

## Short Communication

### ***Lythrum salicaria* (Lythraceae) – a confirmed summer hostplant of *Leptotes pirithous* in Israel (Lycaenidae: Polyommatainae)**

DUBI BENYAMINI

91 Levona Street, Bet Arye, Israel 71947, e-mail: [dubi\\_ben@netvision.net.il](mailto:dubi_ben@netvision.net.il)

*Leptotes pirithous* (Linnaeus, 1767) is a highly polyphagous species. In Israel with 28 known hostplant species in 12 plant families it even „leads“ over the famous cosmopolitan *Vanessa cardui* (Nymphalidae) with only 20 plant species of 8 families, and *Lampides boeticus* with 25 species of 4 plant families (O. Tomer, pers. comm.). Fiedler (1991, based on Vorbrodt & Müller-Rutz 1911) listed a record of Lythraceae as a hostplant for *L. pirithous*, but marked this as questionable, since no more recent supportive evidence was available. Hesselbarth et al. (1995) cited even much earlier records of Zeller (1847) and Wilde (1861) who mentioned Lythraceae as a possible hostplant family for the species. Apart from a few tropical species, use of hostplants from the family Lythraceae is exceedingly rare in the family Lycaenidae (Fiedler 1991). These historical records have now finally been confirmed after over ninety years.

I visited an upper rivulet of the Crocodile (Hataninim) River on 2.ix.2003. The biotope is located in the coastal plain of central Israel between Ma'agan Michael and the southern tip of Mt. Carmel. It is situated 12.6 km N of Hadera city at 32°33'02" N & 34°55'38" E, 20 m above sea level (GPS reading). It owes its name to the last wild crocodile shot down here in the early 1930ies. Walking along the blossoming serpentine line of *Lythrum salicaria* (Lythraceae) plants which marks the track of the rivulet, I noticed a concentrated activity of adult *L. pirithous* flying around the flowers of two large *L. salicaria* plants. Other typical plants and butterflies observed in this interesting biotope include: Blossoming *Cynanchum acutum* (Asclepiadaceae) which attracts migrating *Danaus chrysippus* to establish a local seasonal community almost every year; *Pelopidas thrax*, another Palaeotropical migrant which lays eggs on *Phragmites australis* (Poaceae); *Pyrgus melotis* over its host *Rubus sanctus* (Rosaceae); *Zizeeria karsandra* and *Lycaena thersamon* which both use *Polygonum equisetiforme* (Polygonaceae) as hostplant and nectar source; *Polyommatus icarus* possibly feeds on the locally common *Trifolium fragiferum* (Fabaceae) and this blue was also observed nectaring on *L. salicaria*.



Fig. *Leptotes pirithous* on *Lythrum salicaria*.

Males of *L. pirithous* were tracing the females, which after landing rejected them by opening and vibrating the wings. At 11:30 I observed a female which succeeded to escape a courting male and started to check the flower buds with the tip of her abdomen. While walking around up and down the top of the flower spike of *L. salicaria* she laid an egg among the small buds of the flowers. Subsequently, other eggs were also found on young leaves. The larvae hatching from these eggs in captivity turned out to consume buds and flowers, usually digging a small hole in the side of the calyx. First instar larvae which hatched on a leaf, consumed it by opening a small „window“ in the epidermis. In later instars, larvae also fed only on flowers and flower buds of *L. salicaria*.

Several branches of the preferred plants were searched carefully in the lab, yielding a total of twenty larvae. This might indicate that certain plants are much more attractive to egg-laying females than others. However, only three adults hatched. The rest (85%) were attacked by braconid parasitoids, always yielding just one wasp per larva. During September 2003, in Bet Arye, I bred this blue butterfly also on the introduced ornamental plant *Plumbago auriculata* (= *P. capensis*) (Plumbaginaceae). Of nineteen larvae ten adults hatched successfully. In this case the white cocoons of apparently the same solitary parasitic wasp appeared in 47.3% of the larvae. The lower percentage of parasites was explained by Clark & Dickson (1971) who wrote on the Genus *Syntarucus* (= *Leptotes*): „Parasites though paying a toll on the sticky basal portion (calyx) of the flowers of *Plumbago*, manage to attack the eggs and larvae.“

Some twenty meters away from the *L. salicaria* biotope, a female was observed laying an egg on a prostrate *Trifolium fragiferum* flower head and another landed on blooming *Polygonum equisetiforme* (Polygonaceae). I could, however, not confirm whether this latter plant serves as another host or rather as nectar source.

*L. pirithous* actually demonstrates a survival strategy of continuous shifting between habitats and hostplants; Benyamini (1999a, b, 2000, 2001, 2002a, b, 2003a, b; Feingold 2003; Tomer 2000). Being a strong migrant it is always attracted to flowers and buds which are available in every season of the year. No diapause behaviour is known. The species retreats in the cold winter months to lower, warmer and more southern biotopes. In spring and summer when temperatures are rising it expands again to the mountains and northern Israel. There is no question that many more food plants will be found in the future.

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Autor(en)/Author(s): Benyamini Dubi

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