OPINIONS AND DECLARATIONS RENDERED BY THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE

Edited by

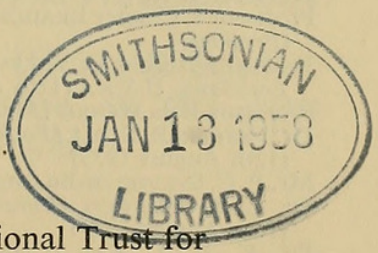
FRANCIS HEMMING, C.M.G., C.B.E.

Secretary to the Commission

VOLUME 17. Part 16. Pp. 265—286

OPINION 494

Validation under the Plenary Powers of the generic name *Diloba* Boisduval, 1840, and designation under the same Powers of a type species in harmony with established usage for the genus *Episema* Ochsenheimer, 1816 (Class Insecta, Order Lepidoptera)



LONDON:

Printed by Order of the International Trust for Zoological Nomenclature

and

Sold on behalf of the International Commission on Zoological Nomenclature by the International Trust at its Publications Office 41, Queen's Gate, London, S.W.7

1957

Price Fourteen Shillings and Sixpence

Issued 10*th December*, 1957

INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE

COMPOSITION AT THE TIME OF THE ADOPTION OF THE RULING GIVEN IN OPINION 494

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OPINION 494

VALIDATION UNDER THE PLENARY POWERS OF THE GENERIC NAME "DILOBA" BOISDUVAL, 1840, AND DESIGNATION UNDER THE SAME POWERS OF A TYPE SPECIES IN HARMONY WITH ESTABLISHED USAGE FOR THE GENUS "EPISEMA" OCHSENHEIMER, 1816 (CLASS INSECTA, ORDER LEPIDOPTERA)

RULING :—(1) Under the Plenary Powers :—

(a) All selections of type species for the genus *Episema* Ochsenheimer, 1816, made prior to the present Ruling are hereby set aside and the nominal species *Phalaena glaucina* Esper, [1789], is hereby designated to be the type species of the foregoing genus.

(b) The under-mentioned names are hereby suppressed for the purposes of the Law of Priority but not for those of the Law of Homonymy :—

(i) the generic name *Heteromorpha* Hübner, 1822 ;

(ii) the specific name *trimacula* [Denis & Schiffermüller], 1775, as published in the combination *Phalaena trimacula*.

(2) The under-mentioned generic names are hereby placed on the *Official List of Generic Names in Zoology* with the Name Numbers severally specified below :—

(a) *Diloba* Boisduval, 1840 (gender : feminine) (type species, by monotypy : *Phalaena caeruleocephala* Linnaeus, 1758) (Name No. 1233) ;

(b) *Episema* Ochsenheimer, 1816 (gender : neuter) (type species, by designation under the Plenary Powers in (1)(a) above : *Phalaena glaucina* Esper, [1789]) (Name No. 1234).

(3) The under-mentioned specific names are hereby placed on the *Official List of Specific Names in Zoology* with the Name Numbers severally specified below :—

(a) *caeruleocephala* Linnaeus, 1758, as published in the combination *Phalaena caeruleocephala* (specific name of type species of *Diloba* Boisduval, 1840) (Name No. 1453) ;

(b) *glaucina* Esper, [1789], as published in the combination *Phalaena glaucina* (specific name of type species of *Episema* Ochsenheimer, 1816) (Name No. 1454).

(4) The under-mentioned generic names are hereby placed on the *Official Index of Rejected and Invalid Generic Names in Zoology* with the Name Numbers severally specified below :—

(a) *Heteromorpha* Hübner, 1806 (invalid because included in a work rejected for nomenclatorial purposes by the Ruling given in *Opinion* 97, as clarified by that given in *Opinion* 278) (Name No. 1061) ;

(b) *Heteromorpha* Hübner, 1822, as suppressed under the Plenary Powers in (1)(b)(i) above (Name No. 1062) ;

(c) *Episema* Cope & Jordan, 1877 (a junior homonym of *Episema* Ochsenheimer, 1816) (Name No. 1063).

(5) The under-mentioned specific name is hereby placed on the *Official Index of Rejected and Invalid*

Specific Names in Zoology with the Name Number 480 :—

trimacula [Denis & Schiffermüller], 1775, as published in the combination *Phalaena trimacula*, as suppressed under the Plenary Powers in (1)(b)(ii) above.

(6) The under-mentioned family-group names are hereby placed on the *Official List of Family-Group Names in Zoology* with the Name Numbers severally specified below :—

(a) DILOBINAE Aurivillius (C.), 1889 (type genus : *Diloba* Boisduval, 1840) (Name No. 198) ;

(b) EPISEMIDAE Guénée (A.), 1852 (type genus : *Episema* Ochsenheimer, 1816) (Name No. 199).

I. THE STATEMENT OF THE CASE

The question of the possible use of the Plenary Powers to ensure the continued employment of the generic names *Episema* Ochsenheimer, 1816, and *Diloba* Boisduval, 1840, for use in the sense in which those names had been customarily employed in the literature was first brought to the attention of the Office of the Commission by Dr. Jiří Paclt (then of the *National Museum, Prague, Czechoslovakia*) in November 1947. At that time the resources of the Commission were wholly devoted to the preparations for the Thirteenth International Congress of Zoology to be held in Paris in the following year and it was accordingly impossible at that time to make any progress with this case. When, however, the Official Record of the Proceedings of the International Commission at its Paris Session had been

published in 1950, work was immediately resumed on applications on individual names at that time outstanding. Consultations were initiated with Dr. Paclt in 1952 in regard to certain questions of detail arising in connection with the present case and on 14th July of that year the following substantive application was submitted to the International Commission by Dr. Paclt :—

Proposed use of the Plenary Powers to vary the type species of " Episema " Ochsenheimer, 1816, thereby maintaining " Diloba " Boisduval, 1840, for use in its accustomed sense (Class Insecta, Order Lepidoptera)

By JIŘÍ PACLT

(*Bratislava, Czechoslovakia*)

The object of the present application is to ask the International Commission on Zoological Nomenclature to use its Plenary Powers in such a way as to ensure that the generic name *Diloba* Boisduval, 1840 (Class Insecta, Order Lepidoptera) shall continue to be available for use in its accustomed sense, that is, for *Phalaena caeruleocephala* Linnaeus, 1758. The name *Diloba* Boisduval is one of considerable importance in applied biology (see, for example, Schmidt & Goebel, 1881, *Die schädlichen und nützlichen Insecten* **2** ; Schmidt (G.), *Ent. Beih.* **6** : 13), and the displacement of this name in favour of the name *Episema* Ochsenheimer, 1816, as would be required under a strict application of the ordinary Rules, would cause great and quite unjustified confusion. The details of this case are set out in the following paragraphs.

2. Hitherto the name *Episema* Ochsenheimer, 1816 (*Schmett. Europa* **4** : 65) has been used for species of the subfamily DASYPOLIINAE of the family PHALAENIDAE. This usage is based upon the selection by Guénée in 1852 (*Spec. Gén. Lep.* **5**(Noct. 1) : 173) of *Noctua trimacula* Hübner, [1800—1803] (*Samml. europ. Schmett.* : pl. Noct. 30, figs. 141—142) (the third of the species cited by Ochsenheimer) to be the type species of this genus. It now appears, however, that the foregoing type selection by Guénée is invalid, for twenty-four years earlier Stephens (1828, *Ill. Brit. Ins.*, Haustell. **2** : 14) had already validly selected *Phalaena caeruleocephala* Linnaeus, 1758 (the first of the species cited by Ochsenheimer) to be the type species of *Episema*. This type selection is extremely disturbing, for *Phalaena caeruleocephala* Linnaeus belongs to the subfamily DILOBINAE of the family TETHEIDAE and thus belongs to an entirely different family from that in which, in accordance with Guénée's type selection, the genus *Episema* Ochsenheimer has hitherto been placed.

3. Stephens' selection of *Phalaena caeruleocephala* Linnaeus as the type species of *Episema* Ochsenheimer was never accepted, and twelve years later Boisduval in 1840 (*Gen. Index meth.* : 88) established the monotypical genus *Diloba* Boisduval (in the synonymy of which he cited " Episema Ochs., Stephens ") for the reception of this species.

4. It will be seen from the particulars given above that the strict application of the ordinary rules in the present case would be open to strong objection, for (1) the name *Episema* Ochsenheimer has been uniformly applied to *Noctua trimacula* Hübner, [1800—1803] (the oldest name for which is *Phalaena glaucina* Esper, [1789] (*Die Schmett.* **3** : pl. 81, figs. 4, 5, suppl. : 11), (2) the name *Diloba* Boisduval, 1840, has been uniformly applied to *Phalaena caeruleocephala* Linnaeus, 1758, (3) the displacement of the name *Episema* Ochsenheimer (as would be necessary) in favour of the quite unknown name *Derthisa* Walker, 1857 (*List. Specimens lep. Ins. Brit. Mus.* **11** : 534) would be most undesirable, (4) the transfer of the generic name *Episema* Ochsenheimer from the genus of the family PHALAENIDAE for which it is always employed to the genus of the family TETHEIDAE now known by the name *Diloba* Boisduval and the consequent disappearance of the latter name in synonymy would cause confusion not only in the systematics of the group but also in the literature of applied biology. It is to prevent these serious results from arising that the present application is made to the Commission.

5. The actual proposal now put forward to the International Commission on Zoological Nomenclature is that it should :—

(1) use its Plenary Powers to set aside all type selections for the genus *Episema* Ochsenheimer, 1816, made prior to the decision now proposed to be taken, and, having done so, should designate *Bombyx glaucina* Esper, [1789], to be the type species of this genus ;

(2) place the following generic names on the *Official List of Generic Names in Zoology* :—

(a) *Diloba* Boisduval, 1840 (gender of generic name : feminine) (type species, by monotypy : *Phalaena caeruleocephala* Linnaeus, 1758) ;

(b) *Episema* Ochsenheimer, 1816 (gender of generic name : neuter) (type species, by designation, as proposed in (1) above, under the Plenary Powers : *Bombyx glaucina* Esper, [1789]) ;

(3) place the following trivial names on the *Official List of Specific Trivial Names in Zoology* :—

(a) *caeruleocephala* Linnaeus, 1758 as published in the combination *Phalaena caeruleocephala*, (trivial name of type species of *Diloba* Boisduval, 1840) ;

(b) *glaucina* Esper, [1789], as published in the combination, *Bombyx glaucina*, (trivial name of type species of *Episema* Ochsenheimer, 1816).

II. THE SUBSEQUENT HISTORY OF THE CASE

2. Registration of the present application : Upon the receipt of Dr. Paclt's preliminary application in 1947 the question of the use of the Plenary Powers to ensure the continued employment of the generic names *Episema* Ochsenheimer, 1816, and *Diloba* Boisduval, 1840 (Class Insecta, Order Lepidoptera) was allotted the Registered Number Z.N.(S.) 332.

3. Publication of the present application : The present application was sent to the printer on 4th July 1952 and was published on 29th August of that year in Part 10 of Volume 6 of the *Bulletin of Zoological Nomenclature* (Paclt, 1952, *Bull. zool. Nomencl.* **6** : 315—317).

4. Issue of Public Notices : Under the revised procedure prescribed by the Thirteenth International Congress of Zoology, Paris, 1948 (1950, *Bull. zool. Nomencl.* **4** : 51—56), Public Notice of the possible use by the International Commission on Zoological Nomenclature of its Plenary Powers in the present case was given on 29th August 1952 (a) in Part 10 of Volume 6 of the *Bulletin of Zoological Nomenclature* (the Part in which Dr. Paclt's application was published) and (b) to the other prescribed serial publications. In addition, such Notice was given also to certain general zoological serial publications and to a number of entomological serials in Europe and America.

5. Comments received in 1952 : The publication of Dr. Paclt's application elicited comments in 1952 from two specialists :

(1) John G. Franclemont (then of the *U.S. Department of Agriculture, Agricultural Research Service, Bureau of Entomology and Plant Quarantine, Washington, D.C., U.S.A. and now of Cornell University, Ithaca, N.Y., U.S.A.*) ; (2) Wm. T. M. Forbes (*Cornell University, Ithaca*) (through Dr. Franclemont in a letter dated 22nd November 1952). Two communications were received from Dr. Franclemont, in the first of which he drew attention to the important bearing on the present case of the generic name *Heteromorpha* Hübner, 1822, a matter which had not been touched on by Dr. Paclt in his application.

6. Communications received from J. G. Franclemont (then of the U.S. Department of Agriculture, Bureau of Entomology and Plant Quarantine, Washington, D.C., U.S.A. and now of Cornell University, Ithaca, N.Y., U.S.A.) : The following are the communications received from Dr. John G. Franclemont, to which reference has been made in paragraph 5 above :—

(a) Letter dated 18th September 1952

(Franclemont, 1952, *Bull. zool. Nomencl.* **9** : 145)

In Part 10 of volume 6 of the *Bulletin of Zoological Nomenclature* just received, I note a number of requests for use of the Plenary Powers of the Commission by Dr. Paclt. I am submitting the following comments on them.

Dr. Paclt's application Z.N.(S.) 332 (*pp.* 315—317)

This proposal ignores *Heteromorpha* Hübner (1806) (*Tentamen*, p. [1]), for which see *Opinion* 97, and *Heteromorpha* Hübner, 1822 (*Systematisch-alphabetische Verzeichniss*, etc., pp. 15 and 18). In the *Tentamen* the name included only *caeruleocephala* Linnaeus, 1758 ; while in the *Systematisch-alphabetische Verzeichniss* it included that species plus *pantherina* Hübner [1800—1803]. Kirby in 1892 (*Synoptic Catalogue of the Lepidoptera Heterocera*, vol. **1**, p. 585) selected *Phalaena Bombyx caeruleocephala* Linnaeus, 1758, as the type species of *Heteromorpha* Hübner. Thus *Heteromorpha* Hübner, 1822, antedates *Diloba* Boisduval, 1840, and takes precedence over it, the genera being isogenotypic. *Heteromorpha* has been used for *caeruleocephala* by some authors.

Stephens, 1828 (*Illustrations of British Entomology*, vol. **2**, p. 14) did not select *Phalaena Bombyx caeruleocephala* Linnaeus, 1758, as the type species of *Episema*, but Duponchel, 1829 (March) (*in* Godart,

Histoire naturelle des Lépidoptères de France, vol. **7**, Part 2, p. 71) did select this species as the type species of *Episema* Ochsenheimer, 1816.

The present British Lists are using *Episema* for *caeruleocephala*, and this follows Hampson, 1913 (*Catalogue of the Lepidoptera Phalaenae in the British Museum*, vol. **13**, p. 593). In 1906 Hampson (*Catalogue of the Lepidoptera Phalaenae in the British Museum*, vol. **6**, p. 229) used *Derthisa* Walker, 1857, in the sense that Dr. Paclt calls " quite unknown name " ; it is also used in Seitz's *Macrolepidoptera of the World* (vol. 3, p. 119, 1910).

The zoological position assigned to *caeruleocephala*, while really outside the consideration of the problem at hand, is open to question. The THYATIRIDAE (TETHEIDAE) possess an abdominal tympanum, *caeruleocephala* possesses a thoracic tympanum like the Noctuoidea (Phalaenoidea), the venation of the wings is like the NOCTUIDAE (PHALAENIDAE), and the structural characters of the larva place it in this family also, not the THYATIRIDAE.

(b) Letter, with enclosure, dated 22nd November 1952

I have consulted with Dr. Forbes on the matter of *Diloba* and we do not agree. He would fix *caeruleocephala* as the type of that name, but what he would do about *Episema* and *Heteromorpha* I do not know. I have added an enclosure herewith which I think states my views clearly.

Enclosure to the above letter from Dr. Franclemont

I would use *Heteromorpha* Hübner [1806] in preference to either *Diloba* Boisduval, 1840, or *Episema* Ochsenheimer, 1816, thus doing away with any ambiguity inherent in the use of *Episema*. The type designations for this last genus are as follows,

1. *Phalaena Bombyx caeruleocephala* Linnaeus, 1758, = *Episema caeruleocephala* (Linnaeus). Designated by Duponchel, *in* Godart, 1829, *Histoire Naturelle des Lépidoptères de France*, vol. 7, part 2, p. 71

2. *Noctua cincta* Fabricius, 1787 (nom. nov. *i-cintum* Schiffermüller, 1776) = *Episema cincta* (Fabricius). Designated by Duponchel, *in* d'Orbigny, 1849, *Dictionnaire Universel d'Histoire Naturelle*, vol. 5, p. 367

3. *Bombyx trimacula* Schiffermüller, 1776, = *Episema trimacula* (Ochsenheimer). Designated by Guénée, 1852, *Histoire Naturelle des Insectes, Species Général des Lépidoptères*, vol. 5 (Noct. 1), p. 174

The name has been used for the first and last concepts, but not for the second since the 1850's. If an arbitrary decision has to be made I think it should be made by European workers to whom this whole question means more than it does to American workers.

7. Investigation of the additional issues raised by Dr. John G. Franclemont or otherwise arising : Preliminary investigations of the issues raised in the present case by Dr. John G. Franclemont (paragraph 6 above) or otherwise arising were initiated in 1953 but for some time these proceeded slowly owing to the difficulties experienced in obtaining the required information and, in particular, to the bibliographical problems involved in connection with one of the names cited in the present case. In the later stages of these investigations the Secretary entered into communication with Professor Dr. E. M. Hering (*Humboldt-Universität zu Berlin*) who kindly furnished most valuable information on certain of the issues still at that time outstanding, especially in regard to the family-group-name problems involved, a matter which had not been dealt with in the original application which had been submitted prior to the Fourteenth International Congress of Zoology, Copenhagen, 1953, and therefore prior to the time when the consideration of the position as regards names of this category was required.

8. Comments by Dr. Paclt on the points raised by Dr. John G. Franclemont : In May 1955 Mr. Hemming judged that the investigations referred to in paragraph 7 above had reached a stage at which Dr. Paclt might conveniently be invited to comment on the issues still at that time outstanding. In response to an invitation issued to him by the Secretary on 12th May 1955, Dr. Paclt on 23rd May 1955 submitted the following supplementary statement :—

The use of the name *Heteromorpha* Hübner for the genus in question (*Diloba*) does certainly not reach one per thousand of all references to that moth. Personally I know of three papers only in which the name *Heteromorpha* has been used. My application should include, no doubt, a request for the suppression of the name *Heteromorpha* Hübner, 1822.

2. Dr. Franclemont's objection that the generic name *Derthisa* Walker is not " a quite unknown name " results from the usage of the word " unknown " in my phrase. The word " unknown " has been used in my paper in the sense " unpopular ", " not known in a

popular manner ". I am naturally familiar with the fact that *Derthisa* has been used in Seitz's work and various catalogues. The use of this generic name seems to increase since the last years. However, *Episema* Ochsenheimer sensu Guénée is still the most frequently applied traditional name, not *Derthisa* Walker.

3. There is no unanimity of usage of the trivial names *trimacula* and *glaucina*. I am unable to indicate the proportions in which these synonyms are used by modern workers. At any rate, a strict application of the *Règles* is to be applied in this case. The only correct name is *glaucina* Esper (becoming *glaucinum* in the combination with *Episema*), for *trimacula* of the Vienna Catalogue is a *nomen dubium* and *trimacula* Hübner a junior synonym.

9. Support received in 1956 from E. M. Hering (Humboldt-Universität zu Berlin) : In the course of the consultations referred to in paragraph 7 above, Professor Dr. E. M. Hering (*Humboldt-Universität zu Berlin*) indicated as follows his support for Dr. Paclt's proposals in a letter dated 9th July 1956 :—

I warmly support the application by Dr. Paclt on the generic names *Episema* and *Diloba*.

10. Submission to the International Commission by the Secretary in October 1956 of a Report on the supplementary issues raised in the present case subsequent to the publication of Dr. Paclt's application in 1952 : On the conclusion of the investigations described in the preceding paragraphs Mr. Hemming, as Secretary, prepared on 18th October 1956 the following Report for the consideration of the International Commission on the supplementary issues raised in the present case subsequent to the publication of Dr. Paclt's application in December 1952 :—

Issues involved in the application submitted by Dr. Jiří Paclt for the use of the Plenary Powers to secure the continued usage of the generic name " Diloba " Boisduval, 1840, in its accustomed sense (Class Insecta, Order Lepidoptera)

By FRANCIS HEMMING, C.M.G., C.B.E.

(*Secretary to the International Commission on Zoological Nomenclature*)

The present note is concerned with an application submitted by Dr. Jiří Paclt (*Bratislava, Czechoslovakia*) for the use by the International Commission of its Plenary Powers for the purpose of securing

the continued usage in its accustomed sense of the generic name *Diloba* Boisduval, 1840 (Class Insecta, Order Lepidoptera). This application was published in 1952 (*Bull. zool. Nomencl.* **6** : 315—317) but the need for clearing up certain matters involved has hitherto prevented the submission to the Commission of a Voting Paper in regard to it. The investigation of certain of these matters at Bratislava would have been very difficult owing to lack of some of the books concerned. At the request of Dr. Paclt these matters have therefore been investigated by the Office of the Commission in conjunction with Professor E. M. Hering of Berlin.

2. The genus *Diloba* Boisduval, 1840, which Dr. Paclt seeks to save, is monotypical, having *Phalaena caeruleocephala* Linnaeus, 1758, as type species. It is stated in the application that this genus is of considerable importance in applied biology (see, for example, Schmidt & Goebel, 1881, *Die schädlichen ubd nützlichen Insecten* **2** ; Schmidt (G.), *Ent. Beih.* **6** : 13). The name *Dibola* Boisduval is not a junior homonym of some older name consisting of the same word but it is nevertheless not available for use in the sense in which it is currently employed because, as has now been discovered, its type species is also the type species of the older nominal genus *Episema* Ochsenheimer, 1816*. This discovery is doubly embarassing from the point of view of maintaining stability in nomenclature (a) because it involves the confusing transfer of the name *Episema* to the genus hitherto known as *Diloba*, and (b) because it deprives the genus hitherto known as *Episema* of its customary name. To avoid these difficulties, Dr. Paclt asks the Commission to use its Plenary Powers to designate for *Episema* Ochsenheimer a type species consistent with the accustomed usage of that name, thereby getting rid of the existing synonymy between the names *Episema* Ochsenheimer and *Diloba* Boisduval.

3. There is, however, a further complication in this case represented by the generic name *Heteromorpha* Hübner. This name first appeared in [1806] in that author's ill-starred leaflet known as the *Tentamen* (: 1), where it was introduced for *Phalaena caeruleocephala* Linnaeus, 1758, which would therefore be the type species by monotypy of the genus so named if the *Tentamen* were a nomenclatorially acceptable work. This particular problem need not, however, detain us, for the International Commission has rejected the *Tentamen* for nomenclatorial purposes (*Opinion* 97) and the title of the leaflet has since been placed on the *Official Index of Rejected and Invalid Works in Zoological Nomenclature* (*Opinion* 278). Accordingly, as from the *Tentamen*, the name *Heteromorpha* Hübner possesses no status in zoological nomenclature and should now be placed on the *Official Index of*

* The nominal species *Phalaena caeruleocephala* Linnaeus, 1758, became the type species of *Episema* Ochsenheimer, 1816, by selection by Duponchel, 1829 (*in* Godart, *Hist. nat. Lépid. France* 7(2) : 71). The statement in the application submitted in this case that the same type selection had previously been made by Stephens in 1828 (*Ill. Brit. Ins. Haustell.* **2** : 14) is incorrect.

Rejected and Invalid Generic Names in Zoology. Unfortunately, however, the word *Heteromorpha* was occasionally used as a generic name by subsequent authors who accepted, or were influenced by, its earlier use in the *Tentamen*. The first such use was by Hübner himself in 1822 (*Syst.-alph. Verz.* : 15, 18), where it was applied to two species, of which one, *Phalaena caeruleocephala* Linnaeus, 1758, was later selected as the type species (Kirby, 1892, *Syn. Cat. Lep. Het.* **1** : 585). Thus, technically the name *Heteromorpha* Hübner, 1822, is, like *Diloba* Boisduval, 1840, a junior objective synonym of *Episema* Ochsenheimer, 1816. Accordingly, as Dr. Paclt agrees (*in litt.*, 23rd May 1955), the validation of *Diloba* Boisduval sought in his application involves the suppression of the name *Heteromorpha* Hübner, 1822, as well as the designation of a traditionally acceptable species as the type species of *Episema* Ochsenheimer.

4. If the generic name *Episema* Ochsenheimer were to be used in the sense required by a strict application of the normal provisions of the *Règles*, the genus customarily known as *Episema* would need to be provided with a new name. The oldest such name is, as stated in Dr. Paclt's application, the name *Derthisa* Walker, 1857 (*List Spec. Lep. Ins. Brit. Mus.* **11** : 524). The type species of the genus so named, by selection by Hampson (1906, *Cat. Lep. Phal. Brit. Mus.* **6** : 229) is *Phalaena scoriacea* Esper, [1789] (*Die Schmett.*, Suppl. **3** Abschn. : 22, pl. 83, figs. 4, 5), a species which is subjectively placed by specialists in the genus *Episema*, as customarily interpreted.

5. The generic name *Episema* was introduced by Ochsenheimer (1816), *Schmett. Europa* **4** : 85) without diagnosis in a table of genera and species and its availability rests upon the fact that under this generic name he cited the specific names of previously established nominal species. Of the five species so cited the third was given as "*trimacula* W.V. [= the "*Wiener Verzeichniss*" of Denis & Schiffermüller] Hübn. (*dentimacula*, Hübn. Beitr.)". In 1852 (*Spec. gen. Lep.* **5** (Noct. 1) : 173) Guénée selected *trimacula* Hübner as the type species of this genus and the accepted interpretation of *Episema* rests upon this type selection. Unfortunately, a further complication arises at this point owing to differences of opinion among specialists as to the interpretation of the specific name *trimacula* as used in 1775 (in the combination *Phalaena Bombyx trimacula*) by Denis & Schiffermüller in the anonymous work commonly known as the "*Weiner Verzeichniss*", the first of the authorities cited by Ochsenheimer for the species which he called *trimacula* when establishing the genus *Episema*. It must first be noted that the currently accepted interpretation of Guénée's type selection of 1852 and therefore of the genus *Episema* Ochsenheimer is based not upon the *trimacula* of Denis & Schiffermüller but rather upon the *trimacula* of Hübner (the second of the authorities cited by Ochsenheimer for his *trimacula* when establishing his genus *Episema*). The interpretation of *trimacula* Hübner (*Noctua trimacula* Hübner, [1800—1803], *Samml.*

europ. Schmett. : pl. Noct. 30, figs. 141—142) offers no difficulty, for the species so treated by Hübner is (it is agreed) clearly the same as that to which earlier Esper ([1789]), *Die Schmett.*, Suppl. **3** Abschn. : 11, pl. 81, figs. 4, 5) had given the name *Phalaena glaucina**. It is this latter nominal species which Dr. Paclt in his application has asked should be designated under the Plenary Powers as the type species of *Episema* Ochsenheimer.

6. Under a General Directive issued by the Thirteenth International Congress of Zoology the Commission, when placing a generic name (in this case, the name *Episema* Ochsenheimer) on the *Official List of Generic Names in Zoology*, is under an obligation to place on the *Official List of Specific Names in Zoology* the specific name of the type species of the genus so named or, if that is not the oldest available name for the species in question, whatever is the oldest such name for it. It is necessary therefore to examine the question whether the specific name *glaucina* Esper, [1789], is the oldest available name for the species with which we are here concerned. The question at issue is whether the name *trimacula* as used by Hübner in [1800—1803] in the combination *Noctua trimacula* was (i) a new name or (ii) a usage of the name *trimacula* [Denis & Schiffermüller), 1775, as published in the combination *Phalaena Bombyx trimacula.* In the former case it would be a junior subjective synonym of *glaucina* Esper, [1789] (as it is treated by Dr. Paclt in his application to the Commission), while in the latter event the name *trimacula*, ranking from Denis & Schiffermüller, 1775, would on certain taxonomic assumptions be a senior subjective synonym of *glaucina* Esper and would be the oldest specific name subjectively available for the species concerned. From the evidence collected by the Office of the Commission it appears that the species in question was very generally known by the name *glaucina* Esper up to the year 1906 (*Cat. Lep. Het. Brit. Mus.* **6** : 229) when Hampson, on adopting the name *Derthisa* Walker, 1857, for the genus till then known as *Episema* Ochsenheimer, 1816 introduced also the name *trimacula* [Denis & Schiffermüller] for the species till then known as *glaucina* Esper, [1789], at the same time citing the name *glaucina* as a junior synonym of *trimacula*. Four years later this arrangement was given

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* In the supplement to Volume 3 of Esper's work here referred to the group as a whole is styled " Bombyces " and eleven of the species dealt with in it, including that to which he gave the name *glaucina*, are actually cited as belonging to a genus " *Bombyx* ". It is evident, however, from an inspection of the Supplement as a whole that the citation of " *Bombyx* " was no more than an inadvertent variant of " *Phalaena Bombyx* ", the formula applied to 37 out of the total of 48 names involved (a 49th name being cited as " *Phalaena Attacus* "). Moreover in some of the cases where the generic name used appears to be " *Bombyx* " and not " *Phalaena Bombyx* ", the latter formula is used in the running heading for the page concerned. All the specific names published in this Supplement should therefore be treated as having been published in combination with the generic name *Phalaena*, in most cases so expressed but in the eleven cases referred to above only so understood.

much wider publicity by its adoption by Warren (W.) (in [1910]) (in Volume **3** : 119) of Seitz's *Grossschmetterlinge der Erde*. In the above work Warren also used the generic name *Derthisa* Walker and applied the name *trimacula* [Denis & Schiffermüller] to the species here under consideration, retaining *glaucina* Esper as the name for an infra-subspecific form of the same species. Professor E. M. Hering has pointed out (*in litt.*, 9th July 1956) that, in taking the action described above, the foregoing authors overlooked the very important and almost contemporary evidence to the contrary provided by Laspeyres (J.H.), (1803, *Kritische Revision der neuen Ausgabe des systematischen Verzeichichnisses von den Schmetterlingen der Wienergegens*) who showed in a most convincing manner that the name *Phalaena Bombyx trimacula* [Denis & Schiffermüller] applied to a quite different species from that discussed above, being applicable to the species figured by Hübner in 1790 as *Phalaena Noctua i-cinctum* (*Beiträge zur Geschichte der Schmetterlinge* **2** : [35]—36, 123, pl. 1, fig. B), i.e. the species now known as *Perigraphe cincta* (Fabricius, 1787) (= *Noctua cincta* Fabricius, 1787, *Mantissa Ins.* **2** : 155). Professor Hering reports that some authors followed the lead set by Warren in Seitz's *Grossschmetterlinge* but that in general the name *glaucina* Esper has held its own, being the name still in general use. Professor Hering concludes therefore that, while the name *trimacula* [Denis & Schiffermüller], probably represents the same species as *cincta* Fabricius, it must be regarded as being no more than a *nomen dubium*, the occasional intrusion of which into the literature serves no useful purpose, leading only to confusion by upsetting either the name *cincta* Fabricius or the name *glaucina* Esper. As this name possesses nothing but a nuisance value, the sensible course seems to be for the Commission to suppress it under its Plenary Powers, thus making possible the definitive acceptance of *glaucina* Esper as the oldest available name for the species here in question.

7. In the application submitted in this case Dr. Paclt pointed out (: 316) that the genus *Diloba* Boisduval is the type species of a subfamily DILOBINAE. This name, Professor Hering informs me (*in litt.*, 29th November 1956), was first published by Aurivillius (C.) in 1889 (*Nordens Fjärilar Handbok i Sveriges, Norges, Danmarks och Finlands Macrolepidoptera*). This family-group name appeared in this work both as a subfamily name (DILOBINAE) (: 79) and as a family name (DILOBIDAE) (: 95). Professor Hering informs me also (in the letter cited above) that the generic name *Episema* Ochsenheimer was first made the base of a family-group name by Guénée (A.) in 1852 (*Hist. nat. Ins.*, Spec. gén. **5** (Noct. 1) : 168, 407). On the first of the pages cited this name appeared in the vernacular (French) form " EPISEMIDES ", but on the later page in the correct form as EPISEMIDAE. These family-group names should now be placed on the *Official List of Family-Group Names in Zoology*.

8. It should be noted that there is a generic name *Episema* Cope & Jordan, 1877 (*Proc. Acad. nat. Sci. Philad.* **1877** : 77) in the Class

Pisces which is a junior homonym of *Episema* Ochsenheimer, 1816, and is therefore invalid.

9. On the question of the relative usage in the literature of the names *Heteromorpha* Hübner, *Episema* Ochsenheimer and *Diloba* Boisduval for the genus typified by *Phalaena caeruleocephala* Linnaeus, 1758, it appears from the information furnished in Dr. Paclt's application, as supplemented by the material provided by Professor Hering (1) that the name *Episema* Ochsenheimer was not used in the above sense until 1906 and that since that date it has been so used only to a limited extent, (2) that the name *Heteromorpha* Hübner has been used even less than the name *Episema* Ochsenheimer and that, when used, it has normally been attributed to the *Tentamen* of 1806 (as from which date it is an invalid name) and not from 1822 when it was first validly published, (3) that prior to 1906 the name *Diloba* Boisduval was the undisputed name for this genus, save for the few workers who then used the name *Heteromorpha* Hübner and that despite the action of Hampson and Warren this name has since remained in use and is the name currently accepted for the genus. There appears to be agreement that, if it were necessary to apply the name *Episema* Ochsenheimer to the genus typified by *Phalaena caeruleocephala* Linnaeus, the name which would need to be used for the genus hitherto known by the name *Episema* would be *Derthisa* Walker, 1857. That name has in fact been used by Hampson, Warren and others who have accepted the switch in the application of the name *Episema* required under a strict application in this case of the normal provisions of the *Règles*.

10. The publication of Dr. Paclt's application and the issue of Public Notices regarding the possible use of the Commission's Plenary Powers to secure the end sought elicited comments from three specialists : (1) J. G. Franclemont (then of the *U.S. Department of Agriculture, Bureau of Entomology and Plant Quarantine, Washington, D.C., U.S.A.*) (*Bull. zool. Nomencl.* **9** : 145) ; (2) Wm. T. M. Forbes (*Cornell University, Ithaca, N.Y., U.S.A.*) (through J. G. Franclemont in a letter dated 22nd November 1952) ; (3) E. M. Hering (*Humboldt-Universität zu Berlin*). Dr. Franclemont would prefer *Heteromorpha* Hübner, 1806 rather than either *Diloba* or *Episema* " thus doing away with any ambiguity inherent in the use of *Episema* " but added that " if an arbitrary decision has to be made, I think it should be made by European workers to whom this whole question means more than it does to American workers " (enclosure to letter dated 22nd November 1952). Dr. Forbes " would fix *caeruleocephala* as the type of " *Diloba*. Dr. Hering warmly supports the validation of *Diloba* Boisduval, 1840, as the name for the genus typified by *Phalaena caeruleocephala* Linnaeus, 1758, the recognition of *Phalaena glaucina* Esper, [1789], as the oldest available name for the species concerned and the designation of that species to be the type species of the genus *Episema* Ochsenheimer, 1816.

11. In the light of the information given in the present note it is possible to re-state as follows the action which the International Commission would need to take if it were to decide in favour of granting the application submitted by Dr. Paclt in the present case, namely that it should :—

(1) use its Plenary Powers :—

(a) to set aside all type selections for the genus *Episema* Ochsenheimer, 1816, made prior to the Ruling now asked for, and, having done so to designate *Phalaena glaucina* Esper, [1789], to be the type species of the foregoing genus ;

(b) to suppress for the purposes of the Law of Priority but not for those of the Law of Homonymy :—

(i) the generic name *Heteromorpha* Hübner, 1822 ;

(ii) the specific name *trimacula* [Denis & Schiffermüller], 1775, as published in the combination *Phalaena trimacula* ;

(2) place the under-mentioned generic names on the *Official List of Generic Names in Zoology* :—

(a) *Diloba* Boisduval, 1840 (gender : feminine) (type species, by monotypy : *Phalaena caeruleocephala* Linnaeus, 1758) ;

(b) *Episema* Ochsenheimer, 1816 (gender : neuter) (type species, by designation under the Plenary Powers under (1)(a) above : *Phalaena glaucina* Esper, [1789]) ;

(3) place the under-mentioned specific names on the *Official List of Specific Names in Zoology* :—

(a) *caeruleocephala* Linnaeus, 1758, as published in the combination *Phalaena caeruleocephala* (specific name of type species of *Diloba* Boisduval, 1840) ;

(b) *glaucina* Esper, [1789], as published in the combination *Phalaena glaucina* (specific name of type species of *Episema* Ochsenheimer, 1816) ;

(4) place the under-mentioned generic names on the *Official Index of Rejected and Invalid Generic Names in Zoology* :—

(a) *Heteromorpha* Hübner, 1806 (invalid because included in a work rejected for nomenclatorial purposes by the Ruling given in *Opinion* 97 as clarified by that given in *Opinion* 278) ;

(b) *Heteromorpha* Hübner, 1822, as suppressed under the Plenary Powers under (1)(b)(i) above ;

(c) *Episema* Cope & Jordan, 1877 (a junior homonym of *Episema* Ochsenheimer, 1816) ;

(5) place the under-mentioned specific name on the *Official Index of Rejected and Invalid Specific Names in Zoology* : *trimacula* [Denis & Schiffermüller], 1775, as published in the combination *Phalaena trimacula*, as suppressed under the Plenary Powers under (1)(b)(ii) above ;

(6) place the under-mentioned family-group names on the *Official List of Family-Group Names in Zoology* :—

(a) DILOBINAE Aurivillius (C.), 1889 (type genus : *Diloba* Boisduval, 1840) ;

(b) EPISEMIDAE Guénée (A.), 1852 (type genus : *Episema* Ochsenheimer, 1816).

12. I am greatly indebted to Professor Hering for information and advice in preparing the present note which in its present form has been approved by him in draft.

III. THE DECISION TAKEN BY THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE

11. Issue of Voting Paper V.P.(56)49 : On 31st December 1956 a Voting Paper (V.P.(56)49) was issued in which the Members of the Commission were invited to vote either for, or against, " the proposal relating to the generic names *Diloba* Boisduval, 1840, and *Episema* Ochsenheimer, 1816, submitted by Dr. Paclt [i.e. the proposal reproduced in paragraph 1 of the present *Opinion*] as formulated in paragraph 11 of the Supplementary Note submitted by the Secretary simultaneously with the present Voting Paper " [i.e. in the paragraph numbered as above in the paper reproduced in paragraph 10 of the present *Opinion*].

12. The Prescribed Voting Period : As the foregoing Voting Paper was issued under the Three-Month Rule, the Prescribed Voting Period closed on 31st March 1957.

13. Particulars of the Voting on Voting Paper V.P.(56)49 : At the close of the Prescribed Voting Period, the state of the voting on Voting Paper V.P.(56)49 was as follows :—

(a) *Affirmative Votes had been given by the following twenty-two* (22) *Commissioners* (*arranged in the order in which Votes were received*) :

Bodenheimer ; Lemche ; Hering ; Boschma ; Bradley (J.C.) ; Holthuis ; Kühnelt ; Bonnet ; Vokes ; Stoll ; do Amaral ; Mayr ; Key ; Dymond ; Riley ; Hemming ; Sylvester-Bradley ; Esaki ; Jaczewski ; Tortonese ; Cabrera ; Miller ;

(b) *Negative Votes, one* (1) :

Mertens ;

(c) *Prevented from voting by interruption of postal communications consequent upon political disturbances, one* (1) :

Hankó ;

(d) *Voting Papers not returned, one* (1) :

Prantl.

14. Declaration of Result of Vote : On 1st April 1957, Mr. Hemming, Secretary to the International Commission, acting as Returning Officer for the Vote taken on Voting Paper V.P.(56)49, signed a Certificate that the Votes cast were as set out in paragraph 13 above and declaring that the proposal submitted

in the foregoing Voting Paper had been duly adopted and that the decision so taken was the decision of the International Commission in the matter aforesaid.

15. Preparation of the Ruling given in the present " Opinion ": On 20th August 1957 Mr. Hemming prepared the Ruling given in the present *Opinion* and at the same time signed a Certificate that the terms of that Ruling were in complete accord with those of the proposal approved by the International Commission in its Vote on Voting Paper V.P.(56)49.

16. Original References : The following are the original references for the generic and specific names placed on *Official Lists* and *Official Indexes* by the Ruling given in the present *Opinion* :—

caeruleocephala, *Phalaena*, Linnaeus, 1758, *Syst. Nat.* (ed. 10) **1** : 504

Diloba Boisduval, 1840, *Gen. Index meth. europ. Lepid.* : 88

Episema Ochsenheimer, 1816, *Schmett. Europa* **4** : 65

Episema Cope & Jordan, 1877, *Proc. Acad. nat. Sci. Philad.* **1877** : 77

glaucina, *Phalaena*, Esper, [1789], *Die Schmett.*, Suppl. 3 Abschn. : 11, pl. 81, figs. 4, 5

Heteromorpha Hübner, 1806, *Tentamen* : 1

Heteromorpha Hübner, 1822, *Syst.-alph. Verz.* : 15, 18

trimacula, *Phalaena*, [Denis & Schiffermüller], 1775, *Ankündung syst. Werk. Schmett. Wiener Gegend* : 59

17. The following are the original references for the family-group names placed on the *Official List of Family-GroupNames in Zoology* by the Ruling given in the present *Opinion* :—

DILOBINAE Aurivillius (C.), 1889, *Nordens Fjärilar Handbok i Sveriges, Norges, Danmarks och Finlands Macrolepidoptera* : 79

EPISEMIDAE Guénée (A.), 1852, *Hist. nat. Ins.*, Spec. gén. **5** (Noct. 1) : 168, 407

18. At the time of the submission of the present application the name applicable to the second portion of a binomen was " trivial name ". This was altered to " specific name " by the Fourteenth International Congress of Zoology, Copenhagen, 1953, which at the same time made corresponding changes in the titles of the *Official List* and *Official Index* of names of this category. These changes in terminology have been incorporated in the Ruling given in the present *Opinion*.

19. The prescribed procedures were duly complied with by the International Commission on Zoological Nomenclature in dealing with the present case, and the present *Opinion* is accordingly hereby rendered in the name of the said International Commission by the under-signed Francis Hemming, Secretary to the International Commission on Zoological Nomenclature, in virtue of all and every the powers conferred upon him in that behalf.

20. The present *Opinion* shall be known as *Opinion* Four Hundred and Ninety-Four (494) of the International Commission on Zoological Nomenclature.

DONE in London, this Twenthieth day of August, Nineteen Hundred and Fifty-Seven.

Secretary to the International Commission
on Zoological Nomenclature

FRANCIS HEMMING

Printed in England by METCALFE & COOPER LIMITED, 10-24 Scrutton St., London E C 2