

Genus *Pontia* Fabricius, 1807 Dappled Whites

In: Illiger, K., *Magazin für Insektenkunde* **6**: 283 (277-289).

Type-species: *Papilio daplidice* Linnaeus, by subsequent designation (Curtis, 1824. *British Entomology* **1**: pl. 48 ([ii] pp.). London.).

= *Mancipium* Hübner, 1807 *in* Hübner, [1806-19]. *Sammlung exotischer Schmetterlinge* **1**: pl. [141] ([vi] pp., 213 pls.). Augsburg. Type-species: *Papilio hellica* Linnaeus, 1767 [an unjustified emendation of *P. helice* Linnaeus, 1764], by monotypy.

= *Leucochloe* Röber, 1907 *in* Seitz, [1907-9]. *Die Gross-Schmetterlinge der Erde, Stuttgart* (1) **1** *Die Palaearktischen Tagfalter* 49 (379 pp.). Type-species: *Papilio daplidice* Linnaeus, by subsequent designation (Klots, 1933. *Entomologica Americana* (N.S.) **12**: 212 (139-242).).

The genus *Pontia* belongs to the Family Pieridae Swainson, 1820; Subfamily Pierinae Swainson, 1820; Tribe Pierini Swainson, 1820; Subtribe Pierina Swainson, 1820. There is one other genus in the Subtribe Pierina in the Afrotropical Region, namely *Pieris*.

Pontia (**Dappled Whites**) is an essentially Holarctic genus of 11 species, five of which are found in the Afrotropical Region. One of the Afrotropical species also has an extralimital distribution. Closely related to the genus *Pieris*, also essentially a Holarctic genus.

Pontia daplidice (Linnaeus, 1758) Bath Dappled White

Papilio daplidice Linnaeus, 1758. *Systema Naturae* **1**, Regnum Animale, 10th edition: 468 (824 pp.). Holmiae.



Belenois daplidice aethiops. Male. Left – upperside; right – underside.
20 km south of Debre Marcos, Ethiopia. June 1995. SCC. ABRI-2019-2916.
Images M. Williams ex ABRI Collection.



Belenois daplidice aethiops. Female. Left – upperside; right – underside.
Lake Langano, Ethiopia. October 1992. SCC. ABRI-2019-2917.
Images M. Williams ex ABRI Collection.

Alternative common name: Bath White.

Type locality: “Europa, Australi and Africa”. Sweden (Larsen, 1983b).

Distribution: Mauritania, Niger, Chad, Ethiopia, south-western Arabia, Cape Verde Islands.
Extraliminally in North Africa, Europe, Near East, Afghanistan, India, Far East.

Habitat: Mainly in agricultural areas (Larsen, 2005a).

Habits: Males fly fast and close to the ground (Larsen, 2005a). Both sexes are very fond of flowers (Larsen, 2005a). It is a strongly migratory species (Larsen, 2005a).

Early stages:

Sarlet, 1949-1957

Sharma, 2005 [*Pontia daplidice moorei*; India].

Larval food:

Caylusia hexagyna (Resedaceae) [Larsen, 1983b: 351; Yemen; oviposition only].

Reseda species (Resedaceae) [Larsen, 2005a].

Sinapis species (Brassicaceae) [Larsen, 2005a].

Relevant literature:

Naro & Sondhi, 2013 [Sightings of ssp. *moorei* in India].

Eitschberger, 2008 [Ultrastructure of antennae, wing scales and egg].

Pontia daplidice daplidice (Linnaeus, 1758)

Bath Dappled White

Papilio daplidice Linnaeus, 1758. *Systema Naturae* 1, Regnum Animale, 10th edition: 468 (824 pp.). Holmiae.

Type locality: “Europa, Australi and Africa”. Sweden (Larsen, 1983b).

Distribution: Mauritania, Niger (north), Chad (north), Cape Verde Islands.

Extraliminally in France, North Africa, south-western Europe, Near East, Afghanistan.

Specific localities:

Cape Verde Islands – Brava Island (Tennent & Russell, 2019); Fogo Island (Tennent & Russell, 2019);
Santiago Island (Tennent & Russell, 2019); Sao Nicolau Island (Tennent & Russell, 2019); Sao
Vicente Island (Tennent & Russell, 2019); Santo Antao Island (Tennent & Russell, 2019).

Pontia daplidice aethiops (de Joannis & Verity, 1913)

Abyssinian Bath Dappled White

Pieris daplidice aethiops de Joannis & Verity, 1913. *Bollettino della Società Entomologica Italiana* 44: 120 (115-122).



Belenois daplidice aethiops. Male. Left – upperside; right – underside.
20 km south of Debre Marcos, Ethiopia. June 1995. SCC. ABRI-2019-2916.
Images M. Williams ex ABRI Collection.



Belenois daplidice aethiops. Female. Left – upperside; right – underside.
Lake Langano, Ethiopia. October 1992. SCC. ABRI-2019-2917.
Images M. Williams ex ABRI Collection.

Type locality: [Ethiopia]: “Abyssinie”.

Distribution: Ethiopia (highlands), Arabia (south-west).
Extraliminally in the Near East, Afghanistan.

Note: Larsen (2005a) states that these populations might refer to *Pontia edusa* (Cramer, 1777), which has been shown, by electrophoresis, to be specifically distinct from *P. daplidice*.

Pontia distorta (Butler, 1886) Small Dappled White

Synchloe distorta Butler, 1886. *Proceedings of the Zoological Society of London* **1885**: 774 (756-776).



Belenois distorta. Male. Left – upperside; right – underside.
Shaba, 12 km north-east of Archer's Post, Kenya. May 1994. SCC. ABRI-2019-2914.
Images M. Williams ex ABRI Collection.



Belenois distorta. Male. Left – upperside; right – underside.
Shaba, 12 km north-east of Archer's Post, Kenya. May 1994. SCC. ABRI-2019-2915.
Images M. Williams ex ABRI Collection.



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

Type locality: Somalia: “more than eighty miles south of Berbera”.

Diagnosis: Can be distinguished from *P. helice*, on the forewing upperside, by the fact that the black bar at the end of the cell is connected to the submarginal spot in area 3 (Kielland, 1990d).

Distribution: Ethiopia, Somalia, Kenya (north), ?Tanzania (north-east).

Larsen (1991) doubts that *distorta* occurs in Tanzania, the confusion apparently arising because of specimens labelled “Namanga”. These specimens were most likely from Lake Baringo, Kenya, not Tanzania.

Specific localities:

Somalia – more than 80 miles south of Berbera (TL).

Kenya – Kulal area (Larsen, 1991c); Kerio Valley (Larsen, 1991c); Archer's Post (Samburu) (Larsen, 1991c); Athi River (Larsen, 1991c); Lake Baringo? (Larsen, 1991c).

Habitat: Sub-desert thorn-bush country.

Habits: Apparently nothing has been published.

Flight period: Very unpredictable; probably dependent on precipitation. According to Larsen (1991c) specimens may diapause for several years as pupae, eclose when conditions are suitable, and only be on the wing for a week or two.

Early stages: Nothing published.

Larval food: Nothing published.

***Pontia glauconome* (Klug, [1829])**

Desert Dappled White

Papilio glauconome Klug, [1829] *in* Klug, [1829-45]. *In*: Ehrenburg, C.G., *Symbolae Physicae, seu Icones et descriptiones Corporum Naturalium novarum aut minus cognitorum*, fol. H, 12, pl. 7, figs 18, 19 ([183] pp.).



Pontia glauconome glauconome. Male, wet season form. Left – upperside; right – underside.
Kuran Junction, Dead Sea, Israel. June 2018. SCC. ABRI-2019-2736.
Images M.C.Williams ex ABRI Collection.



Pontia glauconome glauconome. Male, dry season form. Left – upperside; right – underside.
Zouerate, Mauritania. March 1969. JC Martin. ABRI-2019-2735.
Images M.C.Williams ex ABRI Collection.



Pontia glauconome glauconome. Female. Left – upperside; right – underside.
Wadi Rima, Tihama, Yemen. October 1992. SCC. ABRI-2019-2737.
Images M.C.Williams ex ABRI Collection.

Type locality: [Egypt]: “in Arabia deserta, in monte Sinai”.

Distribution: Mauritania, Senegal, Gambia, Niger, Chad, Sudan, Ethiopia, Somalia, Uganda (Davenport, 1996), Kenya, Arabia (including the island of Socotra), Cape Verde Islands (Tennent & Russell, 2019).
Extraliminally in Egypt, the Middle East, Pakistan, Afghanistan and the southern USSR.

Habitat: Sub-desert.

Habits: The flight is very fast and just above ground level (Larsen, 1991c).

Flight period: Flies for a short time following rain, which induces growth of the foodplants (Larsen, 1991c).

Early stages:

Larsen, 1991c; 2005a.

The egg and larval stages are completed in a very short time (just over a week) and the pupa may diapause for several years (perhaps as many as six). The pupal exoskeleton is specially adapted to minimize evaporation. These are adaptations to the very dry climate of its habitat.

Larval food:

Caylusia species (Resedaceae) [Larsen, 1991c: 142].

Cleome species (Cleomaceae) [Larsen, 2005a].

Dipteryx species (Brassicaceae) [Larsen, 2005a].

Dipterygium species (Capparaceae) [Larsen, 1991c: 142].

Epicastrum arabicum Fischer & Meyer (Brassicaceae) [Van Someren, 1974: 317].

Erucastrum species (Brassicaceae) [Larsen, 2005a].

Moracandia species (Brassicaceae) [Larsen, 2005a].

Ochradenus species (Resedaceae) [Larsen, 2005a].

Zilla spinosa (Brassicaceae) [Larsen, 1991c: 142].

Pontia glauconome glauconome (Klug, [1829])

Desert Dappled White

Papilio glauconome Klug, [1829] *in* Klug, [1829-45]. *In*: Ehrenburg, C.G., *Symbolae Physicae, seu Icones et descriptiones Corporum Naturalium novarum aut minus cognitorum*, fol. H, 12, pl. 7, figs 18, 19 ([183] pp.).



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Type locality: [Egypt]: “in Arabia deserta, in monte Sinai”.

Distribution: Mauritania, Senegal, Gambia, Niger, Chad, Sudan, Ethiopia, Somalia, Uganda (Davenport, 1996), Kenya, Arabia (including the island of Socotra), Cape Verde Islands (Tennent & Russell, 2019).
Extraliminally in Egypt, the Middle East, Afghanistan and the southern USSR.

Specific localities:

Cape Verde Islands – Fogo Island (Tennent & Russell, 2019); Maio Island (Tennent & Russell, 2019);
Boa Vista Island (Tennent & Russell, 2019); Sal Island (Tennent & Russell, 2019).

Senegal – St. Louis (Larsen, 2005a).

Gambia – Basse (Jon Baker, pers. comm, May 2020).

Niger – Zinder (Bernardi, 1963).

Kenya – Kulal (Larsen, 1991c); Kerio Valley (Larsen, 1991c); near Kitale (Larsen, 1991c); Shimba Hills (Larsen, 1991c); Nairobi district (Larsen, 1991c).

***Pontia helice* (Linnaeus, 1764)#**
Southern Meadow White



Southern Meadow White (*Pontia helice*). Left – male upperside. Right – female underside.
Images courtesy Steve Woodhall (left) and Raimund Schutte (right).

Papilio helice Linnaeus, 1764. *Museum Ludovicae Ultricae Reginae* 243 (720 pp.). Holmiae.

Pieris hellica Linnaeus. Trimen, 1862c. [Misspelling]

Pieris hellica (Linnaeus, 1764). Trimen & Bowker, 1889. [Misspelling]

Pontia helice Linnaeus. Swanepoel, 1953a.

Pieris helice (Linnaeus, 1764). Dickson & Kroon, 1978.

Pontia (*Pontia*) *helice* (Linnaeus, 1764). Pringle *et al.*, 1994: 298.



Pontia helice helice. Male (Wingspan 37 mm). Left – upperside; right – underside.
Golden Gate Highlands National Park, Free State Province, South Africa. 10-12 April, 2001. M. Williams.
Images M.C.Williams ex Williams Collection.



Pontia helice helice. Female (Wingspan 41 mm). Left – upperside; right – underside.
Balfour, Mpumalanga, South Africa. 22 January 2011. M. Williams.
Images M.C.Williams ex Williams Collection.

Alternative common name: Meadow White.

Type locality: [South Africa]: “Tulbagh”. [Lectotype designated by Honey & Scoble, 2001: 330.]

Distribution: Uganda, Kenya, Tanzania, Rwanda, Burundi, Democratic Republic of Congo, Angola, Mozambique, Zimbabwe, Botswana, Namibia, South Africa, Swaziland, Lesotho.

Habitat: The nominate subspecies occurs in a variety of open habitats in southern Africa but preferentially in grassland. Absent from forest. In Kenya ssp. *johnstoni* is found in highland grassland, not generally at altitudes below 1 800 m (Larsen, 1991c). In Tanzania ssp. *johnstoni* occurs at altitudes from 1 500 to 2 200 m (Kielland, 1990d).

Habits: The flight is slow, fluttering, and just above ground-level. Both sexes are fond of flowers. Males show hilltopping behaviour (Pringle *et al.*, 1994). Large migrations have been noted in southern Africa and migrations are also recorded from Kenya (Larsen, 1991c).

Flight period: All year but more plentiful during the warmer months (Pringle *et al.*, 1994).

Early stages:

Trimen & Bowker, 1889: 74 [as *Pieris Hellica* (Linnaeus)].

“**Larva.** Light-green, darker on inferior surface. A median dorsal violaceous stripe; and on each side a broader, less defined, deeper-greenish stripe mixed with violaceous, succeeded by a conspicuous pale-yellowish spiracular band. On each segment numerous black dots arranged in four transverse lines on back and sides (other scattered black dots on lower part of sides), and also four orange spots, situated anteriorly, two of which immediately precede the spiracles. Head black-dotted; spiracles conspicuously black. A few short hairs about body generally, numerous short hairs on head.” “**Pupa.** Above yellow, sprinkled with black dots, beneath pale-green. A median dorsal pale-violet stripe; narrow thoracic ridge marked with a red line. The first pupa I observed (found on 10th December) changed in colouring, four days afterwards, to light violet-grey, with a pale-yellow stripe along each side of the abdomen; the imago did not appear before the 20th December. The second pupa I reared retained its yellow and green colours throughout from the 24th April to the 8th May, when the imago emerged. One pupa was attached to the wall of a house, the other to a grass stem.”

Clark, in Van Son, 1949: 211.

Egg 1 mm high and 0,5 mm in diameter; pale yellow changing to light orange, becoming dark grey before eclosion; 12 or 13 longitudinal ribs connected by 30-35 transverse ridges; laid singly on developing pods of foodplant; egg stage 5-9 days. Five larval instars lasting about 16 days. First instar larva pale yellow with

brownish setiferous tubercles; head black; main setae forked at tip and exuding a liquid. From 2nd to 4th instars yellow in colour with greyish blue dorsal and lateral stripes and a bluish grey underside; head yellow or greenish; setiferous tubercles black. Final instar with orange subdorsal and spiracular spots in the anterior parts of the segments; underside greenish. Pupa light greenish grey with yellow longitudinal stripes and reddish thoracic keel; cephalic projection flattened dorsally, with black edging and a fairly acute tip; pupal stage 4 days to 2 weeks, depending on environmental conditions.

Clark, in Pringle *et al.*, 1994: plate 26, p.390.

“The eggs are laid singly on young shoots or on the leaves of the foodplant. They are 0,5 mm in diameter and 0,9 mm high and a very pale yellow, becoming dull orange. There are 12 longitudinal ribs and about 30 cross ribs are apparent. The larva emerges from the side of the egg and eats the discarded shell. The egg stage lasts from five to nine days. There are five larval instars lasting about 16 days. The pupae are somewhat variable being pale purple and yellow, grey and yellow, or brownish grey and yellow. This stage lasts from four days to two weeks.”

Henning, Henning, Joannou, & Woodhall, 1997: 252 (photograph of an egg) & 343 (photograph of final instar larva and pupa).



Early stages of *Pontia helice*. Left – egg. Centre – final instar larva. Right – pupa.
Images courtesy Steve Woodhall.

Larval food:

- Alyssum minutum* Schltld. ex DC. (Brassicaceae) (exotic) [Dickson & Kroon, 1978].
- Alyssum* species (Brassicaceae) [Dickson, 1944: 97].
- Caylusia abyssinica* (Fresen.) Fisch. & C.A.Mey. (Resedaceae) [Van Someren, 1974: 317].
- Crucifera* species (Brassicaceae) [Van Someren, 1974: 317].
- Epicastrum* [sic] *arabicum* Fischer & Meyer (Brassicaceae) [Van Someren, 1974: 317].
- Heliophila linearis* (Thunb.) DC. (Brassicaceae) [Dickson & Kroon, 1978].
- Lepidium africanum* (Burm.f.) DC. (Brassicaceae) [Dickson, 1944: 97].
- Lepidium bonariense* L. [naturalized – introduced] (Brassicaceae) [Larsen, 1991; Tlokweg, Botswana].
- Lepidium capense* Thunb. (Brassicaceae) [Dickson & Kroon, 1978].
- Lepidium sativum* L. (Brassicaceae) [M.E. Barber, *in* Trimen & Bowker, 1889: 74 (Grahamstown, South Africa)].
- Lobularia maritima* (L.) Desv. (Brassicaceae) [Claassens, 1995: 86; Cape Town, Western Province; as *L. maritima*].
- Matthiola* species (Brassicaceae) [Dickson, 1947: 128].
- Raphanus raphanistrum* L. (Brassicaceae) [Dickson, 1947: 128].
- Rapistrum rugosum* (L.) All. (Brassicaceae) [Williams, 1994: 43; Claassens, 1995: 86; Cape Town, Western Province]. (Met. 6(2): 86)
- Reseda lutea* L. (Resedaceae) [Williams, 1994: 43].
- Reseda odorata* L. (Resedaceae) (exotic) [Dickson & Kroon, 1978].
- Reseda pruniosa* Delile (Resedaceae) [Kielland, 1990d: 63].
- Sinapis* species (Brassicaceae) [Larsen, 1991c: 142].
- Sisymbrium capense* Thunb. (Brassicaceae) [M.E. Barber, *in* Trimen & Bowker, 1889: 74 (Grahamstown, South Africa)].
- Sisymbrium lyratum* Burm.f. (Brassicaceae) (Probably) [M.E. Barber, *in* Trimen & Bowker, 1889: 74 (Grahamstown, South Africa)].
- Sisymbrium officinale* (L.) Scop. (Brassicaceae) [Henning, Henning, Joannou, & Woodhall, 1997: 342].

***Pontia johnstonii* (Crowley, 1887)**

Northern Meadow White

Synchloe johnstonii Crowley, 1887. *Transactions of the Entomological Society of London* **1887**: 35 (35).

Pontia helice johnstonii (Crowley, 1887). **stat. nov.**

Pontia johnstonii (Crowley, 1887), **stat. rest.** Grishin, 2023b.



Pontia johnstonii. Male. Left – upperside; right – underside.
Quartier Lumumba, Ituri, Democratic Republic of Congo. 1 33 N, 30 15 E. 19 January 2014. T. Desloges.

Images courtesy T. Desloges.



Pontia johnstonii. Male. Left – upperside; right – underside.
Quartier Lumumba, Ituri, Democratic Republic of Congo. 1 33 N, 30 15 E. 20 May 2014. T. Desloges.
Images courtesy T. Desloges.

Type locality: [Tanzania]: “Kilimanjaro”.

Diagnosis: Distinguished from the nominate subspecies, on the hindwing underside, by the double black lines along the distal parts of the veins (Kielland, 1990d).

Distribution: Uganda, Kenya, Tanzania, Rwanda, Burundi, Democratic Republic of Congo (east – Kivu, Ituri).

Specific localities:

Kenya – Teita Hills (Larsen, 1991c); Ol Jogi Ranch, near Nanyuki (M Williams).

Tanzania – Kilimanjaro (TL); Mufindi (Kielland, 1990d); West Usamabara (Kielland, 1990d); Northern Highlands (Kielland, 1990d).

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