

Case 3334***Colias alfacariensis* Ribbe, 1905 (Insecta, Lepidoptera, PIERIDAE):
proposed conservation of the specific name by giving it precedence over
three senior subjective synonyms**

Josef Grieshuber

Singham 42, 94086 Bad Griesbach, Germany (e-mail: Colias@t-online.de)

Bob Worthy

10 The Hill, Church Hill, Caterham, Surrey CR3 6SD, U.K.

(e-mail: bobworthy@btopenworld.com)

Gerardo Lamas

Museo de Historia Natural, Universidad Nacional Mayor de San Marcos,
Apartado 14-0434, Lima-14, Peru (e-mail: glamasm@unmsm.edu.pe)

Abstract. The purpose of this application, under Article 23.9.3 of the Code, is to conserve the specific name *alfacariensis* Ribbe, 1905, which is in widespread use for a butterfly species of the genus *Colias* Fabricius, 1807 (family PIERIDAE). The name is threatened by three little-used senior subjective synonyms, *Colias hyale sareptensis* Alphéraky, 1875, *Colias hyale alba* Rühl, 1893 and *Colias hyale meridionalis* Krulikowsky, 1903. It is proposed that *C. alfacariensis* is given precedence over the other three names whenever it and any of the others are considered to be synonyms.

Keywords. Nomenclature; taxonomy; Lepidoptera; PIERIDAE; *Colias*; *Colias alfacariensis*; *Colias sareptensis*; *Colias alba*; *Colias meridionalis*; Europe; Russia; Iran.

1. The name *alfacariensis* was originally published by Ribbe (1905, p. 137) as '*Colias hyale* ab.[erration] *alfacariensis*' and discussed as a geographical form distinguishable from those that occur in other regions. The name *alfacariensis* was unavailable from its first publication in 1905 because of Ribbe's use of the term 'ab'. A proposal was eventually submitted asking the Commission to confirm the availability of the name, and thus establish its priority over others such as *australis* Verity, 1911 and *alfacariensis* Berger, 1945 (Whitebread et al., 1988, pp. 29–32). The Commission approved this proposal (Opinion 1657, 1991, p. 272) and placed *Colias alfacariensis* Ribbe, 1905 on the Official List of Specific Names in Zoology, thus ending almost half a century of nomenclatural instability. Because of this it has recently been considered that the earliest name applicable to the yellow European species of the *hyale* group of *Colias* Fabricius, 1807 which is not *hyale* Linnaeus, 1758 (Berger, 1945a, pp. 9–10; 1945b, pp. 33–34) is *alfacariensis* Ribbe, 1905.

2. After several decades of controversy *alfacariensis* is now the predominantly used name in numerous publications, and is generally accepted as the valid name for the species occurring from southern and western Europe to south-western Russia and

north-eastern Iran. The Commission Secretariat holds a list of 63 references by 72 authors, using the name *alfacariensis*, published between 1949 and 2003; a much longer list could easily be compiled. However, *C. alfacariensis* Ribbe, 1905 is not the oldest available name; it is threatened by the overlooked synonyms *C. hyale sareptensis* Alphéraky, 1875, *C. hyale alba* Rühl, 1893, and *C. hyale meridionalis* Krulikowsky, 1903. This leaves us with an untenable situation, since the substitution of any of these three little-known names for the well-established name *C. alfacariensis* would cause much confusion.

3. A few years ago, especially in the Russian entomological literature (e.g. Tuzov et al., 1997, p. 172), another name for the species currently known as *C. alfacariensis* Ribbe, 1905 appeared, i.e. '*Colias sareptensis* Staudinger, 1871'. The name '*sareptensis*' was originally published as 'No. 64.a. *Col. Erate* ab. *Sareptensis*' by Staudinger (1871, p. xxxvii) and '64. *Hyale* . . . ab. (an hibr?) *Sareptensis*' (1871, p. 5). The numbering of the species in the text of Staudinger's catalogue (1871, p. 5) indicates that the linking with *C. erate* (Esper, [1805]) in the list of the new designations (p. xxxvii) was a lapsus. Staudinger's name '*sareptensis*' was unavailable from its first publication in 1871 because of the use of the term 'ab'. It is therefore of infrasubspecific status (see Article 45.6.2 of the Code – Determination of infrasubspecific rank of the names). Staudinger never applied the name '*sareptensis*' to a population or a group of populations.

4. Kirby's (1872, pp. xlv-xlvi) erroneous application of the name *hyale* Linnaeus, 1758 to the orange species currently known as *Colias croceus* (Geoffroy, 1785) had an unforeseen side effect, for the yellow species that is currently known as *C. hyale* would have been left without a valid name of its own. Having searched the literature for applicable names Kirby suggested that 'The only name which I can find for *Hyale* [of authors] . . . is *Sareptensis*, applied by Staudinger . . . to a variety. It is a very inappropriate name . . . but unless all the misnomers in Entomology are to be rejected, I do not think we can avoid adopting it'. Kirby's use of '*sareptensis*' did not make the name available, because he clearly misidentified Staudinger's '*sareptensis*' (he never saw Staudinger's specimens). He thought that Staudinger's name represented his conception of 'the *hyale* of authors', but this is wrong. Kirby's intention was to find a new name for the species known to other authors as *C. hyale*, but Staudinger used the name *sareptensis* in reality for yellow spotted specimens of *C. erate* and possibly also for the species currently known as *C. alfacariensis*.

5. Alphéraky (1875, pp. 153–154) published the name *sareptensis* in the combination '*Colias Hyale* L. var. *Sareptensis*'. The true status of Alphéraky's *sareptensis* is rather confused as he used Staudinger's name but then described something different to what Staudinger had apparently intended. He inferred that Staudinger considered *sareptensis* to be a hybrid between *C. hyale* and *C. erate*, and indeed indicated that he had seen such hybrids himself. He then said: 'However, such specimens seem to me very different from the constant variety ("postoyannoe vidoizmenenie") var. *Sareptensis* Stgr., which I saw in Dr. Staudinger's collection, and which I collect every year near Taganrog'. The Russian 'vidoizmenenie' is an archaic word used in Russian scientific publications in the 19th century. In those days the term 'vid' corresponded with the category species, and 'vidoizmenenie' had a meaning almost identical to what is now known as a subspecies. The term 'vid' means the species and 'vidoizmenenie' means a subordinate category. The subspecies concept was not then fully developed; thus

different subspecies did not have to be allopatric and, in theory, two 'vidoizmenenie' (subspecies) could occur together. After describing the insect, he also said: '... this form is very common and belongs to the type *Hyale* ... [the *C. hyale* group of species]' and: 'I propose to consider var. *Sareptensis* Stgr. not as an individual form but a permanent form characteristic of southern and south-eastern Russia'. This description makes the name available at the subspecific rank (see Article 45.6.4 of the Code).

6. The status of *sareptensis* Alphéraky is further confused by his subsequent writings on the subject. In 1881 (Alphéraky, 1881, pp. 365–366) he first mentioned the specimen he received from Staudinger and says that it is one of the hybrid individuals. He eventually admitted that he didn't know what to do with the name: 'Now I don't know whether the name var. *Sareptensis* Stgr. or ab. *Sareptensis* Stgr. should be adopted, or to which form it should be applied'. Then, in 1908 (Alphéraky, 1908, p. 564), he decided that the name should be applied to the hybrids: 'Under the name *sareptensis* in my first list I said that larger specimens with a brighter yellow wing colour etc. fly at Taganrog. In this I was clearly mistaken, however the mistake was not mine but rather Staudinger's'. He also accepted Krulikowsky's *C. meridionalis* (see para. 12 below) as the name to be applied to the new entity: 'L.K. Krulikowsky has now perfectly reasonably called these latter: var. *meridionalis*', and referred to it as such throughout the rest of the work. However, the fact that he changed his mind in 1908 does not affect the status of the taxon as inferred from the original description (Alphéraky, 1875).

7. Alphéraky (1875, pp. 153–154) was clearly convinced that there were three different kinds of *Colias* flying together near Taganrog, i.e. *C. hyale*, *C. erate* (he often found these two species in copula and they produced hybrids) and 'var. *Sareptensis*'. He mentioned that Staudinger thought that his specimens could be hybrids. What Alphéraky considered these hybrids to be can be found in the work about the Lepidoptera of Kouldja (Alphéraky, 1881, pp. 365–366): 'But that [specimen] which I once received under this name from Dr. Staudinger is not a constant form, but a hybrid between *C. Erate* Esp. and *Hyale* L. ... The hybrid specimens are generally the same colour as *Erate*, but the black border is spotted with yellow'. (Examination of the surviving Staudinger 'types' of '*sareptensis*' proves these 'hybrids' to be *C. erate* with fenestrated forewing borders). As stated above, Staudinger's unavailable '*sareptensis*' probably consisted of two different species, i.e. *C. alfacariensis* and *C. erate*. Alphéraky regarded his 'var. *Sareptensis*' as being closely related to *C. hyale* and mentioned the main identifying feature several times, e.g. the 'wing colour [of the male] is much more yellow' (Alphéraky, 1875, pp. 153–154), the 'warm yellow colour of the male' (Alphéraky, 1881, pp. 365–366), or a 'brighter yellow wing colour' (Alphéraky, 1908, p. 564). He examined between 2,000 and 3,000 specimens from Taganrog (Alphéraky, 1881); inspection of such a large series was surely the reason why he was able to separate the 'var. *Sareptensis*' from the normal *C. hyale* and the so-called hybrids. Alphéraky (1875, pp. 153–154) made the name *sareptensis* available by the fact that he used it as valid, also giving indications as to how to identify his 'var. *Sareptensis*'. We have examined part of Alphéraky's own series of 'var. *Sareptensis*' in St. Petersburg and can confirm that they are *C. alfacariensis* (but see the lectotype designation in para. 14 below). All of this leaves little doubt that his 'var. *Sareptensis*' is the species that we now know as *C. alfacariensis* Ribbe, 1905.

8. The name *sareptensis* Alphéraky, 1875 is considered available and applicable in the combination *Colias sareptensis* Alphéraky, 1875. It is the oldest available name for the taxon, being a senior subjective synonym of *Colias alfacariensis remota* Reissinger, 1989 from Volsk (south-western Russia). The name *sareptensis* cannot be suppressed without a decision by the Commission because it was treated as a valid species-group name after 1899 (e.g. Tuzov et al., 1997, p. 172), albeit under the wrong authorship (see Article 23.9.1 of the Code – Reversal of Precedence).

9. Butler (1880, p. 409) elevated Staudinger's unavailable '*sareptensis*' to specific status, treating it as '*Colias sareptensis*'. He considered it as a separate species from *C. erate*, but his *C. sareptensis* can only be *C. erate* as it is now known that no other similar species of *Colias* are found in Afghanistan. As a result of the lecto-type designation for *sareptensis* Alphéraky, 1875 (see para. 14 below), Butler's *C. sareptensis* must be regarded as a subsequent misidentification.

10. The name *alba* was originally published as '*Colias Hyale* var.[ietas] *alba*' by Bienert (1870, p. 28) for specimens from Nishapur (north-western Iran); however, he failed to provide any description, definition or indication of characters purported to differentiate the taxon, other than that which is implicit in the descriptive name. That, by itself, cannot make the name available. Subsequently *alba* was used as a valid name by Rühl (1893, p. 156), who briefly described *Colias hyale* 'var. *alba* Bien.[ert]' from Nischapur as a geographical variety. We have not found any older use of the name; therefore we credit it to Rühl.

11. Reissinger (1989, p. 131) claimed that *alba* Rühl, 1893 is a junior homonym, thinking that the name was preoccupied by '*alba*' Haworth, 1802, but Haworth's '*alba*' (Haworth, 1802, p. 2) is unavailable; in fact it is not a scientific name at all but merely a descriptive Latin term. The listings of Bridges (1988, Annotations No. 3.7) also provoked confusion in this respect, making Staudinger's (1871, p. 6) '*alba*' appear as if it were available; but it is nothing more than an infrasubspecific form name applied to white females of *Colias myrmidone* (Esper, [1781]), so it can be ignored. Furthermore, the name '*alba*' is in widespread popular usage as applied to the white female form of many species of *Colias* worldwide. The name *Colias alba* Rühl, 1893 was certainly treated as an available and valid species group name by Tutt (1896, p. 254), Le Cerf (1913, p. 30) and Berger & Fontaine (1948, p. 108). The name *alba* Rühl, 1893 is a senior subjective synonym of *C. alfacariensis hyrcanica* Reissinger, 1989 from northern Iran. The name *alba* Rühl, 1893 cannot be suppressed without a decision by the Commission because it was treated as a valid species group name after 1899 as stated above (see Article 23.9.1 of the Code).

12. In 1903 Krulikowsky introduced the name *meridionalis* in the combination '*C. hyale* ... var. *meridionalis mihi* (nomen novum)'. Krulikowsky (1903, p. 302) stated that there were two 'forms' occurring under the name '*sareptensis*' Staudinger; one was a large and intensively coloured 'race' of *C. hyale*, the other one probably a hybrid between *C. hyale* and *C. erate*. This is what Alphéraky (1881, pp. 365–366) wrote, and Krulikowsky (1903) clearly referred to this work. Subsequently he went on to say that the name '*sareptensis*' should be restricted to the hybrid, and for the southern [Russian] 'race' of *hyale* he proposed the new name *meridionalis*.

13. To understand the meaning of Krulikowsky's *meridionalis* it is necessary to read the works of Alphéraky (1875, 1881). Krulikowsky did not cite the earlier work

of Alphéraky from 1875. Alphéraky (1881, pp. 365–366) wrote that the specimens from Taganrog described by him as ‘var. *Sareptensis*’ are different to the single specimen that he received under the same name from Staudinger. He believed that the Staudinger specimen is a hybrid between *C. erate* and *C. hyale*, and he did not ‘know whether the name “var. *Sareptensis* Stgr.” or “ab. *Sareptensis* Stgr.” should be adopted, or to which form it should be applied’. This is why Krulikowsky proposed the new name *meridionalis* for the southern Russian ‘*hyale*’ (*sareptensis* sensu Alphéraky, 1875), under the mistaken assumption that the name *sareptensis* was only applicable to Staudinger’s so-called hybrids. But what Alphéraky (1875, pp. 153–154) described under ‘var. *Sareptensis*’ from Taganrog are specimens of *C. alfacariensis*, not *C. hyale*. The name *meridionalis* is considered invalid as a junior objective synonym of *C. sareptensis* Alphéraky, 1875 (see para. 14 below), and also a senior subjective synonym of *C. alfacariensis remota* Reissinger, 1989 from Volsk (south-western Russia).

14. It is not known what happened to Bienert’s collection; his material is not mentioned in Horn et al. (1990). Bienert was supported by Staudinger in his work on the Persian Lepidoptera, but no syntypes have been found in the Staudinger collection in Berlin (MNHU). Therefore Bienert’s original specimens of *alba* are presumed to be lost. The name-bearing specimens of ‘*sareptensis*’ in the Staudinger collection (MNHU, Berlin) currently comprise four males and one deep yellow female of *Colias erate*. According to Alphéraky (1908, p. 564) there were two different species under the name ‘*sareptensis*’ in Staudinger’s collection; one the so-called hybrid, and the other the ‘bright yellow south-Russian *C. hyale*’ (*sareptensis* sensu Alphéraky, 1875). Alphéraky had the opportunity to examine Staudinger’s collection personally, as he was in Dresden between 1871 and 1873 where he worked under Staudinger’s supervision (Tuzov et al., 1997, p. 62). It is likely that Alphéraky found two different species under ‘*sareptensis*’ in the name-bearing series, and it is therefore probable that the original series was more extensive than what remains now in the Staudinger collection. For the stability of zoological nomenclature it is important to have the name-bearing type of *C. sareptensis* Alphéraky, 1875 fixed by a lectotype designation. To resolve any confusion about the identification of the taxon, a lectotype is herewith designated from a syntypic Alphéraky specimen that clearly corresponds with what Alphéraky described, i.e. a specimen of the species currently known as *C. alfacariensis*. To prevent confusion, the lectotype of *C. sareptensis* is also designated as lectotype of *C. meridionalis* Krulikowsky, 1903. Lectotype (fig. 1 on page 111): the syntypic male specimen selected as the lectotype of *C. sareptensis* and *C. meridionalis* is a fresh specimen that fits Alphéraky’s (1875) description. The wings are of a ‘warm yellow colour’ (Alphéraky, 1881, pp. 365–366), and the individual is not as large (fore wing length: 20.35 mm) as most *C. hyale*, as Alphéraky (1875) stated. The size of the Alphéraky specimens is variable, so this is only an average feature. The wing shape is more rounded than in the other syntypic males. The hindwing discal spot is of a deep orange colour, a typical feature in *C. alfacariensis*. Also the extension of the black basal shading on the forewing is a typical feature for *C. alfacariensis*. The lectotype is set on a steel pin; the label data are: [printed label with crown] КОЛЛ.[ЕКЦИЯ] Вел.[ИКОГО] КНЯЗЯ НИКОЛАЯ МИХАЙЛОВИЧА [Coll. Grand Duke Nikolai Mikhailovich] // [small black bordered label in Alphéraky’s hand] Taganrog / IV 1874. [and printed on the underside] Alph. // [printed red label]

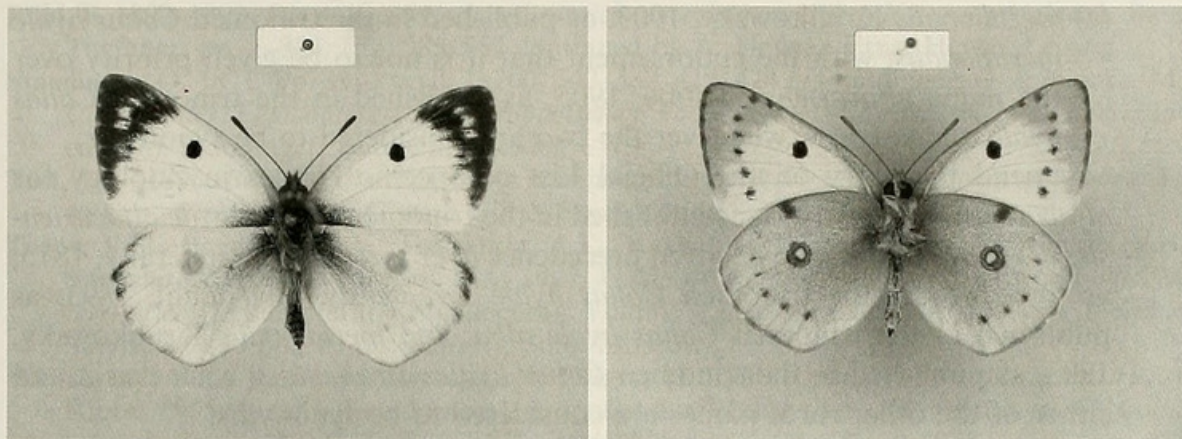


Fig. 1. Lectotype of *Colias hyale sareptensis* Alphéraky, 1875. Upperside (left) and underside (right). Fore wing length: 20.35 mm.

Lectotype / *Colias hyale* var. *sareptensis* Alphéraky, 1875/ *Trudy Russ. ent. Obshch.* 8: 153–154 / designated by J. Grieshuber, R. Worthy & G. Lamas, 2006 // [printed red label] Lectotype / *Colias hyale* var. *meridionalis* Krulikowsky, 1903 / *Revue Russe Ent.* 3(5): 302 / designated by J. Grieshuber, R. Worthy & G. Lamas, 2006. Depository: ZISP (St. Petersburg). Paralectotypes: Each syntypic specimen will be provided with a printed red label: Paralectotype / *Colias hyale* var. *sareptensis* Alphéraky, 1875/ *Trudy Russ. ent. Obshch.* 8: 153–154 / designated by J. Grieshuber, R. Worthy & G. Lamas, 2006. Furthermore, each specimen, except for the Staudinger syntypes, will be provided with a printed red label reading: Paralectotype / *Colias hyale* var. *meridionalis* Krulikowsky, 1903 / *Revue Russe Ent.* 3(5): 302 / designated by J. Grieshuber, R. Worthy & G. Lamas, 2006. A list of all syntypes so far identified, and material excluded from the type series, along with their complete data has been sent to, and is held by, the Commission Secretariat.

15. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary power to give the name *alfacariensis* Ribbe, 1905, as published in the trinomen *Colias hyale alfacariensis*, precedence over the names *sareptensis* Alphéraky, 1875, as published in the trinomen *Colias hyale sareptensis*, and *alba* Rühl, 1893, as published in the trinomen *Colias hyale alba*, and *meridionalis* Krulikowsky, 1903, as published in the trinomen *Colias hyale meridionalis*, whenever it and any of the other three are considered to be synonyms;
- (2) to place on the Official List of Specific Names in Zoology the following names:
 - (a) *sareptensis* Alphéraky, 1875, as published in the trinomen *Colias hyale sareptensis*, with the endorsement that it is not to be given priority over the name *alfacariensis* Ribbe, 1905, as published in the trinomen *Colias hyale alfacariensis*, whenever the two are considered to be synonyms;
 - (b) *alba* Rühl, 1893, as published in the trinomen *Colias hyale alba*, with the endorsement that it is not to be given priority over the name *alfacariensis* Ribbe, 1905, as published in the trinomen *Colias hyale alfacariensis*, whenever the two are considered to be synonyms;

- (c) *meridionalis* Krulikowsky, 1903, as published in the trinomen *Colias hyale meridionalis*, with the endorsement that it is not to be given priority over the name *alfacariensis* Ribbe, 1905, as published in the trinomen *Colias hyale alfacariensis*, whenever the two are considered to be synonyms;
- (3) to emend the entry on the Official List of Specific Names in Zoology for *alfacariensis* Ribbe, 1905, as published in the trinomen *Colias hyale alfacariensis*, to record that it is to be given precedence over *sareptensis* Alphéraky, 1875, as published in the trinomen *Colias hyale sareptensis*, *alba* Rühl, 1893, as published in the trinomen *Colias hyale alba*, and *meridionalis* Krulikowsky, 1903, as published in the trinomen *Colias hyale meridionalis*, whenever it and either of the other three names are considered to be synonyms.

References

- Alphéraky, S.N. 1875–1878. Cheshuekrylyya (Lepidoptera) okrestnostei Taganroga [The Butterflies (Lepidoptera) of the environs of Taganrog (in Russian)]. *Trudy Russkago Entomologicheskago obshchestva*, **8**: 150–226 (1875); **10**: 35–53 (1876); **11**: 45–50 (1878).
- Alphéraky, S.N. 1881–1883. Lépidoptères du district de Kouldja et des montagnes environnantes. *Horae Societatis Entomologicae Rossica*, **16**: 334–435, (1881); **17**: 15–103 (1882), 156–227 (1883).
- Alphéraky, S.N. 1908. Cheshuekryle Okrenestei Taganroga [The Butterflies of the environs of Taganrog (in Russian)]. Supplément III. *Horae Societatis Entomologicae Rossica*, **38**: 558–618.
- Berger, L.A. 1945a. Espèce nouvelle pour la Science. *Lambillionea*, **44**(1/12): 9–10.
- Berger, L.A. 1945b. Rapport d'assemblée mensuelle du 3 février 1945. *Bulletin et Annales de la Société Royale Entomologique de Belgique*, **81**: 33–34.
- Berger, L.A. & Fontaine, M. 1947–1948. Une espèce méconnue du genre *Colias* F. *Lambillionea*, **47**(11–12): 91–98 (1947); **48**(1–2): 12–15, (3–4): 21–24, (11–12): 90–110 (1948).
- Bienert, T. 1870. *Lepidopterologische Ergebnisse einer Reise in Persien in den Jahren 1858 und 1859*. 56 pp. C.W. Vollrath, Leipzig.
- Bridges, C.A. 1988. *Catalogue of Papilionidae & Pieridae* (Lepidoptera: Rhopalocera). 721 pp. in various paginations. Privately published, Urbana, Illinois.
- Butler, A.G. 1880. On a collection of Lepidoptera from Candahar. *Proceedings of the Zoological Society of London*, **1880**: 403–415.
- Haworth, A.H. 1802. *Prodromus Lepidopterorum Britannicorum. A Concise Catalogue of British Lepidopterous Insects, with the Times and Places of Appearance in the Winged State*. vi, 39, 6 pp. J. Parsler, London (Facsimile reprint, 1951).
- Horn, W., Kahle, I., Friese, G. & Gaedike, R. 1990. *Collectiones entomologicae. Ein Kompendium über den Verbleib entomologischer Sammlungen der Welt bis 1960*. Part I, A–K: 1–220; Part II, L–Z: 221–573. Akademie der Landwirtschaftswissenschaften der Deutschen Demokratischen Republik, Berlin.
- Kirby, W.F. 1872. Synonymic Notes on Lepidoptera. *Proceedings of the Entomological Society of London*, **19**: xliii–xlv.
- Krulikowsky, L.K. 1903. Notes pour servir à l'étude des Lépidoptères des la Sibérie occidentale et du Semiretshje (in Russian). *Revue Russe d'Entomologie*, **3**(5): 300–303.
- Le Cerf, F. 1913. Contribution à la faune lépidoptérologique de la Perse (Catalogue des Rhopalocères). *Annales d'Histoire Naturelle. (Mémoires de la Délégation en Perse)*, **II**, Ent.(10): vii, 88 pp.
- Reissinger, E.J. 1989. Die geographisch-subspezifische Gliederung von *Colias alfacariensis* Ribbe, 1905 unter Berücksichtigung der Migrationsverhältnisse (Lepidoptera, Pieridae). 3. Fortsetzung und Schluss. *Neue Entomologische Nachrichten*, **26**: 101–351.
- Ribbe, C. 1905. Einige neue Formen von Schmetterlingen aus Andalusien. *Societas Entomologica*, **20**(18): 137–138.

- Rühl, F.** 1892–1893. *Die palaearktischen Grossschmetterlinge und ihre Naturgeschichte*. 1. Band Tagfalter: pp. 1–384. (pp. 385–857 continued by A. Heyne). Ernst Heyne, Leipzig.
- Staudinger, O.** 1871. Pp. xvi-xxxvii, 1–200, 347–382, 415–424 in Staudinger, O. & Wocke, M., *Catalog der Lepidopteren des europaischen Faunengebiets, I: Macrolepidoptera*. (2nd edition). Staudinger, Burdach, Dresden.
- Tutt, J.W.** 1896. *British butterflies, being a popular handbook for young students and collectors*. 469 pp., 9 pls., 45 figs. George Gill & Sons, London.
- Tuzov, V.K., Bogdanov, P.V., Devyatkin, A.L., Kaabak, L.V., Korolev, V.A., Murzin, V.S., Samodurov, G.D. & Tarasov, E.A.** 1997. *Guide to the butterflies of Russia and adjacent territories* (Lepidoptera, Rhopalocera). Volume 1, Hesperidae, Papilionidae, Pieridae, Satyridae. 480 pp., 79 pls. Pensoft, Sofia-Moscow.
- Whitebread, S.E., Rezbanyai-Rezer, L. & Geiger, H.** 1988. Case 2617. *Colias alfacariensis* Ribbe, 1905 (Insecta, Lepidoptera): proposed availability as a senior synonym of '*Colias australis* Verity, 1911'. *Bulletin of Zoological Nomenclature*, **45**(1): 29–32.

Acknowledgement of receipt of this application was published in BZN **62**: 2

Comments on this case are invited for publication (subject to editing) in the *Bulletin*; they should be sent to the Executive Secretary, I.C.Z.N., c/o Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).



Grieshuber, Josef, Worthy, Bob, and Lamas, Gerardo. 2006. "Case 3334 *Colias alfacariensis* Ribbe, 1905 (Insecta, Lepidoptera, PIERIDAE): proposed conservation of the specific name by giving it precedence over three senior subjective synonyms." *The Bulletin of zoological nomenclature* 63, 106–113.

View This Item Online: <https://www.biodiversitylibrary.org/item/107000>

Permalink: <https://www.biodiversitylibrary.org/partpdf/42653>

Holding Institution

Smithsonian Libraries and Archives

Sponsored by

Biodiversity Heritage Library

Copyright & Reuse

Copyright Status: In copyright. Digitized with the permission of the rights holder.

Rights Holder: International Commission on Zoological Nomenclature

License: <http://creativecommons.org/licenses/by-nc-sa/3.0/>

Rights: <https://biodiversitylibrary.org/permissions>

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.