## A Preliminary Annotated Checklist of the Brahmaeidae of the World – Part VA. The *lucina*group of the genus *Dactyloceras* MELL, 1927 (Lepidoptera: Brahmaeidae)

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**Zusammenfassung:** Der folgende Beitrag zur Kenntnis der Familie Brahmaeidae SWINHOE, 1892 (Lepidoptera) ist Teil der Serie *"Brahmaeidae of the World*", die nach Fertigstellung eine möglichst vollständige Übersicht über diese Familie geben sollte. Neue Erkenntnisse und neue Namen wurden eingearbeitet soweit sie bis zur Drucklegung aus der Literatur bekannt und uns zugänglich waren. Auf Grundlage von etwa 400 Einzelpublikationen wurde versucht, eine aktuelle und nahezu vollständige Literaturübersicht über die Familie Brahmaeidae zu erstellen. Der Umfang machte eine möglichst zweckmässige Unterteilung in bestimmte Themenbereiche notwendig, die spätere Ergänzungen oder Korrekturen erleichtern sollte. Der Teil VA befasst sich speziell mit der *lucina*-Gruppe der afrotropischen Gattung *Dactyloceras* MELL, 1927. Diese erste zusammenhängende Analyse der Familie Brahmaeidae soll keine Gattungsrevision darstellen, sondern lediglich den heutigen Kenntnisstand aufzeigen und eine gute Arbeitsgrundlage für weitere Studien zur Familie Brahmaeidae SWINHOE, 1892 bieten.

**Summary:** The following contribution to knowledge the family Brahmaeidae SWINHOE, 1892 (Lepidoptera) is part of the series "*Brahmaeidae of the World*", which should give a complete overview of this family after completion. New scientific results and new names were incorporated as far as they were known from literature up to the time of printing and were accessible to us. On the basis of about 400 individual publications, an attempt was made to create an up-to-date and almost complete overview of the literature on the family Brahmaeidae. The scope made it necessary to subdivide the information into certain subject areas as expediently as possible, which should facilitate subsequent additions or corrections. Part VA deals specifically with the *lucina*-group of the family Brahmaeidae is not intended to represent a generic revision, but merely to show the current state of knowledge and provide a good working basis for further studies on the family Brahmaeidae SWINHOE, 1892.

**Taxonomic remark:** we would like to point out that in this work we do not divide the taxa of the genus *Dactyloceras* MELL, 1927 into the nominotypical subgenus and the subgenus *Shinocksiceras* BOUYER, 2002 although we currently recognize the taxonomic status of *Shinocksiceras*. The status of *Shinocksiceras* is needed confirmed within a generic revision. We would also like to point out that the classification into collective-groups is provisional and needs to be confirmed and possibly corrected in the course of a generic revision.

**Important notes:** This contribution to knowledge the Brahmaeidae is regarded as provisional with regard to completeness and occasionally provisional with regard to the status of scientific names that are specially marked here.

All quotations made in this issue (Part VA) about taxa that do not belong to the subgenus *Brahmophthalma* MELL, 1928, the subgenus *Brahmaea* WALKER, 1855, and/or to the *lucina*-group of the subgenus *Dactyloceras* MELL, 1927 are provisional with regard to their taxonomic status. These taxa are dealt with conclusively in the relevant parts of the entire publication on the family Brahmaeidae SWINHOE, 1892.

## Dactyloceras MELL, 1927

**Brahmaeidae SWINHOE**, 1892

Dactyloceras MELL in Hering in Seitz, 1927

- Dactyloceras MELL in Hering in Seitz, 1927; STATUS-; subgenus of Dactyloceras MELL in Hering in Seitz, 1927
- Shinocksiceras BOUYER, 2002; STATUS-; subgenus of Dactyloceras MELL in Hering in Seitz, 1927
- *lucina* (DRURY, 1782) (*Phalaena Attacus*)

swanzii (BUTLER, 1871) (Brahmaea) [junior subjective synonym]

tridentata (CONTE, 1911) (Brahmaea) [incorrect gender]

tridentatum (CONTE, 1911) (Brahmaea)\*; STATUS-; stat. rev.; REMOVAL-

- FROM-SYNONYMY; with lucina (DRURY, 1782)
- tridentata (CONTE, 1919) (Brahmaea) [junior primary homonym]
- nebulosa BROSCH, NAUMANN & MEISTER, 2002 ["2001"] (Brahmaea) [incorrect gender]

nebulosum Brosch, NAUMANN & MEISTER, 2002 ["2001"] (Brahmaea)\*

\* the original spelling was emended according to the rules of the ICZN (2000) Art. 32, cf. Naumann, Brosch & Nässig (2005).

#### **Type localities**

- *lucina* (DRURY, 1782) (*Phalaena Attacus*): Sierra Leon, on the coast of Africa [Sierra Leone]
- *swanzii* (BUTLER, 1871) (*Brahmaea*): West coast of Africa, Fantee [Fante (Accra), Ghana]

*tridentatum* (CONTE, 1911) (*Brahmaea*): Congo supérieur [Upper Congo (region – archaic), broader terms: Democratic Republic of Congo]

*nebulosum* BROSCH, NAUMANN & MEISTER, 2002 ["2001"] (*Brahmaea*): Cameroon, Yaóunde environment.



**Map 1.** Type localities of the taxa of the *lucina*-group\* of the genus *Dactyloceras* MELL *in* Hering *in* Seitz, 1927 (Lepidoptera: Brahmaeidae).

- 1. lucina (DRURY, 1782) (Phalaena Attacus)
- 2. swanzii (BUTLER, 1871) (Brahmaea) [synonym]
- 3. tridentatum (CONTE, 1911) (Brahmaea)
- **4.** *nebulosum* BROSCH, NAUMANN & MEISTER, 2002 ["2001"] (*Brahmaea*)

\* Remarks: collective-group names established by Bouyer (2002) Entomologia Africana, revue de l'A.S.B.L. «Société d'Entomologie africaine», 7 (1): pp. 15-27, and further publications by the same author comply with the requirements of the ICZN (1999) Art. 1.2, 10.3, 13.3.2, 23.7, 42.2.1, 66.1, and 67.14. Bouyer (2005: 454) remarked that the seven names listed in the widenmanni-group in no way reflect the systematics of the group but simply the existence of the names published without prejudging either their taxonomic level or their validity as a species. Collective-group names proposed by Bouyer (2002, 2005) were established tentative for certain assemblages of taxonomic convenience rather. Bouyer (2008: 184) noted that the discoveries of D. (Shinocksiceras) vandeweghei BOUYER, 2008, D. (Shinocksiceras) minettii BOUYER, 2008, D. (Shinocksiceras) cadioui BOUYER, 2008, and D. (Shinocksiceras) tanzaniensis BOUYER, 2008, as well as the two previous ones D. vingerhoedti BOUYER, 2005 and D. noellae BOUYER, 2006 call into question the division of the subgenus Shinocksiceras BOUYER, 2002 into collective-groups previously proposed by Bouyer (2002). The names bramarbas-group and barnsi-group were therefore deleted because they obviously not only do not represent monophyletic groups, but in addition also no longer offer any useful advantage in the identification or classification of the subgenus Shinocksiceras BOUYER, 2002. The grouping into the lucina-group (sensu Bouyer 2002) and widenmanni-group (sensu Bouyer 2002) was excluded from above statement and the status remained not clear. We decided to continue using the term lucina-group (sensu Bouyer 2002) for taxa placed in the subgenus Dactyloceras MELL, 1927.

## *Dactyloceras* MELL, 1927 The *lucina*-group (sensu Bouyer 2002)

#### lucina (DRURY, 1782) (Phalaena Attacus)

Original citation and spelling: XXXIV, 1. Lucina – Phal. Att. [n. sp.]

**Original description:** Drury, D. (1782): Illustrations of Natural History. Wherein are exhibited Upwards of Two Hundred Figures of Exotic Insects. According to their different Genera; Very few of which have hitherto been figured by any Author, Being engraved and coloured from Nature, with the greatest Accuracy, and under the Author's own Inspection, On Fifty Copper-Plates. With a particular Description of each Insect: Interspersed with Remarks and Reflections on the Nature and Properties of many of them. – printed by the author; London: 1782; Vol. III: 15+76 pp., 50 col.pls.

**Remarks:** Wagner *in* Strand (1913: 4) cited Drury, Ill. Exot. Ent. 3, t. 34, f. 1 (1780) as original description. Heppner (1982: 90-91) confirmed Drury (1782) for Vol. 3.

- Type locality: Sierra Leon, on the coast of Africa [Sierra Leone].
- Geographical and altitudinal distribution: records are from Sierra Leone (Drury 1782) and Congo (Gardiner 1982: 114). Karsch (1895) recorded specimens in Berliner Museum from Central Africa and Togo. Schultze (1914) recorded *B. lucina* from Gadjifu [Nigeria] from the lowland rain forest at the upper Cross River. A record is from Sierra Leone, Kono district, Tingi hills, 800 m, cf. http://www.lepiforum.de/lepiwiki .pl?Dactyloceras Lucina. BOLDSYSTEM recorded D. lucina from Equatorial Guinea, Ghana, Ivory Coast, Kenya, Sierra Leone, Uganda, and Zambia. Barcoded specimens (by BOLD) are from Gabon, Nigeria, Cameroon, Angola, and Ivory Coast, cf. https://www.boldsystems.org /index.php/Taxbrowser Taxonpage?searchMenu=taxonomy&query =Da ctyloceras+lucina&taxon=Dactyloceras+lucina. Naumann (2008: 115) recorded *lucina* from West Africa through all the Central Equatorial forest areas to Uganda and western Kenya in the East. Jongema (2017) recorded D. lucina from Zambia, South Africa [sic], Cameroon, Congo, Angola, Gabon, and Sierra Leone. Maag (2021) recorded D. lucina from Amedzofe, Volta Region, Ghana. De Prins, J. & De Prins, W. (2011-2021) Afromoths (http://www.afromoths.net) [accession date: 02 SEP 2021] recorded lucina from Cameroon, Central African Republic, Congo, Democratic Republic of Congo, Equatorial Guinea, Gabon, Ghana, Guinea, Ivory Coast, Kenya, Nigeria, Senegal, Sierra Leone,

South Africa [sic], Tanzania, Uganda, and Zambia together with appropriate publications.

**Remarks:** above ranges occasionally also refer to allied taxa of *Dactyloceras lucina* (DRURY, 1782) and probably *Spiramiopsis comma* HAMPSON, 1901 (South Africa).

- **Etymology:** not provided, either Goddess of birth in the form of Juno or Diana, or = Hecate as the originator of bad, dark dreams, cf. PONS.
- Type material: the description based on a series of syntypes of unrecorded sex. A ♂ syntype was figured by Drury (1782: pl. XXXIV, fig. 1). The figured syntype was found being preserved in the Macleay collection in The Australian Museum (Sydney) and subsequently designated as lectotype of *Phalaena lucina* DRURY, 1782 by Brosch, Naumann & Meister (2002) galathea 17 (4), 2001 [printed in 2002, made available 21.i.2002], pp. 189-197. Unlocated remaining syntypes, if any, would become paralectotypes, cf. ICZN (1999) Art. 74.1.3. Bouyer (2002: 18) recorded a type specimen of *lucina* being preserved in the MNH / Museum Natural History, London (U.K.).
- Taxonomic history: *Phalaena Attacus* [Saturniidae] Drury (1782); *Bombyx* – Olivier (1790); *Saturnia* [Saturniidae)] – Westwood (1849); Bombycidae – Duncan (1852); *Brahmaea* – Walker (1855); Saturniidae – Butler (1871); Bombycidae – Kirby (1892); Brahmaeidae – Swinhoe (1892); Bombycides – Conte (1911); Brahmaeidae – Strand (1912); Bombycides – Conte (1919); Brahmaeidae – Hering (1927).
- Taxonomic notes: concluded from the genetic analysis (by BOLD) the name *lucina* most probably is applied to more than one taxon at the time being. Further comparative studies on geographic distribution and genetic variability are considered needed. Further taxa in this species group are *D. nebulosum* BROSCH, NAUMANN & MEISTER, 2002 ["2001"], which was described from Cameroon, *D. swanzii* (BUTLER, 1871) described from Ghana and *D. tridentatum* (CONTE, 1911) described from Congo. Previous authors occasionally considered the latter two names to be junior subjective synonyms of *D. lucina* (DRURY, 1782) [see next Chapter "tridentatum (CONTE, 1911) (*Brahmaea*)"].

The name *lucina* (DRURY, 1782) was listed as species of *Dactyloceras* (*Dactyloceras*) MELL, 1930 [sic] in Kitching, I.J., Rougerie, R., Zwick, A., Hamilton, C.A., St Laurent, R.A., Naumann, S., Ballesteros Mejia, L. & Kawahara, A.Y. (2018): A global checklist of the Bombycoidea (Insecta: Lepidoptera); published online 2018 Feb 12. doi: 10.3897/BDJ .6.e22236.

**General notes:** first time illustrated in color by Drury (1782) col.pl. XXXIV, fig. 1, in Ill. Nat. Hist, Vol. III, but noted being undescribed (: [46]); the name was proposed in the Index to the Third Volume. Conte

- (1919: pl. XII, fig. 1) figured an adult of B. Lucina [sic] of undetermined sex. The figured specimen not fits to the lectotype or any known pattern morph of lucina. Schultze (1914) recorded Ceropegia conraui [sic] K.SCH. (Asclepiadaceae) as host of the larvae of *B. lucina*. Conte (1919: pl. XII, fig. 1) figured an adult of B. Lucina [sic] of undetermined sex. The figured specimen not fits to the lectotype or any known pattern morph of *lucina*. Hering *in* Seitz (ed.) (1927a, 1927b, 1943) figured and  $\bigcirc$  D. lucina (pl. 60 a) in color. Paukstadt, U. & Paukstadt, L. H. (1987) figured the proboscis of D. lucina (Cameroon) (: 115, fig. 1c) in phot.h.-t. Bouver (2002: 27, figs. 10-14 [line drawings]) figured the  $3^{\circ}$ genitalia structures of D. lucina. Naumann (2008: fig. 1103) figured D. lucina [undetermined sex] from Kenya in color. Weritz, Riekert & Naumann (2016) figured for comparisons the larvae of Dactyloceras *lucina* (DRURY, 1782) the 1<sup>st</sup> and 3<sup>rd</sup> instar larvae (pl. 2, figs. 15, 16) and the 4<sup>th</sup> instar larva (pl. 3, fig. 17) for the first time being. The mature larva and pupa of *Dactyloceras* sp. (*lucina* or *tridentatum*) were copied from Schultze (1931: pl. 3, figs. 1, 3), larva (pl. 3, fig. 19) and the pupa ventrally, laterally and detail (pl. 3, fig. 20). "Ceropegia conraui [sic] K. SCH." (C. conrathii SCHLECHTER. [sic]) was cited as host for D. lucina based on Schultze (1931). De Prins, J. & De Prins, W. (2011-2021) Afromoths (http://www.afromoths.net) [accession date: 02 SEP 2021] provided the food plant Ceropegia conrathii (Apocynaceae) based on Schultze (1914: 121). The  $\eth$  and  $\updownarrow$  adults from Cameroon, Ghana, Tanzania, Congo, Gabun, Congo, and Senegal were figured in color. Remarks: above cited illustrations occasionally may also refer to allied taxa of Dactyloceras lucina (DRURY, 1782).
- Synonyms: for misinterpretations see the appropriate text parts. Junior subjective synonyms, junior objective synonyms, errors and incorrect subsequent spellings for *lucina* (DRURY, 1782) are as follows: *swanzii* (BUTLER, 1871) (*Brahmaea*); STATUS-; junior subjective synonym

*lucina* (DrURY, 1982); Bouyer (2002: 20) [lapsus, error in publication date]

**Hybridizations:** inter-generic and inter-specific pairings with *lucina* (DRURY, 1782) are unknown from literature.

#### Further readings on *lucina* (DRURY, 1782)

- Drury (1782) Ill. Nat. Hist., Vol. III; described (: [46]) and illustrated a specimen from Sierra Leon, on the [west] coast of Africa (col.pl. XXXIV, fig. 1), and noted that this species remains undescribed. The name *Lucina* [sic] of the genus *Phalaena Attacus* was proposed in the Index to the Third Volume.
- Olivier (1790) Histoire naturelle. Insectes. *In*: Encyclopédie méthodique, Tome cinquieme; MDCCXC, pp. 1-793; listed (: 8, 31) 27. Bombix Lucine [French] and

*Bombyx Lucina* [Latin]. In subordination [nec synonym] *Phalæna Lucina* [sic] DRURY from Sierra Léon, Afrique was cited.

- Duncan (1841) The natural history of exotic moths. *In*: Jardine (ed.) (1841) in the volume of Exotic Moths forming part of Jardine's Naturalist's Library, vol. vii, 1841, [published by W. H. Lizars (Edinburgh)]; 1<sup>st</sup> Edition; see Duncan (1852).
  Remarks: please read Duncan (1852). There can be an older version of Duncan's *Exotic Moths* available, which has been published by Henry G. Bohn (1840). Duncan probably has been one of the first who assumed that the Asian and Afrotropical taxa of the Brahmaeidae seems to be closely related.
- Duncan (1843) Exotic Moths. *In*: Jardine, (ed.) (1843) The Naturalist's Library, Entomology, Vol. XXXVII, Entomology VII. – Published by W. H. Lizars (Edinburgh); see Duncan (1852)
- Hope (1841) Trans. Linn. Soc. London, XVIII, (435)-447, pls. XXX and XXXI; very early noted that it seems probable that *Bombyx Spectabilis* [sic] HOPE, 1841 will at some future time be considered the type of a new genus. He noted differences in Afrotropical and Indo-Australian taxa of Brahmaeidae 'anterior wings were described laterally rounded and not scalloped as in the case with several, if not all, of the African species belonging to this group', and the only species of his acquaintance with which it could be compared was *Bombyx Lucina* [sic] DRURY from the vicinity of Sierra Leone (: 443-444, pl. 31 fig. 3).

**Remarks:** the description of *Bombyx spectabilis* HOPE, 1841 and illustration refer to *Brahmaea (Brahmophthalma) wallichii (wallichii (GRAY, 1831). B. (Brahmophthalma) spectabilis* (HOPE, 1841) is a junior subjective synonym of the latter.

Westwood (1849) Proc. zool. Soc. London, XVII (CXCII-CXCIII), 1849, pp. 33-61; made a critical remark about Duncan (in the volume of Exotic Moths forming part of Jardine's Naturalist's Library, vol. vii, 1841), that Duncan's observations on the hindwing tails were correct, yet 'has carried it too far in proposing to unite together two insects belonging to different genera, and equally far removed in their geographical range, namely Saturnia Lucina [sic] DRURY from Sierra Leone and Bombyx spectabilis HOPE from Assam, which are different in the wing morphologies and the venations, and which in fact belongs rather to the group which includes Lasiocampa' (: 36-37). Bombyx Certhia [sic] FABRICIUS, Bombyx Wallichii [sic] GRAY, and Phalaena maxima PETIVER from Chusan were cited in subordination [as synonyms] of Bombyx spectabilis HOPE. The author noted that the insect [concluded from text Bombyx spectabilis / Bombyx Certhia [sic]] in fact rather belonging to the group of which Lasiocampa is a good type. Saturnia Lucina [sic] DRURY was confirmed in Saturnia (Saturniidae) (: 37). Westwood listed Sp.[ecies] 25. Saturnia Lucina [sic] DRURY from Sierra Leone in Section D (D. Wings without eves or vitreous spots) (: 56-57). He placed Phalaena Attacus Lucina [sic] DRURY in subordination of Saturnia Lucina [sic] DRURY. Westwood finally noted that he has not seen any specimen of this insect, the veins of which agree rather with Saturnia than Lasiocampa, although the antennae seem but narrowly pectinated.

Remarks: the text is identical with the republished version Westwood (1850).

Westwood obviously confused *B.* (*Brahmaea*) certhia (FABRICIUS, 1793) and *B.* (*Brahmophthalma*) wallichii wallichii (GRAY, 1831); both species are distinct. *Phalaena* ‡maxima is a prelinnean name. The description of *B.* (*Brahmaea*) certhia (FABRICIUS, 1793) was based on Petiver's illustration of *Phalaena* ‡maxima.

Westwood (1850) [iv.1850] Ann. & Mag. N. Hist. Ser. 2 Vol. v, 1850: pp. 290-306 [first part of a reprint first published in Proc. zool. Soc. London, XVII (CXCII-CXCIII), 1849, pp. 33-61, Annulosa, pls. VII-X]; made a critical remark about Duncan (in the volume of Exotic Moths forming part of Jardine's Naturalist's Library, vol. vii, 1841). He remarked that Duncan's observations on the hindwing tails were correct, yet he has carried it too far in proposing to unite together two insects belonging to different genera and equally far removed in their geographical range, namely Saturnia Lucina [sic] DRURY from Sierra Leone and Bombyx spectabilis HOPE from Assam; the insect [Bombyx Certhia [sic] = Bombyx spectabilis] in fact belonging rather to the group of Lasiocampa [shortened citation]. Saturnia Lucina [sic] DRURY was confirmed in Saturnia [Saturniidae] (: 37). Westwood listed: Sp.[ecies] 25. Saturnia Lucina [sic] DRURY from Sierra Leone in Section D (D. Wings without eyes or vitreous spots) (: 56-57). He placed Phalaena Attacus Lucina [sic] DRURY in subordination of Saturnia Lucina [sic] DRURY. He finally noted that he has not seen any specimen of this insect, the veins of which agree rather with Saturnia than Lasiocampa, although the antennae seem but narrowly pectinated.

**Remarks:** this publication is just the first part of a reprint of the paper first published in Proc. zool. Soc. London, XVII (CXCII-CXCIII), 1849, pp. 35-58; Annulosa, pls. VII-X, and did not include nomenclatural acts.

Duncan (1852), in the volume of Exotic Moths forming part of Jardine's Naturalist's library (Vol. xxxii, 1852) [publised by W. H. Lizars (Edinburgh)]; noted, that *Bombyx spectabilis* HOPE was recently described from Assam and the Q figured by Westwood in the Linnean Transactions, Vol. xviii, Part 3, pl. 31, fig. 3. Duncan (: 128) noted that he has seen another Q from Serampore [West Bengal] which appeared to be the female of '*Phal. Attacus, Lucina* [sic] DRURY, vol. iii. pl. 34, fig. 1' from Africa. This misinterpretation has been explained with his remark that 'nearly all the Saturniae [sic] have a wide geographical distribution'. He remarked that the forewings of *Spectabilis* [sic] are rounded laterally and of *Lucina* [sic] are strongly falcate. The author noted (: 128, footnote) that *B. spectabilis* HOPE has been figured by Gray in the Zoological Miscellany under the name of *B. Wallichii* [sic]. Duncan placed various taxa of the Bombycidae, Saturniidae and Brahmaeidae in the family Bombycidae (Bombycites sensu Latreille).

**Remarks:** D. lucina (DRURY, 1782) (Phalaena Attacus) represents an Afrotropical taxon, which is replaced in Asia by taxa of the related genus Brahmaea WALKER, 1855. Concluded from text Duncan recognized that wallichii (GRAY, 1831) (Bombyx) and spectabilis (HOPE, 1841) (Bombyx) being synonyms.

Concluded from citations in literature there is an older version of Duncan's Exotic Moths available, which has been published by Henry G. Bohn (1840) [Jardine's Naturalist's library, Vol. vii, 1841] which has been not in our hands thus far.

Walker (1855) List lep. ins. B. M., 6, pp. 1315, 1316, 1317; listed the generic name *Brahmaea* WALKER, 1855 in a key to genera [List lep. ins. B. M., 5] and subsequently included two species with *Bombyx Certhia* [sic] FABRICIUS, 1793 from Assam and Silhet [Sylhet, Bangladesh] being the first name cited. No typus generis was designated by him for *Brahmaea* WALKER, 1855. The second species included has been *Brahmaea*? *Lucina* [sic] from Sierra Leone. *Phalaena Attacus Lucina* [sic] DRURY, *Bombyx Lucina* [sic] [sensu Olivier 1790] and *Saturnia Lucina* [sic] [sensu Westwood 1849, 1850] were cited in subordination of *Brahmaea*? *Lucina* [sic] DRURY. Walker remarked under *Lucina* [sic] "This species probably constitutes a distinct genus" (: 1317).

**Remarks**: *Bombyx certhia* FABRICIUS, 1793 was originally described from the island of Chusan, China and is considered being a Chinese taxon which not inhabits the Indian subcontinent.

Walker (1855: 1316) already noted that the African species probably constitutes a distinct genus. We interpret the citation '*Brahmaea*? *Lucina* [sic]' to the point that Walker had doubts whether *lucina* could even be assigned to the genus *Brahmaea* WALKER, 1855.

Ménétriès *in* Schrenck (1859) [xii.1859] Reis. Amurl. 2, lfg. 1. p. 55 (1859); listed *Brahmaea lunulata* BREMER [sic] (1852) [sic] from Siberia. He noted that this species forms a natural group, with *certhia* Fabr. [FABRICIUS] and *lucina* Oliv. Westw. [sic], called *Brahmaea* WALKER, 1855.

Remarks: correct as D. lucina (DRURY, 1782) (Phalaena Attacus).

Butler (1866) Proc. zool. Soc. London, 1866, pp. 118-122; described *Brahmaea petiveri* from the Island of Chusan (China) [Zhoushan, P. R. China] and *Brahmaea whitei* from North-western India? as new. For comparisons *Brahmaea certhia* FABRICIUS, 1797 [sic] (: 119; fig. 1) and *Brahmaea lucina* DRURY [sic] from Sierra Leone were illustrated (: 121; fig. 4). Butler (: 121) noted that the forewing pattern of *B. petiveri* seems more allied to *B. lucina* DRURY [sic]. The Afrotropical *B. lucina* was placed in the genus *Brahmaea*.

**Remarks:** Butler confused the Indian populations of *Brahmaea* with the Chinese *B*. (*Brahmaea*) *certhia* (FABRICIUS, 1793). *B*. (*Brahmaea*) *petiveri* BUTLER, 1866 is a junior objective synonym of *B*. (*Brahmaea*) *certhia* (FABRICIUS, 1793).

Butler (1871) Proceedings (p. xli) Trans. ent. Soc. London, 1870; described *Brahmaea swanzii* from West Africa and noted that this species is intermediate between *B. Lucina* [sic] and *lunulata*.

**Remarks:** *B.* (*Brahmaea*) *lunulata* (BREMER & GREY, 1853 ["1852"]) is a Palearctic species of the genus *Brahmaea* WALKER, 1855 which is absent in the Afrotropical region. *D. swanzii* (BUTLER, 1871) is a junior subjective synonym of *D. lucina* (DRURY, 1782).

Butler (1871) Lep. Exot., 1869-1874, pp. 1-190, 62 col. pls., 1 monochr. pl.; placed *Brahmaea Swanzii* [sic] BUTLER, 1871 in the family Saturniidae (: Index, 78). He compared the wing ornamentation of this species with those of *B. Lucina* [sic], *B. lunulata*, *B. Certhia* [sic], and *B. Whitei* [sic] (: 78-79).

**Remarks:** the name *certhia* of the list above cannot be assigned to a specific taxon with certainty and might refers to an Indian species. *D. swanzii* (BUTLER, 1871) is a junior subjective synonym of *D. lucina* (DRURY, 1782).

Butler (1880b) Ent. mon. Mag., XVII, 1880-81, pp. 110-111; was grouping the genus *Brahmaea* as follows: Section I: *Brahmaea Lucina* [sic] DRURY [sic] (Sierra Leone), *Brahmaea Swanzyi* [sic] BUTLER (Fantee and Old Calabar); Section II: Brahmaea Certhia [sic] FABRICIUS [sic] (= lunulata BREMER [sic], = Petiveri [sic] BUTLER) (Chusan and North China), Brahmaea Ledereri [sic] ROGENHOFER (Asia Minor), Brahmaea Mniszechii [sic] FELDER (Japan); Section III: Brahmaea japonica BUTLER (Yokohama and Nikko), Brahmaea nigrans BUTLER, 1880 (Japan). Without group status did remain Brahmaea Whitei [sic] BUTLER (Darjiling), Brahmaea conchifera BUTLER (Silhet and Darjiling), Brahmaea rufescens BUTLER (NE Bengal), and Brahmaea Wallichii [sic] GRAY [sic] (Nepal). Butler noted that 5 out of 11 species [sensu Butler 1880] were not represented in the National Collection.

**Remarks:** Butler confused taxa of the genus *Brahmaea* WALKER, 1855. The Afrotropical taxa were correctly placed in a separate group (Section I).

B. (Brahmophthalma) nigrans BUTLER, 1880 is a junior subjective synonym of B. (Brahmophthalma) japonica BUTLER, 1873. B. (Brahmophthalma) whitei BUTLER, 1866 is a junior objective synonym of B. (Brahmophthalma) hearseyi WHITE, 1862 ["1861"], B. (Brahmophthalma) conchifera BUTLER, 1880 and B. (Brahmophthalma) rufescens BUTLER, 1880 are junior subjective synonyms of B. (Brahmophthalma) wallichii wallichii (GRAY, 1831). D. swanzii (BUTLER, 1871) is a junior subjective synonym of D. lucina (DRURY, 1782).

The Mfantsefo or Fante (Fanti is an older spelling) are an Akan people. The Fanti state occupies the coastal belt of Ghana with the current capital Accra. Calabar, formerly Old Calabar, town and port, capital of Cross River state, southeastern Nigeria, cf. Encyclopedia Britannica.

[Pagenstecher *in* Gerstaecker *in*] Fischer (1885) Mitteilungen der Geographischen Gesellschaft in Hamburg . 1882-83, (1884-85), pp. 238-279; noted 'Die wenigen Schmetterlinge sind nach den Bestimmungen des Herrn Professor Pagenstecher:'
[= "The few butterflies are according to the determinations of Professor Pagenstecher:"]. *Brahmaea Neumayeri* [sic] P. sp. nov. Ssigirari, was clearly marked with P.[AGENSTECHER] as author. *Brahmaea Neumayeri* [sic] PAGENSTECHER, *B. lucina* DRURY [sic], and [*B.*] *Swanzi* [sic] BUTLER were cited within the text and briefly compared (: 274). Following the 'Contents' [unnumbered p.] the contribution "4. Verzeichnis der von Dr. G. A. Fischer gesammelten Insekten" was written by Prof. A. Gerstaecker, p. 274.

**Remarks:** the complete citation of the name has to be accordingly: *Brahmaea neumayeri* PAGENSTECHER *in* Gerstaecker *in* Fischer, 1885. *D. swanzii* (BUTLER, 1871) is a junior subjective synonym of *D. lucina* (DRURY, 1782).

- [Pagenstecher *in*] Fischer (1885) Das Massai-Land, 155 pp.; placed the African taxa *Neumayeri* [sic] PAGENSTECHER, [1885], *lucina* DRURY [sic], and *Swanzi* [sic] BUTLER in *Brahmaea* (: 150). *B. lucina* DRURY [sic] and *Swanzi* [sic] BUTLER were cited for comparison with *Brahmaea Neumayeri* PAGENSTECHER, 1885.
- Kirby (1892) Syn. Cat. Lep. Het., I, Sphinges and Bombyces, XII + 951 pp.; placed the genus *Brahmaea* in the Bombycidae (: 723-724, Appendix: 933). Kirby was the first who designated a type-species for *Brahmaea* WALKER, 1855: *B. Conchifera* [sic] BUTLER, 1880. The author included 14 species in *Brahmaea*. Three species of those were 12. *B. Lucina* [sic] DRURY, 1780 [sic] from Sierra Leone, 13. *B. Swanzii* [sic] BUTLER, 1870 [sic] from West Africa, and finally 14. *B. Ocelligera* [sic] BUTLER, 1889 from Mombasa [Kenya].

**Remarks:** Kirby designated *B. (Brahmophthalma) conchifera* BUTLER, 1880 as type species of the genus *Brahmaea* WALKER, 1855. The type designation by Kirby (1892: 724) is invalid because the name *conchifera* BUTLER, 1880 was not originally included in Walker (1855: 1315-1316) and *B. Certhia* [sic] (sensu Walker 1855: 1316) considered being misidentified. The Afrotropical taxa of the Brahmaeidae were included in the genus *Brahmaea* WALKER, 1855.

D. swanzii (BUTLER, 1871) is a junior subjective synonym of D. lucina (DRURY, 1782).

Karsch (1895) Entomologische Nachrichten (Putbus/Rügen, Berlin, Stettin), XXI (22), 1895: pp. [337]-360; recognized fife species in the African *Brahmaea*. He compared three new species *Brahmaea bramarbas* KARSCH, 1895, *B. catenigera* KARSCH, 1895, and *B. widenmanni* KARSCH, 1895 with *B. ocelligera* BUTLER and *B. lucina* (DRURY). Karsch (: 338-339) considered the names *B. lucina* and *B. swanzii* BUTLER, 1871 for both  $\Im$  and  $\Im$  of the same species [this has been a new synonym of *B. lucina* (DRURY)].

**Remarks:** the genus *Brahmaea* WALKER, 1855 is replaced by *Dactyloceras* MELL, 1927 in Africa. *D. widenmanni* KARSCH, 1895 is presently considered a junior subjective synonym of *D. neumayeri* PAGENSTECHER *in* Gerstaecker *in* Fischer, 1885.

- Strecker (1899) Index of Species to Kirby's Syn. Cat. Lep. Het., Vol. I, pp. [1]-45; listed *Lucina* [sic], 91, 724, 784 (: 26).
- Aurivillius (1901) Bihang till Kongl. Svenska vetenskaps-akademiens handlingar, Bd. 27, afd. 4, 1901-1902, (7), pp. 1-33; remarked that the family Striphnopterygidae is restricted to Asia, Africa, and Europe. A review of the Ethiopian genera of the family Striphnopterygidae was given. Aurivillius noted that the genus *Brahmaea* of Hampsons family Brahmaeidae [see "Remarks" below], is also very nearly allied to Striphnopteryginae and especially to *Sabalia* but the distinct morphology (mouth part, hindwing cell, and coloration and structure of the larvae) prevent him from uniting *Brahmaea* with the Striphnopterygidae. He remarked that Hampson stated that the frenulum is absent, but in the 3 of the African *B. lucina* there is a distinct frenulum and retinaculum.

**Remarks:** correct as Brahmaeidae SWINHOE, 1892; the genus *Brahmaea* WALKER, 1855 is replaced by *Dactyloceras* MELL, 1927 in the Afrotropical region.

Packard (1904) Proc. Amer. Acad., Vol. XXXIX, No. 22, 1904 [vi. 1904], pp. [547]-578; noted that his studies led to infer that the Asian Brahmaeidae originally may have been derived from African forms due to the wing morphology. Packard briefly compared the West African *B. lucina* with the South American *Arsenura*. Finally Packard established the group Symbombycina for the families Bombycidae, Endromidae, Lasiocampidae, Liparidae, and Eurypterotidae [sic] and noted that the Brahmaeidae should be associated in this group (: 578).

**Remarks:** correct as Eupterotidae SWINHOE, 1892, *Arsenura* DUNCAN [& WESTWOOD], 1841; *Brahmaea* WALKER, 1855 is replaced in Africa by *Dactyloceras* MELL, 1927.

Conte (1911) Essai d. Class. Lep. Prod. de Soie, *in*: Rapp. du Laborat. d'ét. de la Soie, 14, pp. [1]-90; recorded and figured *Brahmaea Lucina* [sic] DRURY, 1780 [sic] (*Attacus*) from Sierra Leone. The adult was described (: 76-77) and figured in color dorsally (pl. XII, fig. 1). '*Brahm.*? WALK., Cat. Lep. Het. B. M., p. 1316' was cited in synonymy of *Brahmaea Lucina* [sic] DRURY, 1780 [sic] (*Attacus*).

**Remarks:** Conte's citation '*Brahm*.? WALK., Cat. Lep. Het. B. M., p. 1316' is considered being incomplete. Walker (1855: 1316) listed '2. *Brahmaea* ? *Lucina* [sic]' and actually placed *Phalaena Attacus Lucina* [sic] DRURY in synonymy.

We interpret the citation '*Brahmaea*? *Lucina* [sic]' to the point that Walker had doubts whether *lucina* could even be assigned to the genus *Brahmaea* WALKER, 1855.

The color figure of *Brahmaea Lucina* DRURY (pl. XII, fig. 1) in Conte (1911) fits to Conte (1919: pl. XII, fig. 1) of which a reprint (1977) is available. Unfortunately this figures do not fit perfectly with the lectotype or any known pattern morph of *D. lucina* (DRURY, 1782).

Strand (1912) Archiv f. Naturg., A., 6; recorded *Brahmaea lucina* DRURY [sic] of the genus *Brahmaea* WALKER (Brahmaeidae) from Nkolentangan, Alen [Mount Alen] and Uelleburg (all three locations in Spanish-Guinea) (: 148).

**Remarks:** Spanish Guinea was a Spanish colony on the Gulf of Guinea that became independent as Equatorial Guinea in 1968. It consisted of the islands of Fernando Póo (now Bioko), Annobón, Corisco, the Elobey Islands and the mainland Río Muni (now Mbini).

Grünberg *in* Strand (ed.) (1912) Archiv f. Naturg., Abteilung B., 7. Heft, pp. 1-161; cited under the heading "publications and presentations" "Strand, E. (6.) Die im Berliner Museum vorhandenen *Ludia*- und *Holocera*-Arten, nebst Beschreibungen weiterer von Prof. Dr. Vosseler gesammelter afrikanischer Großschmetterlinge. Iris, vol. 25, p. 110. – Übers. d. d. Verf. bekannter Arten von *Ludia* u. *Holocera*, neue Formen von *Brahmaea*, *Euxanthe*, *Papilio* (: 47)". Under the heading "Systematic" "Brahmaea widenmanni K. ab. conjuncta, n. ab., D.-Ostafrika. Strand, Iris, vol. 25, p. 120, and *B. tridentata*, Congo, *maculata*, Usambara, nn. spp. Conte, Essai Classif. Lep. product. de soie, Fasc. 7, p. 75 u. 76 [recte 76 and 77 (*lucina*), 79-80 (*tridentata*), 80-81 (*maculata*)], Taf. 13, Fig. 2 u. 3 [fig. 2 = *tridentata* and fig. 3 = *maculata*]" were listed (: 87).

**Remarks:** *D. conjunctum* (HERING, 1927) is a junior subjective synonym of *D. neumayeri* (PAGENSTECHER *in* Gerstaecker *in* Fischer, 1885). Correct as *D. maculatum* (CONTE, 1911). Conte (1911: 75) was not dealing with the genus *Brahmaea* WALKER, 1855.

Strand in Wagner (1913) [05.ix.1913] Lep. Cat., Pars 16: Brahmaeidae, pp. [3]-5; included a single genus in Brahmaeidae, which has been *Brahmaea* WALKER, 1855. The following taxon was included: *Brahmaea lucina* DRURY, 1780 [sic] (*Attacus*) (Sierra Leone). The author distinguished between 'Species' and 'Varitates' [varieties] in the Index Brahmaeidarum (: 6); he explicitly placed *lucina* DRURY [sic] as species in *Brahmaea* WALKER.

**Remarks:** the following citation by Strand *in* Wagner (1913: 4) under *lucina* DRURY, 1780 [sic] is somehow erroneous / incomplete "Westw., Ed. Drury 3, p. 45, t. 34. f. 1 (*Saturnia*)".

- Strand in Strand (ed.) (1913) Archiv f. Naturg., Abteilung B, 7. Heft, pp. 1-280; cited in the "Contents of Jahresberichte für 1912" under the heading "Systematic" "Brahmaea widenmanni n. ab. conjuncta Strand (23) p. 120. – lucina Dr. Strand, Arch. f. Nat. 78, A. 6, p. 148" (: 206).
- Schultze (1914) Archiv f. Naturg., 80 (2), pp. 119-135, col.pl. IV, V, monochr. VI; compared African and Asian *Brahmaea*. Schultze described and figured the larvae and pupae of two species of the Brahmaeidae from West and Central Africa. Those were *Brahmaea bramarbas* KARSCH, 1895 from Bamenda [Cameroon] (mountain rain forest, 1,500 m) (col.pl. IV [larvae] and VI, figs. 3 and 3a [pupae]) and

*Brahmaea lucina* DRURY, 1780 [sic] from Gadjifu (lowland rain forest at the upper Cross River). *Tylophora sylvatica* DECNE. (Asclepiadacee [sic]) was recored as host of *B. bramarbas* larvae and *Ceropegia conraui* [sic] K.SCH. (Asclepiadacee [sic]) as host of *B. lucina* larvae.

Conte (1919) Ess. d. Class. Lep. prod. de Soie, 7, (1919), pp. 246-256, 257, 258; pls. XII-XV, placed *Brahmaea* WALKER, 1855 in the Bombycides. Conte (246-247, 257) recorded *Brahmaea Lucina* [sic] DRURY, 1780 [sic] from Sierra Leone. '*Bram.*? Walk., Cat. Lep. Het. B. M., p. 1316, n. 2 (1855)' was cited in subordination [concluded from text as synonym]. The *∂* adult of *Brahmaea Lucina* [sic] was illustrated dorsally (: pl. XII, fig. 1).

**Remarks:** Conte's citation '*Brahm*.? WALK., Cat. Lep. Het. B. M., p. 1316' is considered incomplete. Walker (1855: 1316) listed '2. *Brahmaea* ? *Lucina* [sic]' and placed *Phalaena Attacus Lucina* [sic] DRURY in synonymy.

We interpret the citation 'Brahmaea? Lucina [sic]' to the point that Walker had doubts whether *lucina* could even be assigned to the genus Brahmaea WALKER, 1855.

The color figure of *Brahmaea Lucina* [sic] DRURY [sic] (pl. XII, fig. 1) in Conte (1911) fits to Conte (1919: pl. XII, fig. 1) of which a reprint (1977) is available. Unfortunately this figures do not fit with the lectotype or any known pattern morph of *D. lucina* (DRURY, 1782).

- Hering *in* Seitz (ed.) (1927a) [17.xi.1927] (with an introduction on the Brahmaeidae by Dr. A. Seitz) 12. Familie: Brahmaeidae, *in*: Die Gross-Schmetterlinge der Erde, (II) 14 Die afrikanischen Spinner und Schwärmer [German Edition], pp. 349-351; col.pl. 47 & 60; accidentally presented the original description of the genus *Dactyloceras* MELL which was placed in the Brahmaeidae. The taxa of *Dactyloceras* MELL were placed in three unnamed groups by Hering. The author confirmed *lucina* DRURY, 1780 [sic] in the genus *Dactyloceras* MELL.  $d^{\uparrow}$  and  $Q^{\downarrow}$  adults of *D. lucina* were figured in color (col.pl. 60 a).
- Hering *in* Seitz (ed.) (1927b) [17.xi.1927] 12. Family: Brahmaeidae, *in*: The Macrolepidoptera of the World [English Edition], (II) 14; see Hering *in* Seitz (ed.) (1927a) [German Edition]
- Mell [1930] Deutsche Entomologische Zeitschrift, 1929 (5), pp. [337]-494; distinguished three groups in the family Brahmaeidae: the Central African group with two genera: *Dactyloceras* and [*Spiramiopsis*] and 11 species, the Northern Indian group with 3 species: *hearseyi* WHITE, *wallichii* (GRAY), and *japonica* (BUTLER) [sic], and the Palaearctic group with 3 species: *certhia* (FABRICIUS), *christophi* STAUDINGER, and *ledereri* ROGENHOFER. Mell (: 389) [again] proposed the new generic name *Dactyloceras* with type-species *lucina* (DRURY) for the African Brahmaeidae. Mell (: 343) noted that Schultze reported that he found the larvae of *D. bramarbas* (KARSCH) in the densest undergrowth of the high mountain primeval forest at 1,500 m and those of *D. lucina* (DRURY) in the primeval forest lowlands (: 343). The venation of  $\Diamond$  *D. lucina* and hindwing venation of  $\bigcirc$  *D. lucina*, as well as the  $\Diamond$  genitalia structures were figured (: 388). **Remarks:** *Dactyloceras* MELL, [1930] is a junior primary homonym of *Dactyloceras* MELL *in* Hering *in* Seitz, 1927.

- Berio (1940) Memorie Soc. Entomol. Ital., Vol. XIX, Fasc. II, 1940, pp. 190-192; described the new species *Dactyloceras Richinii* [sic] of the family Brahamaeidae [sic] from Erithrea. The new species was compared with *D. lucina* DRURY [sic], *D. bramarbas*, *D. Widenmanni* [sic], and *D. ostentator* SEITZ [sic] (: 191).
- Hering *in* Seitz, A. (ed.) (1943) Treizième Famille: Brahmæidae. *in*: Les Macrolépidoptères du Globe [French Edition]; see Hering *in* Seitz (ed.) (1927a) [German Edition]
- Sauter (1967) Mitt. schweiz. ent. Ges., XL (1/2), 1967 [20 Jul 1967]: pp. [125]-129, 2 text-figs., remarked that *lucina* DRURY is the typus generis for *Dactyloceras* MELL. He recorded Asclepiadaceen [Asclepiadaceae] as host plant of the larvae.
- Pinhey (1975) Moths of Southern Africa; noted that the family Brahmaeidae contains two genera only, one in Africa and one in Asia. For southern Africa *Dactyloceras widenmanni* KARSCH, 1895 [sic] of the genus *Dactyloceras* MELL, 1930 [sic] with its type species *Phalaena (Attacus) lucina* DRURY from Sierra Leone was recorded from Mozambique, Rhodesia, Malawi, and Tanzania.
- **Remarks:** *Dactyloceras* MELL, [1930] is a junior primary homonym of *Dactyloceras* MELL *in* Hering *in* Seitz, 1927.
- Gardiner (1982) A Silkmoths Rearer's Handbook, cited *Dactylocerus* [sic] MELL as the African genus of the family Brahmaeidae (: 114, 248). *Dactylocerus* [sic] *lucina* DRURY [sic] from the Congo [not specified] was listed.

Remarks: the record from the Congo refers to D. tridentatum (CONTE, 1911) rather.

Sauter (1986) [31.xii.1986] Nota lepid., 9 (3-4), 1986 [December 31<sup>st</sup>, 1986 as per header], pp. 262-271, 3 text-figs.; placed *Acanthobrahmaea* SAUTER, 1967, *Brahmaea* WALKER, 1988 [sic], *Brahmidia* BRYK, 1948 [sic], *Brahmaeops* BRYK, 1948 [sic], and *Brahmophthalma* MELL, 1930 [sic] in the subfamily Brahmaeinae (: 268-269) of the Brahmaeidae. A work by Dujardin (1977: 99) was viewed critically in that Sauter wrote (: 269) "The zoogeographical theories, from which Dujardin starts, have to adapt to the observed facts, not the other way around!" An updated generic diagnostic for *Acanthobrahmaea* SAUTER, 1967 and a key for the genera was provided. *Calliprogonos* MELL & HERING, 1937 and *Dactyloceras* MELL, 1930 [sic] were placed in the new subfamily Dactyloceratinae. *D. lucina* DRURY [sic] was cited as typus generis of *Dactyloceras* MELL, 1930 [sic]. The author described and compared the venation of *D. lucina* DRURY [sic] and *D. catenigera* KARSCH [sic] (: 264-267).

**Remarks:** Acanthobrahmaea SAUTER, 1967 is a junior synonym of Brahmaea WALKER, 1855. Brahmaeops BRYK, 1949 and Brahmidia BRYK, 1949 are junior synonyms of Brahmophthalma MELL, 1928. Brahmophthalma MELL, 1928 is placed as subgenus in Brahmaea WALKER, 1855. Calliprogonos MELL & HERING, 1937 and Dactyloceras MELL, 1927 are genera in the family Brahmaeidae SWINHOE, 1892. Dactyloceras MELL, [1930] is a junior primary homonym of Dactyloceras MELL in Hering in Seitz, 1927.

Paukstadt, U. & Paukstadt, L. H. (1987) [04.v.1987] Entomologische Zeitschrift (Essen), 97 (9): pp. 113-121; 4 figs.; recorded for the first time that adults of the family Brahmaeidae were observed being able sucking water and honey/sugar solution with their reduced proboscis. The proboscis of *Brahmidia hearseyi* (West Sumatra) (fig. 1a), *Brahmaea japonica* (Japan) (fig. 1b), and *Dactyloceras lucina* (Cameroon) (fig. 1c) were figured in phot.h.-t.

**Remarks:** the record from West Sumatra refers to *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCH, 2005. *Brahmidia* BRYK, 1949 is a junior synonym of *Brahmophthalma* MELL, 1928.

- Trentini & Marini (1989) J. Res. Lepid., 27 (2), 1988, pp. 136-138; reported on a chromosome study of *Brahmaea japonica* BUTLER. The distribution of taxa of Euroasiatic species of *Brahmaea*, *Calliprogonos*, and *Acanthobrahmaea*, Indo-Australian species of *Brahmaea*, and Ethiopian species of *Dactyloceras*, e.g. *Dactyloceras* lucina DRURY [sic], was demonstrated in fig. 1 (distribution map).
- Nässig & Paukstadt, U. (1990) [xii.1990] Heterocera Sumatrana (Göttingen), 6 (Dec 1990), pp. 117-136; provided general features of the family Brahmaeidae with a short account of systematics and basic classification of the family. The larvae of African species of the genus *Dactyloceras* MELL, 1930 [sic] were reported to feed on plants which are creeping members of the Asclepiadaceae (: 122), a family which is generally placed in the same order as the Oleaceae (known larval foodplant for European and Asian Brahmaeidae). Larvae of *D. lucina* DRURY, 1780 [sic] were reported found on *Ceropegia conroui* [sic] K. SCH.

**Remarks:** *Dactyloceras* MELL, [1930] is a junior primary homonym of *Dactyloceras* MELL *in* Hering *in* Seitz, 1927.

- Malaisse (1997) Se nourrir eu forêt claire africaine: Approche écologique et nutritionelle. [French Edition], 384 pp. see Malaisse (2010).
- Lemaire & Minet ([1998]) 18. The Bombycoidea and their Relatives. *In*: Kristensen (ed)., Volume 4, Subvolume 35, illustrated (: 343) *Dactyloceras lucina* (fig. D). The genera *Brahmaea*, *Spiramiopsis*, *Calliprogonos*, *Dactyloceras*, and *Acanthobrahmaea* were compared (: 342-344).

**Remarks:** Acanthobrahmaea SAUTER, 1967 is a junior synonym of Brahmaea WALKER, 1855.

- Brosch, Naumann & Meister (2002) [21.i.2002] galathea Berichte des Kreises Nürnberger Entomologen eV (Nürnberg), 17 (4), 2001: pp. 189-197; listed D. *lucina* (DRURY, 1782) including information on the type locality, as one of the 15 described Afrotropical taxa of the Brahmaeidae (: 190). The lectotype of *Phalaena lucina* DRURY, 1782 was designated and established as type-species of *Dactyloceras* MELL *in* Hering *in* Seitz, 1927. The ♂ lectotype of *lucina* was figured dorsally and ventrally by Brosch, Naumann & Meister (2002: 193, figs. 3, 4). The authors noted that remaining presently unlocated syntypes would become paralectotypes. The ♂ holotype of *Dactyloceras nebulosa* [sic] BROSCH, NAUMANN & MEISTER, 2002 ["2001"] was figured in color dorsally and ventrally.
- Malaisse (2002) [i.2002] Geo-Eco-Trop, 26 (1), pp. 37-56; cited *Dactylocerus* [sic] *lucina* DRURY [sic] in the list of 'Diversity of edible species' (: 43) and 'Diversity of edible caterpillars in Africa' (: 44, table III) based on Malaisse & Lognay (2003).
- Bouyer (2002) [iv.2002] Entomologia Africana, 7 (1), 2002: pp. 15-27; proposed the new subgenus *Shinocksiceras* of the genus *Dactyloceras* MELL, 1927 for taxa

within the *bramarbas*-group, the *barnsi*-group, and the *windenmanni* [sic] (*neumayeri*)-group. The species *lucina* (DRURY, 1982 [sic]) with its synonym *swanzii* (BUTLER, 1871), *tridentata* [sic] (CONTE, 1911) and *nebulosa* [sic] BROSCH, NAUMANN & MEISTER, 2002 remain in the subgenus *Dactyloceras*. Bouyer illustrated (: 27, figs. 10-14, sketched line drawings) the  $\mathcal{J}$  genitalia structures of *D. lucina*.

- Malaisse & Lognay (2003) Les chenilles comestibles d'Afrique tropicale. *In*: Motte-Florac E. & Thomas J.M.C. (Eds.), Colloque les « insectes » dans la tradition orale. Peeters, Leuven (Belgique), Ethnosciences 11, SELAF 407, 279-302; work not seen.
- Naumann, Brosch & Nässig (2005) [viii.2005] Nachr. entomol. Ver. Apollo, Frankfurt/Main, N.F. 26 (1/2): p. 30; discussed on the formation and treatment of the generic name *Dactyloceras* MELL, 1927. It was found that several speciesgroup names in the genus *Dactyloceras* do not agree in gender. This inevitably leads to some emendations of names in the genus *Dactyloceras*. The authors noted that no emendation was necessary for *lucina* (DRURY, 1782).
- Bouyer (2006) [ix.2006] Lambillionea, CVI (3), Tome I, pp. 402-404, 2 col.figs.; described the new species *Dactyloceras* (*Shinocksiceras*) *noellae* from Kenya. The author noted that *D. noellae* is the third species of *Dactyloceras* known from Kenya after *D. lucina* (forest species from central and western Africa, present in Kakamega, in western Kenya) and *D. widenmanni* (KARSCH, 1895) (eastern species from Kasigau, Kibwezi, Nairobi, ....).
- Naumann (2008) [30.i.2008] Family Brahmaeidae, Brahmid Moths, pp. 111-116, *in*: Kühne (2008) Butterflies and moths diversity of the Kakamega forest (Kenya), 203 pp.; recorded *Dactyloceras* MELL *in* Hering *in* Seitz, 1927 from Africa excluding the South and arid Northwestern regions. Recently proposed emendations to names of taxa in *Dactyloceras* were discussed. The author noted that the  $\delta$  genitalia structures of *Shinocksiceras* which were found being distinct from those of the subgenus *Dactyloceras* by Bouyer (2002) were of no subgeneric significance (: 112). The correct authorship / original description of *Dactyloceras* MELL *in* Hering *in* Seitz, 1927 was pointed out. 19 taxa of *Dactyloceras* and their type localities were listed (: 112-113), including *D. lucina* (DRURY, 1782). Four taxa of *Dactyloceras* were listed for Kenya, including *D. lucina* (DRURY, 1782).
- Malaisse (2010) How to live and survive in Zambesian open forest (Miombo Ecoregion); listed Brahmaeidae in Table 2.9.1.- Diversity of families with edible insects in the world (: 206) and *Dactylocerus* [sic] *lucina* DRURY [sic] with Malaisse & Lognay (2003) in the "References" in Table 2.9.3.- Species diversity of edible caterpillars in Africa (: 211).
- Malaisse & Latham (2014) [i.2014] Geo-Eco-Trop., 2014, 38 (2), pp. 339-372; listed in 'Appendix 2. Lepidoptera species consumed by man in Africa' (: 366) *Dactylocerus* [sic] *lucina* DRURY [sic] of the Brahmaeidae with reference to Malaisse & Lognay (2003).

- Weritz, Riekert & Naumann (2016) [04.i.2016] Entomofauna, 37 (2), pp. 333-352; described and figured the complete life-history of *Dactyloceras richinii* BERIO, 1940 from Ethiopia in color (pl. 1, figs.1-8, pl. 2, figs. 9-14) and for comparisons of *Dactyloceras lucina* (DRURY, 1782) the 1<sup>st</sup> and 3<sup>rd</sup> instar larvae (pl. 2, figs. 15, 16) and the 4<sup>th</sup> instar larva (pl. 3, fig. 17) for the first time being. An updated list of taxa of the genus *Dactyloceras* MELL, 1927 listed in chronological order was presented (: 335-336), the type localities were included, as well as the actual geographic situation added when necessary. No remarks on the taxonomic status including synonymies were made. *D. lucina* (DRURY, 1782) (type locality: Sierra Leone) was included in this overview.
- Mitsuhashi (2016) [29.xii.2016] / eBook (2017) Edible Insects of the World; contains 2141 species of edible insects, including *Dactylocerus* [sic] *lucina* and *Brahmaea japonica*. The author noted (: 144) that the larvae of *Dactylocerus* [sic] *lucina* were eaten in Africa (Malaisse 2005).
- Mabossy-Momouna, Bouyer, Latham, Roulon-Doko, Konda Ku Mbuta & Malaisse (2016) Geo-Eco-Trop, 40 (2), n.s., 2016: pp. 145-174; noted that the probable consumed *Dactylocerus* [sic] *lucina* (DRURY) in Congo-Brazzaville is still to be confirmed (: 148).

Remarks: the record from the Congo probably refers to D. tridentatum (CONTE, 1911).

- Coleman (2016) Humanities Australia, pp. 46-54; reported on the rediscovery of Smeathman's African insects in the Macleay Museum, Sidney. The [♂] lectotype of *Phalaena Attacus lucina* [as *Bombyx lucina*] from Sierra Leone was illustrated in color (: 51, Fig. 12) including its pinlabels and a reproduction of Drury's Vol. III, Plate XXXIV which shows *Phalaena Attacus lucina* [as *Bombyx lucina*]. Some highly interesting information on collections and collectors including Drury was provided by the author.
- Malaisse, Mabossy-Mobouna & Latham (2017) [i.2017] Geo-Eco-Trop., 2017, 41 (1), pp. 55-66; listed *Dactylocerus* [sic] *lucina* (DRURY, 1782) of the Brahmaeidae in Appendix 1: List of edible caterpillars and/or chrysalises in Africa, known at species level (updated May 2017). The authors confirmed that at least one photo has been already available and provided Malaisse & Lognay (2003) as "Reference" (: 61).
- Jongema (2017) Worldwide list of edible insects, pp. 1-100; listed the larvae of *Dactyloceras lucina* (DRURY) (Brahmaeidae) from the D. R. Congo based on Malaisse (2005). The distribution of *D. lucina* was recorded as follows: Zambia, South Africa, Cameroon, Congo, Angola, Gabon, and Sierra Leone.

**Remarks:** above recorded distribution ranges might partly refer to allied species of *Dactyloceras* and *Spiramiopsis* rather. The record from the Congo refers to *D. tridentatum* (CONTE, 1911) rather.

- Maag (2021) [09.viii.2021] "ACTIAS" (www.actias.de/easymedia/image/56850dactyloceras-spec/); recorded and illustrated (in color) *Dactyloceras lucina* from Amedzofe, Volta Region, Ghana.
- De Prins, J. & De Prins, W. (2011-2021) Afromoths, online database of Afrotropical moth species (Lepidoptera). World Wide Web electronic publication

(http://www.afromoths.net) [accession date: 02 SEP 2021]; listed *Dactyloceras lucina* (DRURY, 1782) (*Phalaena Attacus*) of the family Brahmaeidae. The distribution was provided in a map: Cameroon, Central African Republic, Congo, Democratic Republic of Congo, Equatorial Guinea, Gabon, Ghana, Guinea, Ivory Coast, Kenya, Nigeria, Senegal, Sierra Leone, South Africa, Tanzania, Uganda, and Zambia together with appropriate publications. The food plant was given, *Ceropegia conrathii* (Apocynaceae) based on Schultze (1914: 121, as *conraui*).  $\Im$  and  $\Im$  adults from Cameroon, Ghana, Tanzania, Congo, and Senegal were figured in color. The taxa *swanzii* (BUTLER, 1871) and *tridentata* [sic] (CONTE, 1911) were listed as species synonyms of *Dactyloceras lucina* (DRURY, 1782).

**Remarks:** the record from South Africa based on literature and might be erroneous. The record from the Congo refers to *D. tridentatum* (CONTE, 1911) rather which is considered to be a distinct taxon. *D. swanzii* (BUTLER, 1871) is a junior subjective synonym of *D. lucina* (DRURY, 1782).

#### swanzii (BUTLER, 1871) (Brahmaea)

[junior subjective synonym]

- **Original citation and spelling:** "proposed to call it *Brahmæa Swanzii*" [regarded as a new species].
- **Original description:** *in* A. R. Wallace, Esq., President, in the chair: Exhibitions, &c. [Mr. Butler (without title) exhibited "*Brahmaea Swanzii*, a new species from Fantee, West Coast of Africa"]. – The Transactions of the Entomological Society of London (London), 1870, Part V – Proceedings, 2 January, 1871: xli-xlii, Index: lxxvii.

**Remark:** the date of publication must be later than 1870 as occasionally cited in literature. Butler, A. G. (1871) Lepidoptera Exotica, or Descriptions and Illustrations of Exotic Lepidoptera, 1869-1874, cited Jan. 1871 as date of publication in the Proc. Ent. Soc. London, p. 41 [= xli]. The appropriate "Proceedings" were published together with the "Transactions" Part V. Contents of Part V: Proceedings xxxi-lxx, and Index 1xxi-lxxx. *Brahmæa Swanzii* [sic] was published in the "Proceedings" (: xli-xlii) and again cited in the Index (: 1xxvii) as "*Brahmæa Swanzii* [sic], n. sp. from West Africa, xli". The following page xlii confirmed that Part 4 of the "Transactions for 1870," published in December, was on the table. Wallace noted with date 20 February, 1871 (: vi) Part 5 of the "Transactions" for 1870 was on the table. With other words, Part 5 of the "Transactions" including the "Proceedings" were published sometime between 23 January, 1871 (report on the Annual Meeting in Part 5) and 20 February, 1871.

Strand *in* Wagner (1913: 5) cited '1870' as the date of publication / original description, contrary Butler (1871) Lep. Exot. (: 78) cited *Brahmaea Swanzii* [sic] BUTLER (Jan. 1871). See compilation on the publication date above.

#### **Type locality:** West coast of Africa, Fantee [Fante, Accra, Ghana]. **Remarks:** Butler (1871: 78) recorded a more precise origin of the ♂ singleton: 'Fantee,

The Fante confederacy, Fante is also spelled Fanti, is a historical group of states in what is now southern Ghana. It originated in the late 17<sup>th</sup> century when Fante people from overpopulated Mankessim, northeast of Cape Coast, settled vacant areas nearby. The resulting Fante kingdoms formed a confederacy, cf. https://www .britannica.com/topic /Fante-confederacy. 'Ussher' is known as the former Dutch Ussher Fort, which is in Accra, Ghana.

- **Geographical and altitudinal distribution:** cf. *lucina* (DRURY, 1782). Southern Ghana [Accra] (type locality).
- **Etymology:** the taxon was named in honor of Mr. Andrew Swanzy, a British merchant at the Gold Coast of West Africa.
- **Type material:** the description based on an unstated number of specimens of unstated sex. Butler (1880) Ent. mon. Mag., XVII, 1880-81, remarked that *swanzyi* [sic] is represented in the National Collection, but he did not mention whether or not this material belongs to the type material.
- **Taxonomic notes:** Butler (1871: xli) remarked that *swanzii* is intermediate *Brahmaea Lucina* [sic] and *lunulata*. Karsch (1895: 338-339) considered the names *B. lucina* (DRURY) and *B. swanzii* BUTLER, 1871 for both  $\bigcirc$  and  $\bigcirc$  of the same species [= new synonym of *B. lucina* (DRURY)].

The name *swainzii* [sic] (BUTLER, 1871) was listed as species synonym of *Dactyloceras lucina* (DRURY, 1782) in Kitching, I.J., Rougerie, R., Zwick, A., Hamilton, C.A., St Laurent, R.A., Naumann, S., Ballesteros Mejia, L. & Kawahara, A.Y. (2018): A global checklist of the Bombycoidea (Insecta: Lepidoptera); published online 2018 Feb 12. doi: 10.3897/BDJ.6.e22236.

- General notes: the ♂ holotype of *B. Swanzii* [sic] was figured in color by Butler (1871: pl. XXX, fig. 2). *B. Swanzii* [sic] was figured by Conte (1911: pl. 12, fig. 2) and Conte (1919: pl. XII, fig. 2 [republished]) [the figures are identical].
- **Synonyms:** for misinterpretations see the appropriate text parts. Junior subjective synonyms, junior objective synonyms, errors and incorrect subsequent spellings for *swanzii* (BUTLER, 1871) are as follows:
  - *‡swanzyi*; Butler (1880: 110) [incorrect subsequent spelling]
  - *‡swanzi*; [Pagenstecher *in* Gerstaecker *in*] Fischer (1885: 274) [incorrect subsequent spelling]
  - *‡swanzi*; [Pagenstecher *in*] Fischer (1885: 150) [incorrect subsequent spelling]
  - *zwanzii*; Karsch (1895: 339) [lapsus, incorrect subsequent spelling]
  - *Swansii*; Conte (1911: pl. XII) [lapsus, incorrect subsequent spelling (illegible)]
  - *Swansii*; Conte (1919: pl. XII) [lapsus, incorrect subsequent spelling (corrected hand written)]
  - *‡swainzii*; Kitching, Rougerie, Zwick, Hamilton, St Laurent, Naumann, Ballesteros Mejia & Kawahara (2018) [incorrect subsequent spelling]

*swanzii* BUTLER, 1870; Hering *in* Seitz (ed.) (1927a, b, 1943) [error in publication date]

#### Hybridizations: n/a.

#### Further readings on swanzii (BUTLER, 1871)

- Butler (1871) Proceedings, Trans. ent. Soc. London, 1870, Part 5; described Brahmaea swanzii from West Africa (p. xli) and noted that this species is intermediate between B. Lucina [sic] and lunulata. Remarks: B. (Brahmaea) lunulata (BREMER & GREY, 1853 ["1852"]) is a Palearctic taxon from East Asia.
- Butler (1871) Lep. Exot., 1869-1874, pp. 1-190, 62 col.pls., 1 monochr. pl.; placed *Brahmaea Swanzii* [sic] BUTLER, 1871 in the family Saturniidae (: Index, 78). He compared the wing ornamentation of this species with those of *B. Lucina* [sic], *B. lunulata*, *B. Certhia* [sic], and *B. Whitei* [sic] (: 79). The ∂ holotype by monotypy was figured in color (pl. XXX, fig. 2).

**Remarks:** the names refer to *B. (Brahmaea) lunulata* (BREMER & GREY, 1853 ["1852"]) from East Asia and the Chinese *B. (Brahmaea) certhia* (FABRICIUS, 1793). *B. (Brahmophthalma) whitei* BUTLER, 1866 is a junior objective synonym of *B. (Brahmophthalma) hearseyi* WHITE, 1862 ["1861"].

Butler (1880b) Ent. mon. Mag., XVII, 1880-81, pp. 110-111; was grouping the genus *Brahmaea* as follows: Section I: *Brahmaea Lucina* [sic] DRURY [sic] (Sierra Leone), *Brahmaea Swanzyi* [sic] BUTLER (Fantee and Old Calabar); Section II: *Brahmaea Certhia* [sic] FABRICIUS [sic] (= *lunulata* BREMER [sic], = *Petiveri* [sic] BUTLER) (Chusan and North China), *Brahmaea Ledereri* [sic] ROGENHOFER (Asia Minor), *Brahmaea Mniszechii* [sic] FELDER (Japan); Section III: *Brahmaea faponica* BUTLER (Yokohama and Nikko), *Brahmaea nigrans* BUTLER, 1880 (Japan). Without group status remain *Brahmaea Whitei* [sic] BUTLER (Darjiling), *Brahmaea conchifera* BUTLER (Silhet and Darjiling), *Brahmaea rufescens* BUTLER (NE Bengal), and *Brahmaea Wallichii* [sic] GRAY [sic] (Nepal). Butler noted that 5 out of 11 species [sensu Butler 1880] were not represented in the National Collection.

**Remarks:** Butler confused taxa of the genus *Brahmaea* WALKER, 1855. The Afrotropical taxa were correctly placed in a separate group (Section I).

B. (Brahmaea) lunulata (BREMER & GREY, 1853 ["1852"]) is distinct from B. (Brahmaea) certhia (FABRICIUS, 1793). B. (Brahmophthalma) mniszechii FELDER, 1874 and B. (Brahmophthalma) nigrans BUTLER, 1880 are junior subjective synonyms of B. (Brahmophthalma) japonica BUTLER, 1873. B. (Brahmophthalma) whitei BUTLER, 1866 is a junior objective synonym of B. (Brahmophthalma) hearseyi WHITE, 1862 ["1861"]. B. (Brahmophthalma) conchifera BUTLER, 1880 and B. (Brahmophthalma) rufescens BUTLER, 1880 are junior subjective synonyms of B. (Brahmophthalma) wallichii (GRAY, 1831).

The Mfantsefo or Fante (Fanti is an older spelling) are an Akan people. The Fanti state occupies the coastal belt of Ghana with the current capital Accra. Calabar, formerly Old Calabar, town and port, capital of Cross River state, southeastern Nigeria, cf. Encyclopedia Britannica.

- [Pagenstecher *in* Gerstaecker *in*] Fischer (1885): Mitteilungen der Geographischen Gesellschaft in Hamburg . 1882-83, (1884-85), pp. 238-279; noted 'Die wenigen Schmetterlinge sind nach den Bestimmungen des Herrn Professor Pagenstecher:'
  [= The few butterflies are according to the determinations of Professor Pagenstecher:]. *Brahmaea Neumayeri* [sic] P. sp. nov. Ssigirari, was clearly marked with P.[AGENSTECHER] as author of the name. *Brahmaea Neumayeri* [sic] PAGENSTECHER, *B. lucina* DRURY [sic], and [*B.*] *Swanzi* [sic] BUTLER were cited in the text and briefly compared (: 274). Following the 'Contents' [unnumbered p.] the contribution 4. Verzeichnis der von Dr. G. A. Fischer gesammelten Insekten was by Prof. A. Gerstaecker, p. 274.
- [Pagenstecher *in*] Fischer (1885) Das Massai-Land, 155 pp.; placed the African taxa *Neumayeri* [sic] PAGENSTECHER, [1885], *lucina* DRURY [sic], and *Swanzi* [sic] BUTLER in *Brahmaea* (: 150). *B. lucina* DRURY [sic] and *Swanzi* [sic] BUTLER were cited for comparison with *Brahmaea Neumayeri* [sic] PAGENSTECHER, 1885.
- Butler (1889) Trans. ent. Soc. London, 1889 (III), pp. 389-392, col. pl. XII, fig. 4; noted that the new taxon *Brahmaea ocelligera* BUTLER, 1889 is nearest *B. swanzii*. Butler (1889) placed the genus *Brahmaea* in the Ceratocampidae [HARRIS, 1841].
- Kirby (1892) Syn. Cat. Lep. Het., I, Sphinges and Bombyces, XII + 951 pp.; placed the genus *Brahmaea* in the Bombycidae (: 723-724, Appendix: 933). Kirby was the first who designated a type-species for *Brahmaea* WALKER, 1855: *B. Conchifera* [sic] BUTLER, 1880. The author included 14 species in *Brahmaea*. Three of those were 12. *B. Lucina* [sic] DRURY, 1780 [sic] from Sierra Leone, 13. *B. Swanzii* [sic] BUTLER, 1870 [sic] from West Africa, and finally 14. *B. Ocelligera* [sic] BUTLER, 1889 from Mombasa [Kenia].

**Remarks:** Kirby designated *B. (Brahmophthalma) conchifera* BUTLER, 1880 as type species of the genus *Brahmaea* WALKER, 1855. The type designation by Kirby (1892: 724) is invalid because the name *conchifera* BUTLER, 1880 was not originally included in Walker (1855: 1315-1316) and *B. Certhia* [sic] (sensu Walker 1855: 1316) was misidentified. The Afrotropical taxa of the Brahmaeidae were included in the genus *Brahmaea* WALKER, 1855. *D. swanzii* (BUTLER, 1871) is a junior subjective synonym of *D. lucina* (DRURY, 1782).

- Karsch (1895) Ent. Nachr. (Putbus/Rügen, Berlin, Stettin), XXI (22), 1895: pp. [337]-360; recognized fife species in the African *Brahmaea*. He considered the names *B. lucina* (DRURY) and *B. zwanzii* [sic] BUTLER for both  $\Im$  and  $\Im$  of the same species [new synonym of *B. lucina* (DRURY)] (of *B. lucina* the  $\Im$  was described and of *B. swanzii* the  $\Im$  was described).
- Strecker (1899) Index of Species to Kirby's Syn. Cat. Lep. Het., Vol. I, pp. [1]-45; listed *Swanzii* [sic], 724 (: 41).
- Conte (1911) Essai d. Class. Lep. Prod. de Soie, *in*: Rapp. du Laborat. d'ét. de la Soie, 14, pp. [1]-90; placed *Brahmaea* WALKER, 1855 in the Bombycides. The author recorded and figured *Brahmaea Swanzii* [sic] BUTLER, 1871 from Guinea. The adult was described (: 77-78) and figured in color dorsally (pl. XII, fig. 2). "Brahm. ? Walk., Cat. Lep. Het. B. M., p. 1316" was cited in synonymy of *B. Lucina*.

**Remarks:** *D. swanzii* (BUTLER, 1871) is a junior subjective synonym of *D. lucina* (DRURY, 1782).

Strand in Wagner (1913) [05.ix.1913] Lep. Cat., Pars 16: Brahmaeidae, pp. [3]-5; included a single genus in Brahmaeidae, which has been *Brahmaea* WALKER, 1855. The following taxon was included: *B. Swanzii* [sic] BUTLER, 1870 [sic] (Guinea). The author distinguished between 'Species' and 'Varitates' [varieties] in the Index Brahmaeidarum (: 6); he explicitly placed *Swanzii* [sic] BUTLER as species in *Brahmaea* WALKER.

**Remarks:** *D. swanzii* (BUTLER, 1871) is a junior subjective synonym of *D. lucina* (DRURY, 1782).

Conte (1919) Ess. d. Class. Lep. prod. de Soie, 7, (1919), pp. 246-256, 257, 258; pls. XII-XV; placed *Brahmaea* WALKER, 1855 in the Bombycides. The author recorded and figured *Brahmaea Swanzii* [sic] BUTLER, 1871 from Guinea. The adult was described and figured in color dorsally (pl. XII, fig. 2). "Brahm. ? Walk., Cat. Lep. Het. B. M., p. 1316" was cited in synonymy of *B. Lucina*.

**Remarks:** *D. swanzii* (BUTLER, 1871) is a junior subjective synonym of *D. lucina* (DRURY, 1782).

The color figure of *Brahmaea Swanzii* [sic] BUTLER (pl. XII, fig. 2) in Conte (1911) agrees in general with the figure in Conte (1919: pl. XII, fig. 2) of which a reprint from 1977 is in our library.

Hering *in* Seitz (ed.) (1927a) [17.xi.1927] (with an introduction on the Brahmaeidae by Dr. A. Seitz) 12. Familie: Brahmaeidae, *in*: Die Gross-Schmetterlinge der Erde, (II) 14 – Die afrikanischen Spinner und Schwärmer [German Edition], pp. 349-351; col.pl. 47 & 60; accidentally presented the original description of the genus *Dactyloceras* MELL which was placed in the family Brahmaeidae. The taxa of *Dactyloceras* MELL were placed in three unnamed groups by Hering. *D. lucina* DRURY, 1780 [sic] with its junior synonym *D. swanzii* BUTLER, 1870 [sic] and the form [concluded from text in the sense of geographical race from the Congo] *D. tridentata* [sic] CONTE, 1911 [sic] were excluded from the established groups (1. and 2.) due to the habitus (wing morphology).  $\delta$  and Q of *D. lucina* (pl. 60 a) were figured in color.

**Remarks:** *D. swanzii* (BUTLER, 1871) is a junior subjective synonym of *D. lucina* (DRURY, 1782).

- Hering *in* Seitz (ed.) (1927b) [17.xi.1927] 12. Family: Brahmaeidae, *in*: The Macrolepidoptera of the World [English Edition], (II) 14; see Hering *in* Seitz (ed.) (1927a) [German Edition]
- Hering *in* Seitz, A. (ed.) (1943): Treizième Famille: Brahmæidae. *in*: Les Macrolépidoptères du Globe [French Edition]; see Hering *in* Seitz (ed.) (1927a) [German Edition]
- Brosch, Naumann & Meister (2002) [21.i.2002] galathea Berichte des Kreises Nürnberger Entomologen eV (Nürnberg), 17 (4), 2001, pp. 189-197; listed *D. swanzii* (BUTLER, 1871) including information on the type locality, as one of the 15 described Afrotropical taxa of the Brahmaeidae. No information on the present taxonomic status of *swanzii* was given (: 190).

- Bouyer (2002) [iv.2002] Entomologia Africana, 7 (1), 2002: pp. 15-27; proposed the new subgenus *Shinocksiceras* of the genus *Dactyloceras* MELL, 1927 for taxa within the *bramarbas*-group, the *barnsi*-group, and the *windenmanni* [sic] (*neumayeri*)-group. The species *lucina* (DRURY, 1982) [sic] with its synonym *swanzii* (BUTLER, 1871), *tridentata* [sic] (CONTE, 1911), and *nebulosa* [sic] BROSCH, NAUMANN & MEISTER, 2002 remain in the subgenus *Dactyloceras*. A further single species was grouped as *incertae sedis*: *richinii* BERIO, 1940 (*windenmanni*-[sic] or *barnsi*-group) because the type was not examined.
- Naumann (2008) [30.i.2008] Family Brahmaeidae, Brahmid Moths, pp. 111-116, *in*: Kühne (2008) Butterflies and moths diversity of the Kakamega forest (Kenya), 203 pp.; recorded *Dactyloceras* MELL *in* Hering *in* Seitz, 1927 from Africa excluding the South and arid Northwestern regions. Recently proposed emendations to names of taxa in *Dactyloceras* were discussed. The author noted that the  $\delta$  genitalia structures of *Shinocksiceras* which were found distinct from those of the subgenus *Dactyloceras* by Bouyer (2002) were of no subgeneric significance (: 112). The correct authorship / original description of *Dactyloceras* MELL *in* Hering *in* Seitz, 1927 was pointed out. 19 taxa of *Dactyloceras* and their type localities were listed (: 112-113), including *D. swanzii* (BUTLER, 1871).
- Weritz, Riekert & Naumann (2016) [04.i.2016] Entomofauna, 37 (2), pp. 333-352; presented an updated list of taxa of the genus *Dactyloceras* MELL, 1927 listed in chronological order, the type localities were included, as well as the actual geographic situation was added when necessary. No remarks on the taxonomic status including synonymies were made. *D. swanzii* (BUTLER, 1871) (type locality: Fantee, West Coast of Africa) was included in this overview.
- Kitching, Rougerie, Zwick, Hamilton, St Laurent, Naumann, Ballesteros Mejia & Kawahara (2018) A global checklist of the Bombycoidea (Insecta: Lepidoptera); published online 2018 Feb 12. doi: 10.3897/BDJ.6.e22236; listed the name *swainzii* [sic] (BUTLER, 1871) as species synonym of *lucina* (DRURY, 1782) of the subgenus *Dactyloceras* MELL, 1930 [sic] of the genus *Dactyloceras* [HERING] [sic], 1927.
- De Prins, J. & De Prins, W. (2011-2021) Afromoths, online database of Afrotropical moth species (Lepidoptera). World Wide Web electronic publication (http://www.afromoths.net) [accession date: 02 SEP 2021]; listed *Dactyloceras lucina* (DRURY, 1782) (*Phalaena Attacus*) of the family Brahmaeidae. The taxa *swanzii* (BUTLER, 1871) and *tridentata* [sic] (CONTE, 1911) were listed as species synonyms of *Dactyloceras lucina* (DRURY, 1782).

#### tridentatum (CONTE, 1911) (Brahmaea), stat. rev.

[removal from synonymy]

#### Original citation and spelling: Brahmæa Tridentata, n. sp.

- **Original description:** Conte, A. (1911): XXIII. Essai de Classification des Lépidoptères producteurs de Soie (7<sup>e</sup> Fascicule). Laboratoire d'Études de la Soie de la condition publique des Soies. Extrait des Rapports du Laboratoire d'Études de la Soie, Vol. XIV. 1908-1909-1910, 1911: pp. [1]-90; col.pls. I-XV; [description pp. 79-80; col.pl. XIII, fig. 2].
- **Type locality:** Congo supérieur [Upper Congo (region archaic), broader terms: Democratic Republic of Congo].
- **Geographical and altitudinal distribution:** Democratic Republic of Congo and Uganda based on the BOLD TaxonID Tree.
- **Etymology**: concluded from the French text 'sur la cellule une tache tridentée brun noir' [= on the cell a black-brown tridentate spot] the name *tridentata* is pointing to the special pattern morphology of the median area in the forewing.
- **Type material:** the description most likely based on a single specimen of unrecorded sex [?♀], which was figured in the original description and reported to be in coll. W. de Rothschild (: 80).
- Taxonomic notes: concluded from figure in Conte (1911: pl. XIII, fig. 2), D. tridentatum (CONTE, 1911) is close to D. swanzii (BUTLER, 1871). In the past, D. tridentata / tridentatum was occasionally cited as a junior synonym of Dactyloceras lucina (DRURY, 1782). Some authors gave no information on the taxonomic status, see Brosch, Naumann & Meister (2002), Weritz, Riekert & Naumann (2002), Naumann, Brosch & Nässig (2005), and Naumann (2008). In only a few "newer" works, the name was used in species rank, e.g. Bouyer (2002). Kitching, Rougerie, Zwick, Hamilton, St Laurent, Naumann, Ballesteros Mejia & Kawahara (2018) listed tridentata [sic] (CONTE, 1911) as junior synonym of Dactyloceras (Dactyloceras) lucina (DRURY, 1782).

The name *tridentata* [sic] (CONTE, 1911) was listed as species synonym of *Dactyloceras* (*Dactyloceras*) *lucina* (DRURY, 1782) in Kitching, I.J., Rougerie, R., Zwick, A., Hamilton, C.A., St Laurent, R.A., Naumann, S., Ballesteros Mejia, L. & Kawahara, A.Y. (2018): A global checklist of the Bombycoidea (Insecta: Lepidoptera); published online 2018 Feb 12. doi: 10.3897/BDJ.6.e22236.

We herewith remove *D. tridentatum* (CONTE, 1911) from synonymy with *D. lucina* (DRURY, 1782). The populations of the *lucina*-group are genetically clearly grouping. One of this group is formed by specimens

from the Democratic Republic of Congo, the type locality of *tridentatum* (CONTE, 1911) and Uganda. The distance (as the crow flies) from the type locality of *D. lucina* (DRURY, 1782) in Sierra Leone to the Upper Congo is around 4300 km and even 5000 km to Uganda. For this reason alone, it is more likely that habitually similar but genetically different species developed. The taxa of the *lucina*-group could have been divided into subspecies, but this is not practically possible because there are two distinct groups of populations in Nigeria which must not be treated as distinct subspecies since, since nothing is known on the biology and ecology thus far.

- **General notes:** Weritz, Riekert & Naumann (2016) figured for comparisons the mature larva and pupa of *Dactyloceras* sp. (*lucina* or *tridentatum*) copied from Schultze (1931: pl. 3, figs. 1, 3), larva (pl. 3, fig. 19) and the pupa ventrally, laterally and detail (pl. 3, fig. 20).
- **Synonyms:** for misinterpretations see the appropriate text parts. Junior subjective synonyms, junior objective synonyms, errors and incorrect subsequent spellings for *tridentatum* (CONTE, 1911) are as follows:
  - *tridentata* CONTE, 1919; STATUS-; junior primary homonym of *Brahmaea tridentata* CONTE, 1911
  - *tridentata* CONTE, 1911; an incorrect original spelling after combination with *Dactyloceras* due to gender ending
  - *tridentatum* CONTE, 1911; Naumann, Brosch & Nässig (2005: 30) [emended due to incorrect gender ending]
- **Hybridizations:** inter-generic and inter-specific pairings with *tridentatum* (CONTE, 1911) are unknown from literature.

#### Further readings on tridentatum (CONTE, 1911) stat. rev.

- Conte (1911) Essai d. Class. Lep. Prod. de Soie, *in*: Rapp. du Laborat. d'ét. de la Soie, 14, pp. [1]-90; recorded and figured the new species *Brahmaea Tridentata* [sic] CONTE, 1911 from Congo supérieur [Upper Congo, D. R. Congo]. The adult was described (: 79-80) and figured in color dorsally (pl. XIII, fig. 2).
  Remarks: the color figure (painting) of *Brahmaea Tridentata* [sic] CONTE, 1911 in Conte
- (1911: pl. XIII, fig. 2) agrees in general, but not perfectly, with the figure (phot.h.-t.) in Conte (1919: pl. XII, fig. 2) of which a reprint from 1977 is available.
- Grünberg in Strand (1912) Archiv f. Naturg., Abteilung B., 7. Heft, pp. 1-161; cited under the heading "Systematic" "Brahmaea widenmanni K. ab. conjuncta, n. ab., D.-Ostafrika. Strand, Iris, vol. 25, p. 120, and B. tridentata, Congo, maculata, Usambara, nn. spp. Conte, Essai Classif. Lep. product. de soie, Fasc. 7, p. 75 u, 76, Taf. 13, Fig. 2 u. 3" were listed (: 87).
- Strand in Wagner (1913) [05.ix.1913] Lep. Cat., Pars 16: Brahmaeidae, pp. [3]-5; included a single genus in Brahmaeidae, which has been *Brahmaea* WALKER, 1855. The following taxon was included in *Brahmaea*: *B. tridentata* A. CONTE, 1911 (Congo). The author distinguished between 'Species' and 'Varitates'

[varieties] in the Index Brahmaeidarum (: 6); Strand explicitly placed *tridentata* A. CONTE as species in *Brahmaea* WALKER.

Conte (1919) Ess. d. Class. Lep. prod. de Soie, 7, (1919), pp. 246-256, 257, 258; pls. XII-XV, placed *Brahmaea* WALKER, 1855 in the Bombycides. Conte (249-250, 258) formally described *Brahmaea Tridentata* [sic] CONTE, 1919 from Congo supérieur [Upper Congo, Democratic Republic of Congo] as new. The type specimen of unrecorded sex was figured (pl. XIII, fig. 2).

**Remarks:** Brahmaea tridentata CONTE, 1919 is a junior primary homonym of Brahmaea tridentata CONTE, 1911.

The color figure (painting) of *Brahmaea Tridentata* [sic] CONTE, 1911 in Conte (1911: pl. XIII, fig. 2) agrees in general, but not perfectly, with the figure (phot.h.-t.) in Conte (1919: pl. XII, fig. 2) of which a reprint from 1977 is available.

- Hering *in* Seitz (ed.) (1927a) [17.xi.1927] (with an introduction on the Brahmaeidae by Dr. A. Seitz) 12. Familie: Brahmaeidae, *in*: Die Gross-Schmetterlinge der Erde, (II) 14 Die afrikanischen Spinner und Schwärmer [German Edition], pp. 349-351, col.pl. 47 & 60; listed *Dactyloceras lucina* DRURY, 1780 [sic] with its junior synonym *D. swanzii* BUTLER, 1870 [sic] and the form [concluded from text in the sense of geographical race from the Congo] *D. tridentata* [sic] CONTE, 1911 [sic] which were excluded from the established groups (1. and 2.) due to the habitus (wing morphology). ♂ and ♀ adults of *D. lucina* were figured in color (pl. 60 a).
  Remarks: *D. swanzii* (BUTLER, 1881) is a junior subjective synonym of *D. lucina* (DRURY, 1782).
- Hering *in* Seitz (ed.) (1927b) [17.xi.1927] 12. Family: Brahmaeidae, *in*: The Macrolepidoptera of the World [English Edition], (II) 14; see Hering *in* Seitz (ed.) (1927a) [German Edition]
- Hering *in* Seitz, A. (ed.) (1943) Treizième Famille: Brahmæidae. *in*: Les Macrolépidoptères du Globe [French Edition]; see Hering *in* Seitz (ed.) (1927a) [German Edition]
- Nässig & Paukstadt, U. (1990: 117-136) [xii.1990] Heterocera Sumatrana (Göttingen), 6 (Dec 1990); provided general features of the family Brahmaeidae with a short account of systematics and basic classification of the family. The larvae of African species of the genus *Dactyloceras* MELL, 1930 [sic] were reported to feed on plants which are creeping members of the Asclepiadaceae (: 122), a family which is generally placed in the same order as the Oleaceae (known larval foodplant for European and Asian Brahmaeidae). Larvae of *D. ?tridentata* [sic] CONTE, 1911 [sic] were found on *Ceropegia* sp.

Remarks: correct as Dactyloceras tridentatum (CONTE, 1911) (Brahmaea).

Brosch, Naumann & Meister (2002) [21.i.2002] galathea – Berichte des Kreises Nürnberger Entomologen eV (Nürnberg), 17 (4), 2001: pp. 189-197; listed *D. tridentata* [sic] CONTE, 1911 [sic] including information on the type locality, as one of the 15 described Afrotropical taxa of the Brahmaeidae, no information on the present taxonomic status of *tridentata* [sic] was given (: 190).

**Remarks:** correct as *D. tridentatum* (CONTE, 1911) (*Brahmaea*).

- Bouyer (2002) [iv.2002] Entomologia Africana, 7 (1), 2002: pp. 15-27; proposed the new subgenus *Shinocksiceras* of the genus *Dactyloceras* MELL, 1927 for taxa within the *bramarbas*-group, the *barnsi*-group, and the *windenmanni* [sic] (*neumayeri*)-group. The species *lucina* (DRURY, 1982 [sic]) with its synonym *swanzii* (BUTLER, 1871), *tridentata* [sic] (CONTE, 1911) and *nebulosa* [sic] BROSCH, NAUMANN & MEISTER, 2002 remain in the subgenus *Dactyloceras*. A further single species was grouped as *incertae sedis: richinii* BERIO, 1940 [sic] (*windenmanni*-[sic] or *barnsi*-group because the type was not examined).
  Remarks: correct as *Dactyloceras tridentatum* (CONTE, 1911) (*Brahmaea*).
- Naumann, Brosch & Nässig (2005) [viii.2005] Nachr. entomol. Ver. Apollo, N.F. 26 (1/2): p. 30; discussed on the formation and treatment of the generic name *Dactyloceras* MELL, 1927. It was found that several species-group names in the genus *Dactyloceras* do not agree in gender. This inevitably leads to the following emendation: *Dactyloceras tridentatum* (CONTE, 1911).
- Naumann (2008) [30.i.2008] Family Brahmaeidae, Brahmid Moths, pp. 111-116, *in*: Kühne (2008) Butterflies and moths diversity of the Kakamega forest (Kenya), 203 pp.; recorded *Dactyloceras* MELL *in* Hering *in* Seitz, 1927 from Africa excluding the South and arid Northwestern regions. Recently proposed emendations to names of taxa in *Dactyloceras* were discussed. The author noted that the  $\delta$  genitalia structures of *Shinocksiceras* which were found distinct from those of the subgenus *Dactyloceras* by Bouyer (2002) were of no subgeneric significance (: 112). The correct authorship / original description of *Dactyloceras* MELL *in* Hering *in* Seitz, 1927 was pointed out. 19 taxa of *Dactyloceras* and their type localities were listed (: 112-113), including *D. tridentatum* (CONTE, 1911) with its junior primary homonym *D. tridentatum* (CONTE, 1919).
- Weritz, Riekert & Naumann (2016) [04.i.2016] Entomofauna, 37 (2), pp. 333-352; described and figured the complete life-history of *Dactyloceras richinii* BERIO, 1940 from Ethiopia in color (pl. 1, figs.1-8, pl. 2, figs. 9-14) and for comparisons the mature larva and pupa of *Dactyloceras* sp. (*lucina* or *tridentatum*) were copied from Schultze (1931: pl. 3, figs. 1, 3), larva (pl. 3, fig. 19) and the pupa ventrally, laterally and detail (pl. 3, fig. 20). The authors presented an updated list of taxa of the genus *Dactyloceras* MELL, 1927 listed in chronological order, the type localities were included, as well as the actual geographic situation was added when necessary. No remarks on the taxonomic status including synonymies were made. *D. tridentatum* (CONTE, 1911) (type locality: Congo supérieur) was included in this overview. The original name *tridentata* has been emended according to the rules of the ICZN (2000) Art. 32.
- Kitching, Rougerie, Zwick, Hamilton, St Laurent, Naumann, Ballesteros Mejia & Kawahara (2018) A global checklist of the Bombycoidea (Insecta: Lepidoptera); published online 2018 Feb 12. doi: 10.3897/BDJ.6.e22236; listed the name *tridentata* [sic] (CONTE, 1911) as species synonym of *lucina* (DRURY, 1782) of the subgenus *Dactyloceras* MELL, 1930 [sic] of the genus *Dactyloceras* [HERING] [sic], 1927.

De Prins, J. & De Prins, W. (2011-2021) Afromoths, online database of Afrotropical moth species (Lepidoptera). World Wide Web electronic publication (http://www.afromoths.net) [accession date: 02 SEP 2021]; listed *Dactyloceras lucina* (DRURY, 1782) (*Phalaena Attacus*) of the family Brahmaeidae. The taxa *swanzii* (BUTLER, 1871) and *tridentata* [sic] (CONTE, 1911) were listed as species synonyms of *Dactyloceras lucina* (DRURY, 1782).

#### tridentatum (CONTE, 1919) (Brahmaea)

[junior primary homonym]

#### Original citation and spelling: Brahmæa Tridentata, n. sp.

Original description: Conte, A. (1919): XXIII. Essai de Classification des Lépidoptères producteurs de Soie (7<sup>e</sup> Fascicule). – Extrait des Annales du laboratoire d'Études de la Soie – Vol. XIV, 1919: pp. [175]-256; pls. phot.h.-t. I - XV. [description: pp. 249-250; figure: pl. XIII, Fig. 2]

**Remarks:** the printed numbering for the moths on the plate has been changed handwritten from 2 to 3 and 3 to 2, while the numbering in the legend to the illustrations has been retained in the reprint 1977. So the new no. 2 figure actually shows *Brahmaea Tridentata* [sic] CONTE, 1919, which is similar in its pattern morphology to a  $\overset{\circ}{\sim}$  adult of *Dactyloceras lucina* (DRURY, 1782).

The color figure (phot.h.-t.) of *Brahmaea Tridentata* [sic] CONTE, 1919 in Conte (1919: pl. XII, fig. 2) of which a reprint from 1977 is available, agrees in general, but not perfectly, with the figure (painting) of *Brahmaea Tridentata* [sic] CONTE, 1911 in Conte (1911: pl. XIII, fig. 2).

**Type locality:** Congo supérieur [Upper Congo (region – archaic), broader terms: Democratic Republic of Congo].

#### Geographical and altitudinal distribution: n/a.

- **Etymology**: concluded from the French text 'sur la cellule une tache tridentée brun noir' [= on the cell a black-brown tridentate spot] the name *tridentata* is pointing to the special pattern morphology of the median area in the forewing [as in *D. tridentatum* (CONTE, 1911)].
- **Type material:** the description most likely based on a single specimen of unrecorded sex [? ], which was figured in the original description and reported to be in coll. W. de Rothschild [as in *D. tridentatum* (CONTE, 1911)].
- **Taxonomic notes:** *Dactyloceras tridentatum* (CONTE, 1919) is a junior primary homonym of *Dactyloceras tridentatum* (CONTE, 1911). The (formal) homonym was accidentally created in a second publication of the original description.

**Remarks:** of this version published in 1919, which incidentally does not always match the original in terms of the illustrations, there is also an identical reprint published in

1977. Although *Brahmaea Tridentata* [sic] is also referred to as a new species in this, the name is not regarded as a further homonym. This edition can be clearly recognized as a reprint, while the 1919-edition, along with the new page numbers and differences in the images, is to be regarded as a further publication by us.

**General notes:** Conte (1919: pl. XIII, fig. 2) figured the  $[?^{\bigcirc}_+]$  specimen.

- **Synonyms:** for misinterpretations see the appropriate text parts. Junior subjective synonyms, junior objective synonyms, errors and incorrect subsequent spellings for *tridentatum* (CONTE, 1919) are as follows:
  - tridentata CONTE, 1911; STATUS-; senior primary homonym of Brahmaea tridentata CONTE, 1919
  - *tridentata* CONTE, 1911; incorrect original spelling due to gender ending after combination with *Dactyloceras* MELL, 1927

#### Hybridizations: n/a

#### Further readings on tridentatum (CONTE, 1919)

Conte (1919) Ess. d. Class. Lep. prod. de Soie, 7, (1919), pp. 246-256, 257, 258, pls. XII-XV; placed *Brahmaea* WALKER, 1855 in the Bombycides. Conte (249-250, 258) described *Brahmaea Tridentata* [sic] CONTE, 1919 from Congo supérieur [Upper Congo = widely Democratic Republic of Congo]. The type specimen of unrecorded sex was figured (pl. XIII, fig. 2).

**Remarks:** Brahmaea tridentata CONTE, 1919 is considered a junior primary homonym of Brahmaea tridentata CONTE, 1911.

The figure (phot.h.-t.) of *Brahmaea Tridentata* [sic] CONTE, 1919 in Conte (1919: pl. XII, fig. 2) of which a reprint from 1977 is available agrees in general, but not perfectly, with the color figure (painting) of *Brahmaea Tridentata* [sic] CONTE, 1911 in Conte (1911: pl. XIII, fig. 2).

- Weritz, Riekert & Naumann (2016) [04.i.2016] Entomofauna, 37 (2), pp. 333-352; presented an updated list of taxa of the genus *Dactyloceras* MELL, 1927 listed in chronological order, the type localities were included, as well as the actual geographic situation was added when necessary. No remarks on the taxonomic status including synonymies were made. *D. tridentatum* (CONTE, 1919) (type locality: Usambara) was included in this overview as junior primary homonym of *D. tridentatum* (CONTE, 1911). The original name *tridentata* has been emended according to the rules of the ICZN (2000) Art. 32.
- Kitching, Rougerie, Zwick, Hamilton, St Laurent, Naumann, Ballesteros Mejia & Kawahara (2018) A global checklist of the Bombycoidea (Insecta: Lepidoptera); published online 2018 Feb 12. doi: 10.3897/BDJ.6.e22236; omitted the name *tridentatum* (CONTE, 1919).
- De Prins, J. & De Prins, W. (2011-2021) Afromoths, online database of Afrotropical moth species (Lepidoptera). World Wide Web electronic publication (http://www.afromoths.net) [accession date: 02 SEP 2021]; listed *Dactyloceras lucina* (DRURY, 1782) (*Phalaena Attacus*) of the family Brahmaeidae. The taxa *swanzii* (BUTLER, 1871) and *tridentata* [sic] (CONTE, 1911) were listed as species synonyms of *Dactyloceras lucina* (DRURY, 1782).

Remarks: the junior primary homonym D. tridentatum (CONTE, 1919) was omitted.

### nebulosum BROSCH, NAUMANN & MEISTER, 2002 ["2001"] (Dactyloceras)

- **Original citation and spelling:** *Dactyloceras nebulosa* BROSCH, NAUMANN, & MEISTER new species
- **Original description:** Brosch, U., Naumann, S. & Meister, F. (2002): galathea – Berichte des Kreises Nürnberger Entomologen eV (Nürnberg), 17 (4), 2001: pp. 189-197; col. pl. p. 193 (4 figs.) (♂ holotype dorsally and ventrally) [printed in January 2002 and made available January 21<sup>st</sup>, 2002].
- Type locality: Cameroon, Yaóunde environment.
- **Geographical and altitudinal distribution:** thus far with certainty known from the type locality 'from higher altitudes'. Other populations from Cameroon, Gabon, Angola, Equatorial Guinea, and the Central African Republic could also belong to this taxon, because they are clearly grouping in the BOLD TaxonID Tree.
- **Etymology:** as given in the original description, the new species was named for its vapid phenotype, *nebulosa* was based on the Latin term 'nebulosus' for foggy or misty. This species was originally described as *nebulosa* BROSCH, NAUMANN & MEISTER, 2002 ["2001"] but later found to be incorrect in the choosen gender. Consequently the original name *nebulosa* was emended by Naumann, Brosch & Nässig (2005) according to the rules of the ICZN (2000) Art. 34.2.
- **Type material:** ♂ holotype by original designation, local people leg., trader's material; genitalia prep. no. CBH-0167. The type was recorded being donated to the Museum für Naturkunde, Humboldt-Universität zu Berlin (Berlin).
- **Taxonomic notes:** described as species of *Dactyloceras* MELL *in* Hering *in* Seitz (ed.), 1927. The taxon *nebulosa* [sic] was described after a  $\mathcal{J}$  singleton. This specimen is in most details of the habitus, wing pattern and coloration, as well as in the male genitalia structures almost similar *D. lucina* (DRURY, 1782) but was explicitly not considered to be a morph. No syntope flying specimens of *D. lucina* were known. *D. lucina* was reported from higher elevations than *D. nebulosa* [sic].

Other populations from Cameroon, Gabon, Angola, Equatorial Guinea, and the Central African Republic could also belong to this taxon, because they form a clear group in the BOLD TaxonID Tree. We assume that *D. nebulosum* represents a pattern morph of a more widely distributed taxon. The original name *nebulosa* has been emended according to the rules of the ICZN (2000) Art. 32 [and 34.2.], by

Naumann, Brosch & Nässig (2005), see also Weritz, Riekert & Naumann (2016): *D. nebulosum* BROSCH, NAUMANN & MEISTER, 2002. The name *nebulosa* [sic] BROSCH, NAUMANN & MEISTER, 2002 was listed as species of the subgenus *Dactyloceras* MELL, 1930 [sic] of the genus *Dactyloceras* [HERING] [sic], 1927 in Kitching, I.J., Rougerie, R., Zwick, A., Hamilton, C.A., St Laurent, R.A., Naumann, S., Ballesteros Mejia, L. & Kawahara, A.Y. (2018): A global checklist of the Bombycoidea (Insecta: Lepidoptera); published online 2018 Feb 12. doi: 10.3897/BDJ.6.e22236.

- **General notes:** the  $\mathcal{J}$  holotype was illustrated in color dorsally (: 193, fig. 1) and ventrally (: 193, fig. 2); the  $\mathcal{J}$  genitalia structures were not figured. The  $\mathcal{Q}$  adult and the preimaginal instars remain unknown [see "Taxonomic notes" and "Geographical and altitudinal distribution" above].
- Synonyms: for misinterpretations see the appropriate text parts. Junior subjective synonyms, junior objective synonyms, errors and incorrect subsequent spellings for *nebulosum* BROSCH, NAUMANN & MEISTER, 2002 ["2001"] are as follows:
  - *nebulosa* BROSCH, NAUMANN & MEISTER, 2002 ["2001"]; emended according to the ICZN (2000) Art. 32: correct as *nebulosum* BROSCH, NAUMANN & MEISTER, 2002 ["2001"]
- Hybridizations: inter-generic and inter-specific pairings with *nebulosum* BROSCH, NAUMANN & MEISTER, 2002 ["2001"] are unknown from literature.
- Further readings on *nebulosum* BROSCH, NAUMANN & MEISTER, 2002 ["2001"]
- Brosch, Naumann, & Meister (2002) [21.i.2002] galathea Berichte des Kreises Nürnberger Entomologen eV (Nürnberg), 17 (4), 2001: pp. 189-197, col.pl. figs. 1 and 2; presented a general overlook combined with nomenclatural and taxonomic notes on the African genus *Dactyloceras* MELL *in* Hering *in* Seitz of the family Brahmaeidae. *Dactyloceras* MELL, 1930 was recognized as a junior primary homonym of *Dactyloceras* MELL *in* Hering *in* Seitz, 1927. The lectotype of *Phalaena lucina* DRURY, 1782 was designated and established as type-species of *Dactyloceras* MELL *in* Hering *in* Seitz, 1927. The *d* holotype of *Dactyloceras nebulosa* [sic] BROSCH, NAUMANN & MEISTER, 2002 ("2001") was figured in color dorsally and ventrally.

**Remarks:** the 3 genitalia structures were not figured in the original decription. Other populations from Cameroon, Gabon, Angola, Equatorial Guinea, and the Central African Republic could also belong to this taxon, because they form clearly a group in the BOLD TaxonID Tree.

Bouyer (2002) [iv.2002] Entomologia Africana, 7 (1), 2002: pp. 15-27; proposed the new subgenus *Shinocksiceras* of the genus *Dactyloceras* MELL, 1927 for taxa within the *bramarbas*-group, the *barnsi*-group, and the *windenmanni* [sic]

(*neumayeri*)-group. The species *lucina* (DRURY, 1982) [sic] with its synonym *swanzii* (BUTLER, 1871), *tridentata* [sic] (CONTE, 1911) and *nebulosa* [sic] BROSCH, NAUMANN & MEISTER, 2002 remain in the subgenus *Dactyloceras*. A further single species was grouped as *incertae sedis*: *richinii* BERIO, 1940 [sic] (*windenmanni*-[sic] or *barnsi*-group) because the type was not examined.

**Remarks:** the  $\bigcirc$  of *nebulosum* BROSCH, NAUMANN & MEISTER, 2002 ["2001"] as well as the early stages probably remain unknown if not already described under another name in *Dactyloceras*. Thus far there is no information on the ecology and biology of *nebulosum* available from literature.

- Naumann, Brosch & Nässig (2005) [viii.2005] Nachr. entomol. Ver. Apollo, Frankfurt/Main, N.F. 26 (1/2): p. 30; discussed on the formation and treatment of the generic name *Dactyloceras* MELL, 1927. It was found that several speciesgroup names in the genus *Dactyloceras* do not agree in gender. This inevitably leads to the following emendation: *Dactyloceras nebulosum* BROSCH, NAUMANN & MEISTER, 2002 ("2001").
- Naumann (2008) [30.i.2008] Family Brahmaeidae, Brahmid Moths, pp. 111-116, *in*: Kühne (2008) Butterflies and moths diversity of the Kakamega forest (Kenya), 203 pp.; recorded *Dactyloceras* MELL *in* Hering *in* Seitz, 1927 from Africa excluding the South and arid Northwestern regions. Recently proposed emendations to names of taxa in *Dactyloceras* were discussed. The author noted that the  $\delta$  genitalia structures of *Shinocksiceras* which were found distinct from those of the subgenus *Dactyloceras* by Bouyer (2002) were of no subgeneric significance (: 112). The correct authorship / original description of *Dactyloceras* MELL *in* Hering *in* Seitz, 1927 was pointed out. 19 taxa of *Dactyloceras* and their type localities were listed (: 112-113), including *D. nebulosum* BROSCH, NAUMANN & MEISTER, 2002.
- Weritz, Riekert & Naumann (2016) [04.i.2016] Entomofauna, 37 (2), pp. 333-352; presented an updated list of taxa of the genus *Dactyloceras* MELL, 1927 listed in chronological order, the type localities were included, as well as the actual geographic situation was added when necessary. No remarks on the taxonomic status including synonymies were made. *D. nebulosum* BROSCH, NAUMANN & MEISTER, 2002 (type locality: Cameroun: Yaoundé environment) was included in this overview. The original name *nebulosa* has been emended according to the rules of the ICZN (2000) Art. 32.
- Kitching, Rougerie, Zwick, Hamilton, St Laurent, Naumann, Ballesteros Mejia & Kawahara (2018) A global checklist of the Bombycoidea (Insecta: Lepidoptera); published online 2018 Feb 12. doi: 10.3897/BDJ.6.e22236; listed the name *nebulosa* [sic] BROSCH, NAUMANN & MEISTER, 2002 as species of the subgenus Dactyloceras MELL, 1930 [sic] of the genus Dactyloceras [HERING] [sic], 1927.
- De Prins, J. & De Prins, W. (2011-2021) Afromoths, online database of Afrotropical moth species (Lepidoptera). World Wide Web electronic publication (http://www.afromoths.net) [accession date: 03 SEP 2021]; listed *nebulosa* [sic] BROSCH, NAUMANN & MEISTER, 2002 (*Dactyloceras*) of the genus *Dactyloceras* MELL *in* Seitz, 1927 of the family Brahmaeidae.

**Remarks:** A "Preliminary Checklist" of the names in the family Brahmaeidae, the "References" and the "Internet References", and the "Acknowledgments" are supposedly provided with the last issue of this series.

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Artikel/Article: <u>A Preliminary Annotated Checklist of the Brahmaeidae of the World</u> – Part VA. The lucina-group of the genus Dactyloceras MELL, 1927 (Lepidoptera: Brahmaeidae) 439-472