

Genus *Tuxentius* Larsen, 1982 Pies

Biologiske Skrifter **23** (3): 46 (76 pp.).

Type-species: *Lycaena melaena* Trimen, 1887, by original designation.

The genus *Tuxentius* belongs to the Family Lycaenidae Leach, 1815; Subfamily Polyommatainae Swainson, 1827; Tribe Polyommataini Swainson, 1827; Subtribe *Incertae sedis*. The other genera in the Subtribe *Incertae sedis* in the Afrotropical Region are *Harpencyreus*, *Tarucus*, *Zintha*, *Zizina*, *Eicochrysops* and *Cyclurius*.

Tuxentius (**Pies**) is a purely Afrotropical genus containing 11 species. One of the common names for the group is “Pierrot”, which is derived from the French word for a clown with black and white facial make-up and costume. The genera *Tarucus* and *Zintha* are usually included in the same common name group.

Tuxentius calice (Hopffer, 1855)# White Pie



White Pierrot (*Tuxentius calice*) female underside
Image courtesy Steve Woodhall

Lycaena calice Hopffer, 1855. *Berichte über die zur Bekanntmachung geeigneten Verhandlungen der Königl. Preuss. Akademie der Wissenschaften zu Berlin* **1855**: 642 (639-643).

Lycaena calice Hopffer. Trimen, 1866a.

Lycaena calice Hopffer, 1855. Trimen & Bowker, 1887b.

Castalius calice Hopffer, 1855. Swanepoel, 1953a.

Castalius calice (Hopffer, 1855). Dickson & Kroon, 1978.

Tuxentius calice (Hopffer, 1855). Larsen, 1982.

Tuxentius calice (Hopffer, 1855). Pringle *et al.*, 1994: 236.

Tuxentius calice Hopffer, 1855. d'Abreu, 2009: 812.



Tuxentius calice. Male (Wingspan 23 mm). Left – upperside; right – underside.
Mokolo Dam, Limpopo, South Africa. 26 February 2011. J. Dobson.
Images M.C. Williams ex Dobson Collection.



Tuxentius calice. Female (Wingspan 23 mm). Left – upperside; right – underside.
Kwamahlangu, Mpumalanga, South Africa. 30 October 2010. M. Williams.
Images M.C. Williams ex Williams Collection.

Alternative common names: White Pierrot; White Pied Blue.

Type locality: [Mozambique]: “Querimba”.

Diagnosis: Can be differentiated from *Tuxentius melaena* by the white discal markings on the forewing upperside. In *calice* the white markings reach the inner margin but not in *melaena*. *Tuxentius melaena* can also be distinguished from *Tuxentius calice* by the more widely separated central costal spots on the underside of the hindwing (Pringle *et al.*, 1994).

Distribution: Angola, Democratic Republic of Congo (south – Kabinda, Lualaba, Shaba), Tanzania, Malawi, Zambia (widespread), Mozambique, Zimbabwe, Botswana, Namibia (north), South Africa (Limpopo Province, Mpumalanga, North West Province, Gauteng, KwaZulu-Natal).

In South Africa its distribution covers 99 quarter degree squares (380 records) [see <http://vmus.adu.org.za>]. It is regarded as widespread.

Specific localities:

Tanzania – Widespread but uncommon in the east (Kielland, 1990d); Katavi National Park (Fitzherbert *et al.*, 2006).

Malawi – Mt Mulanje (Congdon *et al.*, 2010); Mt Zomba (Congdon *et al.*, 2010).

Zambia – Ikelenge (Heath *et al.*, 2002); Chirundu (Heath *et al.*, 2002); Chilanga (Heath *et al.*, 2002); Chingola (Heath *et al.*, 2002); Mufulira (Heath *et al.*, 2002); Mbala (Heath *et al.*, 2002).

Mozambique – Querimba (TL); Njesi Plateau (Congdon *et al.*, 2010).

Botswana – North-east (Larsen, 1991); Mpandama-Tenga (R. Plowes *vide* Larsen, 1991); Tswapong Hills (Larsen, 1991).

Limpopo Province – Waterberg (Swanepoel, 1953); Warmbaths (Swanepoel, 1953); Polokwane (Swanepoel, 1953); Chuniespoort (Swanepoel, 1953); Tubex (Swanepoel, 1953); Paardevlei (Swanepoel, 1953); Letaba (Swanepoel, 1953); Zoutpansberg (Swanepoel, 1953); Masequa’a Poort (Swanepoel, 1953); Percy Fyfe Nature Reserve (Warren, 1990); Lekgalameetse Nature Reserve (“Malta Forest”) (Williams); Highlands Wilderness (Bode & Bode, unpublished checklist); Soetdoring Farm [-24.561 28.233] (A. Mayer, pers comm. 2015); Bateleur Nature Reserve (Williams & Dobson, unpub., 2015).

North West Province – Rustenburg (Swanepoel, 1953); Kgaswane Mountain Reserve (Williams); Utopia Resort (C. Dobson, 2006).

Gauteng – Johannesburg (Swanepoel, 1953); Pretoria (Swanepoel, 1953).

KwaZulu-Natal – Durban (Swanepoel, 1953); Eshowe (Swanepoel, 1953); Hluhluwe (Swanepoel, 1953); Pietermaritzburg (Swanepoel, 1953); Greytown (Swanepoel, 1953); Estcourt (Swanepoel, 1953); Weenen (Swanepoel, 1953).

Habitat: Savanna. In Tanzania at altitudes between 400 and 2 000 m (Kielland, 1990d).

Habits: Specimens flutter around trees, especially those that are the larval host, and the butterfly is often seen feeding from flowers. Males frequently mud-puddle. Occasionally males also show hilltopping behaviour but they seldom stay on the summit for long (Pringle *et al.*, 1994).

Flight period: All year but scarce in winter in southern Africa (Pringle *et al.*, 1994).

Early stages:

Clark & Dickson, 1971: 72 [as *Castalius calice calice*; between Pietermaritzburg and Greytown, KwaZulu-Natal].

“**Egg.** 0.45 mm diam. x 0.25 mm high. Laid singly, generally between a thorn and a bud. Eggs are white with two reversed sets of ribs radiating from the micropyle; at first, 16 per set, duplicating on the way to the edge. Round the edge and part of the way down the sides the intersections are punctuated by raised moles, almost in the form of spines. Eggs hatch after some 12 days. The discarded shell is not eaten. **Larva.** 1st instar 0.9 mm, growing to 1.8 mm in 6 days. The honey-gland and tubercles are present in the 3rd and 4th instars. The larva, on emergence, is light yellow with equally pale neck- and anal-shields, while the head is light yellowish brown. Many of the lateral setae are finely barbed and a large number of the other setae are slightly barbed. The setae as a whole are light coloured but the larger dorsal ones brown or greyish brown. In the 2nd instar the larva is pale green, with a medio-dorsal series of elongated brownish markings. The considerably more numerous setae are to a large extent barbed – with the finer ones devoid of barbs, as shown in the illustration of the 7th segment. In the 3rd instar the general colour of the larva is of a deeper green and the rather light coloured setae, which are nearly all well barbed, are distributed in large numbers over the surface of the body. As the larva on which these observations were based failed to survive beyond this stage, no further details can be given in the present account of the life-history of *C. calice*.”

Congdon *et al.*, 2017 [final instar larva].

Larval food:

Ziziphus abyssinica Hochst. (Rhamnaceae) [Congdon *et al.*, 2017; Kibebe, Tanzania].

Ziziphus mauritiana Lam. (Rhamnaceae) [Van Someren, 1974: 329; as *Ziziphus jujuba* L.].

Ziziphus mucronata Willd. (Rhamnaceae) [Clark & Dickson, 1971: 72].

Note: Larsen (1991c: 233) says that records in the literature for *Acacia* species (Fabaceae) as larval host plants can probably be discounted.

Tuxentius gregorii (Butler, 1895)

Bondoni Pie

Castalius gregorii Butler, 1895. *Proceedings of the Zoological Society of London* **1894**: 568 (557-593).

Tuxentius gregorii (Butler, 1895). Kielland, 1990d: 216.

Tuxentius calice gregorii Butler, 1894. d’Abrera, 2009: 812. [date of authorship erroneous]

Type locality: [Kenya]: “Bondoni and Kapte Plains”.

Distribution: ?Uganda (Davenport, 1996), Kenya (central), Tanzania (north).

Specific localities:

Kenya – Bondoni and Kapte Plains (TL); Lukenia Hills (Larsen, 1991c); Thika (Larsen, 1991c);

Nairobi (Larsen, 1991c); Ol’Doinyo Sabuk (Larsen, 1991c).

Tanzania – Oldeani (Kielland, 1990d); Moshi (Kielland, 1990d).

Habitat: Woodland (Kielland, 1990d).

Habits: Males are attracted to wet sand (Kielland, 1990d).

Early stages: Nothing published.

Larval food: Nothing published.

Note: Kielland (1990d: 216) treats *gregorii* as a distinct species, giving good reasons for so doing (“The position of the underside h.w. black spots makes it extremely unlikely that *gregorii* could be a race of *calice*”). However, he does not formally implement the taxonomic change.

***Tuxentius carana* (Hewitson, [1876])**

Forest Pie



Mud-puddling male Forest Pie Pierrot. Cameroon, May 2019.
Image courtesy Jeremy Dobson.

Lycaena carana Hewitson, [1876]. *In*: Hewitson, [1872-7]. *Illustrations of new species of exotic butterflies* 5: [88] (127 pp.). London.

Tuxentius carana Hewitson, 1876. d'Abreu, 2009: 814.



Tuxentius carana carana. Male. Left – upperside; right – underside.

Camp Kombo, Cameroon. 7 May 2019. J. Dobson.

Images M.C.Williams ex Dobson Collection.

Type locality: Angola.

Distribution: Guinea, Sierra Leone, Liberia, Ivory Coast, Ghana, Togo, Benin, Nigeria, Cameroon, Gabon, Congo, Angola, Central African Republic, Democratic Republic of Congo.

Habitat: Forest.

Habits: This is a common species, the males most often being seen when they mud-puddle (Larsen, 2005a). Females are rarely encountered (Larsen, 2005a).

Early stages: Nothing published.

Larval food: Nothing published.

***Tuxentius carana carana* (Hewitson, [1876])**

Forest Pie

Lycaena carana Hewitson, [1876]. *In*: Hewitson, [1872-7]. *Illustrations of new species of exotic butterflies* 5: [88] (127 pp.). London.

Tuxentius carana carana Hewitson, 1876. d'Abreu, 2009: 814.



Tuxentius carana carana. Male. Left – upperside; right – underside.
Camp Kombo, Cameroon. 7 May 2019. J. Dobson.
Images M.C.Williams ex Dobson Collection.

Type locality: Angola.

Distribution: Nigeria (Cross River loop), Cameroon, Gabon, Congo, Angola (north), Central African Republic, Democratic Republic of Congo.

Specific localities:

Cameroon – Korup (Larsen, 2005a).

Gabon – Nyonie (Vande weghe, 2010); Safala (Vande weghe, 2010); Bitam (Vande weghe, 2010);
Ipasa (Vande weghe, 2010).

Central African Republic – Dzanga (Noss, 1998).

Democratic Republic of Congo – Semuliki Valley (Ducarme, 2018); Mt Mitumba (Ducarme, 2018).

Tuxentius carana kontu (Karsch, 1893)

Western Forest Pie

Cupido kontu Karsch, 1893. *Berliner Entomologische Zeitschrift* **38**: 227 (1-266).

Tuxentius carana kontu Karsch, 1893. d'Abbrera, 2009: 814.

Type locality: Togo: “Bismarckburg”.

Distribution: Guinea, Sierra Leone, Liberia, Ivory Coast, Ghana, Togo, Benin (south, north), Nigeria (west).

Specific localities:

Guinea – Ziama (Safian *et al.*, 2020).

Liberia – Wologizi (Safian *et al.*, 2020).

Ghana – Bobiri Butterfly Sanctuary (Larsen *et al.*, 2007).

Togo – Bismarckburg (TL).

Benin – Houeyogbe Forest (Coache & Rainon, 2016); see Coache *et al.* (2017).

Tuxentius cretosus (Butler, 1876)

Savanna Pie

Castalius cretosus Butler, 1876. *Annals and Magazine of Natural History* (4) **18**: 485 (480-490).

Tuxentius cretosus Butler, 1876. d'Abbrera, 2009: 813.

Type locality: [Ethiopia]: “Atbara”.

Distribution: Senegal, Gambia, Burkina Faso, Ghana, Mali, Benin, Nigeria, Cameroon, Ethiopia, Somalia, Uganda, Kenya.

Habitat: In West Africa in dry (Sudan) savanna, but also in Guinea savanna (Larsen, 2005a).

Habits: The species is closely linked to its larval foodplant, which also serves as an important nectar source for the adults (Larsen, 2005a). Males are avid mud-puddlers (Larsen, 2005a). In windy weather individuals tend to stay within the crown of the thorny trees that are their larval foodplants, probably to avoid being blown away (Larsen, 1991c).

Early stages:

Jackson, 1937: 231 [as *Castalius cretosus*; Mount Elgon, Kenya; refers to subspecies *usemia*].

“The larva feeds on the underside of the leaves of the food-plant, eating only the outer cortex and never through the leaf. It is extremely hard to detect since the colour is exactly the same as that of the leaf, and it is always flattened against the surface. **Egg.** Minute, circular, and much flattened, with no central indentation. It is pale yellow, and is laid singly on the under surface of a leaf. **Larva.** Broad and flattened, so much so that a cross-section would show much the same thickness from side to side. The extremities are rounded and very similar; the margins are scalloped and fringed with long pale-yellowish hair. Colour pale green with a narrow white dorsal line slightly raised above the general level. The tubercles are placed half-way between the edges and this central line. They are short thick structures without a rosette, and are exerted vertically. The gland, between and just above them, appears as a darker line across the dorsal ridge. Length 15 mm; width 5 mm. **Pupa.** Placed on the underside of a leaf. It is dirty pinkish-brown with a few dark spots and streaks, and is slightly hairy. It is narrow, with thorax ridged, and with the usual waist between this and the abdominal segments. Length 10 mm.”

Larval food:

Zizyphus mauritiana Lam. (Rhamnaceae) [Jackson, 1937: 231; as *Zizyphus jujube*; Kenya].

Note: Larsen (2005a) states that more than one species may be subsumed under the name *cretosus*.

Tuxentius cretosus cretosus (Butler, 1876)

Savanna Pie

Castalius cretosus Butler, 1876. *Annals and Magazine of Natural History* (4) **18**: 485 (480-490).

Tuxentius cretosus cretosus Butler, 1876. d'Abreu, 2009: 813.

Type locality: [Ethiopia]: “Atbara”.

Distribution: Ethiopia, Kenya (coast).

Specific localities:

Ethiopia – Atbara (TL).

Tuxentius cretosus lactinatus (Butler, 1886)

Somalia Savanna Pie

Castalius lactinatus Butler, 1886. *Proceedings of the Zoological Society of London* **1885**: 764 (756-776).

Tuxentius cretosus lactinatus Butler, 1886. d'Abreu, 2009: 813.



Painting of the type from the original publication (Butler, 1886)

Type locality: Somalia: “Somali-Land”.

Distribution: Somalia.

Tuxentius cretosus nodieri (Oberthür, 1883)

Western Savanna Pie

Lycaena nodieri Oberthür, 1883. *Bulletin de la Société Entomologique de France* (6) **3**: 12 (11-13).

Tuxentius cretosus nodieri Oberthür, 1883. d’Abrera, 2009: 813.

Type locality: Senegal: “Les Khayes; Badoumbé”.

Distribution: Senegal, Gambia, Burkina Faso, Ghana (north), Mali, Benin (south, central), Nigeria (north), Cameroon (north), eastwards (eastern limits unknown).

Specific localities:

Senegal – Les Khayes (TL); Badoumbe (Oberthür, 1883).

Gambia – Fajara, Brufut, Tintinto, Kartong, Pirang, Abuko, Farasutu, Kotu, Bintang Bolong, Finto Minareg, Keneba, Janjanbureh Island, Walikunda, Basse (Jon Baker, pers. comm, May 2020).

Ghana – Mole National Park (Larsen, 2005a).

Benin – see Coache *et al.* (2017).

anomologramma Bethune-Baker, 1911 (as sp. of *Castalius*). *Annals and Magazine of Natural History* (8) 8: 506 (506-542). Senegal.

Tuxentius cretosus usemia (Neave, 1904)

Kenya Savanna Pie

Castalius usemia Neave, 1904. *Novitates Zoologicae* 11: 340 (323-363).

Tuxentius cretosus usemia Neave, 1904. d’Abrera, 2009: 813.

Type locality: [Kenya]: “Ugaia; Nyangori; Usemi”.

Distribution: Uganda, Kenya (north and west).

Specific localities:

Kenya – Ugaia (TL); Nyangori (Neave, 1904); Usemi (Neave, 1904); Mount Elgon (Jackson, 1937).

Tuxentius ertli (Aurivillius, 1906)

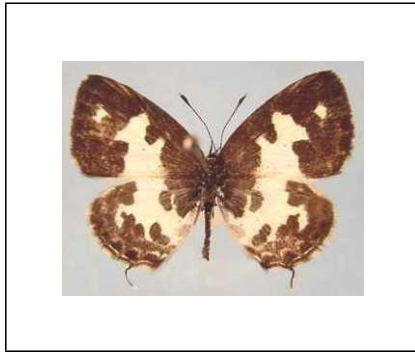
Mountain Pie

Cupido (Castalius) ertli Aurivillius, 1906. *Archiv für Zoologi* 3 (19): 3 (7 pp.).

Tuxentius ertli Aurivillius, 1907. d’Abrera, 2009: 813. [date of authorship erroneous]



Tuxentius ertli. Male. Left – upperside; right – underside.
Wingspan: 19mm. Luisenga N.R., nr. Mufindi, Tanzania. 04/iv/1995.
AJ & MW Gardiner. (Gardiner Collection).



Tuxentius ertli. Female. Left – upperside; right – underside.
Wingspan: 21mm. Luisenga N.R., nr. Mufindi, Tanzania. 05/iv/1995.
AJ & MW Gardiner. (Gardiner Collection).

Type locality: [Malawi]: “Kigonsera”; [Tanzania]: “West Usambara”. According to Colin Congdon (pers. comm. March, 2021) Kigonsera is in Tanzania, not Malawi.

Holotype in the Swedish Natural History Museum (images available at www2.nrm.se/en/lep_nrm/e).

Distribution: Tanzania, Malawi, Zambia, Mozambique (Congdon *et al.*, 2010).

Specific localities:

Tanzania – West Usambara (Aurivillius, 1906); Ulanga District (Kielland, 1990d); Usambara Mountains (Kielland, 1990d); Uzungwa Range (Kielland, 1990d); Kitesa Forest (Kielland, 1990d); Njombe Mountains (Kielland, 1990d); Luisenga Nature Reserve, near Mufindi (male and female illustrated above).

Malawi – Kigonsera (TL); Nyika N.P. (J. Timberlake, pers. comm., 2019).

Zambia – Makutu Mountains; Nyika (Heath, *et al.*, 2002).

Mozambique – Njesi Plateau (Congdon *et al.*, 2010); Mt Namuli (Congdon *et al.*, 2010).

Habitat: Woodland and forest at high elevations (Kielland, 1990d; Heath *et al.*, 2002). In Tanzania at altitudes between 1 000 and 2 200 m (Kielland, 1990d).

Habits: Males avidly mudpuddle (Kielland, 1990d).

Early stages: Nothing published.

Larval food:

Gouania longispicata Engl. (Rhamnaceae) [Heath *et al.*, 2002: 112].

Tuxentius gabrieli Bálint, 1999

Arabian Pie

Castalius melaena interruptus Gabriel, 1954. *British Museum (Natural History) expedition to south-west Arabia 1937-8* 1: 381 (351-391).

Tuxentius interruptus (Gabriel, 1954). Larsen, 1982d.

Tuxentius gabriel Kemal, 1999. [replacement name]

Tuxentius gabrieli Bálint, 1999. [replacement name for *Castalius melaena interruptus* Gabriel, 1954. See Bálint, 1999 (*Esperiana* 7: 307 (307-309))]

Tuxentius melaena interruptus Gabriel, 1954. d’Abrera, 2009: 814. [ignores Larsen, 1982d, Kemal, 1999 and Bálint, 1999]

Type locality: Yemen: “Jebel Jihaf”.

Distribution: Yemen, Saudi Arabia (south-west).

Specific localities:

Yemen – Jebel Jihaf (TL).

Early stages: Nothing published.

Larval food: Nothing published.

interruptus Gabriel, 1954 (as a ssp. of *Castalius melaena*). *British Museum (Natural History) expedition to south-west Arabia 1937-8* 1: 381 (351-391). Yemen: “Jebel Jihaf”. Invalid preoccupied name – see Kemal, 1999: 7-8.

gabriel Kemal, 1999 (replacement name for *Castalius melaena interruptus*, Gabriel, 1954). *Centre for*

***Tuxentius hesperis* (Vári, 1976)#**
Richtersveld Pie

Castalius hesperis Vári, 1976. *Annals of the Transvaal Museum* 30: 133 (121-144).

Castalius hesperis Vári, 1976. Dickson & Kroon, 1978.

Tuxentius hesperis (Vári, 1976). Pringle *et al.*, 1994: 237.

Tuxentius hesperis Vári, 1976. d'Abbrera, 2009: 814.



Tuxentius hesperis. Male (Wingspan 18 mm). Left – upperside; right – underside.
Vioolsdrift, Northern Cape Province, South Africa. 2 October 1994. J. Greyling.
Images M.C. Williams ex Greyling Collection.



Tuxentius hesperis. Female (Wingspan 20 mm). Left – upperside; right – underside.
Vioolsdrift, Northern Cape Province, South Africa. 2 October 1994. J. Greyling.
Images M.C. Williams ex Greyling Collection.

Alternative common names: Western Pierrot; Western Pied Blue.

Type locality: South Africa: “Vioolsdrif”.

Diagnosis: Differs from *Tuxentius melaena* mainly in the more extensive black markings on the upperside of the wings with the light markings correspondingly reduced and of a more regular appearance. On the underside the ground-colour is a light fawn colour, not white. The hindwing tail is shorter than that of *melaena* (Pringle *et al.*, 1994).

Distribution: South Africa (Northern Cape Province).

In South Africa its distribution covers 9 quarter degree squares (63 records) [see <http://vmus.adu.org.za>]. It is regarded as localized.

Specific localities:

Northern Cape Province – Vioolsdrif (TL); Groblershoop (I. Coetzer).

Habitat: Thick riverine bush (Pringle *et al.*, 1994).

Habits: Flies high up, but slowly, around large specimens of the trees *Ziziphus mucronata* and *Faidherbia albida* growing on the banks of the Gariep River. They settle, frequently, on the leaves or flowers of these trees (Pringle *et al.*, 1994).

Flight period: Most months of the year (Pringle *et al.*, 1994).

Early stages: Nothing published.

Larval food:

Ziziphus mucronata Willd. (Rhamnaceae) [Bampton, *in* Pringle *et al.*, 1994: 237].

***Tuxentius kaffana* (Talbot, 1935)**
Abyssinian Pie

Castalius ertli kaffana Talbot, 1935. *Entomologist's Monthly Magazine* **71**: 149 (69-78, 115-127, 147-153).
Tuxentius kaffana Talbot, 1935. d'Abreu, 2009: 813.

Type locality: [Ethiopia]: “Nado’s Province, Yeki, 4,950 feet; Mocha District, Gamadura, 6, 200 ft”.

Distribution: Ethiopia (south-west).

Specific localities:

Ethiopia – Yeki, Nado’s Province (TL); Gamadura, Mocha District (Talbot, 1935).

Early stages: Nothing published.

Larval food: Nothing published.

***Tuxentius margaritaceus* (Sharpe, 1892)**
River Pie

Castalius margaritaceus Sharpe, 1892. *Proceedings of the Zoological Society of London* **1891**: 636 (633-638).
Tuxentius margaritaceus Sharpe, 1892. d'Abreu, 2009: 814.



Tuxentius margaritaceus. Male. Left – upperside; right – underside.
Mabira Forest, Uganda. 15 June 2009. J. Dobson.
Images M.C. Williams ex Dobson Collection.

Alternative common name: Mountain Pied Pierrot.

Type locality: [Kenya]: “Sotik, Kavirondo”.

Distribution: Nigeria, Cameroon, Angola (highlands), Democratic Republic of Congo (Uele, Ituri, Kivu, Maniema, Sankuru), Sudan (south), Uganda, Rwanda, Burundi, Kenya (central, west), Tanzania (north and west).

Recorded, apparently in error, from Zambia by Kielland (1991d), Larsen (1991c; 2005a), and Ackery *et al.*, 1995 (Heath *et al.*, 2002).

Specific localities:

Nigeria – Obudu Plateau (Larsen, 2005a); Mambilla Plateau (R. Warren, *vide* Larsen, 2005a).

Democratic Republic of Congo – Ituri Forest (Ducarme, 2018); Semuliki Valley (Ducarme, 2018); Mt Mitumba (Ducarme, 2018); Mt Blue (Ducarme, 2018).

Uganda – Semuliki N.P. (Davenport & Howard, 1996).

Rwanda – Cyamudongo Forest (Uwizelimana *et al.*, 2021).

Kenya – Sotik, Kavirondo (TL); Cherangani Hills (Talbot, 1935); Nandi Escarpment (Larsen, 1991c); Kapsemoite in the Nandi Hills (Larsen, 1991c).

Tanzania – Northern Highlands (Kielland, 1990d); Kigoma (Kielland, 1990d); Mpanda (Kielland, 1990d); Ufipa (Kielland, 1990d).

Habitat: Sub-montane forest and moist savanna, especially along river courses, in mountainous regions, never below 1 300 m (in Kenya). It appears to fly at higher altitudes than other species of

Tuxentius, going as high as the crest of the Nandi Escarpment, in Kenya (Larsen, 1991c). In Tanzania at altitudes from 800 to 2 200 m (Kielland, 1990d).

Habits: Where they occur they tend to be common but may be a canopy dweller (Larsen, 2005a).

Males frequently mud-puddle and are also be attracted to horse manure (Larsen, 1991c).

Early stages: Nothing published.

Larval food:

Gouania longispicata Engl. (Rhamnaceae) (a forest creeper) [Van Someren, 1974: 329].

Note: The variable populations and disjunct distributions may indicate that a species complex is involved with respect to this taxon (Larsen, 2005a).

phasma Talbot, 1935 (as f. of *Castalius margaritaceus*). *Entomologist's Monthly Magazine* **71**: 148 (69-78, 115-127, 147-153). [Kenya]: "East Trans-Nzoia, 40 miles east of Elgon, Cherangani Hills, 6,200 ft".

Tuxentius melaena (Trimen, 1887)#

Black Pie



Black Pierrot (*Tuxentius melaena*). Left – male upperside. Right – male underside.
Images courtesy Herbert Otto (left) and Steve Woodhall (right).

Lycaena melaena Trimen, 1887. *South-African butterflies: a monograph of the extra-tropical species 2 Erycinidae and Lycaenidae*: 82 (242 pp.). London.

Castalius melaena Trimen. Swanepoel, 1953a.

Castalius melaena (Trimen, 1887). Dickson & Kroon, 1978.

Tuxentius melaena (Trimen, 1887). Larsen, 1982.

Tuxentius melaena (Trimen and Bowker, 1887). Pringle *et al.*, 1994: 237.

Tuxentius melaena Trimen, 1887. d'Abbrera, 2009: 813.



Tuxentius melaena melaena. Male (Wingspan 22 mm). Left – upperside; right – underside.
Utopia Resort, North West Province, South Africa. 24 July 2005. J. Dobson.
Images M.C. Williams ex Dobson Collection.



Tuxentius melaena melaena. Female (Wingspan 23 mm). Left – upperside; right – underside.
Lekgalameetse N.R., Limpopo, South Africa. 8 April 2006. M. Williams.
Images M.C.Williams ex Williams Collection.

Alternative common names: Black Pierrot; Black Pied Blue; Dark Pied Pierrot.

Type locality: [South Africa]: “Eastern Districts. – King William’s Town; Griqualand West. – Vaal River; Kaffraria Proper. – Bashee River; Coast Districts. – D’Urban. Pinetown; Upper Districts. – Intzutte River. Maritzburg. Estcourt; Zululand. – St. Lucia Bay”.

Original description:

“Exp. al., male 10.5-11.5 lin.; female 10 lin. – 1 in. White, with black margins and spots. Fore-wing: base and costa broadly and inner margin narrowly suffused with blackish; a large, elongate, black, transverse mark from inner margin near base; a spot closing cell; and several spots of an irregular row beyond middle, joining broad hind-marginal black, and isolating a quadrate white spot not far from apex. Hind-wing: a blackish suffusion at base, along costa (leaving part of its edge white), and along hind-margin; beyond middle, a much-curved row of quadrate black spots (usually more or less confluent with hind-marginal blackish), widely interrupted between second subcostal and discoidal nervules; several indistinct black spots at base; in hind-marginal blackish a row of indistinct black spots (of which the two next anal angle are sometimes faintly bluish-silvery-dotted), occasionally whitish-ringed, always followed by a thin white line, indistinct towards costa. Cilia of fore-wing blackish, with a white spot at posterior angle; of hind-wing whitish, more or less blackish at origin. Under side: white, with black striae and spots; pattern as in *Rosimon* and *Hintza*, but nearer *Rosimon*. Fore-wing: subcostal stripe ending abruptly in a spot on costa before end of cell; stria from inner margin more regular; stria closing cell straighter; spots of transverse row beyond middle confluent (the third forming an elongate projection towards hind-margin), – the sixth and seventh widely disjoined from the rest, and forming a stria in a line with, and almost touching, that closing cell; two submarginal rows of spots, – the inner linear a little below costa, but thence of large quadrate spots (the second touching fifth of row beyond middle), – the outer of rounded spots; a black edging line. Hind-wing: at base a spot (not a stripe), followed by a transverse row of four spots; other markings very much as in fore-wing, except row beyond middle, which is interrupted as on upper side; four to six spots of outer submarginal row marked with bluish-silvery. Tail of hind-wing long, black, white-tipped. The male and female of this species are alike, except that in the male the black is more intense, and also rather broader, so that the white discal spaces are more restricted. On the under side of fore-wing it sometimes happens that the projection from transverse row beyond middle joins the spot commencing inner submarginal row, so that a quadrate white spot is isolated on costa.”

Diagnosis: Can be differentiated from *Tuxentius calice* by the white discal markings on the forewing upperside. In *calice* the white markings reach the inner margin but not in *melaena*. *Tuxentius melaena* can also be distinguished from *Tuxentius calice* by the more widely separated central costal spots on the underside of the hindwing (Pringle *et al.*, 1994).

Distribution: Ethiopia, Uganda, Kenya, Tanzania, Democratic Republic of Congo, Malawi, Zambia, Angola (Aurivillius, 1928), Mozambique, Zimbabwe, Botswana, Namibia, South Africa, Swaziland.

Recorded, in error, from south-western Arabia by Kielland (1990d).

Habitat: Savanna and coastal bush (Pringle *et al.*, 1994). In Tanzania at altitudes between 800 and 1 800 m (Kielland, 1990d).

Habits: Usually found in the vicinity of their larval foodplants (trees belonging to the genus *Ziziphus*), frequently settling on the leaves or flowers (Pringle *et al.*, 1994). Both sexes are very fond of flowers and males are avid mud-puddlers.

Flight period: All year (Pringle *et al.*, 1994).

Early stages:

Taylor, 1953: 143 [as *Lycaena melaena*; Fort Beaufort, Eastern Cape].

Clark & Dickson, 1971: 73 [as *Castalius melaena melaena*; Umhlanga Rocks, KwaZulu-Natal].

“Egg. 0.6 mm diam. x 0.3 mm high. Generally laid singly but a young shoot may have many eggs on it.

The eggs are pure white with two reversed sets of ribs radiating, in involute curves, from the micropyle, starting with 16 each and duplicating towards the edge where the intersections are punctuated by much extended moles. These latter decrease in size down the sides. Eggs hatch after 10-12 days. The discarded shell is not eaten. **Larva.** 1st instar 0.9 mm, growing to 2 mm in 6 days; 2nd instar growing to 4.5 mm in 6 days; 3rd instar growing to 7 mm in 7 days; 4th instar growing to 12 mm in 10 days. The honey-gland and tubercles are present in the 3rd and 4th instars. The bristles on the final-instar tubercles number 36-40. They are very long and when half extended they form a fairly stiff brush. Fully extended, they appear as a very formidable weapon. Larvae feed on the surface of a leaf and finally leave a series of whitening skeletons. The lateral, extended, setae act as a shadow-breaker. Moulting takes place where the larvae are feeding. The colour does not vary much. The discarded skins are not eaten. There is a succession of broods. **Pupa.** 7-8 mm. Secured to the underside of a leaf or to a twig by the cremastral hooks and by a girdle. The imago emerges after some 13-20 days. **Parasites.** Larva attacked by a tachinid, the larva of which emerges either from the side of the now yellowed host-larva, or the pupa. Species so far identified: *Aplomyia laeiventris*.”



Egg, final instar larva and pupa of *Tuxentius melaena*. Images courtesy Allison Sharp.

Larval food:

Acacia species (Fabaceae) [Murray, 1935, cited by Taylor, 1953: 143]. Note: Larsen (1991c) regards records for *Acacia* species (Fabaceae) to be erroneous.

Ziziphus mucronata Willd. (Rhamnaceae) [Pringle *et al.*, 1994: 237; for subspecies *griqua*].

Ziziphus mucronata Willd. (Rhamnaceae) [Taylor, 1953: 143; for subspecies *melaena*].

Ziziphus zeyheriana Sond. (Rhamnaceae) [Joannou, *vide* Pringle *et al.*, 1994: 237].

Note: The relationship between *Tuxentius melaena*, *Tuxentius gabrieli* Bálint, 1999 and *Tuxentius stempfferi* (Kielland, 1976) is unclear and needs to be investigated (Larsen, 1991c).

Tuxentius melaena melaena (Trimen, 1887)#

Black Pie

Lycaena melaena Trimen, 1887. *South-African butterflies: a monograph of the extra-tropical species 2 Erycinidae and Lycaenidae*: 82 (242 pp.). London.

Castalius melaena Trimen. Swanepoel, 1953a.

Castalius melaena (Trimen, 1887). Dickson & Kroon, 1978.

Tuxentius melaena (Trimen, 1887). Larsen, 1982.

Tuxentius melaena melaena (Trimen and Bowker, 1887). Pringle *et al.*, 1994: 237.

Tuxentius melaena melaena Trimen, 1887. d’Abreera, 2009: 813.



Tuxentius melaena melaena. Male (Wingspan 22 mm). Left – upperside; right – underside.



Tuxentius melaena melaena. Female (Wingspan 23 mm). Left – upperside; right – underside.
Lekgalameetse N.R., Limpopo, South Africa. 8 April 2006. M. Williams.
Images M.C. Williams ex Williams Collection.

Type locality: [South Africa]: “Eastern Districts. – King William’s Town; Kaffraria Proper. – Bashee River; Coast Districts. – D’Urban. Pinetown; Upper Districts. – Intzutze River. Maritzburg. Estcourt; Zululand. – St. Lucia Bay”.

Distribution: Ethiopia, Uganda, Kenya (east), Tanzania (west), Democratic Republic of Congo (Lualaba, Shaba), Malawi, Zambia (widespread), Angola (Aurivillius, 1928), Mozambique, Zimbabwe, Botswana, Namibia (north), South Africa (Limpopo Province, Mpumalanga, North West Province, Gauteng, Free State Province, KwaZulu-Natal, Eastern Cape Province), Swaziland.

In South Africa its distribution covers 202 quarter degree squares (1069 records) [see <http://vmus.adu.org.za>]. It is regarded as very widespread.

Specific localities:

Kenya – Coast (Larsen, 1991c); Yatta Plateau (Larsen, 1991c); Teita Hills (Larsen, 1991c); Mount Nyiro (Larsen, 1991c).

Tanzania – Kigoma (Kielland, 1990d); Mpanda (Kielland, 1990d); Ufipa (Kielland, 1990d).

Malawi – Mt Mulanje (Congdon *et al.*, 2010); Mt Zomba (Congdon *et al.*, 2010).

Zambia – Ikelenge (Heath *et al.*, 2002); Solwezi (Heath *et al.*, 2002); Lusaka (Heath *et al.*, 2002); Kabwe (Heath *et al.*, 2002); Ndola (Heath *et al.*, 2002); Mufulira (Heath *et al.*, 2002).

Mozambique – Mt Mabu (Congdon *et al.*, 2010).

Botswana – Widespread (Larsen, 1991); Letlhakeng (Larsen, 1991); near Sehitwa (Larsen, 1991).

Limpopo Province – Throughout bushveld areas (Swanepoel, 1953); Doorndraai Dam Nature Reserve (Warren, 1990); Percy Fyfe Nature Reserve (Warren, 1990); Lekgalameetse Nature Reserve (“Malta Forest”); Highlands Wilderness (Bode & Bode, unpublished checklist); Soetdoring Farm [-24.561 28.233] (A. Mayer, pers comm. 2015); Bateleur Nature Reserve (Williams & Dobson, unpub., 2015).

Mpumalanga – Throughout bushveld areas (Swanepoel, 1953); Buffelskloof Nature Reserve (Williams).

North West Province – Throughout bushveld areas (Swanepoel, 1953); Kgaswane Mountain Reserve (Williams); Mountain Sanctuary Nature Reserve (Williams); Utopia Resort (C. Dobson, 2006); Borakalalo Nature Reserve (J. Dobson, unpublished, 2009).

Gauteng – Throughout bushveld areas (Swanepoel, 1953); Witwatersrand Botanical Gardens (J. Dobson, unpublished checklist, 2001).

Free State Province – Bloemfontein (Swanepoel, 1953).

KwaZulu-Natal – Durban (Trimen & Bowker, 1887); Port Shepstone (Swanepoel, 1953); Pinetown (Trimen & Bowker, 1887); Intzutze River (Trimen & Bowker, 1887); Pietermaritzburg (Trimen & Bowker, 1887); Estcourt (Trimen & Bowker, 1887); St Lucia Bay (Trimen & Bowker, 1887); Hluhluwe (Swanepoel, 1953); Eshowe (Swanepoel, 1953); Ladysmith (Swanepoel, 1953); Umhlanga Rocks (Clark & Dickson, 1971); Kosi Bay Nature Reserve (Pringle & Kyle, 2002); Tembe Nature Reserve (Pringle & Kyle, 2002); Ndumo Nature Reserve (Pringle & Kyle, 2002); Peace Cottage (male illustrated above).

Eastern Cape Province – King William’s Town (Trimen & Bowker, 1887); Bashee River (Trimen & Bowker, 1887); Fort Beaufort (Taylor, 1953); Somerset East (Swanepoel, 1953); East London (Swanepoel, 1953); Umtata (Swanepoel, 1953); Port St. Johns (Swanepoel, 1953).

Swaziland – Throughout bushveld areas (Swanepoel, 1953); Mlawula Nature Reserve (www.sntc.org.sz).

melas Aurivillius, 1924. *In*: Seitz, 1908-25 (as *Cupido melas* Trimen). *Die Gross-Schmetterlinge der Erde*, Stuttgart (2) **13** *Die Afrikanischen Tagfalter*: 467 (614 pp.). An incorrect subsequent spelling of *melaena* Trimen, 1887.

***Tuxentius melaena griqua* (Trimen, 1887)#**
Griqua Black Pie

Lycaena griqua Trimen, 1887. *South-African butterflies: a monograph of the extra-tropical species 2 Erycinidae and Lycaenidae* 84 (242 pp.). London.

Castalius griqua Trimen, 1887. Swanepoel, 1953a.

Castalius melaena griqua (Trimen, 1887). Vári, 1976.

Castalius melaena griqua (Trimen, 1887). Dickson & Kroon, 1978.

Tuxentius melaena griqua (Trimen and Bowker, 1887). Pringle *et al.*, 1994: 237.

Tuxentius melaena griqua Trimen, 1887. d’Abrera, 2009: 813.



Tuxentius melaena griqua. Male (Wingspan 20 mm). Left – upperside; right – underside.
Barkly West, Northern Cape Province, South Africa. 11 January 1997. J. Greyling.
Images M.C. Williams ex Greyling Collection.



Tuxentius melaena griqua. Female (Wingspan 21 mm). Left – upperside; right – underside.
Barkly West, Northern Cape Province, South Africa. 11 January 1997. J. Greyling.
Images M.C. Williams ex Greyling Collection.

Type locality: [South Africa]: “Griqualand West. – Vaal River”.

Original description:

“Exp. al., male 11 lin – 1 lin.; female 11.5 lin. Markings and pattern as in *L. Melaena*, Trim., but the basal and marginal black duller; broader, and more suffused, especially in female, and the white discal field proportionally diminished, and in female also obscured. Fore-wing: isolated subapical whitish spot always reduced in size and obscured, sometimes nearly obsolete, and in one male wanting altogether; the spots much narrower. Hind-wing: the spots much narrower and almost obliterated by the broad suffused blackish of the base and margins. Under side: very pale creamy-yellowish grey; all the markings arranged as in *Melaena*, but pale fuscous instead of black, and exceedingly attenuated, especially in hind-wing (where in female they are obsolete). Fore-wing: longitudinal basal stripe represented by a very thin short mark at base and (usually) a small spot on costa before middle. Hind-wing: only last two spots of hind-marginal row bluish-silvery-dusted, except in one male, which has three, and one female, which has four so ornamented.”

Distribution: South Africa (Northern Cape Province).

In South Africa its distribution covers 9 quarter degree squares (85 records) [see <http://vmus.adu.org.za>]. It is regarded as localized.

Specific localities:

Northern Cape Province – Vaal River, Griqualand West (TL); Banks of the Vaal River, from Warrenton to Barkly West (Pringle *et al.*, 1994); Witsand (Pringle *et al.*, 1994).

Tuxentius stempfferi (Kielland, 1976)

Tanzania Pie

Castalius stempfferi Kielland, 1976. *Entomologische Berichten, Amsterdam* **36**: 107 (105-112).

Tuxentius stempfferi Kielland, 1976. d'Abbrera, 2009: 814.

Type locality: Tanzania: “Kilosa District, Mikumi Nat. Park, Vuma Hills”.

Distribution: Tanzania.

Specific localities:

Tanzania – Mikumi National Park (TL); Kimboza Forest (Kielland, 1990d); Oldeani-Ngorongoro Range (Kielland, 1990d); Lolkisale Mountain (Kielland, 1990d).

Habitat: Heavy woodland and forest margins at altitudes from 300 to 1 900 m (Kielland, 1990d).

Early stages: Nothing published.

Larval food: Nothing published.