

Genus *Gomalia* Moore, 1879 Green-marbled Sandmen

Proceedings of the Zoological Society of London 1879: 144 (136-144).

Type-species: *Gomalia albofasciata* Moore, by monotypy [extralimital]. *G. albofasciata* is now *G. elma albofasciata*.

= *Tavetana* Picard, 1949. *Revue Française d'Entomologie* 16: 148 (147-152). Type-species: *Tavetana jeanneli* Picard, by original designation.

The genus *Gomalia* belongs to the Family HesperIIDae Latreille, 1809; Subfamily Pyrginae Burmeister, 1878; Tribe Carcharodini Verity, 1940. Other genera of the Tribe Carcharodini in the Afrotropical Region are *Carcharodus*, *Spialia*, *Agyllia* and *Ernsta*.

Gomalia (Green-marbled Sandmen) is a genus with three species, one of which is Afrotropical.

**Gomalia elma* (Trimen, 1862)# Green-marbled Sandman



A perched male of the Green-marbled Sandman (*Gomalia elma*) (left) and the underside of a female (right).
Images courtesy Raimund Schutte (left) and Allison Sharp (right).

Pyrgus elma Trimen, 1862. *Transactions of the Entomological Society of London* (3) 1: 288 (279-291).

Pyrgus elma Trimen. Trimen, 1866a.

Pyrgus elma Trimen, 1862. Trimen & Bowker, 1889.

Gomalia elma (Trimen, 1862). Evans, 1937.

Gomalia elma Trimen. Swanepoel, 1953a.

Gomalia elma (Trimen, 1862). Dickson & Kroon, 1978.

Gomalia elma elma (Trimen, 1862). Larsen, 1984.

Gomalia elma elma (Trimen, 1862). Ackery *et al.*, 1995.

Gomalia elma (Trimen, 1862). Pringle *et al.*, 1994: 320.

Gomalia elma elma (Trimen, 1862). Ackery *et al.*, 1995.

Gomalia elma (Trimen, 1862). Zhang *et al.*, 2020.



Gomalia elma. Male (Wingspan 29 mm). Left – upperside; right – underside.
Thabazimbi, Limpopo, South Africa. February 2021. J. Dobson.
Images M.C. Williams ex Dobson Collection.



Gomalia elma. Female (Wingspan 33 mm). Left – upperside; right – underside.
Nibela Peninsula, KwaZulu-Natal, South Africa. November 2010. M. Williams.
Images M.C. Williams ex Williams Collection.

Type locality: [South Africa]: “Mossel Bay, Knysna, Plettenberg Bay – King William’s Town – Cape of Good Hope”. Holotype in the Natural History Museum, London.

Distribution: Sub-Saharan Africa, including Senegal, Gambia, Burkina Faso, Sierra Leone, Guinea, Ivory Coast, Ghana, Togo, Benin (throughout), Nigeria, Democratic Republic of Congo, Uganda, Kenya, Tanzania, Malawi, Zambia, Angola, Mozambique, Zimbabwe, Botswana, Namibia, South Africa (Limpopo Province, Mpumalanga, North West Province, Gauteng, Free State Province, KwaZulu-Natal, Eastern Cape Province, Western Cape Province, Northern Cape Province), Swaziland, Lesotho, Saudi Arabia (south-west), Yemen, Oman.

Specific localities:

Senegal – Richard-Toll (Larsen, 2005a).

Gambia – Abuko, Bao Bolong, sanyang, Kotu, Janjanbureh Island, Walikunda, Basse, Kundam (Jon Baker, pers. comm., May 2020).

Guinea – Nimba (Larsen, 2005a).

Ghana – Accra (Larsen, 2005a); Cape Coast (Larsen, 2005a); Boabeng-Fiema Monkey Sanctuary (Larsen *et al.*, 2009).

Benin – Cotonou (Larsen, 2005a); Houeyogbe Forest (Coache & Rainon, 2016); see Coache *et al.*, 2017.

Nigeria – Lagos (Larsen, 2005a).

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

Kenya – Widespread (Cock, 2016); Chyulu Hills (Van Someren, 1939); Taveta (Picard, 1949); Lake Turkana area (Larsen, 1991c).

Tanzania – In most forests (Kielland, 1990d).

Malawi – Mount Mulanje (Congdon *et al.*, 2010).

Zambia – Solwezi (Heath *et al.*, 2002); Chililabombwe (Heath *et al.*, 2002); Mpongwe (Heath *et al.*, 2002); Luangwa Valley (Heath *et al.*, 2002).

Angola – Cabinda Province; Kuando-Kubango Province; Kwanza Norte Province; Namibe Province (Mendes *et al.*, 2013).

Mozambique – Maputo Special Reserve (Miles & Mulvaney, 2022).

Botswana – Widespread (Larsen, 19911); Nosop River, Kgalegadi Transfrontier Park (Larsen, 19911); Tsodilo Hills (Larsen, 19911).

Namibia – Mashari (Pringle *et al.*, 1994); Brandberg (Pringle *et al.*, 1994); north of Aus (Pringle *et al.*, 1994).

Limpopo Province – Throughout (Swanepoel, 1953); Lekgalameetse Nature Reserve (“Malta Forest”); Soetdoring Farm [-24.561 28.233] (A. Mayer, pers comm. 2015).

Mpumalanga – Throughout (Swanepoel, 1953).

North West Province – Throughout (Swanepoel, 1953); Kgaswane Mountain Reserve (Williams).

Gauteng – Throughout (Swanepoel, 1953); Walter Sisulu Botanical Garden (MCW; pers. obs., September, 2010).

Free State Province – Throughout (Swanepoel, 1953).

KwaZulu-Natal – Throughout (Swanepoel, 1953); Tembe Nature Reserve (Pringle & Kyle, 2002); Durban (male specimen illustrated above).

Eastern Cape Province – King William’s Town (Trimmen, 1862); Port Elizabeth (Swanepoel, 1953); Uitenhage (Swanepoel, 1953); Zuurburg (Swanepoel, 1953); Port Alfred (Swanepoel, 1953); Bashee River (Swanepoel, 1953); Queenstown (Swanepoel, 1953); Burgersdorp (Swanepoel, 1953); Graaff-Reinet (Pringle *et al.*, 1994).

Western Cape Province – Mossel Bay (Trimmen, 1862); Knysna (Trimmen, 1862); Plettenberg Bay (Trimmen, 1862); Robertson (Trimmen); Swellendam (Swanepoel, 1953); Bonnievale (Swanepoel, 1953); Calitzdorp (Swanepoel, 1953).

Northern Cape Province – De Aar (Swanepoel, 1953); Kimberley (Swanepoel, 1953); Onseepkans (Pringle *et al.*, 1994).

Swaziland – Mlawula N. R. (www.sntc.org.sz).

Habitat: Dry forest, and both moist and dry savanna. Small colonies tend to occur in association with stands of the host-plant (Larsen, 2005a). In Tanzania from near sea-level to 2 200 m (Kielland, 1990d).

Habits: Generally uncommon and local, but widespread (Pringle *et al.*, 1994; Larsen, 2005a). Flies rapidly and low down, frequently settling, with the wings held flat, on low-growing vegetation (Pringle *et al.*, 1994). It is often seen feeding from flowers, such as *Tridax* (Larsen, 1991c) or mud-puddling. Cock (2015) observed individuals feeding from fresh donkey dung in Kenya. When resting at night the wings are folded back and the abdomen is curved upwards and forwards over the thorax. This curious resting posture is well illustrated in Henning *et al.*, 1997. A similar resting posture is adopted by the European skipper *Erynnis tages* (Gooden, 1971, *Butterflies*: 107). Males establish territories in clearings and along paths in the bush. They often use several perching spots within the territory that they are defending.

Flight period: All year in warmer areas and from August to April in colder parts (Pringle *et al.*, 1994).

Early stages:

Mansell Weale, in Trimmen & Bowker, 1889: 294 [as *Pyrgus Elma* Trimmen].

“**Pupa.** Clothed with a minute pubescence; reddish-brown, with greenish-brown abdomen. Back of thorax slightly protuberant; two minute dark projections on base of wing-covers. Enveloped in leaf of *Abutilon Sonneratianum*, and attached by anal segment.” – J.P. Mansell Weale, *in epist.*, 1877.”

Bell, 1924 [ssp. *albofasciata*; in *Journal of the Bombay Natural History Society* **29** (1923), 921–946.]

Clark, in Dickson & Kroon, 1978: 240; plate 18 [as *Gomalia elma*; Port Elizabeth, Eastern Cape].

“**Egg:** 1.0 mm diameter by 0.7 mm high; laid singly on the surface of a leaf. It is pale yellow-brown when laid, changing to pale brown, and is deeply fluted by wavy ribs, about 18 in number, but only 7 or 8 of which reach the sunken micropyle. The ribs are filled with a pith-like substance, leaving a smooth unwrinkled interior. The discarded shell is not eaten by the larva, after emergence. Incubation period 12 to 14 days. **Larva:** 1st instar 1.75 growing to 2.75 mm in 8 days; 2nd instar 2.75 growing to 4.5 mm in 6 days; 3rd instar 4.5 growing to 7.25 mm in 5 days; 4th 7.25 growing to 11.5 mm in 5 days; 5th instar 11.5 growing to 22.25 mm in 8 days. The duration of the instars is variable. On hatching, the larva draws the sides of a young leaf together to form a ‘hide-out’, and feeds on the inner surface of the leaf. Later, it joins two leaves together. The entire larval and pupal periods are passed in shelters, the final one generally being low down, near or on the ground. **Pupa:** 9 to 9.5 mm; covered with a white powdery substance. Emergence takes place after 13 to 18 days. **Parasites:** There is parasitic attack in the early stages, by Braconids; and in the later stages, by Diptera. The species is multi-brooded. Recorded from eggs and larvae from Port Elizabeth.”

Benjamini, 1990. [ssp. *Levana*; in *Nota Lepidopterologica*, **12** (4), 238–245.]



Egg, final instar larva and pupa of *Gomalia elma*.
Images courtesy Allison Sharp.

Cock, 2016: 340 [egg, leaf shelters, larva; pupa; parasitoids]

Larval food:

Note: Mansell Weale noted that the larva pupated on *Abutilon* (its larval food) but was apparently unaware that this was, in fact, the larval food-plant. [Trimen & Bowker, 1889: 294].

Abutilon angulatum (Guill. & Perr.) Mast. (Malvaceae) [Van Someren, 1974: 325; as *holstii* auct.; for ssp. *elma*].

Abutilon angulatum (Guill. & Perr.) Mast. var. *angulatum* (Malvaceae) [Henning, Henning, Joannou & Woodhall, 1997: 117; as *Abutilon intermedium* Hochst. Ex Garcke; for ssp. *elma*].

Abutilon austro-africanum Hochr. (Malvaceae) [Otto *et al.*, 2013: 72; for ssp. *elma*].

Abutilon fruticosum Guill. & Perr. (Malvaceae) [Benyamini, 1990; for ssp. *levana*].

Abutilon grandiflorum G.Don. (Malvaceae) [Platt, 1921; as *Abutilon indicum* sensu Mast. non Sweet; for ssp. *elma*].

Abutilon grantii A.Meeuse (Malvaceae) [Platt, 1921; for ssp. *elma*].

Abutilon guineense (Schumach.) Baker f. & Exell (Malvaceae) [Van Someren, 1974: 325; as *guineense*; for ssp. *elma*].

Abutilon indicum (L.) Sweet (Malvaceae) [Bell, 1924; India; for ssp. *albofasciata*].

Abutilon longicuspe Hochst. ex A. Rich. (Malvaceae) [Cock, 2016; Kenya; for ssp. *elma*].

Abutilon mauritanum (Jacq.) Medik. (Malvaceae) [Sevastopulo, 1974; for ssp. *elma*].

Abutilon pannosum (G. Forst.) Schitdl. (Malvaceae) [Larsen & Larsen, 1980; Oman; for ssp. *elma*].

Abutilon sonneratianum (Cav.) Sweet (Malvaceae) [Platt, 1921; for ssp. *elma*].

Abutilon sp. (Malvaceae) [Le Pelley, 1959; Uganda; for ssp. *elma*].

Croton gratissimus Burch. var. *gratissimus* (Euphorbiaceae) [Vuattoux, 1999; Ivory Coast; as *Croton zambezicus*; seems improbable].

Sida cordifolia L. (Malvaceae) [Vuattoux, 1999; Ivory Coast; for ssp. *elma*].

Sida species (Malvaceae) [Mrs Barber, *in* Trimen & Bowker, 1889: 294; oviposition only; for ssp. *elma*].

Wissadula rostrata (Schumach.) Hook.f. (Malvaceae) [Vuattoux, 1999; as *Wissadula amplissima*; Ivory Coast; for ssp. *elma*].

jeanneli Picard, 1949 (as sp. of *Tavetana*). *Revue Française d'Entomologie* **16**: 149 (147-152). [Kenya]: "Taveta, Afrique Orientale Anglaise". This is a small, dark specimen of *Gomalia elma elma* (Evans, 1951).