

lanthus rigidus (Benth.) Jeps. (Orobanchaceae) (also a new food plant for the species) and *Plantago erecta* during the springs of 1999 and 2001 (GFP pers. obs.). Recent molecular studies suggest these food plants (*Cordylanthus* and *Plantago*) are more distantly related (separate families) than are *Antirrhinum* and *Plantago* (same family) (Olmstead et al. 2001). The food plant therefore may not be the most important character used to distinguish *Euphydryas editha* sub-species.

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PRECEDENCE OF *CATOCALA LOUISEAE* BAUER, 1965 AS A NOMEN PROTECTUM OVER *CATOCALA PROTONYMPHA* BOISDUVAL, 1840 (NOCTUIDAE)

ABSTRACT. The name *Catocala protonympha* Boisduval has heretofore been considered a junior synonym of the Palearctic species *Catocala fulminea* Scopoli. Examination of Boisduval's type and relevant literature demonstrates that *Catocala protonympha* is in fact a disused senior synonym of the Nearctic species *Catocala louiseae* Bauer. Article 23.9.2 of the Code is invoked to give precedence to the established name *Catocala louiseae*, and maintain nomenclatural stability in the genus.

Additional key words: taxonomy, synonymy, types, Boisduval, Guenée, Staudinger, Culot.

In 1840, J. A. Boisduval described a new species of *Catocala* Schrank (1802) as *Catocala protonympha*, as follows: "Species distinctissima antennis crassioribus dentatis; statura *Callinympha*; alae posticae fere ut apud jam dictam; anticae cinereo-fuscae fasciis vix angulosis" [A species very distinct, by thick dentate antennae; size of *callinympha*; hindwings about the same as with those I have already described; forewings ash grey-brown with bands slightly angled]. The type locality was listed as "P." [=Paris, France].

Guenée (1852:103) figured *protonympha* on his Plate 15, Fig. 2, comparing it to *Catocala paranympha* L., which is a synonym of the widespread Palearctic species *Catocala fulminea* (Scopoli 1763), and stated "Environs de Paris, en aout. Coll. Bdv. Un ♂" [vicinity of Paris, in August. Collection of Boisduval. One male].

Guenée's original illustration of *Catocala protonympha* is reproduced here in Fig. 1c. Guenée also remarked on the apparent extraordinary rarity of *protonympha*: "C'est jusqu'ici, une des plus grandes raretés. Pourtant, M. Begrand m'a affirmé avoir vu, sur un mur, au bois de Boulogne, une certaine quantité de petites *Catocala* jaunes qui ne pouvaient appartenir qu'à cette espèce, la *paranympha*, avec laquelle la confusion est impossible" [Up to now, it is one of the great rarities. However, Mr. Begrand is positive about having seen a certain number of small yellow *Catocala* on a wall in the Boulogne woods, they necessarily belonged to the species *paranympha* with which no confusion is possible].

Subsequently, *Catocala protonympha* was listed with questionable provenience by Berce (1870:242): "est regardée comme douteuse par beaucoup de lépi-



FIG. 1. *Catocala protonympha* Boisduval 1840. **a**, male type in the Natural History Museum (London), approx. 3/4 size. **b**, specimen labels on the type. **c**, painting of the type by Guenée (1852).

doptéristes” [is seen as doubtful by many lepidopterists], and the possibility of a hybrid or misattributed specimen was raised by Staudinger and Wocke (1871:138): “uno ♂ condita; an Eutychea al. posterioribus Hymenaeae adulterata? an sp. exotica?” [one male preserved; is it *eutychea* or otherwise from descendants of a cross with *hymenaeae*?; or an exotic species?]. Despite the fact that Guenée’s illustration of *protonympha* does not resemble *Catocala fulminea* in either size or pattern, Staudinger and Rebel (1901:249) later placed *protonympha* as a dwarfed aberration of *fulminea*, believing then that Guenée’s illustration was wanting: “t. 15, f. 2 [fig. non quadrat bene]; (sec. specim. typ. Stgr. ab. nana esse videtur)” [the figure does not agree well; according to the type specimen of Staudinger from which it seems to be dwarf]. Both Spuler (1908) and Hampson (1913) also treated *protonympha* as an aberration of *fulminea*, and in the Seitz (1913:319) volume on Palearctic noctuids, Warren treated *protonympha* as a form of *fulminea*. The Seitz figure of *protonympha* is nearly identical to the Seitz figure of *fulminea* (both appear on Plate 57 row D), the former differing from the latter only nominally in having the hindwing ground color lighter and the hindwing medial band somewhat reduced.

Culot (1913:201–203, Plate 77, Fig. 4) refigured Boisduval’s type of *protonympha*, and correctly pointed out that the type did not at all resemble the Seitz figures of *protonympha* or *fulminea*. Although Culot clearly felt *protonympha* and *fulminea* were different, and that some sort of error might be involved, he left the taxonomic position of *protonympha* unchanged, as he was unable to resolve fully the puzzle that Boisduval’s specimen presented:

“Quant a la soi-distant forme *protonympha* Bdv., elle parait etre fort peu connue des entomologistes et ne correspond en aucune facon a l’exemplaire reproduit soue ce nom sur la Planche 57, ligne D, de l’ouvrage de Seitz. Pour ma part, je trouve la *protonympha* Bdv. si differente de *fulminea* qu’il

me parait temeraire de la rattacher specifiquement a cette derniere. Grace a la si large obligeance de mon ami M. Charles Oberthur, j’ai le plaisir de figurer ici le type *protonympha* de Boisduval. . . . En resume, je vois dans la *protonympha* Bdv. une espece tres particuliere, don’t on ne connait que le seul exemplaire ♂ figure ici et qui fut capture aux environs de Paris. C’est un cas evidemment fort rare en entomologie, mais a moins qu’il ne s’agisse d’une erreur don’t j’ignorerais la source, je ne puis trouver aucune autre solution.” [As for the so-called form *protonympha* Bdv., it seems to be mostly unknown to entomologists and in no way corresponds to the example presented under this name in Plate 57, line D of Seitz’ work. As far as I am concerned, I consider *protonympha* Bdv. to be so different from *fulminea* that it seems farfetched to relate it specifically to that species. Thanks to the kindness of my friend Charles Oberthur, I have the pleasure to illustrate here the type of *protonympha* by Boisduval. . . . In short, I see in *protonympha* Bdv. a very particular species of which only one male specimen, illustrated here, is known and that was captured around Paris. It is naturally a case seldom seen in entomology, but I cannot think of any other solution except for a mistake that I cannot explain].

Despite Culot’s misgivings, in later systematic works the name *protonympha* has also been listed as a synonym of *fulminea* (e.g., Lhomme 1923–1935, Poole 1989, Hacker 1990), or has been omitted from the synonymy of *fulminea*, even in works covering France or nearby areas (e.g., Bergmann 1954, Forster & Wolfhart 1971, Leraut 1980). The most recent use of the name *protonympha* as a valid species name appears to be by Staudinger and Wocke (1871).

In 1965, Bauer described *Catocala louiseae* as a new Nearctic species from Florida. This local and generally uncommon *Catocala* occurs primarily in the southeastern United States, from North Carolina to Florida and

westward along the Gulf Coast to Texas. The name *louiseae* has been used exclusively for this species, having appeared in catalogues treating Nearctic (Hodges 1983) and Holarctic Noctuidae (Poole 1989), a book devoted to *Catocala* (Sargent 1976), a moth field guide (Covell 1984), the experimental zoological literature (Gall 1991), regional surveys and compilations (Cromartie & Schweitzer 1997), and in numerous shorter reports on *Catocala* distributions and life histories in the News of the Lepidopterists' Society and the Southern Lepidopterists' News (e.g., Baggett 1994, Neal 1999).

We recently located Boisduval's type specimen of *Catocala protonympha* at the Natural History Museum, London in one of the "miscellaneous" type drawers. The male type (Fig. 1a) bears the following labels (Fig. 1b): "Catocala/protonympha/Paris, type"; "Vu par/Staudinger/Catalogue 1900"; "Fig. par J. CULOT/Noct et Geom d'Europe/Pl. 77 Fig. 4"; "EX MUSAEBO/BOISDUVAL"; "Ex Oberthur Coll./Brit. Mus. 1927-3." The type is in fact a specimen in good condition of *Catocala louiseae*, and not an aberrant dwarfed specimen of *Catocala fulminea*.

Because the name *protonympha* actually refers to a local and generally uncommon Nearctic *Catocala* species, this explains prior lepidopterists' difficulties in placing *protonympha* as a Palearctic taxon, and the absence of any Palearctic specimens other than Boisduval's type. The type locality of Paris, France for *protonympha* is undoubtedly erroneous, and likely the result of a labeling error or other misattribution. Boisduval's type could even be one of John Abbot's 18th or early 19th century Lepidoptera specimens from Georgia, as *Catocala louiseae* inhabits the counties in Georgia where Abbot worked, and Abbot did depict *louiseae* in one of his unpublished watercolors in the Oemler compilation at the Houghton Library at Harvard University (the Francillon compilation of Abbot's unpublished watercolors at the Natural History Museum, London does not contain a painting of *louiseae*). Note that even though Guenée's illustration of *protonympha* is stylized, it matches the type well, and is nevertheless recognizable as *louiseae*. Staudinger and Rebel's (1901) mischaracterization of Guenée's illustration seems all the more peculiar in light of the data label that indicates Staudinger examined Boisduval's specimen, and especially since Staudinger and Wocke (1871) initially felt that *protonympha* might not be a Palearctic species.

Thus, the name *protonympha* Boisduval (1840) has been mistakenly tabulated throughout the 20th century in the Palearctic *Catocala* literature as a junior subjective synonym of *fulminea* Scopoli (1763). The name *protonympha* has never appeared in the Nearctic *Catocala* literature, and reintroducing the name

protonympha for *louiseae* Bauer (1965) would upset established nomenclatural usage. Since the provisions of both Articles 23.9.1.1 and 23.9.1.2 of the Code appear to be met, the name *Catocala louiseae* Bauer (1965) is hereby given precedence per Article 23.9.2 as a **nomen protectum** over its disused senior subjective synonym *Catocala protonympha* Boisduval (1840), which becomes a **nomen oblitum**.

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