on vesica into small spines. The genus *Teracotona* BUTLER, 1878 was split into three subgenera: the nominotypical with broad valvae without apical processus, *Neoteracotona* **subgen. nov.** (type species: *Seirarctia proditrix* BERIO, 1939) with broad valvae bearing an apical process and *Pseudoteracotona* **subgen. nov.** (type species: *Seirarctia melanocera* HAMPSON, 1920) with narrow finger-like valvae.

In December 2008 - January 2009, Dr. VASILII KOVTUNOVICH and Dr. PETER USTJUZHANIN carried out a regular expedition to South Africa, including Malawi. As well as collecting plume-moth (Pterophoridae) they obtained a number of tiger-moths (Arctiinae). The most interesting were specimens from Malawi, including new faunistic records. Examination of some species from this collection indicated that they should be separated into own genus or subgenus. The annotated list of species from Malawi is shown below. All specimens mentioned in this article were collected by V. KOVTUNOVICH and P. USTJUZHANIN during their expeditions.

**Amerilini** (=Rhodogastrinae sensu KIRIAKOFF, 1950)

*Amerila* WALKER, 1855

List Specimens lepid. Insects Colln Br. Mus. 3: 725.

Type species: *Sphinx astreus* DRURY, 1773

*Amerila affinis* (ROTHSCHILD, 1910) (col. pl. 24, fig. 1)

*Rhodogastria affinis* ROTHSCHILD, 1910; Novitates Zoologicae 17: 184.

Material: 1 ♀, South Malawi, Mt. Mulanje, 90 km E Blantyre, Ruo Valley Forest, S 15° 58', E 35° 39', 916 m, 27.-29.XII.2008.

Remarks: Distributed throughout East and South Africa; from south-eastern Ethiopia and eastern Zaire to the Cape (HÄUSER & BOPPRÉ, 1997).

*Amerila bipartita* (ROTHSCHILD, 1910) (col. pl. 24, fig. 2)

*Rhodogastria bipartita* ROTHSCHILD, 1910; Novitates Zoologicae 17: 186.

Material: 1 ♂, South Malawi, Mt. Mulanje, 90 km E Blantyre, Ruo Valley Forest, S 15° 58', E 35° 39', 916 m, 27.-29.XII.2008; 1 ♂, South Africa, KwaZulu-Natal, Vernon Crookes National Park, 60 km SW of Durban, 23.-25.I.2008.

Remarks: Widely distributed in East and South Africa from SE Kenya via Malawi to South Africa (Transkei) (HÄUSER & BOPPRÉ, 1997). Firstly recorded from Natal.

*Amerila brunnea bipartitoides* HÄUSER & BOPPRÉ, 1997 (col. pl. 24, fig. 3)

Systematic Entomology 22 (1): 20, fig. 7C.

Material: 2 ♂♂, South Malawi, Mt. Mulanje, 90 km E Blantyre, Ruo Valley Forest, S 15° 58', E 35° 39', 916 m, 27.-29.XII.2008.

Remarks: Formerly recorded from East and South Africa; from SE Kenya to Zimbabwe (HÄUSER & BOPPRÉ, 1997). This is a first record for Malawi.

*Amerila bubo* (WALKER, 1855) (col. pl. 24, fig. 4)

*Casnopis bubo* WALKER, 1855; List Spec. lepid. Ins. Colln Br. Mus. 3: 747.

Material: 1 ♂, South Malawi, Mt. Mulanje, 90 km E Blantyre, Ruo Valley Forest, S 15° 58', E 35° 39', 916 m, 27.-29.XII.2008; 1 ♀, North Malawi, Rumphu District, Nyika National Park, 20 km N Thazima Gate, forest, S 10° 43', E 33° 39', 1930 m, 7.I.2009.

Remarks: Widely distributed in Central, East, and South Africa; cited from Malawi (HÄUSER & BOPPRÉ, 1997).

*Amerila howardi* (PINHEY, 1955) (col. pl. 24, fig. 5)

Material: 1 ♂, North Malawi, Chitipa District, Mughesse Forest, 60 km NW Chitipa, S 09° 38', E 33° 32', 1810m, 11.-12.I.2009.

Remarks: Formerly known from north-eastern Tanzania only. The Malawi specimen has a stronger curved cornutus than that figured by HÄUSER & BOPPRÉ (1997), but the presence of a dozen short spines on the outer side of the inner sclerotized process of the valva is characteristic for *A. howardi* (PINHEY).

*Amerila makadara* HÄUSER & BOPPRÉ, 1997 (col. pl. 24, fig. 6)

Systematic Entomology 22 (1): 29, pl. 3S; 7E.

Material: 1 ♂, 1 ♀, North Malawi, Chitipa District, Mughesse Forest, 60 km NW Chitipa, S 09° 38', E 33° 32', 1810m, 11.-12.I.2009.

Remarks: This is the first record from Malawi. Formerly recorded from Kenya and Tanzania (HÄUSER & BOPPRÉ, 1997).

*Amerila* spec. (col. pl. 4, fig. 7)

Material: 1 ♀, South Malawi, Mt. Mulanje, 90 km E Blantyre, Ruo Valley Forest, S 15° 58', E 35° 39', 916 m, 27.-29.XII.2008.

Remarks: Forewing and hindwing upper and underside white; forewings with light green reflex. Hindwing tornal angle broadly rounded. Abdomen upperside red, underside white; abdomen base yellow. Leg femora dorsally red ventrally white; tibiae and tarsi yellow. I have not found any *Amerila* ♀ (HÄUSER & BOPPRÉ, 1997) with such set of characters.

### Callimorphini

*Utetheisa* HÜBNER, [1819] 1816

Verz. bekannter Schmett.: 168.

Type species: *Phalaena ornatrix* LINNAEUS, 1758

*Utetheisa pulchella* (LINNAEUS, 1758)

*Phalaena Pyralis pulchella* LINNAEUS, 1758; Syst. Nat. (Edn. 10) 1: 534.

Material: 1 ♂, 1 ♀, South Malawi, Nsanje District, 125 km S Blantyre, Mwabvi Wildlife Reserve, 16° 39', E 35° 03', 121 m, 30.-31.XII.2008.

Remarks: Occurs throughout the Africa and south half of Eurasia east to Myanmar (JORDAN, 1939).

### Nyctemerini

*Galtara* WALKER, [1863]

List Specimens lepid. Insects Colln Br. Mus. 26: 1688.

Type species: *Galtara purata* WALKER, [1863]

*Galtara doriae* (OBERTHÜR, 1879 [1880]) (col. pl. 24, fig. 8)

*Pseudocallimorpha doriae* OBERTHÜR, 1879 [1880]; Ann. Mus. civ. Stor. nat. Giacomo Doria 15: 175-176 (47-48), t. 1, fig. 7.

Material: 1 ♀, South Malawi, Mt. Mulanje, 90 km E Blantyre, Ruo Valley Forest, S 15° 58', E 35° 39', 916 m, 27.-29.XII.2008.

Remarks: Widely distributed in East and Central Africa from Ethiopia south to Malawi (GOODGER & WATSON, 1995).

*Karschiola* GAEDE, 1926

In: Seitz, A. Die Gross-Schmett. Erde 14: 112.

Type species: *Caryatis holoclera* KARSCH, 1894.

*Karschiola holoclera* (KARSCH, 1894) (col. pl. 25, fig. 9)

*Caryatis holoclera* KARSCH, 1894; Ent. Nachr. Berlin 24: 378-379.

Material: 2 ♂♂, 1 ♀, South Malawi, Mt. Mulanje, 90 km E Blantyre, Ruo Valley Forest, S 15° 58', E 35° 39', 916 m, 27.-29.XII.2008.

Remarks: Known only from Tanzania and Malawi (GOODGER & WATSON, 1995).

*Alytarchia* WALLENGREN, 1863

Wien. Ent. Monatschr. 7: 147.

Type species: *Euchelia amanda* BOISDUVAL, 1847

Remarks: The following species were formerly attributed to the genus *Argina* HÜBNER, [1819] 1816 (GOODGER & WATSON, 1996) but are now here separated into their own genus *Alytarchia* WLLGR. Members of the two genera have different valva structure: *A. astrea* (DRURY, 1773) (col. pl. 25, fig. 10), the type species of the monotypic genus *Argina* HÜBNER, 1816 [1819], have the valva with non-bifurcated apex but with a wide rugose projection on the costa (fig. 3). Contrarily, both Afrotropical *Alytarchia*

species have the valva with a strongly bifurcated apex and without any projection on costa (fig. 1-2). Moreover, the vesica of *Argina astrea* DRURY is strongly elongated with two spiniculi plates and an apical sclerotization, while the vesica of the *Alytarchia* WLLGR. is simple, bag like, without cornuti. So, the differences between three genera of this group are of similar value: *Argina* HBN., *Alytarchia* WLLGR. and *Mangina* KALEKA & KIRTI, 2001, the latter consists of three species: *M. argus* (KOLLAR, [1844]) (the type species of the genus) (fig. 4) from SE Asia, *M. syringa* (CRAMER, 1775) **comb. nov.** (fig. 5), from Sri Lanka and South India, and *M. pulchra* (SWINHOE, 1892) **comb. nov.**, from the Philippines.

*Alytarchia amanda* (BOISDUVAL, 1847) **comb. rev.** (col. pl. 25, fig. 10 above)

*Euchelia amanda* BOISDUVAL, 1847; in: DELEGORGUE, Voyage Afr. australe 2: 597.

Material: 1 ♂, South Malawi, Lake Malawi National Park, 70 km NW Mangochi, Monkey Bay, S 14° 03', E 34° 52', 540 m, 3.I.2009.

Remarks: Widely distributed throughout the Afrotropics.

*Alytarchia leonina* (WALKER, [1865]) **comb. rev.** (col. pl. 25, fig. 10 below)

*Deiopeia leonina* WALKER, [1865]; List Spec. lepid. Ins. Colln Br. Mus. 31: 262.

Material: 1 ♂, South Malawi, Neno District, 60 km W Blantyre, Mpatamanga Forest, 15° 42', E 34° 43', 255 m, 26.XII.2008; 1 ♂, South Malawi, Mt. Mulanje, 90 km E Blantyre, Ruo Valley Forest, S 15° 58', E 35° 39', 916 m, 27.-29.XII.2008; 1 ♂, North Malawi, 40 km S Nkhata Bay, Kande, S 11° 56', E 34° 07', 520 m, 5.I.2009.

Remarks: Widely distributed in Equatorial Africa from Sierra Leone and Nigeria to Uganda and Tanzania (ZIN collection). Cited from Malawi by Goodger & Watson (1995).

### Spilosomini

*Menegites* KIRIAKOFF, 1954

Revue Zool. Bot. afr. 50: 182.

Type species: *Menegites nivea* KIRIAKOFF, 1954 (col. pl. 25, fig. 11)

*Menegites sulphurea* (BARTEL, 1903) **comb. nov.** (col. pl. 25, fig. 12)

*Spilosoma sulphurea* BARTEL, 1903; Deut. Ent. Z. Iris 16: 189-190.

Material: 1 ♂, North Malawi, Chitipa District, Mughesse Forest, 60 km NW Chitipa, S 09° 38', E 33° 32', 1810 m, 11.-12.I.2009.

Remarks: This poorly known species was recorded from Cameroun (GOODGER & WATSON, 1995); Zaire (KIRIAKOFF, 1954, 1963, 1965) and Rwanda (KIRIAKOFF, 1965). H. DE TOULGOËT (1977: 211, fig. 5) was the first who studied and figured ♂♂ genitalia of this species. Formerly was placed in *Spilosoma* CURTIS, 1825 (GOODGE & WATSON, 1995). *M. sulphurea* BART. (fig. 7) has several common characters in the ♂ genitalia with the type species of *Menegites* KIRIAKOFF (fig. 6): only these Afrotropical Spilosomini species have three processes on the valva, two at the apex, and a third on the ventral margin. The latter processus is strongly decreased in *M. nivea* KIRIAKOFF, but well visible. In most of the Afrotropical Spilosomini genera this third processus is completely reduced. In addition, both species have a straight aedeagus, with a more or less apical sclerotization (better expressed in *M. sulphurea* BART. and less so in *M. nivea* KIRIAKOFF) and three plates of spine-like cornuti on the vesica. In both species, there are no differences in the head and leg structure.

*Leucaloea* BUTLER, 1875

Cistula Ent. 2: 44.

Type species: *Spilosoma eugraphica* WALKER, 1864 [1865] (col. pl. 25, fig. 13)

*Leucaloe nyasica* (HAMPSON, 1911) **comb. nov.** (col. pl. 25, fig. 14)

*Diacristia nyasica* HAMPSON, 1911; Ann. & Mag. Nat. Hist. (8) 8: 409.

Material: 1 ♂, South Malawi, Nsanje District, 125 km S Blantyre, Mwabvi Wildlife Reserve, 16° 39', E 35° 03', 121 m, 30.-31.XII.2008; 1 ♂, South Malawi, Mangochi District, 25 km E Mangochi, Mamizimu Forest Reserve, Uzuzu Hill, S 14° 24', E 35° 22', 1040 m, 2.I.2009; 2 ♂♂, South Malawi, Neno District, 90 km W Blantyre, Mpatamanga Forest, 15° 38', E 34° 37', 480 m, 16.-17.I.2009.

Remarks: Endemic species for Malawi, known formerly from Zomba (South Malawi) by two syntypes only (HAMPSON, 1911; GOODGER & WATSON, 1995). Formerly placed in *Spilosoma* CURTIS, 1825 (GOODGER & WATSON, 1995). The ♂ genitalia structure show similarities to the monotypic *Leucaloe* BUTLER, 1875. Both species have similar elongate valvae without additional processes, a subapical curve, a broad uncus and the single spiniculi plate at the apex of the vesica, and a sclerotized plate (with or without spines) in the proximal basal part of the vesica (fig. 8-13). In head and leg structure, *L. nyasica* Hmps. shows no differences from the type species of the genus.

*Acantharctia* AURIVILLIUS, 1899 [1900]

Ent. Tidskr. 20: 234, 241.

Type species: *Acantharctia nivea* AURIVILLIUS, 1899 [1900]

*Acantharctia flavicosta* (HAMPSON, 1900) (col. pl. 26, fig. 15)

*Amsacta flavicosta* HAMPSON, 1900; Ann. South Afr. Museum 2: 53.

Material: 1 ♂, South Malawi, Neno District, 90 km W Blantyre, Mpatamanga Forest, 15° 38', E 34° 37', 480 m, 16.-17.I.2009.

Remarks: Distributed in East Africa from Uganda via Malawi to Zimbabwe (GOODGER & WATSON, 1995).

*Afrosipilarctia* DUBATOLOV, 2006

Nachr. .ento. Ver. Apollo 27 (3): 143.

Type species: *Euchaetes lucida* DRUCE, 1898

*Afrosipilarctia unipuncta* (HAMPSON, 1905) **comb. nov.** (col. pl. 26, fig. 16)

*Estigmene unipuncta* HAMPSON, 1905; Ann. Mag. Nat. Hist. (7) 15: 447.

Material: 2 ♂♂, North Malawi, Rumphi District, Nyika National Park, 20 km N Thazima Gate, forest, S 10° 43', E 33° 39', 1930 m, 7.I.2009.

Remarks: This is a first record for Malawi. Formerly known from Kenya, Tanzania, Zimbabwe, Angola (GOODGER & WATSON, 1995) and Zaire (DEBAUCHE, 1942; KIRIAKOFF, 1954).

*Cretonotos* HÜBNER, [1819] 1816

Verz. bekannter Schmett.: 170.

Type species: *Phalaena interrupta* LINNAEUS, 1767

*Cretonotos punctivitta* (WALKER, 1855) (col. pl. 26, fig. 17)

*Spilosoma* ? *punctivitta* WALKER, 1855; List Spec. lepid. Ins. Colln Br. Mus. 3: 673.

Material: 1 ♀, North Malawi, 40 km S Nkhata Bay, Kande, S 11° 56', E 34° 07', 520 m, 5.I.2009.

Remarks: Widely distributed in East and South Africa (Goodger, Watson, 1995).

*Alpenus* WALKER, 1855

List Spec. lepid. Ins. Colln. Br. Mus. 3: 686.

Type species: *Alpenus aequalis* WALKER, 1855, a subjective synonym of *A. maculosus* (STOLL in CRAMER, 1781)

*Alpenus investigatorum* (KARSCH, 1898) (col. pl. 26, fig. 18, 19)

*Spilosoma investigatorum* KARSCH, 1898; in: WERTHER, Dtsch.-Ost.-Africa: 313.

Material: 1 ♂, 1 ♀, South Malawi, Neno District, 90 km W Blantyre, Mpatamanga Forest, 15° 38', E 34° 37', 480 m, 16.-17.I.2009.

Remarks: Widely distributed in East and Equatorial Africa, west to Ghana; cited also from Malawi (GOODGER & WATSON, 1995).

*Micralarctia* WATSON, 1988 [1989]

Ent. scand. **19**: 283.

Type species: *Spilosoma punctulatum* WALLENGREN, 1860

*Micralarctia punctulata auricincta* (BUTLER, 1897) (col. pl. 26, fig. 20)

*Spilosoma auricinctum* BUTLER, 1897; Proc. Zool. Soc. London **1896**: 847.

Material: 1 ♂, South Malawi, Neno District, 90 km W Blantyre, Mpatamanga Forest, 15° 38', E 34° 37', 480 m, 16.-17.I.2009.

Remarks: Widely distributed in East and South Africa (WATSON, [1989]; GOODGER & WATSON, 1995).

*Ustjuzhania* gen. nov.

Type species: *Spilosoma lineata* WALKER, 1855

Diagnosis: ♂ antennae serrate. Eyes large, oval, naked. Palpi porrect, small and noticeably shorter than eye diameter. Proboscis almost equal in length to the head diameter. Fore tibiae simple, narrow; middle tibiae with an apical pair; hind tibiae with two pairs of spurs equal in length to the tibiae diameter. Vein R2 of forewings is stalked with R3+5 (venation type C, by SOTAVALTA, 1964). Forewings white with darker veins. Hindwings pale yellow or white. Tympanum with a small flattened inflation. ♂ genitalia (fig. 14-21): Uncus noticeably bulging dorsally, tegumen more or less widening proximally and forming a "collar" Valvae elongate, almost rectangular, with a long curved processus on the costal apical angle. Ventral apical angle more or less projected. Aedeagus slightly curved apically and without apical spines. Vesica with several plates of spine-like cornuti. VIII abdominal tergite shape characteristic for the genus (fig. 15, 17, 19, 21): tergite nearly rectangular with lateral processes separated by narrow deep hollows and a central hollow; sternite entirely divided into three plates: lateral plates narrow, tapering apically into short processes; central plate narrow, apically more or less concave with a short transversal keel; sternite tucked inside apically forming a hollow between segments VIII and IX.

Remarks: According to the valva structure, among the Afrotropical *Spilosoma*-like species, the new genus most resembles the Palearctic genus *Spilosoma* CURTIS, 1825 including species with almost rectangular valvae and single costal apical processus. Nevertheless, the genus is not related to *Spilosoma* CURT. because of the dorsally bulging uncus, presence of fields of spine-like cornuti in the aedeagus vesica and a strongly modified VIII tergite, which appear to be autapomorphic characters of the new genus. In the Palearctic *Spilosoma* CURT. species, the uncus is not bulging dorsally, the aedeagus often has a dorsal apical sclerotization and the vesica lacks any cornuti plates, or they exist as no more than small spiniculi. The complicated shape of VIII tergite is also not a character found on any *Spilosoma* species.

*Ustjuzhania chionea* (HAMPSON, 1900) **comb. nov.** (col. pl. 26, fig. 21)

*Diacrisia chionea* HAMPSON, 1900; Ann. S. Afr. Mus. **2**: 56.

Material: 1 ♀, South Malawi, Neno District, 60 km W Blantyre, Mpatamanga Forest, S 15° 42',

E 34° 43', 225 m, 26.XII.2008; 1 ♀, South Malawi, Nsanje District, 125 km S Blantyre, Mwabwi Wildlife Reserve, S 16° 39', E 35° 03', 121 m, 30.-31.XII.2008; 1 ♂, South Africa, KwaZulu-Natal, 20 km W Greytown, Mhlopheni National Reserve, 26.-27.XI.2004; 1 ♂, South Africa, KwaZulu-Natal, Pongolapoort Biosphere Reserve, S 27° 24', E 32° 03', 210 m, 23.I.2009.

Remarks: A first record from Malawi. Formerly known from South Africa only (GOODGER & WATSON, 1995). The ♀♀ from Malawi have entirely yellowish hindwings, indicating that they do not belong to the next species. It is likely that ♂♂ of this species from Malawi were described as *Spilosoma nyasana* ROTHSCHILD, 1933 from the same province of South Malawi, but their wing expanse, at 52 mm, is much greater.

*Ustjuzhania lineata* (WALKER, 1855) **comb. nov.** (col. pl. 26, fig. 22)

*Spilosoma lineata* WALKER, 1855; List Spec. lepid. Ins. Colln Br. Mus. 3: 672-673.

Material: 1 ♂, South Africa, KwaZulu-Natal, Pietermaritzburg, Ferncliff National Reserve, 5.XII.2004; 1 ♂, South Africa, KwaZulu-Natal, Cumberland National Reserve, 15 km NE of Pietermaritzburg, 20.-22.I.2008; 1 ♂, South Africa, KwaZulu-Natal, Ndumu Game Reserve, S 26° 54', E 32° 16', 55 m, 22.I.2009.

Remarks: Widely distributed in South and East Africa, including Malawi (GOODGER & WATSON, 1995).

*Ustjuzhania lineata malawica* **subspec. nov.**

Material: Holotype ♂, North Malawi, Rumphi District, Nyika National Park, 20 km N Thazima Gate, forest, S 10° 43', E 33° 39', 1930 m, 7.I.2009. Deposited in Siberian Zoological Museum of the Institute of Animal Systematics and Ecology, SB RAS, Novosibirsk, Russia. Paratype: 1 ♂, North Malawi, 40 km S Nkhata Bay, Kande, S 11° 56', E 34° 07', 520 m, 5.I.2009.

Description: By external characters and size, the new subspecies is identical to the nominotypical one from South Africa, but differs significantly from *S. nyasica* ROTHSCHILD, 1933 by absence of yellowish color on the costal and abdominal areas of the hindwing.

♂ genitalia (fig. 16-17): Uncus, tegumen, valvae as in the nominotypical subspecies. Vesica quite different: all spiniculus covering vesica are hypertrophied into small spines, while all cornuti patches - typical for the species - are composed of strong spines. The central sclerotized plate on VIII sternite is bent and wrapped inside to form a crevice. At the bend on the lower outer surface of this plate is a longitudinal outer keel which protrudes behind the bend. The inside wrapped apex of the plate is seen on preparations behind outer part of the plate and bears a low semicircular transversal keel.

Remarks: The VIII sternite structure of the new subspecies is identical to the nominotypical subspecies from South Africa: there is a low apical semicircular transversal keel on a wrapped inside apical part of the central plate (the same character in *U. chionea* HMPS.); valvae longer and narrower than in *U. chionea* HMPS. I have studied also a sibling species *Ustjuzhania albida* (BARTEL, 1903) **stat. rev. et comb. nov.** (1 ♂, [South Kenya] British East Africa, Voi, at light, 19.XII.1911, SVATOSH leg., ZIN) that was described from the coastal East Tanzania (Bagamoyo, Dar-es-salam, Zanzibar); it has a quite different VIII sternite central plate (fig. 15): it is very narrow apically, entirely without a semicircular keel; the main parts of male genitalia are similar to *U. lineata* WLK., except for all the cornuti being much weaker (fig. 14) even in *U. lineata* WLK. from South Africa.

*"Spilosoma" rhodesiana* (HAMPSON, 1900) (col. pl. 26, fig. 23, 24)

*Diacrisia rhodesiana* HAMPSON, 1900; Ann. S. Afr. Mus. 2: 57.

Material: 2 ♂♂, 1 ♀, South Malawi, Neno District, 90 km W Blantyre, Mpatamanga Forest, 15° 38', E 34° 37', 480 m, 16.-17.I.2009; 1 ♂, South Africa, KwaZulu-Natal, Ndumu Game Reserve, S 26° 54', E 32° 16', 55 m, 22.I.2009; 1 ♂, South Africa, KwaZulu-Natal, Sanyati Farm, env.

Louwsburg, iGwala gwala National Park, S 27° 34', E 31° 18', 1040 m, 26.-27.I.2009.

Remarks: Formerly known from Kenya, Uganda, Tanzania, Zimbabwe, South Africa (GOODGER & WATSON, 1995), Zaire (KIRIAKOFF, 1954) and Angola (KÜHNE, 2005). "*Spilosoma*" *rhodesiana* sensu lato (fig. 26) will be separated into a new genus by HAYNES in his review of the *Radiarctia* and *Binna*-like Afrotropical tiger-moth genera (in prep.).

*Afroarctia* DE TOULGOËT, 1978

Nouv. Revue Ent. 8: 223.

Type species: *Spilosoma sjostedti* AURIVILLIUS, 1899 [1900].

*Afroarctia kenyana* (ROTHSCHILD, 1933) (colour plate 27, fig. 25)

*Teracotona kenyana* ROTHSCCHILD, 1933; Ann. Mag. Nat. Hist. (10) 11: 189-190.

Material: 2 ♂♂, North Malawi, Rumphi District, Nyika National Park, 3 km Chilinda turn off, daytime, S 10° 35', E 33° 43', 2290 m, 9.I.2009.

Remarks: This is a first record for Malawi. Formerly known from Kenya, Uganda, Rwanda, Zaire, Cameroun (GOODGER & WATSON, 1995).

*Eyralpenus* BUTLER, 1875

Cistula Ent. 2: 35.

Type species: *Spilosoma testacea* WALKER, 1855

*Eyralpenus scioana* (OBERTHÜR, 1879 [1880]) (col. pl. 27, fig. 26)

*Cyntia scioana* OBERTHÜR, 1879 [1880]; Ann. Mus. Genov. 15: 176-177 (48-49), t. 1, fig. 8.

Material: 2 ♂♂, South Malawi, Mt. Zomba, 70 km N Blantyre, S 15° 21', E 35° 18', 1500 m, 1.I.2009.

Remarks: Widely distributed in South and East Africa (Goodger, Watson, 1995).

Subgenus *Pareyralpenus* DUBATOLOV & HAYNES, 2008

Atalanta 39 (1-4): 357-358.

Type species: *Spilosoma quadrilunata* HAMPSON, 1901

*Eyralpenus* (*Pareyralpenus*) *melanocera* (HAMPSON, 1916) **stat. rev.** (col. pl. 27, fig. 27)

*Estigmene melanocera* HAMPSON, 1916; Novitates Zoologicae 23 (2): 237-238.

Material: 1 ♂, South Malawi, Mt. Mulanje, 90 km E Blantyre, Ruo Valley Forest, S 15° 58', E 35° 39', 916 m, 27.-29.XII.2008; 1 ♂, North Malawi, 40 km S Nkhata Bay, Kande, S 11° 56', E 34° 07', 20 m, 5.I.2009.

Remarks: Recorded only from Malawi (GOODGER & WATSON, 1995) and Zaire (KIRIAKOFF, 1965). Like the type species of the subgenus, this one has a complicated structure of the costal valva processus (fig. 27).

*Teracotona* BUTLER, 1878

Subgenus *Teracotona* BUTLER, 1878

Proc. Zool. Soc. London 1878: 382.

Type species: *Aloa rhodophaea* WALKER, 1864 [1865]

Diagnosis: The nominotypical subgenus *Teracotona* BTL. is characterized by brown forewings and the presence of narrow light bands, or narrow black bands of forewings that lack a chequered ground pattern. Valvae broad, of a rhomboidal shape, without an apical processus.

♂ genitalia (fig. 28-29): Uncus short, finger-like at apex and strongly broadened at the base. Te-



gumen with a short proximal widening and a poorly visible “collar” Valvae broad, diamond-shaped, with a rounded apex. Juxta shorter than its width. Aedeagus without spines or sclerotizations. Vesica bag-like, with a field of very small, poorly visible spiniculi.

Composition: According to the ♂ genitalia and wing pattern, the nominotypical subgenus *Teracotona* BTL. includes *T. euprepia* HAMPSON, 1900, *T. euprepioides* WICHGRAF, 1921, *T. pardalina* BARTEL, 1903, *T. quadripunctata* WICHGRAF, 1908 (= *buryi* ROTHSCHILD, 1910; = *obscurior* WICHGRAF, 1908 **syn. nov.**), *T. rhodopaea* (WALKER, [1865]), *T. submaculata* (WALKER, 1855), *T. trifasciata* BARTEL, 1903.

*Teracotona* (s. str.) ***submaculata*** (WALKER, 1855) (col. pl. 27, fig. 28)

*Spilosoma submaculata* WALKER, 1865; List Spec. lepid. Ins. Colln Br. Mus. 3: 672.

Material: 1 ♂, North Malawi, Chitipa District, Mughesse Forest, 60 km NW Chitipa, S 09° 38', E 33° 32', 1810 m, 11.-12.I.2009.

Remarks: Distributed in South and South West Africa (GOODGER & WATSON, 1995). This is the first record for Malawi.

#### Subgenus *Neoteracotona* subgen. nov.

Type species: *Seiractia proditrix* BERIO, 1939

Diagnosis: Forewing brown, with darker bands and several black dots, or with diffuse brown dashes on yellowish background color.

♂ genitalia: Uncus short, finger-like at the apex and strongly broadened at the base. Tegumen with short proximal widening, and a poorly visible “collar” Valvae rectangularly wide, with an apical costal finger-like projection. Juxta shorter than its width. Aedeagus without spines or sclerotizations. Vesica with a field of spiniculi-like cornuti.

Remarks: The new subgenus differs from the subgenus *Teracotona* BTL. species by the absence of light transversal bands, and more strongly in the ♂ genitalia, by presence of a long finger-like apical costal process and a field of well defined sclerotized spiniculi-like cornuti.

Composition: There are two main types of forewing pattern of the new subgenus *Neoteracotona* subgen. nov.: evenly chequered ground pattern with a discal spot: *T. pruinosa* DE JOANNIS, 1912, *T. proditrix* (BERIO, 1939), or, together with a black spots in the postdiscal-submarginal space: *T. jacksoni* (ROTHSCHILD, 1910), *T. murtafaa* WILTSHIRE, 1980, *T. pallida* JOICEY & TALBOT, 1924, *T. pitmani* ROTHSCHILD, 1933, *T. postalbida* (GAEDE, 1926), *T. translucens* (GRÜNBERG, 1907); forewings without light bands. Valvae broad, of a rhomboidal shape, with long apical processus.

*Teracotona* (*Neoteracotona*) ***translucens*** (GRÜNBERG, 1907) **comb. nov.** (col. pl. 27, fig. 29)

*Seiractia translucens* GRÜNBERG, 1907; Berl. Ent. Zeit. 52: 66.

Material: 1 ♀, North Malawi, Chitipa District, Chawanga Road, 32 km NW Chitipa, Ifisa Hill, S 09° 30', E 33° 06', 1470 m, 10.I.2009; 1 ♂, North Malawi, Chitipa District, Mughesse Forest, 60 km NW Chitipa, S 09° 38', E 33° 32', 1810 m, 11.-12.I.2009.

Remarks: This is a first record for Malawi. Formerly known from Zaire, Rwanda and Uganda (GOODGER & WATSON, 1995).

#### Subgenus *Pseudoteracotona* subgen. nov.

Type species: *Seiractia melanocera* HAMPSON, 1920.

Diagnosis: Forewings dark brown or yellowish, usually without a visible pattern except for a darker discal spot and a rudiment of the narrow postdiscal band, or with a dark discal spot and

diffuse dark transverse bands.

♂ genitalia: Uncus short or elongate, strongly broadened at base. Tegumen with short proximal widening, and a poorly visible "collar" Valvae finger-like. Juxta shorter than its width. Aedeagus without spines or sclerotizations. Vesica bag-like, with a field of spiniculi, sometimes small.

Remarks: The subgenus *Pseudoteracotona* subgen. nov. is characterized by a concentration of dark chequered pattern along the medial and postdiscal bands on a darker or lighter ground colour; forewings without light bands. Valvae narrow, finger-like, sometimes with broader base.

Composition: Besides the type and following species, the new subgenus should include: *T. abyssinica* (ROTHSCHILD, 1933), *T. clara* HOLLAND, 1892, *T. immaculata* (WICHGRAF, 1921), *T. melanocera* (HAMPSON, 1901), *T. metaxantha* (HAMPSON, 1920) (col. pl. 27, fig. 31), *T. multistrigata* JOICEY & TALBOT, 1924, *T. neumanni* ROTHSCCHILD, 1933, *T. seminigra* (HAMPSON, 1905), *T. senegalensis* ROTHSCCHILD, 1933, *T. subapproximans* (ROTHSCCHILD, 1933), *T. subterminata* HAMPSON, 1901, *T. uhrikmeszarosi* SZENT-IVÁNY, 1942, *T. wittei* (DEBAUCHE, 1942).

*Teracotona (Pseudoteracotona) approximans* (ROTHSCHILD, 1917) comb. nov. (col. pl. 27, fig. 30) *Seirarctia approximans* ROTHSCCHILD, 1917; Novit. Zool. **24** (3): 483.

Material: 1 ♂, 1 ♀, North Malawi, Rumphii District, Nyika National Park, 20 km N Thazima Gate, forest, S 10° 43', E 33° 39', 1930 m, 7.I.2009.

Remarks: This is a first record for Malawi. Formerly known from Tanzania, Kenya and Uganda (GOODGER & WATSON, 1995).

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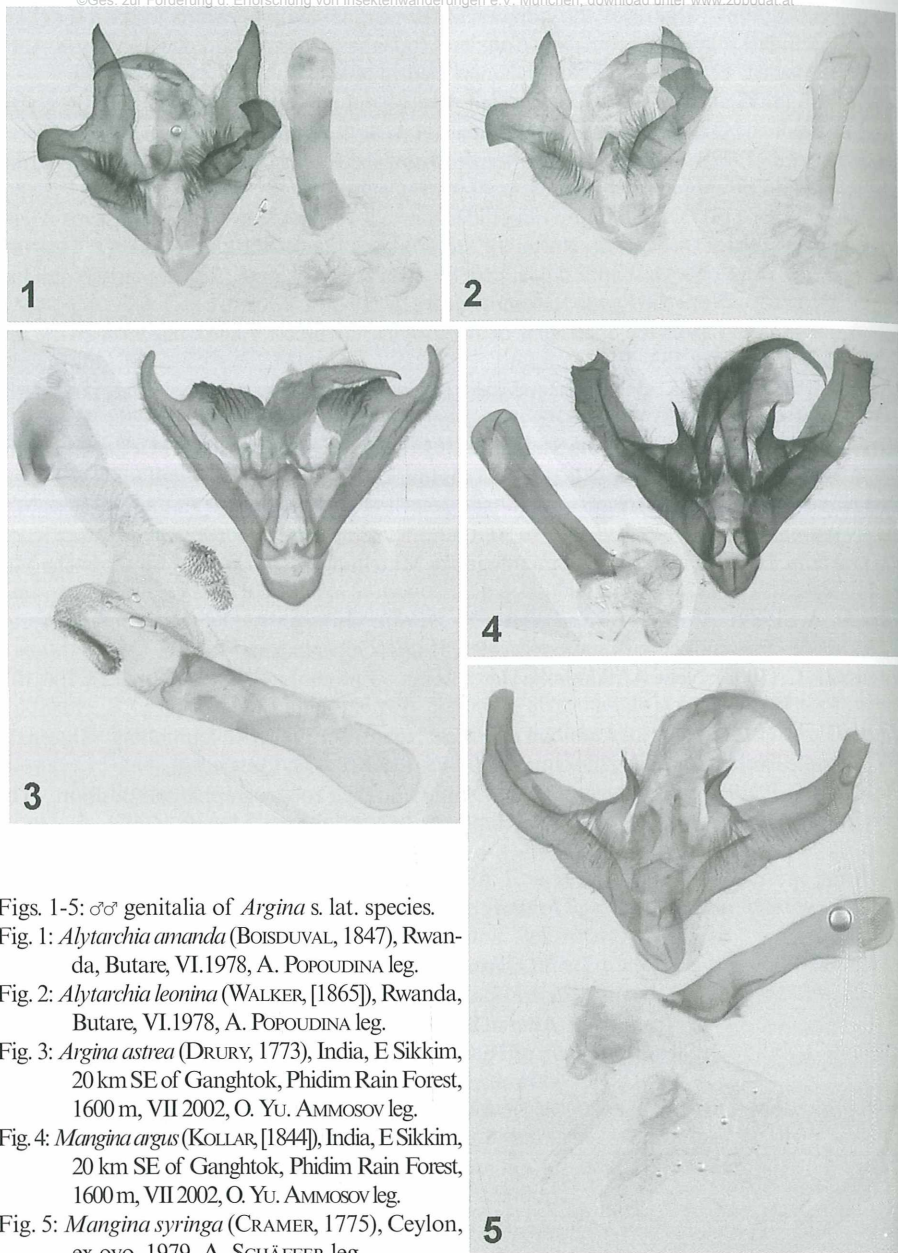
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Figs. 1-5: ♂♂ genitalia of *Argina* s. lat. species.

Fig. 1: *Alytarchia amanda* (BOISDUVAL, 1847), Rwanda, Butare, VI.1978, A. POPOUDINA leg.

Fig. 2: *Alytarchia leonina* (WALKER, [1865]), Rwanda, Butare, VI.1978, A. POPOUDINA leg.

Fig. 3: *Argina astrea* (DRURY, 1773), India, E Sikkim, 20 km SE of Gangtok, Phidim Rain Forest, 1600 m, VII 2002, O. YU. AMMOV leg.

Fig. 4: *Mangina argus* (KOLLAR, [1844]), India, E Sikkim, 20 km SE of Gangtok, Phidim Rain Forest, 1600 m, VII 2002, O. YU. AMMOV leg.

Fig. 5: *Mangina syringa* (CRAMER, 1775), Ceylon, ex ovo, 1979, A. SCHÄFFER leg.

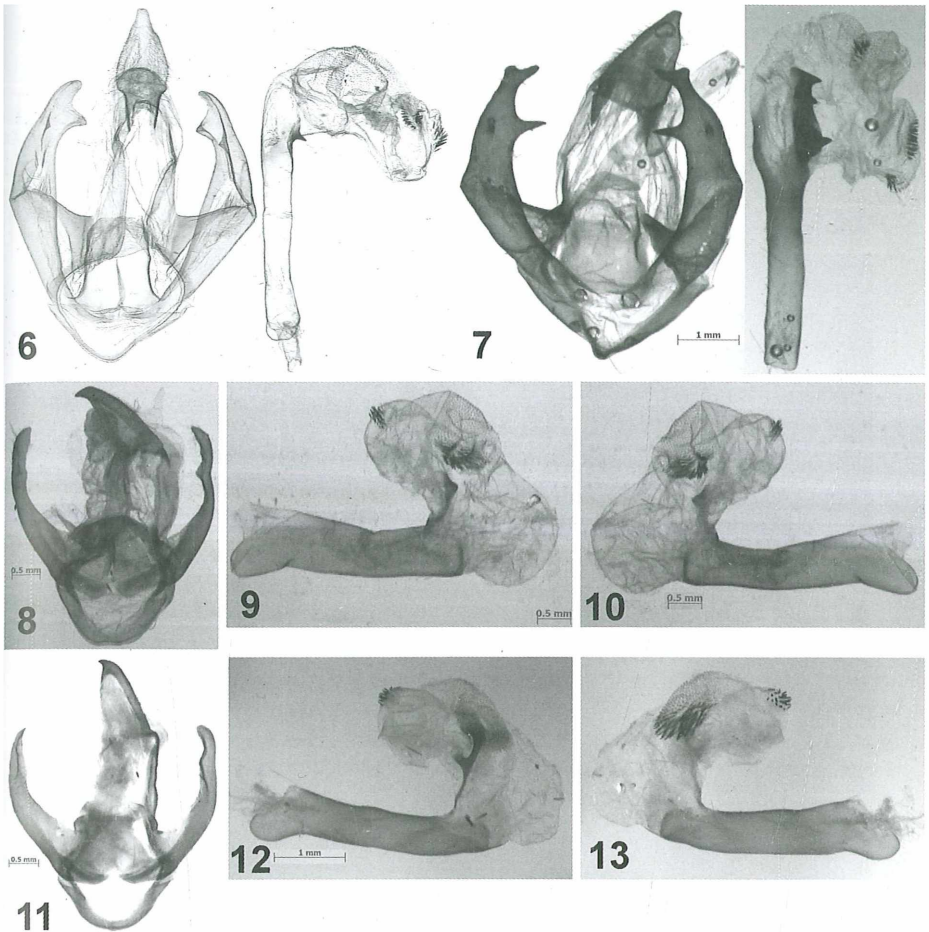


Fig. 6-13: ♂♂ genitalia of *Menegites* and *Leucaloea* species.

Fig. 6: *Menegites nivea* KIRIAKOFF, 1954, Zimbabwe, Hayfield, by courtesy of P. HAYNES.

Fig. 7: *Menegites sulphurea* (BARTEL, 1903), North Malawi, Chitipa District, Mughesse Forest, 60 km NW Chitipa, S 09° 38', E 33° 32', 1810m, 11.-12.I.2009, V. KOVTUNOVICH, P. USTJUZHANIN leg.

Fig. 8-10: *Leucaloea eugraphica* (WALKER, 1864 [1865]), South Africa, Johannesburg, Acc. No. 2051, 10.XI.1906, coll. Russell-Hyde, by courtesy of D. LOGUNOV, Manchester Museum, U.K. Fig. 8: general view. Fig. 9: aedeagus, left side, T-shaped sclerite on the left side of aedeagus is broken into two parts. Fig. 10: aedeagus, right side.

Fig. 11-13: *Leucaloea nyasica* (HAMPSON, 1911), S. Malawi, Neno District, 90 km W Blantyre, Mpatamanga Forest, S 15° 38', E 34° 37', 480 m, 16.-17.I.2009, V. KOVTUNOVICH, P. USTJUZHANIN leg. Fig. 11: general view. Fig. 12: aedeagus, left side. Fig. 13: aedeagus, right side.

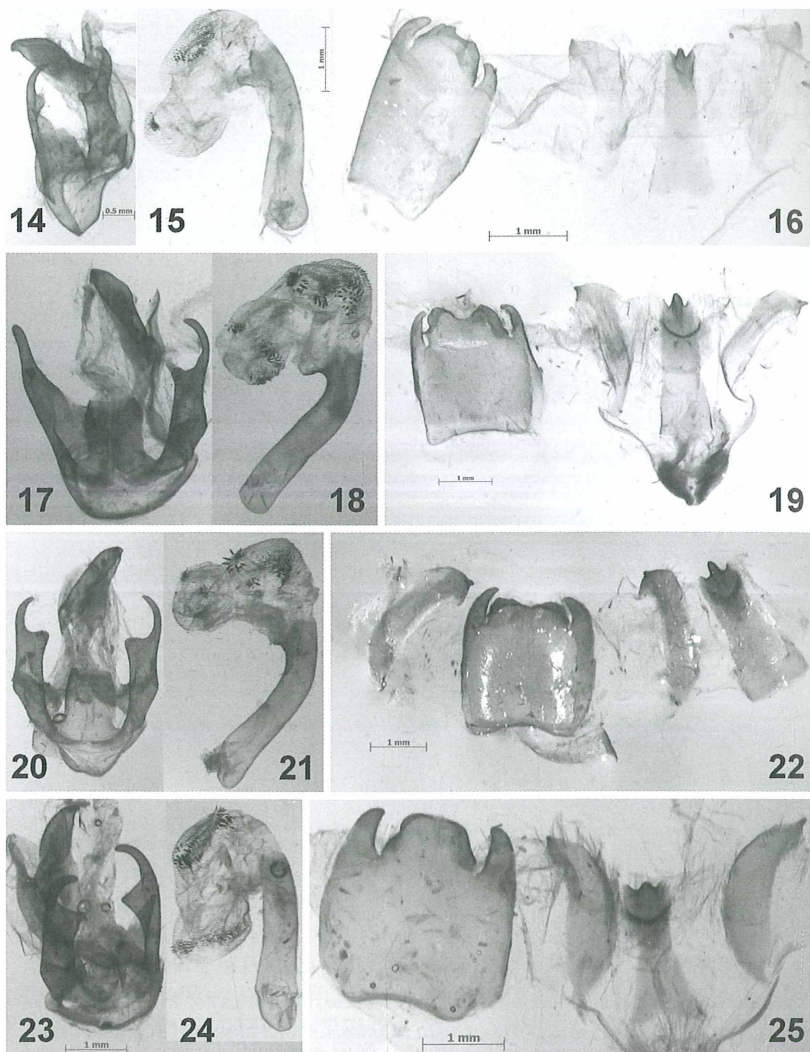


Fig. 14-25: ♂♂ genitalia of *Ustjuzhania* species. Fig. 14-16: *Ustjuzhania albida* (BARTEL, 1903), [Kenya] British East Africa, Voi, at light, 19.XII.1911, SVATOSH leg. (ZIN). Fig. 14: general view. Fig. 15: aedeagus. Fig. 16: VIII tergite.

Fig. 17-19: *Ustjuzhania lineata malawica subsp. nov.*, holotype, North Malawi, Rumphi District, Nyika National Park, 20 km N Thazima Gate, forest, S 10° 43', E 33° 39', 1930 m, 7.I.2009, V. KOVTUNOVICH, P. USTJUZHANIN leg. Fig. 17: general view. Fig. 18: aedeagus. Fig. 19: VIII tergite.

Fig. 20-22: *Ustjuzhania lineata lineata* (WALKER, 1855), South Africa, KwaZulu-Natal Prov., Pietermaritzburg, Ferncliff National Reserve, 5.XII.2004, V. KOVTUNOVICH, P. USTJUZHANIN leg. Fig. 20: general view. Fig. 21: aedeagus. Fig. 22: VIII tergite.

Fig. 23-25: *Ustjuzhania chionea* (HAMPSON, 1900), South Africa, KwaZulu-Natal, Pongolapoort Biosphere Reserve, S 27° 24', E 32° 03', 210 m, 23.I.2009, V. KOVTUNOVICH, P. USTJUZHANIN leg. Fig. 23: general view. Fig. 24: aedeagus. Fig. 25: VIII tergite.



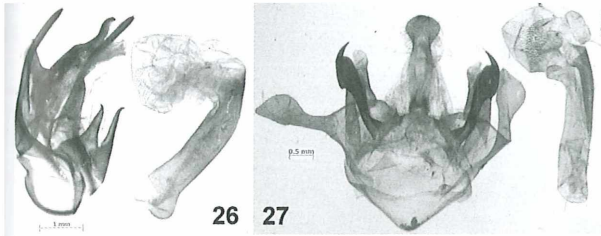


Fig. 26: "*Spilosona*" *rhodesiana* (HAMPSON, 1900) ♂, South Malawi, Neno District, 90 km W Blantyre, Mpatamanga Forest, 15° 38', E 34° 37', 480 m, 16.-17.I.2009.

Fig. 27: *Eyrallpenus* (*Peyrallpenus*) *melanocera* (HAMPSON, 1916) ♂, South Malawi, Mt. Mulanje, 90 km E Blantyre, Ruo Valley Forest, S 15° 58', E 35° 39', 916 m, 27.-29. XII.2008; both V. KOVTUNOVICH, P. USTJUZHANIN leg.

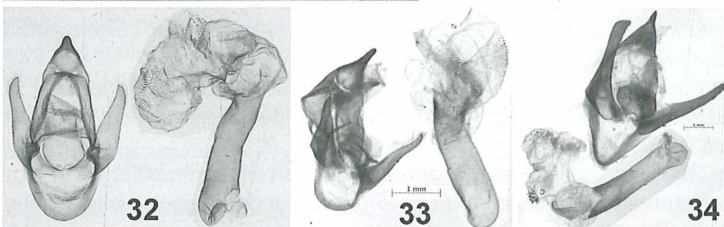
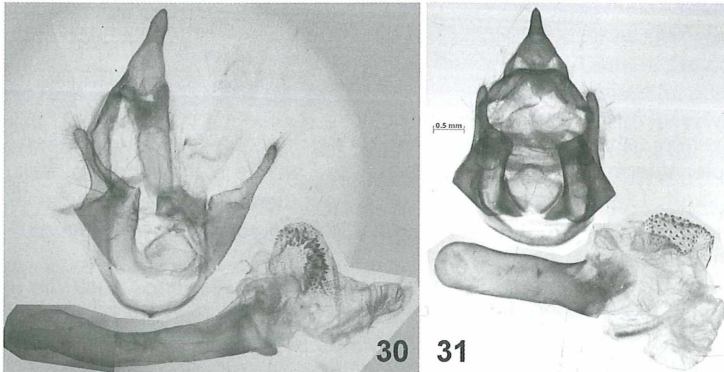
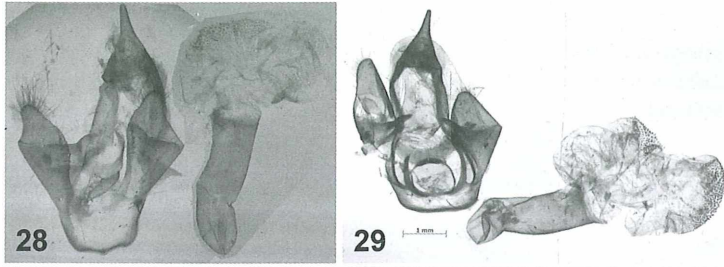
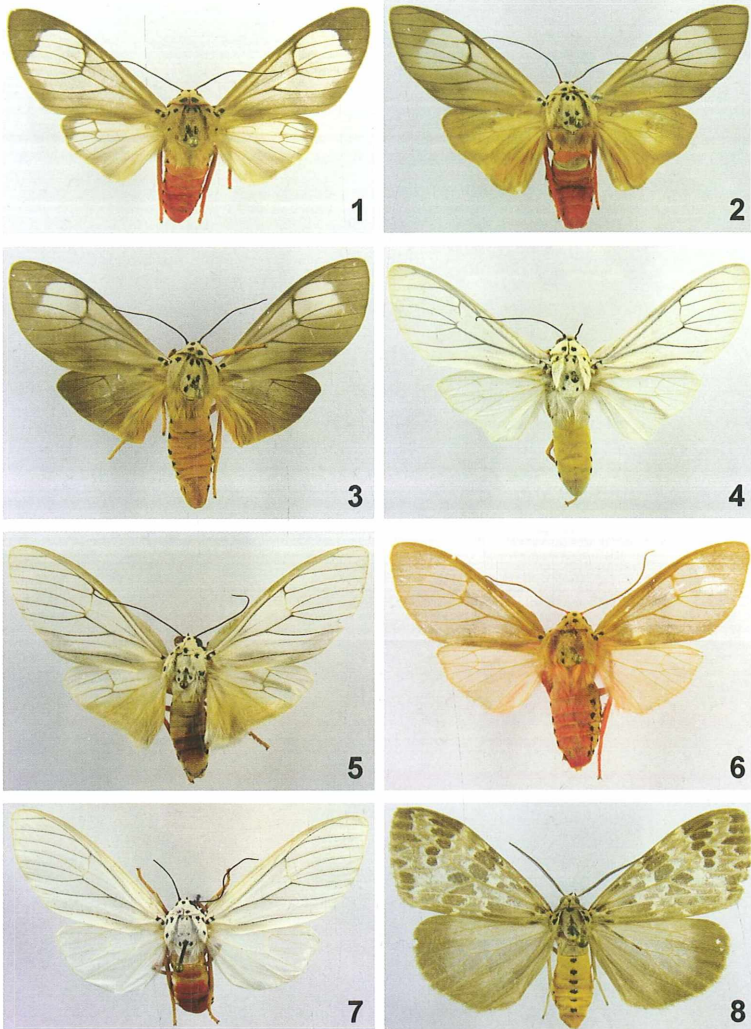


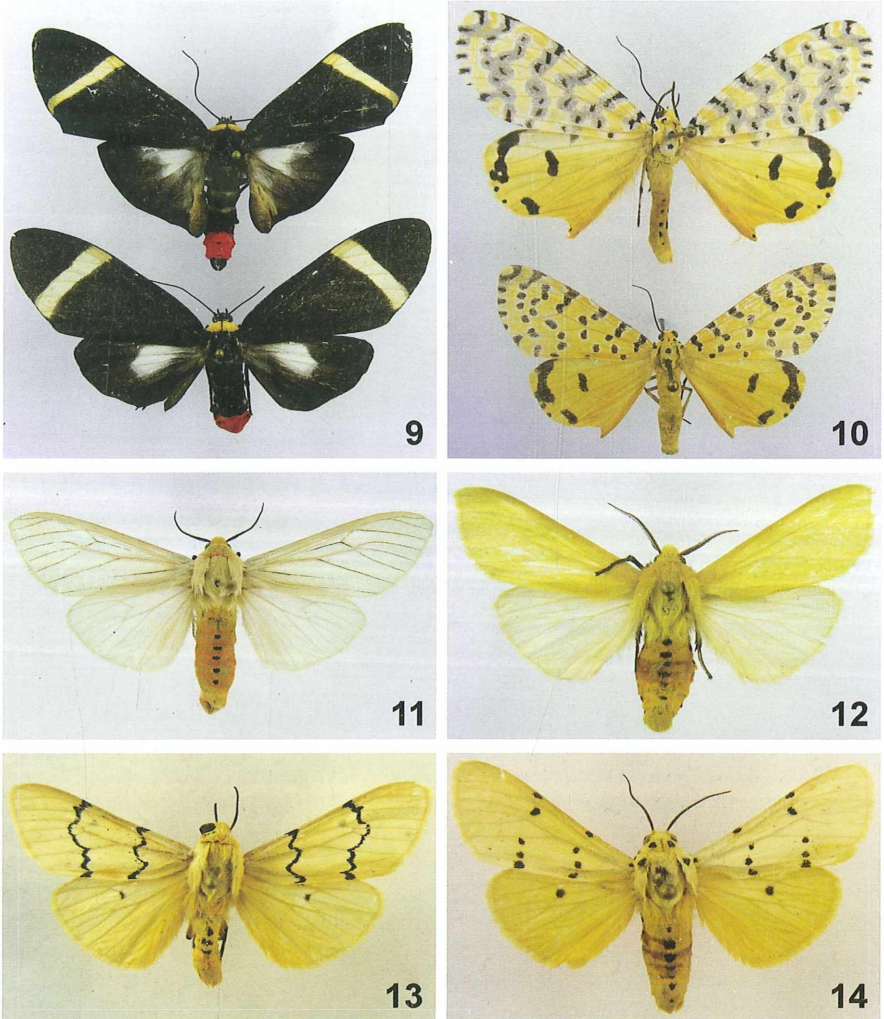
Fig. 28: *Teracotona* (s. str.) *rhodopaea* (WALKER, [1865]) ♂, Kenya, Kibwesi, 11.IV.1929, ex coll. FEACHER, by courtesy of D. V. LOGUNOV (Manchester Museum, U.K.). Fig. 29: *Teracotona* (s. str.) *submaculata* (WALKER, 1855) ♂, North Malawi, Chitipa District, Mughesse Forest, 60 km NW Chitipa, S 09° 38', E 33° 32', 1810m, 11.-12.I.2009. Fig. 30: *Teracotona* (*Neoteracotona*) *proditrix* (BERIO, 1939) ♂, syntype, Ethiopia, Eritrea, Adi-Abuna, VI-VII-1939, Cap. A. RICHINI leg. (MCSN "Giacomo Doria"). Fig. 31: *Teracotona* (*Neoteracotona*) *translucens* (GRÜNBERG, 1907) ♂, North Malawi, Chitipa District, Mughesse Forest, 60 km NW Chitipa, S 09° 38', E 33° 32', 1810m, 11.-12.I.2009. Fig. 32: *Teracotona* (*Pseudoteracotona*) *melanocera* (HAMPSON, 1920) ♂, Kenya, coll. P. HAYNES. Fig. 33: *Teracotona* (*Pseudoteracotona*) *approximans* (ROTHSCHILD, 1917) ♂, N. Malawi, Rumphii District, Nyika National Park, 20 km N Thazima Gate, forest, S 10° 43', E 33° 39', 1930 m, 7.I.2009. Fig. 34: *Teracotona* (*Pseudoteracotona*) *metaxantha* (HAMPSON, 1920) ♂, South Africa, [Orange] Free State, 150 km SW of Bloemfontein, Tussen die Riviere G.R., Orange river, 16.I.2008. Fig. 29, 31, 33: V. KOVTUNOVICH, P. USTJUZHANIN leg.

## Colour plate 24/ Farbtafel 24



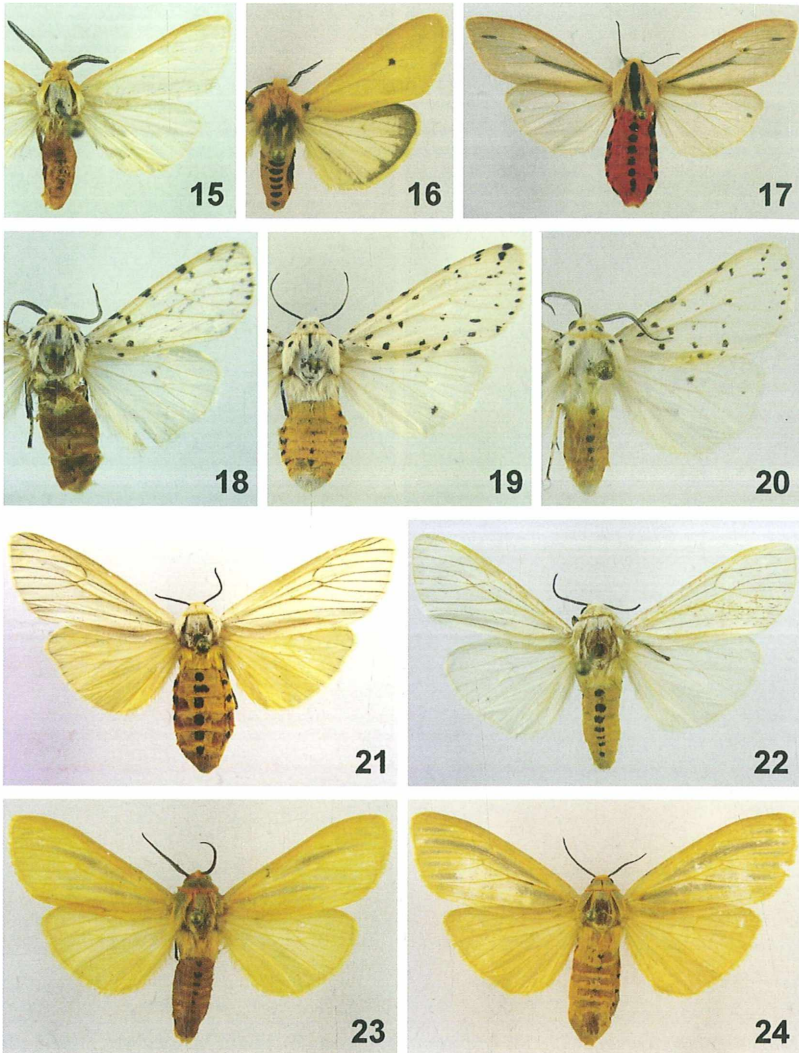
**Fig. 1:** *Amerila affinis* (ROTHSCHILD, 1910), ♀, South Malawi, Mt. Mulanje, 90 km E Blantyre, Ruo Valley Forest, S 15° 58', E 35° 39', 916 m, 27.-28.XII.2008. **Fig. 2:** *Amerila bipartita* (ROTHSCHILD, 1910), ♂, same data as in fig. 1. **Fig. 3:** *Amerila brunnea bipartitooides* HÄUSER & BOPPRÉ, 1997, ♂, same data as in fig. 1. **Fig. 4:** *Amerila bubo* (WALKER, 1855), ♂, same data as in fig. 1. **Fig. 5:** *Amerila howardi* (PINHEY, 1955), ♂, North Malawi, Chitipa District, Mughesse Forest, 60 km NW Chitipa, S 09° 38', E 33° 32', 1810m, 11.-12.I.2009. **Fig. 6:** *Amerila makadara* HÄUSER & BOPPRÉ, 1997, ♀, North Malawi, Chitipa District, Mughesse Forest, 60 km NW Chitipa, S 09° 38', E 33° 32', 1810m, 11.-12.I.2009. **Fig. 7:** *Amerila* sp., ♀, South Malawi, Mt. Mulanje, 90 km E Blantyre, Ruo Valley Forest, S 15° 58', E 35° 39', 916 m, 27.-28.XII.2008. **Fig. 8:** *Galtara doriae* (OBERTHÜR, 1879 [1880]), ♀, same data as in fig. 1. Fig. 1-8: V. KOVTUNOVICH & P. USTJUZHANIN leg.

## Colour plate 25/ Farbtafel 25



**Fig. 9:** *Karschiola holoclera* (KARSCH, 1894), ♂ (above), ♀ (bottom), South Malawi, Mt. Mulanje, 90 km E Blantyre, Ruo Valley Forest, S 15° 58', E 35° 39', 916 m, 27.-28.XII.2008. **Fig. 10:** above: *Alytarchia leonina* (WALKER, [1865]), ♂, North Malawi, 40 km S Nkhata Bay, Kande, S 11° 56', E 34° 07', 520 m, 5.I.2009; bottom: *Alytarchia amanda* (BOISDUVAL, 1847), ♂, S. Malawi, Lake Malawi National Park, 70 km NW Mangochi, Monkey Bay, S 14° 03', E 34° 52', 540 m, 3.I.2009. **Fig. 11:** *Menegites nivea* KIRIAKOFF, 1954, ♂, Zimbabwe, Chimanimani Range (coll. P. HAYNES). **Fig. 12:** *Menegites sulphurea* (BARTEL, 1903), ♂, N. Malawi, Chitipa District, Mughesse Forest, 60 km NW Chitipa, S 09° 38', E 33° 32', 1810m, 11.-12.I.2009. **Fig. 13:** *Leucaloe eugraphica* (WALKER, 1864 [1865]), ♂, South Africa, KwaZulu Natal, Vernon Crookes N.R., 60 km SW of Durban, 23.-25.I.2008. **Fig. 14:** *Leucaloe nyasica* (HAMPSON, 1911), ♂, South Malawi, Mangochi District, 25 km E Mangochi, Mamizimu Forest Reserve, Uzuzu Hill, S 14° 24', E 35° 22', 1040 m, 2.I.2009. Fig. 9-14: V. KOVTUNOVICH & P. USTJUZHANIN leg.

## Colour plate 26/ Farbtafel 26



**Fig. 15:** *Acantharctia flavicosta* (HAMPSON, 1900), ♂, South Malawi, Neno District, 90 km W Blantyre, Mpatamanga Forest, 15° 38', E 34° 37', 480 m, 16.-17.I.2009. **Fig. 16:** *Afropilarctia unipuncta* (HAMPSON, 1905), ♂, North Malawi, Rumphi District, Nyika National Park, 20 km N Thazima Gate, forest, S 10° 43', E 33° 39', 1930 m, 7.I.2009. **Fig. 17:** *Cretonotos punctivitta* (WALKER, 1855), ♀, North Malawi, 40 km S Nkhata Bay, Kande, S 11° 56', E 34° 07', 520 m, 5.I.2009. **Fig. 18:** *Alpenus investigatorum* (KARSCH, 1898), ♂, same data as in fig. 15. **Fig. 19:** *Alpenus investigatorum* (KARSCH, 1898), ♀, same data as in fig. 15. **Fig. 20:** *Micralarctia punctulata auricincta* (BUTLER, 1897), ♂, same data as in fig. 15. **Fig. 21:** *Ustjuzhania chionea* (HAMPSON, 1900), ♀, South Malawi, Nsanje District, 125 km S Blantyre, Mwabwi Wildlife Reserve, S 16° 39', E 35° 03', 121 m, 30.-31.XII.2008. **Fig. 22:** *Ustjuzhania lineata malawica* subsp. nov., paratype, ♂, North Malawi, Rumphi District, Nyika National Park, 20 km N Thazima Gate, forest, S 10° 43', E 33° 39', 1930 m, 7.I.2009. **Fig. 23** (♂), **24** (♀): "*Spilosoma*" *rhodesiana* (HAMPSON, 1900), ♂, same data as in fig. 15. Fig. 15-24: V. KOVTUNOVICH & P. USTJUZHANIN leg.

## Colour plate 27/ Farbtafel 27

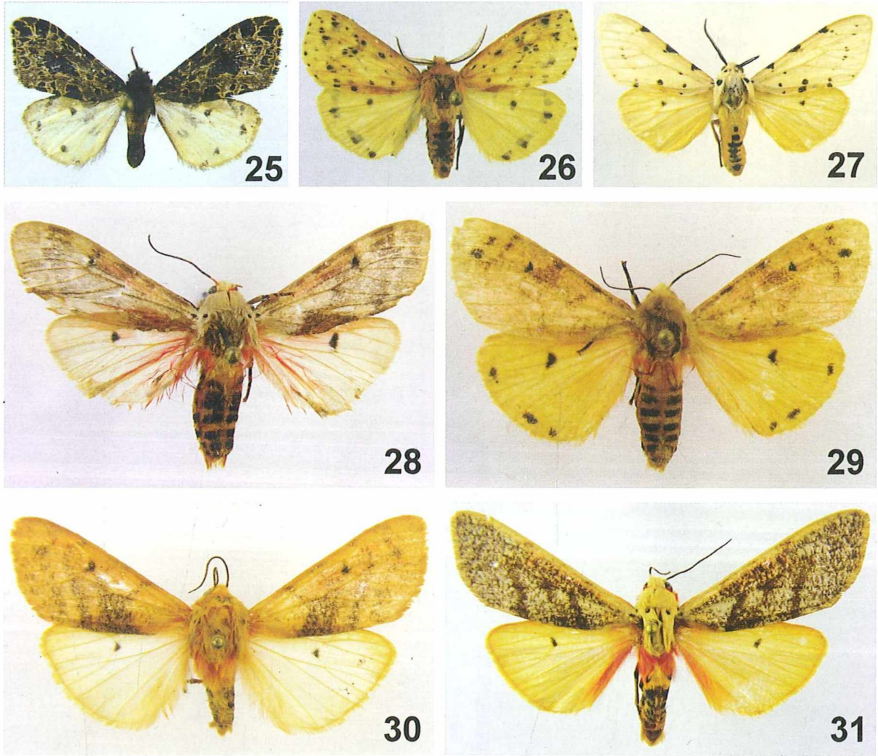


Fig. 25: *Afroarectia kenyana* (ROTHSCHILD, 1933), ♂, North Malawi, Rumphi District, Nyika National Park, 3 km Chilinda turn off, daytime, S 10° 35', E 33° 43', 2290 m, 9.I.2009.

Fig. 26: *Eyrallpenus (Eyrallpenus) scioana* (OBERTHÜR, 1879 [1880]), ♂, South Malawi, Mt. Zomba, 70 km N Blantyre, S 15° 21', E 35° 18', 1500 m, 1.I.2009.

Fig. 27: *Eyrallpenus (Pareyrallpenus) melanocera* (HAMPSON, 1916), ♂, South Malawi, Mt. Mulanje, 90 km E Blantyre, Ruo Valley Forest, S 15° 58', E 35° 39', 916 m, 27.-28.XII.2008.

Fig. 28: *Teracotona* (s. str.) *submaculata* (WALKER, 1855), ♂, North Malawi, Chitipa District, Mughesse Forest, 60 km NW Chitipa, S 09° 38', E 33° 32', 1810m, 11.-12.I.2009.

Fig. 29: *Teracotona (Neoteracotona) translucens* (GRÜNBERG, 1907), ♀, North Malawi, Chitipa District, Chawanga Road, 32 km NW Chitipa, Insa Hill, S 09° 30', E 33° 06', 1470m, 10.I.2009.

Fig. 30: *Teracotona (Pseudoteracotona) approximans* (ROTHSCHILD, 1917), ♂, North Malawi, Rumphi District, Nyika National Park, 20 km N Thazima Gate, forest, S 10° 43', E 33° 39', 1930 m, 7.I.2009.

Fig. 31: *Teracotona (Pseudoteracotona) metaxantha* (HAMPSON, 1920), ♂, South Africa, [Orange] Free State, 150 km SW of Bloemfontein, Tussen die Riviere G.R., Orange river, 16.I.2008. Fig. 25-31: V. KOVTUNOVICH & P. USTJUZHANIN leg.

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