

Notes on the status  
of *Armenia hyrcanica* (RILEY, 1939)  
(Lepidoptera : Lycaenidae)

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**Summary**

The taxonomical status and geographical distribution of three taxa of the genus *Armenia* DUBATOLOV and KORSHUNOV, 1984 : *ledereri* BOISDUVAL, *hyrcanica* RILEY and *cyri* NEKRUTENKO is revised. Recent works dealing with these taxa are reviewed. Two species are recognized : *ledereri* and *hyrcanica*. The taxon *cyri* is a junior objective synonym of the species *hyrcanica*, but is considered to be valid subspecies.

**Zusammenfassung**

Die Taxa der Gattung *Armenia* DUBATOLOV and KORSHUNOV, 1984 *ledereri* (BOISDUVAL), *hyrcanica* (RILEY) and *cyri* (NEKRUTENKO) werden miteinander taxonomisch verglichen und ihre geographische Verbreitung wird aufgezeigt. Diese Taxa gehören zu zwei Arten : *ledereri* und *hyrcanica*. Das Taxon *cyri* ist im Speziesrang als jüngeres Synonym zu *hyrcanica* zu betrachten und hat nur subspezifische Gültigkeit. Die neuere Literatur, die diese Taxa behandelt, wird hier kurz zusammengefaßt.

**TAXONOMIC STUDIES**

The taxon *ledereri* was described by BOISDUVAL (1848) from the foothills of the Caucasus. A more detailed description and figure was given by NORDMANN (1851). In 1939 RILEY described a new subspecies *Strymon ledereri hyrcanica* from "North-East Persia" with a wide distribution, reaching from Armenia to the Hissar Range in Central Asia. In 1974 a new subspecies : *Fixsenia ledereri nazeri* was described by LARSEN from the Lebanon and in 1978 SAKAI recorded *ledereri* for the first time from Afghanistan. In the same year NEKRUTENKO described a new subspecies from the basin of the Kura River in Azerbaidjan, *Pseudothecle ledereri cyri* (NEKRUTENKO, 1978a). Due to the sympatric occurrence of the taxa *P. ledereri ledereri* and *P. ledereri cyri* in the territory of Erivan (USSR, Armenia) he recognized the validity of two independent species (NEKRUTENKO, 1978b). This separation was published 4 years later (NEKRUTENKO *et al.* 1982). In 1980 ECKWEILER and HOFMANN published a check-list of Iranian Rhopalocera which included *Fixsenia*

*hyrcanica hyrcanica* from Elbours. The latest contribution to the systematics of this group of species was a work by STSHETKIN (1984) where two new subspecies from Pamiro-Alai, *Pseudothecla cyri badachshanica* and *P. cyri seravshanica* were described.

Over the years, the taxon *ledereri* has been combined with the genera *Lycaena* (BOISDUVAL, 1848), *Argus* (GERHARD, 1850), *Bakeria* (TUTT, 1907), *Thecla* (SEITZ, 1909), *Strymon* (RILEY, 1939), *Pseudothecla* (KORS-HUNOV, 1972; NEKRUTENKO, 1978a), *Fixsenia* (LARSEN, 1974; SAKAI, 1978) and *Satyrium* (CLENCH, 1978). Recently DUBATOLOV and KORSHUNOV (1984) thought it desirable to replace the invalid generic names *Argus* and *Bakeria* (with type-species *ledereri*) by *Armenia*.

There is no doubt of the existence of at least two different species in the *ledereri-hyrcanica-cyri* complex, because of the sympatric occurrence of two of them in Armenia. These two species can be easily distinguished by the size and arrangement of the postdiscal spots on the underside of the wings (Fig. 2). There are also differences in the colour of both, the under- and uppersides of the wings and in the wingspan; the male genitalia are similar in both species.

The problem was to clarify the taxonomic position of ssp. *hyrcanica*. From RILEY'S description, which was not accompanied by an illustration, the systematic position of ssp. *hyrcanica* is not clear. By the courtesy of the British Museum (Natural History), London (BMNH) we have received photographs of both the holotype and allotype of *Strymon ledereri hyrcanica* RILEY. Comparing them with the description and illustrations of the types of *Pseudothecla cyri* NEKRUTENKO, 1978, we found these two taxa to be conspecific (Fig. 1). The name *hyrcanica* has priority over *cyri*.



Fig. 1. Undersides of a) *A. hyrcanica hyrcanica* (RILEY), male holotype, N. Persia, 1906 (specimen is in the collection of BMNH); b) *A. hyrcanica cyri* (NEKRUTENKO), male, USSR, Armenia, Erivan, Nor-Marash, June 17, 1973, leg. Z. WEIDENHOFFER; c) *A. ledereri ledereri* (BOISDUVAL), male, USSR, Georgia, Tbilisi, Cherepashie Ozero, June 6, 1972, leg. Z. WEIDENHOFFER.

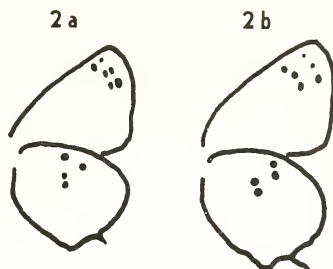


Fig. 2. Diagrams to highlight the differences in underside markings between a) *A. hyrcanica* (RILEY) and b) *A. ledereri* (BOISDUVAL).

The systematic position of the taxa within the genus *Armenia* is now considered to be as follows :

**Armenia** DUBATOLOV & KORSHUNOV, 1984

1. *Armenia ledereri* (BOISDUVAL, 1848) in DUBATOLOV & KORSHUNOV, 1984.
  - = *Lycaena ledereri* BOISDUVAL in BOISDUVAL, 1948.
  - = *Argus ledereri* BOISDUVAL in GERHARD, 1850.
  - = *Bakeria ledereri* BOISDUVAL in TUTT, 1907.
  - = *Thecla ledereri* BOISDUVAL in SEITZ, 1909.
  - = *Pseudothecla ledereri* BOISDUVAL in KORSHUNOV, 1972.
  - = *Fixsenia ledereri* BOISDUVAL in LARSEN, 1974.
  - = *Satyrium ledereri* BOISDUVAL in CLENCH, 1978.
- 1a. *A. ledereri ledereri* (BOISDUVAL, 1848).
- 1b. *A. ledereri nazeri* (LARSEN, 1974).
  - = *Fixsenia ledereri nazeri* LARSEN in LARSEN, 1974.
2. *Armenia hyrcanica* (RILEY, 1939), **rev. stat., comb. n.**
  - = *Strymon ledereri hyrcanica* RILEY in RILEY, 1939.
  - = *Fixsenia ledereri* BOISDUVAL in SAKAI, 1978.
  - = *Fixsenia hyrcanica* RILEY in ECKWEILER & HOFMANN, 1980.
  - = *Pseudothecla cyri* NEKRUTENKO in NEKRUTENKO *et al.* 1982.
- 2a. *A. hyrcanica hyrcanica* (RILEY, 1939), **comb. n.**
  - = *Strymon ledereri hyrcanica* RILEY in RILEY, 1939.
  - = *Fixsenia hyrcanica hyrcanica* RILEY in ECKWEILER & HOFMAN, 1980.

- 2b. *A. hyrcanica cyri* (NEKRUTENKO, 1978), **comb. n.**  
= *Pseudothecla ledereri cyri* NEKRUTENKO in NEKRUTENKO, 1978a.  
= *Pseudothecla cyri cyri* NEKRUTENKO in NEKRUTENKO *et al.* 1982.
- 2c. *A. hyrcanica badachshanica* (STSHETKIN, 1984), **comb. n.**  
= *Pseudothecla cyri badachshanica* STSHETKIN in STSHETKIN, 1984.
- 2d. *A. hyrcanica seravshanica* (STSHETKIN, 1984), **comb. n.**  
= *Pseudothecla cyri seravshanica* STSHETKIN in STSHETKIN, 1984.

### DISTRIBUTION (Fig. 3)

*Armenia ledereri* seems to be of Syrian-Armenian origin. Its distribution covers Lebanon (LARSEN, 1974), East and South Turkey (HIGGINS, 1966), the foothills of Caucasus (RILEY, 1939) and Transcaucasia (NORDMANN, 1851; NEKRUTENKO, 1978). There are no records from Syria or Iraq.

*Armenia hyrcanica* has a wider distribution than *ledereri*. It extends from Transcaucasia (RILEY, 1939; ECKWEILER & HOFMANN, 1980) to the mountains of Central Asia, where it was recorded from the Hissar Range (RILEY, 1939), Zeravshanskiy Range and West Pamir (STSHETKIN, 1984), and Afghanistan, from the Tera Pass (SAKAI, 1978; 1981). The record from Afghanistan was published as *ledereri*, but photographs in both works clearly show that this specimen is *hyrcanica*.



Fig. 3. Distribution map of *A. ledereri* (BOISDUVAL) (triangles) and *A. hyrcanica* (RILEY) (circles).

The authors of this paper found both species occurring sympatrically in Transcaucasia: WEIDENHOFFER in Armenian Erivan (Nor-Marash), ECKWEILER on the Turkish side of the valley of Araxes, near Akçay, district of Kağizman. At these localities both species fly together, their flight periods partially overlapping. The adults of *ledereri* emerge from the end of May until the beginning of July. *Armenia hyrcanica* appears about 3 weeks later, in the second half of June in Erivan and at the beginning of July in Akçay, with a peak in July.

Altogether, 6 subspecies have been described for the two species :

- A. ledereri* ssp. *ledereri* (BOISDUVAL), TL : not stated (foothill of Caucasus) ;
- A. ledereri* ssp. *nazeri* (LARSEN), TL : Lebanon, Jabal Kasrouan ;
- A. hyrcanica* ssp. *hyrcanica* (RILEY), TL : not stated (North-East Persia) ;
- A. hyrcanica* ssp. *cyri* (NEKRUTENKO), TL : USSR, Azerbaidjan, Khanlar district, Yenikend village ;
- A. hyrcanica* ssp. *badachshanica* (STSHETKIN), TL : USSR, West Pamir, Shugnanskiy Range, Khorog ;
- A. hyrcanica* ssp. *seravshanica* (STSHETKIN), TL : USSR, Zeravshanskiy Range, Iskander-Kul Lake.

## Conclusions

It is shown that RILEY's taxon *Strymon ledereri* ssp. *hyrcanica* is an independent species easily distinguishable from *ledereri*. The recently introduced name *cyri* for this species is a junior objective synonym of *hyrcanica*, but it is retained as a valid subspecies. The two species have different, but overlapping distributions, *Armenia ledereri* extending from Armenia to Lebanon and *A. hyrcanica* from Armenia to Central Asia. Both species are rather inconspicuous and are easily overlooked unless one is searching for them. It is probable that both species are much more widely distributed than current records indicate. The overlapping area of distribution includes West Azerbaidjan, East Georgia, South and East Armenia, Nakhitshevan, East Turkey and probably also North-West Iran.

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