

Genus *Lampides* Hübner, [1819] Pea Blue

In: Hübner, [1816-1826]. *Verzeichniss bekannter Schmettlinge*: 70 (432 + 72 pp.). Augsburg.
Type-species: *Papilio boeticus* Linnaeus, by subsequent designation (Grote, 1873. *Bulletin of the Buffalo Society of Natural Sciences* **1**: 179 (178-179).).

= *Cosmolyce* Toxopeus, 1927. *Tijdschrift voor Entomologie* **70**: 268 (nota) (232-302).
Type-species: *Papilio boeticus* Linnaeus, by monotypy.

= *Lampidella* Hemming, 1933. *Entomologist* **66**: 224 (222-225). Type-species: *Papilio boeticus* Linnaeus, by original designation. Mistakenly proposed as a replacement name for *Lampides* Hübner, *see* Hemming, 1967 (*Bulletin of the British Museum (Natural History)* (Entomology) Suppl. **9**: 244 (509 pp.)).

The genus *Lampides* belongs to the Family Lycaenidae Leach, 1815; Subfamily Polyommatainae Swainson, 1827; Tribe Polyommataini Swainson, 1827; Subtribe Lampidina. The only other genus in the Subtribe Lampidina in the Afrotropical Region is *Cacyreus*.

Lampides (**Pea Blue**) is a genus containing one species which also occurs in the Palearctic and Oriental-Australian Regions.

Lampides boeticus (Linnaeus, 1767)# Pea Blue



Pea Blue (*Lampides boeticus*) male (left), female (centre) and mating pair (right).
Images courtesy Jeremy Dobson (left), Raimund Schutte (centre) and Peter Webb (right)

Papilio boeticus Linnaeus, 1767. *Systema Naturae* **1** (2), 12th edition: 789 (533-1328 pp.). Holmiae.
Lycaena baetica Linnaeus. Trimen, 1866a. [Misspelling of species name?]
Lycaena baetica (Linnaeus, 1767). Trimen & Bowker, 1887b. [Misspelling of species name?]
Lampides boeticus Linnaeus. Swanepoel, 1953a.
Lampides boeticus (Linnaeus, 1767). Dickson & Kroon, 1978.
Lampides boeticus (Linnaeus, 1767). Pringle *et al.*, 1994: 238.

Lampides boeticus Linnaeus, 1767. d'Abrera, 2009: 804.



Lampides boeticus. Male (Wingspan 30 mm). Left – upperside; right – underside.
Sterkspruit Nature Reserve, Mpumalanga, South Africa. 10 November 2002. M. Williams.
Images M.C.Williams ex Williams Collection.



Lampides boeticus. Female (Wingspan 31 mm). Left – upperside; right – underside.
Golden Gate Highlands National Park, Free State Province, South Africa. 9-14 January, 2001. M. Williams.
Images M.C.Williams ex Williams Collection.

Alternative common names: Lucerne Blue; Long-tailed Blue (Britain).

Type locality: [Algeria]: “*Habitat in Barbaria*”. Lectotype designated by Honey & Scoble, 2001: 304.

Distribution: Sub-Saharan Africa, including Senegal, Gambia, Guinea-Bissau (Aurivillius, 1910), Guinea, Mali, Sierra Leone, Liberia, Ivory Coast, Burkina Faso, Ghana, Togo, Benin (throughout), Nigeria, Cameroon, Gabon, Democratic Republic of Congo, Uganda, Kenya, Tanzania, Malawi, Zambia (widespread), 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. Also in Arabia, Madagascar, Mauritius, Reunion, Rodrigues, Seychelles, Cape Verde Islands (Tennent & Russell, 2019).

Extralimital in North Africa, the Middle East, Arabia, the Oriental and Australian Regions, southern Europe, Germany, Hawaii.

Specific localities:

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

Gambia – Fajara, Tanji, Tujering, Abuko, Bijilo, Marakissa, Tintinto, Janjanbureh Island, Basse (Jon Baker, pers. comm, May 2020).

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

Ghana – Ankasa National Park (Larsen, 2005a); Nakpanduri (Larsen, 2005a); Boabeng-Fiema Monkey Sanctuary (Larsen *et al.*, 2009).

Benin – Lokoli (Tchibozo *et al.*, 2008); Houeyogbe Forest (Coache & Rainon, 2016); see Coache *et al.* (2017).

Nigeria – Calabar (Larsen, 2005a); Jos (Larsen, 2005a); Obudu Plateau (Larsen, 2005a).
Gabon – Lambarene (Vande weghe, 2010).
Democratic Republic of Congo – Ituri Forest (Ducarme, 2018); Semuliki Valley (Ducarme, 2018); Mt Mitumba (Ducarme, 2018); Mt Blue (Ducarme, 2018).
Kenya – Throughout (Larsen, 1991c); Mount Elgon (Jackson, 1937).
Tanzania – Throughout (Kielland, 1990d); Katavi National Park (Fitzherbert *et al.*, 2006).
Malawi – Mt Mulanje (Congdon *et al.*, 2010); Mt Zomba (Congdon *et al.*, 2010); Nyika N.P. (J. Timberlake, pers. comm., 2019).
Angola – Estacao Zootechnica, Huila (Willis, 2009); Iona N.P., Namibe (Willis, 2009).
Mozambique – Mt Inago (Congdon *et al.*, 2010); Mt Namuli (Congdon *et al.*, 2010); Mt Mecula [-12.0772 37.6297] (Congdon & Bayliss, 2013); Mt Yao [-12.4432 36.5114] (Congdon & Bayliss, 2013).
Botswana – Widespread (Larsen, 1991); Mpandama-Tenga (Larsen, 1991).
Limpopo Province – 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); Buzzard Mountain Retreat [-23.012 29.765] (Williams, unpub., 2015).
Mpumalanga – Verloren Vallei Nature Reserve (Warren, 1990); Sterkspruit Nature Reserve (Williams); Buffelskloof Nature Reserve (Williams).
North West Province – Kgaswane Mountain Reserve (Williams); Mountain Sanctuary Nature Reserve (Williams); Utopia Resort (C. Dobson, 2006); Borakalalo Nature Reserve (J. Dobson, unpublished, 2009).
Gauteng – Witwatersrand Botanical Gardens (J. Dobson, unpublished checklist, 2001); Pretoria (male illustrated above).
Free State Province – Golden Gate National Park (female illustrated above); Platberg, Harrismith (Dobson, Williams & Schutte, unpublished, 2010); Cyferfontein [-30.3736 25.8131] (R. Griesel, unpublished).
KwaZulu-Natal – Kosi Bay Nature Reserve (Pringle & Kyle, 2002); Tembe Nature Reserve (Pringle & Kyle, 2002); Ndumo Nature Reserve (Pringle & Kyle, 2002).
Eastern Cape Province – Port Elizabeth (Clark & Dickson, 1971).
Western Cape Province – Blaauwberg (Claassens & Dickson, 1980).
Northern Cape Province – Kagaligadi Transfrontier Park (van Son, 1959).
Swaziland – Mlawula Nature Reserve (www.sntc.org.sz); Malolotja Nature Reserve (www.sntc.org.sz).
Mauritius – Trimen (1866) noted that it was scarce but it has since become widespread and common because of the cultivation of legumes such as peas (Davis & Barnes, 1991). Grand Gaube (Lawrence, 2016); Ramgoolam Botanical Gardens (Lawrence, 2016); Le Morne (Lawrence, 2016); Chameral (Lawrence, 2016).
Seychelles – Mahe (Lawrence, 2014); St. Anne (Lawrence, 2014); Silhouette (Lawrence, 2014); Praslin (Lawrence, 2014); La Digue (Lawrence, 2014); Cousine (Lawrence, 2014); Cosin (Lawrence, 2014); Aride; (Lawrence, 2014); Curieuse (Lawrence, 2014); Cosmoledo (Lawrence, 2014). Common in the Seychelles (Lawrence, 2014).

Habitat: A variety of habitats, from sub-desert to open forest. Commonly found in gardens (Pringle *et al.*, 1994).

Habits: A very common butterfly. Has great powers of dispersal but does not do so in mass migrations. The flight is fast and usually about one metre above the ground. Flowers are visited by both sexes and males mud-puddle. Although they are found on hilltops they do not appear to defend defined territories from a specific perch. The larvae are sometimes a pest on cultivated legumes such as peas and beans.

Flight period: All year but scarce to absent in winter in colder regions (Pringle *et al.*, 1994).

Early stages:

Godart, 1819: 653 [Europe; *Enc. Meth.*, ix. p. 653].

Trimen, 1866: 342 [*Rhopalocera Africae Australis*, ii].

Wollaston, 1879: 224 [St. Helena and Madeira; *Ann. and Mag. Nat. Hist.*, 5th Series, vol. iii].

Blackburn, in Butler, 1882: 31 [Hawaii; *Trans. Ent. Soc. Lond.*].

The larva is: "Obscure olive-green, pretty thickly sprinkled with short hairs (much the appearance of a bristly surface badly shaved); dorsal and subdorsal lines and the region included obscurely rosy; head testaceous, bearing a black V-shaped mark; which points backwards; the rosy markings vary in intensity, as also the ground colour; legs of the ground colour; spiracles white. Onisciform."

Trimen & Bowker, 1887, Vol. 2: 58 [as *Lycaena Boetica*].

"**Larva.** Bright-green; paler on the undersurface. A dark-green dorsal line; beneath it, on each side, and indistinct line interrupted on each segment, followed by a row of short, oblique, indistinct streaks of the same dark-green, and a pale-green line just above the legs. Head small, shining, reddish-brown. Two-thirds of an inch in length." "**Pupa.** Very pale greyish-ochreous, dusted unequally with blackish; the wing-covers more greenish in tint. A fuscous line down the back; some blackish spots on head and back; two rows of blackish spots on each side of back of abdomen. About half an inch in length; thickest and roundest in abdominal region; head blunt. The pupal state lasts from ten to twelve days in the summer."

"Godart (1819) describes the larva in Europe as variegated with red on the back...I have not seen any examples so marked at the Cape."

Jackson, 1937: 234 [as *Cosmolyce baeticus*; Mount Elgon, Kenya].

"The larva feeds on the flowers and seed pods of the food-plants. **Egg.** Circular, greyish-white, and about 0.5 mm in diameter. The top is flattened, and there is a minute dark central spot, but no other ornamentation is visible through an ordinary hand lens. It is laid singly among the flowers. **Larva.** In the early stages the larva is dirty greyish-green ornamented with a dark grey dorsal line and a series of dark grey wavy diagonal stripes along the sides. Later it becomes lighter in colour, until in the final stage it is entirely light dull green with only a hint of the original markings. It is slightly hairy. In shape, typical of many allied species, with evenly rounded dorsum and distinct segments and no prominences of any kind. Like its allies, also, it has a habit of humping itself dorsally when disturbed, in the manner of a wood-lice about to curl up. Both tubercles and gland are present; the former, placed rather near the anal extremity and towards the margins, are very minute whitish structures. They are exerted vertically and are very short, with small terminal rosettes. The gland has a large narrow oval surface, centrally above the tubercles and visible to the naked eye. No ants were in attendance, but this is probably a coincidence, since they are common on this group of plants. Length 18-20 mm. **Pupa.** Placed horizontally along a leaf, among debris at the foot of the plant, or sometimes in a seed pod. It is light brown with a few black spots and streaks, the abdominal segments being lighter and having double rows of dorsal spots and a fine dorsal line. The abdominal segments are broad and bluntly rounded at the extremity, the thorax ridged dorsally and the head-case prominent; between the abdominal segments and the thorax is a slightly depressed area. Length 11-12 mm. **Parasites.** The hymenopteran *Neotypus intermedius* Mocs. (Ichneumonidae), as well as a tachinid were bred."

Clark & Dickson, 1952: 33.

Clark & Dickson, 1971: 49 [as *Lampides boeticus*; Port Elizabeth, Eastern Cape].

"**Egg.** 0.5 mm diam. x 0.3 mm high. Pale blue-green with white ribbing formed by reversed sets, with 16 ribs in each, radiating from the micropyle in involute curves. Down the sides these are crossed by 16 vertical ribs; the intersections are punctuated by white moles. Eggs are laid singly on buds and hatch after 7 days. **Larva** (with 5 instars). 1st instar 1 mm, growing to 2 mm in 4 days; 2nd instar growing to 3.5 mm in 4 days; 3rd instar growing to 7 mm in 4 days; 4th instar growing to 11 mm in 4 days; 5th instar growing to 18-19 mm in 10 days. **Larva** (with 6 instars). 1st instar 1 mm, growing to 2 mm in 4 days; 2nd instar growing to 3 mm in 5 days; 3rd instar growing to 5.5 mm in 5 days; 4th instar growing to 8 mm in 5 days; 5th instar growing to 11 mm in 5 days; 6th instar growing to 18-19 in 8 days. The honey-gland and tubercles are present in the 3rd and subsequent instars. The final-instar tubercles have 19 finely barbed spines. There is a big colour variation, especially in the final instar, in which larvae may be plain pea-green, very pale yellow-green, with pale pinkish markings, pale dirty white with dull pink markings or whitish, almost obliterated by enlarged dull brown markings. Larvae burrow into buds or pods and feed on the seeds. They pupate near where they are feeding but generally crawl out of the pods to pupate. In gardens, the species has been found to breed prolifically on trees of *Virgilia capensis* Lam. ('Keurboom') and the introduced *Sesbania* sp. with orange-red flowers. Very many eggs have been observed on the flower-buds and, especially in the case of the former tree, large numbers of larvae, sometimes several together, have been found on parts of the trunk when crawling down to pupate. **Pupa.** 10.5-13 mm. Secured by a girdle to a twig or leaf on which has been smeared an adhesive. The cremastral hooks are undeveloped. Emergence takes place after 10-24 days. **Parasites.** Egg parasitized by very small chalcids. Larva killed by Diptera, such as those of the tachinid genera *Strumia* (*Paradrino*) and *Zenillia*. Pupa killed by a *Pimpla*, which escapes by breaking off the head-piece of the pupa."

Martin, 1976.

Larval food:

- Astragalus* species (Fabaceae) [Larsen, 2005a].
Cajanus cajan (Fabaceae) (pigeonpea) [Kielland, 1990d: 210; Shantibala & Singh (India); Tennent & Russell, 2019 (Cape Verde Islands)].
Canavalia species (Fabaceae) [Kielland, 1990d: 210].
Canavalia ensiformis (L.) DC. (Fabaceae) [Shantibala *et al.*, 2001; India].
Colutea atlantica Browicz (Fabaceae) [Godart, 1819: 653; as *Colutea arborescens*; Europe].
Crotalaria species (Fabaceae) [Lawrence, 2014: 75; Seychelles].
Crotalaria capensis Jacq. (Fabaceae) [Trimen & Bowker, 1887, Vol. 2: 58].
Crotalaria cephalotes Steud. ex A.Rich. (Fabaceae) [Jackson, 1937: 234; Kenya].
Crotalaria cleomifolia Welw. ex Baker (Fabaceae) [Jackson, 1937: 234; Kenya].
Crotalaria glauca Willd. (Fabaceae) [Jackson, 1937: 234; Kenya].
Cytisus species (Fabaceae) [Clark & Dickson, 1971: 49].
Cytisus scoparius (L.) Link (Fabaceae) [Faithfull, 2010; Australia; oviposition only].
Derris species (Fabaceae) [Larsen, 2005a].
Dolichos hastiformis E.Mey. (Fabaceae) [Kroon, 1999].
Dolichos species (Fabaceae) [Clark & Dickson, 1971: 49].
Genista monspessulana (L.) L.A.S. Johnson (Fabaceae) [Faithfull, 2010; Australia; oviposition only].
Indigofera species (Fabaceae) [Kielland, 1990d: 210].
Indigofera filifolia Thunb. (Fabaceae) [Kroon, 1999].
Indigofera psoraloides (L.) L. (Fabaceae) [Kroon, 1999].
Indigofera tinctoria (Fabaceae) [Tennent & Russell, 2019; (Cape Verde Islands)].
Lablab purpureus (L.) Sweet subsp. *purpureus* (Fabaceae) [Shantibala *et al.*, 2001; as *Dolichos lablab* Linn.].
Lathyrus species (Fabaceae) [Clark & Dickson, 1971: 49].
Lessertia frutescens (Fabaceae) [Jackson, 1937: 234; Kenya; as species of *Sutherlandia*].
Lotus sp. (Fabaceae) [Tennent & Russell, 2019; Cape Verde Islands].
Lupinus species (Fabaceae) [Kielland, 1990d: 210].
Medicago species (Fabaceae) [Kielland, 1990d: 210].
Melilotus species (Fabaceae) [Blackburn, *in* Butler, 1882: 31].
Milletia species (Fabaceae) [Kroon, 1999].
Phaseolus species (Fabaceae) [Kielland, 1990d: 210].
Phaseolus vulgaris L. (Fabaceae) [Shantibala *et al.*, 2001].
Pisum sativum L. (common green pea) (Fabaceae) [Godart, 1819: 653 (Europe); Wollaston, 1879: 224 (St. Helena and Madeira); Trimen & Bowker, 1887: 59 (Mauritius)].
Podalyria species (Fabaceae) [Kielland, 1990d: 210].
Polygala species (Fabaceae) [Woodhall, 2005a].
Rhynchosia caribaea (Jacq.) DC (Fabaceae) [Otto *et al.*, 2013: 72].
Rhynchosia nitens Benth. (Fabaceae) [Otto *et al.*, 2013: 72].
Sesbania species (Fabaceae) [Clark & Dickson, 1971: 52].
Spartium junceum L. (Fabaceae) (exotic) [Botha & Botha, 2006: 200].
Spartium species (Fabaceae) [Clark & Dickson, 1971: 49].
Sphenostylis angustifolia Sond. (Fabaceae) [Kroon, 1999].
Tecoma species (Bignoniaceae) [Pelzer, 1991].
Tephrosia species (Fabaceae) [Larsen, 2005a].
Trifolium pratense (Fabaceae) [Hirukawa, 2012].
Ulex species (Fabaceae) [Clark & Dickson, 1971: 49].
Vicia faba L. (Fabaceae) [Shantibala *et al.*, 2001].
Vigna unguiculata (L.) Walp. (Fabaceae) [Shantibala *et al.*, 2001; as *Vigna sinensis* Savi.].
Vigna unguiculata (L.) Walp. (Fabaceae) [Shantibala *et al.*, 2001].
Virgilia divaricata Adamson (Fabaceae) [Clark & Dickson, 1971: 52; as *Virgilia capensis* Lam.].
Virgilia oroboides (P.J.Bergius) T.M.Salter (Fabaceae) [Kroon, 1999].

Relevant literature:

- Malikarjuna *et al.*, 2012 [Pest on Dolichos bean].
Obregon *et al.*, 2012 [Preying on cocoons of its own parasitoid].
Hancock, 2011 [Imported into Scotland].
Maslowski & Charchula, 2010 [First record from Poland].
Arivudainambi & Chandar, 2009 [Management as a pest in India].

Shantibala & Singh, 2009 [Population dynamics on pigeonpea].
Lohman *et al.*, 2008 [Phylogeography and genetic diversity].
Stradomsky & Poltavsky, 2008 [Endangered population in Russia].
Thust & Jaenicke, 2007 [Record from Germany].
Patrick & Patrick, 2006 [Spread in New Zealand].
Johansen, 2006 [Imported into Denmark in fresh produce from Kenya].
Knights, 2006 [Recorded in Suffolk, England].
Pljushtsh & Bezuglyi, 2006 [Recorded from Ukraine].
Hensle, 2004 [Foodplants and life cycle].
Coutsis, 2001
Ahmed, 1995

michaeli Kroon, 1980 (as f. of *Lampides boeticus*). *In*: Claassens & Dickson, 1980. *Butterflies of the Table Mountain Range*. Struik, Cape Town p. 140 (160pp). South Africa: "Blaauwberg, to the north of Cape Town".