A Preliminary Annotated Checklist of the Brahmaeidae of the World – Part IC. Brahmaea japonica BUTLER, 1873 and further species of the wallichii-group of the subgenus Brahmophthalma MELL, 1928 (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 fast 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 IC befasst sich speziell mit der japanischen B. (Brahmophthalma) japonica BUTLER, 1873, seinen Synonymen und weiteren kürzlich von China beschriebenen Taxa der wallichii-Gruppe (sensu Paukstadt & Paukstadt 2021) der Untergattung Brahmophthalma MELL, 1928 der Gattung Brahmaea WALKER, 1855. 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 the knowledge of 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 findings and new names were incorporated as far as they were known from the literature up to the time of printing and were accessible to us. On the basis of almost 400 individual publications, an attempt was made to create an up-to-date and almost complete overview of the literature on the Brahmaeidae family. 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 IC deals specifically with the Japanese B. (Brahmophthalma) japonica BUTLER, 1873, its synonyms and other taxa of the *wallichii*-group (sensu Paukstadt & Paukstadt 2021) of the subgenus Brahmophthalma MELL, 1928 of the genus Brahmaea WALKER, 1855 which were recently described from China. This first coherent analysis of the Brahmaeidae family is not intended to represent a genus 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.

Brahmaea (Brahmophthalma)

japonica BUTLER, 1873 (*Brahmaea*)

Original citation and spelling: BRAHMÆA JAPONICA, *sp. n.*

- **Original description:** Butler, A. G. (1873): Description of a New Species of *Brahmaea*, In The Collection Of The British Museum. The Entomologist's Monthly Magazine, Vol. X, 1873-4: pp. 56-57.
- Type locality: Japan.
- Geographical and altitudinal distribution: endemic to Japan. Butler (1878) recorded *japonica* from Yokohama [Honshu I.]. Butler (1880b) recorded *japonica* from Yokohama and Nikko [Prefecture Tochigi, Honshu I.]. Leech (1898) recorded *japonica* from Yokohama in Pryer's collection. Inoue (1984) recorded *wallichii* [sic] *japonica* BUTLER from Hokaido and Honshu. Mitsuhashi (2016) recorded *japonica* from the Chiba Prefecture [Honshu, near Tokio] based on Miyake (1919). Fujiwara, Kasai & Tanaka (2018) recorded *japonica* from Dodogahora, Gifu Prefecture [Honshu I., N of Nagoya]. Specimens in the Research Collection of Ulrich and Laela H. Paukstadt (Wilhelmshaven, Germany) are from Satoni, Tottori Prefecture, Honshu I. This is a common species but no altitudinal distribution was found recorded in literature (literature in Japanese was not studied in detail).
- **Etymology:** the name *japonica* is pointing to the origin of this species, the islands of Japan.
- **Type material:** the description most likely based on a single specimen of unstated sex in the collection of the British Museum (ex coll. W. B. Pryer). The present location of the type material was not determined by us.
- Taxonomic notes: the name *japonica* BUTLER, 1873 was listed as species of *Brahmaea* (*Brahmophthalma*) 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.
- Taxonomic history: Saturniidae Butler (1878); Bombycidae Kirby (1892); Brahmaeidae Swinhoe (1892); Brahmaeidae Hampson (1893 ["1892"]); Bombyx / tribus Saturnides Austaut (1896); Brahmaeidae Leech (1898); Caligula [sic] / Saturniidae [lapsus?] Gauckler (1899); Brahmaeidae (Symbombycina) Packard (1904); Bombycites Conte (1911); Brahmaeidae Seitz (1911); Bombycites Conte (1919);

Brahmaeidae – Hering *in* Seitz (1928); "Saturniidae" – Aue (1933); *Brahmaeops* – Bryk (1949); Heterocera [Brahmaeidae omitted] – Schuler (1970); Brahmaeidae – Laithwaite, Watson & Whalley (1975). **Remarks:** above compilation based on citations of *B. (Brahmophthalma) japonica* BUTLER, 1873 only and can be incomplete.

- General notes: the new species was not illustrated by Butler (1873) in the original description. An adult was illustrated by Butler (1878: col.pl. XXVI fig. 3) dorsally. Conte (1919: pl. XIV, fig. 4) figured an adult dorsally. Issiki, Mutuura, Yamamoto & Hattori (1965: pl. 13, fig. 33) illustrated the δ adult, an early instar larva and the mature larva of *japonica* in color. Naturalia (1966: 110) figured the adult ob *B. japonica* in color. Schuler (ed.) (1970) figured a 3° adult of *japonica* in line drawings (: 96) and color (: [97], pl. 20). Laithwaite, Watson & Whalley (1975) figured wallichii japonica in color (: fig. 340d). Schuler (ed.) (1977 [reprint]) figured a d adult of *japonica* in line drawings (: 96) and color (: [97], pl. 20). Inoue in: Inoue, Sugui, Kuroko, Moriuti & Kawabe (ed.) (1982: pl. 126) figured wallichii japonica BUTLER in color (fig. 4 \bigcirc and fig. 5 \bigcirc). Gardiner (1982: pl. XII col.-fig. top [larva], col.-fig. bottom [adult]) figured the larva and adult in color. Inoue (1984) figured details of the *d* genitalia structures of *wallichii japonica* BUTLER (uncus, dorsally) (: 179, fig. 6) and left valva (: 180, fig. 9). Owada in: Sugi (ed.) (1987) figured the eggs, larvae and the adult of japonica (pl. 51, figs. 1-5) from Japan. Kishida (2020) Kishida (2020) figured the 👌 adult of japonica dorsally (: 90, col.-fig. 1) and a further specimen of unstated sex alive, as well as the 1^{st} instar and the mature larvae in color (: 90).
- **Synonyms:** for misinterpretations see the appropriate text parts. Junior subjective synonyms, junior objective synonyms, errors and incorrect subsequent spellings for *japonica* BUTLER, 1873 are as follows:
 - nigrans BUTLER, 1880; STATUS-; junior subjective synonym of japonica BUTLER, 1873
- mniszechii FELDER in C. Felder, R. Felder & Rogenhofer, [1874]
- **Hybridizations:** inter-generic and inter-specific pairings with *japonica* BUTLER, 1873 are unknown from literature.

Further readings on *japonica* BUTLER, 1873

- Butler (1873) Ent. mon. Mag., X, 1873-74, pp. 56-57; compared the new species *Brahmaea japonica* from Japan with *B. Certhia* [sic] [*s.l.*, undefined origin].
- Butler (1878) Ill. Lep. Het. B. M., Part II; listed (: 17) and figured (: XXVI, fig. 3) *Brahmaea japonica* BUTLER, 1873. Butler recorded *japonica* from Yokohama and noted that *japonica* is allied to *B. certhia* of India. The genus Brahmaea Walker was placed in the Saturniidae.

Remarks: Butler (1878) confused the Chinese *B. (Brahmaea) certhia* (FABRICIUS, 1793) with the Indian *B. (Brahmophthalma) wallichii wallichii* (GRAY, 1831).

Butler (1880b) Ent. mon. Mag., XVII, 1880-81, pp. 110-111; not assigned the genus *Brahmaea* to any family. Butler was grouping the genus *Brahmaea* as follows: Section I: *Brahmaea Lucina* [sic] DRURY (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 remain *Brahmaea Whitei* [sic] BUTLER (Darjiling), *Brahmaea conchifera* BUTLER (Silhet and Darjiling), *Brahmaea rufescens* BUTLER (NE Bengal), and *Brahmaea Wallichii* [sic] GRAY (Nepal). Butler noted that 5 off 11 species [sensu Butler 1880] were not represented in the National Collection.

Remarks: Butler confused taxa of the genus *Brahmaea* WALKER, 1855. *B.* (*Brahmophthalma*) *japonica* BUTLER, 1873 with its junior subjective synonyms *B.* (*Brahmophthalma*) *miszechii* FELDER, [1874] and *B.* (*Brahmophthalma*) *nigrans* BUTLER, 1880 are considered to be conspecific. *B.* (*Brahmophthalma*) *wallichii* wallichii (GRAY, 1831) with its junior subjective synonyms *B.* (*Brahmophthalma*) *conchifera* BUTLER, 1880 and *B.* (*Brahmophthalma*) *rufescens* BUTLER, 1880 are considered to be conspecific. A further synonym of wallichii was omitted by Butler: *B.* (*Brahmophthalma*) *spectabilis* HOPE, 1841. *B.* (*Brahmophthalma*) *hearseyi* WHITE, 1862 ["1861"] was omitted by Butler but its junior subjective synonym *B.* (*Brahmophthalma*) whitei BUTLER, 1866 was listed instead. *B.* (*Brahmaea*) *lunulata* BREMER & GREY, [1853] was erroneously cited as junior synonym of *B.* (*Brahmaea*) *certhia* (FABRICIUS, 1793). The Afrotropical taxa were correctly placed in a separate group (Section I).

Silhet = Sylhet, is metropolitan city in northeastern Bangladesh; Darjiling = Darjeeling, is a city and a muncipality in the Indian state of West Bengal.

Leech (1889) [01.iv.1889] Proc. zool. Soc. London, 1888, pp. 580-655, col.pls. XXX-XXXII; listed in 'Lepidoptera of Japan and Corea' two species of the genus *Brahmaea* (: 635). Those were *Brahmaea japonica* with its probable synonym *mniszechi* [sic] FELDER, 1864-5 [sic] and *Brahmaea certhia* FABRICIUS with its synonyms *Bombyx wallichii* GRAY, *Brahmaea carpenteri* BUTLER, 1883, *Saturnia lunulata* MOTSCHULSKY, *Saturnia undulata* BREMER & GREY, 1853. The author remarked that *Brahmaea carpenteri* BUTLER is the only form of *B. certhia* recorded from the region under consideration, but at best can only rank as a variety of *certhia*.

Remarks: *B.* (*Brahmopthalma*) *mniszechii* FELDER, [1874] is a junior subjective synonym of *B.* (*Brahmophthalma*) *japonica* BUTLER, 1873. *B.* (*Brahmophthalma*) *wallichii* (GRAY, 1831), *B.* (*Brahmaea*) *lunulata* (BREMER & GREY, 1853 ["1852"]) and *B.* (*Brahmaea*) *lunulata carpenteri* BUTLER, 1883 are distinct from the Chinese *B.* (*Brahmaea*) *certhia* (FABRICIUS, 1793). The record of *B.* (*Brahmaea*) *certhia* (FABRICIUS, 1793) for Korea refers to *B.* (*Brahmaea*) *lunulata carpenteri* BUTLER, 1883 and the record for Japan refers to *B.* (*Brahmophthalma*) *japonica* BUTLER, 1873.

Kirby (1892) Syn. Cat. Lep. Het., I, Sphinges and Bombyces, XII + 951 pp.; placed the genus *Brahmaea* in the Bombycidae (: 723-724, Appendix: 933). The author included 14 species in *Brahmaea*. Three of those were 3. *B. Japonica* [sic] BUTLER, 1873 from Japan, 4. *B. Mniszechii* [sic] FELDER, 1874 from Japan and 5. *B. Nigrans* [sic] BUTLER, 1881 [sic] from Japan.

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 considered to be invalid because the name *conchifera* BUTLER, 1880 was not originally included in Walker (1855: 1315-1316) and *B. Certhia* [sic] (sensu Walker 1855: 1316) is considered being misidentified.

B. (*Brahmophthalma*) *mniszechii* FELDER, [1874] and *B.* (*Brahmophthalma*) *nigrans* BUTLER, 1880 are junior subjective synynyms of *B.* (*Brahmophthalma*) *japonica* BUTLER, 1873.

- Swinhoe (1892) Cat. East. a. Austr. Lep. Het. Oxford Mus., Part I., 1892, VIII + 324 pp., 8 col. pls.; proposed the new family name Brahmaeidae which included the genus *Brahmaea* WALKER, 1855. Swinhoe recognized three species in *Brahmaea* WALKER, 1855. Those were *Brahmaea wallichii* GRAY, 1832 (Nepal, Sylhet, N. E. Bengal, Assam), *Brahmaea hearseyi* WHITE, 1862 (Darjiling, India, Sylhet), and *Brahmaea japonica* BUTLER, 1873 (Japan). Further publications were listed in subordination of *B. wallichii*, *B. hearseyi*, and *B. japonica*.
- Austaut (1896) Le Naturaliste, (2) 10, p. 98; under the header "Notice on *Brahmaea Lunulata* [sic] BREMER [sic] and on a new variety of this species" Austaut erroneously noted that the *Brahmaea* are *Bombyx* [sic] who belong to the tribus Saturnides. He reported *Brahmaea Lunulata* [sic] BREMER [sic] from the Amur River, *B. Japonica* [sic] from Japan and Korea, and *B. Ledereri* [sic] from Asia Minor.

Remarks: *B.* (*Brahmophthalma*) *japonica* BUTLER, 1873 is endemic to Japan. The genus *Brahmaea* WALKER, 1855 is a member of the family Brahmaeidae SWINHOE, 1892.

- Staudinger & Bang-Haas (1897) [xii. 1897] Lepidopteren-Liste No. 41, listed (: 68) *Brahmaea Japonica* [sic] ♂ 250. Prices in unities (or 1/10 Mark [= ca. 1/20 €]).
- Leech (1898) [30.ix.1898] Trans. ent. Soc. London, Part III, 1898, pp. 261-379; listed in 'Heterocera from China, Japan, and Corea' four species of the genus *Brahmaea* WALKER, 1855 in the family Brahmaeidae (: 269-270). One of those has been 20. *Brahmaea japonica* BUTLER, 1873 from Japan with its synonyms *Brahmaea mniszechii* FELDER, 1874 and *Brahmaea nigrans* BUTLER, 1880. The author recorded *japonica* from Yokohama in Pryer's collection.
- Gauckler (1899) Insekten Börse, 16 (14), pp. 80-81, described the rearing and lifehistory of *Calligula* [sic] (*Brahmea* [sic]) *japonica* BUTLER, 1873 from Japan.
 Remarks: Gauckler had confused *Rinaca japonica* (MOORE, 1862) (*Dictyoploca*) with *Brahmaea* (*Brahmophthalma*) *japonica* BUTLER, 1873. He erroneously combined the subgenus *Brahmaea* WALKER, 1855 with the genus *Caligula* MOORE, 1862 in the Saturniidae. Concluded from text and figures the life-history of *Rinaca japonica* (MOORE, 1862) (*Caligula*) was described. *Caligula* MOORE, 1862 is a junior synonym of *Rinaca* WALKER, 1855.
- Strecker (1899) Index of Species to Kirby's Syn. Cat. Lep. Het., Vol. I, pp. [1]-45; listed *Japonica* [sic], 277, 326, 475, 503, 654, 723, 732, 761, 783, 824 (: 24).
- Packard (1904) [vi.1904] Proc. Amer. Acad., Vol. XXXIX, No. 22, 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. The life history of *Brahmaea japonica* BUTLER was described in detail (: 570-578). Analogies to Ceratocampidae and Sphingidae were described (: 576-578). Packard noted (: 577) that the venation of \Diamond and \bigcirc presenting some important Ceratocampid characters but *Brahmaea* should be assigned to an independent family. 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

- 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 and recorded *Brahmaea Japonica* [sic] BUTLER, 1873 from Japan. The adult was described (: 83) and figured in color dorsally (pl. XIV, fig. 4). Conte (: 83) cited *B. Nigrans* [sic] BUTLER, 1880 and Butler (1881) in subordination of *Brahmaea Japonica* [sic] BUTLER, 1873 and Butler (1878).
- Seitz (1911) [10.xi.1911] 15. Familie: Brahmaeidae, *in*: Seitz (ed.) Die Grossschmetterlinge der Erde . I. Abt., Bd. 2, pp. 227-228, col. pl. 35C; placed only a single genus in the Brahmaeidae: *Brahmaea* WALKER. The author recognized three Palearctic species and several forms [concluded from text in the sense of subspecies] in *Brahmaea*. Those were 1. *B. certhia* FABRICIUS [sic] (Amur, North and Central China), 2. *B. christophi* STAUDINGER (Lenkoran, Caucasia), and 3. *B. japonica* BUTLER (Japan) with its synonym *mniszechii* FELDER and he noted that *nigrans* BUTLER, unknown to him in nature, is probably only a dark specimen. Seitz noted that *japonica* is closely allied the Indian *conchifera* BUTLER, and is only a Northern form [subspecies] of *wallichii* GRAY [sic] with its junior synonym *spectabilis* HOPE [sic]. The ground-color of *japonica* was described shading into grayish green and that of *rufescens* BUTLER into reddish. *Brahmaea christophi*, *B. certhia*, *B. ledereri*, and *B. japonica* were figured in color dorsally (pl. 35C).

Remarks: B. (Brahmaea) certhia (FABRICIUS, 1793) is absent in the Amur region. B. (Brahmaea) ledereri ROGENHOFER, 1873 and B. (Brahmaea) christophi STAUDINGER, 1885 are distinct from B. (Brahmaea) certhia. B. (Brahmophthalma) japonica BUTLER, 1873 is distinct from B. (Brahmophthalma) wallichii wallichii (GRAY, 1831) with its synonyms B. (Brahmophthalma) conchifera BUTLER, 1880, B. (Brahmophthalma) rufescens BUTLER, 1880 and B. (Brahmophthalma) spectabilis (HOPE, 1841).

- Seitz (1911) [10.xi.1911] 15. Family: Brahmaeidae, *in*: Seitz (ed.) The Macrolepidoptera of the Palearctic Fauna . 2. Volume: The Palearctic Bombyces & Sphinges. I. Division, Vol. 2, pp. 227-228, col.-pl. 35c; - please read: Seitz (1911) German Edition.
- Hensel (1913) [19.vii.1913] Internat. Entom. Zeitschr., Guben, 7, (16): p. 118; reported on an observation on the biology of the larvae of *Brahmaea japonica* under indoor rearing conditions.
- 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*: *B. japonica* BUTLER, 1873

(Japan) with its synonyms ab. *nigrans* BUTLER, 1880, and f. *Mniszechi* [sic] FELDER, 1874. The author distinguished between 'Species' and 'Varitates' [varieties] in the Index Brahmaeidarum (: 6); he explicitly placed *japonica* BUTLER 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 (255-256, 257) recorded *Brahmaea Hearseyi* [sic] WHITE, 1862 from India and Japan. *B. Whitei* [sic] BUTLER, 1866 was cited in subordination [concluded from text as synonym]. An adult of *Brahmaea Japonica* [sic] BUTLER, 1873 was illustrated dorsally (: pl. XIV, fig. 4) and recorded from Japan (: 253). *B. Nigrans* [sic] BUTLER, 1880 was cited in subordination of *Japonica* [sic].

Remarks: The record of *Brahmaea* (*Brahmophthalma*) *hearseyi* WHITE, 1862 ["1861"] for Japan refers to *B*. (*Brahmophthalma*) *japonica* BUTLER, 1873 rather. *B. whitei* BUTLER, 1866 is a junior subjective synonym of *B*. (*Brahmophthalma*) *hearseyi* WHITE, 1862 ["1861"]. *Brahmaea* (*Brahmophthalma*) *nigrans* BUTLER, 1880 is a junior subjective synonym of *B*. (*Brahmophthalma*) *japonica* BUTLER, 1873.

- Hering *in* Seitz (ed.) (1927a) [17.xi.1927] (with an introduction on the Brahmaeidae by Dr. A. Seitz) 12. Familie: Brahmaeidae, pp. 349-351, *in*: Die Gross-Schmetterlinge der Erde, (II) 14 Die afrikanischen Spinner und Schwärmer, Seitz (: 349) noted that 'the position in the system can be seen less clearly in the moths than in the larvae. The morphology of the tubercles shows that the *Brahmaea* are nothing more than Old World representatives of the Ceratocampidae, which is widespread in America and also not very species-rich'. Seitz briefly reported on the variability of *B. japonica*.
- Hering *in* Seitz (ed.) (1927b) [17.xi.1927] (with an introduction on the Brahmaeidae by Dr. A. Seitz) 12. Family: Brahmaeidae pp. 349-351, *in*: The Macrolepidoptera of the World. A Systematic Description of the Hitherto Known Macrolepidoptera, (II) 14 The African Bombyces & Sphinges; see Hering *in* Seitz (ed.) (1927a) [German Edition].
- Strondl (1927: 444) Int. ent. Z. (Guben), 20, reported on his rearing experiences with *Brahmaea japonica*.
- Mell 15. Familie: Brahmaeidae, *in* Seitz (1928) [17.viii.1928] Gross-Schmett. d. Erde, (II) X, pp. 521-522; placed the species of the family Brahmaeidae into three groups. Those were: 1^{st} group from Sub-Saharan Africa, 2^{nd} group Palearctic Asia, and 3^{rd} group Southeast Asia from the Eastern Himalayas to the Philippines in the east and Japan in the northeast. Both Asian groups were given the rank of sub-genera. Mell comes to the conclusion that only the second new subgenus, *Brahmophthalma*, is suitable for the Indo-Australian region. Mell considered the Japanese *japonica* BUTLER to be a vicariate of *B. wallichii*, greatly reduced by isolation.

Remarks: Mell did not designate a typus generis for his new subgenus *Brahmophthalma*, though two species were included in this new subgenus.

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 provided general information on the biology and ecology of *B. hearseyi* WHITE, *B. certhia* FABRICIUS [sic] and *B. japonica* BUTLER. The new subgenus *Brahmophthalma* was cited in the 'East Asian group', which included *hearseyi* WHITE, 1862, *wallichii* GRAY [sic], and *japonica* BUTLER. All recognized species were briefly described and their distribution ranges were given.

Remarks: the subgeneric name *Brahmophthalma* was already validly proposed by Mell *in* Seitz (ed.) (1928). The name *Brahmophthalma* MELL, 1930 is considered to be a primary homonym and junior synonym of *Brahmophthalma* MELL, 1928.

- Aue (1933) Handbuch für den praktischen Entomologen; 1. Abteilung; Lepidoptera; IV. Band, provided short rearing instructions on *Brahmaea japonica* BUTLER from Japan (: 133-134). The author noted that the family Brahmaeidae is closely related to the Saturniidae and listed by him within the latter family since no relatives of Brahmaeidae are distributed in Europe. The genus *Brahmaea* was listed explicitly within non-European Saturniidae. Aue (: 68-72) placed the genus *Lemonia* HÜBNER in the family Lemoniidae.
- Bandermann (1938) [15.xi.1938] Entomologische Rundschau mit Societas entomologica (Stuttgart), 55. Jahrgang, Nr. 55, 1938, pp. [637]-638; reported on a rearing of *Brahmaea japonica* BUTLER. The larval instars were described briefly. **Remarks:** the origin of the life stock used for this rearing was unfortunately not mentioned in the paper.
- Bryk (1949) [26.i.1949] Arkiv för Zoologi, Band 41 A, N:o 1, pp. 20-26; noted the arrangements by Mell (1930) who placed the taxa *hearseyi* WHITE, *wallichi* [sic] GRAY, and japonica BUTLER into a new subgenus Brahmophthalma MELL, 1930 without fixing the generic type. Bryk remarked that each of above species might belong to a distinct genus due to pattern morphology. Some further critical remarks on nomenclature were provided. Bryk (: 20) remarked that the diagnostic for B. wallichi [sic] by Mell in: D. Ent. Z., 1929: 346 (1930) must be wrong [see "Remarks" below], because the description and illustration (fig. 21) not fit to wallichi [sic] but to japonica BUTLER rather. Bryk accepted Hampson's type fixation. Bryk cited the typus generis for *Brahmophthalma* MELL, 1930 [sic]: B. wallichi [sic] GRAY). Bryk proposed a new genus Brahmaeops with the generic type japonica BUTLER. Some observations on the venation in Brahmaea and Dactyloceras were done and several species in Brahmaeidae shortly described, compared, and several conclusions presented. The description of the new genus Brahmaeops was mainly based on the venation of *japonica* BUTLER. Hampson was cited as the author of the family-group name Brahmaeidae.

Remarks: there has been no type fixation for the new subgenus *Brahmophthalma* by Mell (1930).

Hartig (1963) Boll. Ass. Romana ent., XVIII (1), pp. 5-6; compared *Bramaea* [sic] *europaea* HARTIG, 1963 with *Bramaea* [sic] *certhia* FABRICIUS (including *ledereri* ROGENHOFER and *carpenteri* BUTLER), *christophi* STAUDINGER, and *japonica*

BUTLER. Hartig listed three species and four subspecies in the "Bibliografia" (: 6). The names not appear in the text part. Those were *Bramaea* [sic] *certhia* FABRICIUS [sic], *Bramaea* [sic] *certhia ledereri* ROGENHOFER, *Bramaea* [sic] *certhia lunulata* BREMER & GREY [sic], *Bramaea* [sic] *certhia carpenteri* BUTLER, *Bramaea* [sic] *cristophi* [sic] STAUDINGER, *Bramaea* [sic] *japonica* BUTLER, and *Bramaea* [sic] *iaponica nigrans* BUTLER.

Remarks: concluded from text above names were most probably used in species rank, though *ledereri* ROGENHOFER, *lunulata* BREMER & GREY, and *carpenteri* BUTLER were listed as subspecies of *certhia* FABRICIUS in the "Bibliografia". *Bramaea* [sic] *cristophi* [sic] STAUDINGER and *japonica* BUTLER were cited in species rank with *nigrans* BUTLER as subspecies of *japonica* BUTLER in the "Bibliografia".

B. (Brahmaea) lunulata lunulata (BREMER & GREY, 1853 ["1852"]) and B. (Brahmaea) lunulata carpenteri BUTLER, 1883 are distinct from B. (Brahmaea) certhia (FABRICIUS, 1793) on species level. B. (Brahmophthalma) nigrans BUTLER, 1880 is a junior subjective synonym of B. (Brahmophthalma) japonia BUTLER, 1873.

Bilek (1965) described the life-history of *Brahmaea europea* [sic] HARTIG, 1963 and compared the preimaginals with *Brahmaea japonica* BUTLER and *Brahmaea wallichii* GRAY [sic] (: 6-8)

Remarks: unfortunately the misspellings *Bramea*, *Bhrahmaea*, *teuropea*, *wallichi*, and *wallichii* were used in above paper.

Issiki, Mutuuru, Yamamoto & Hattori (1965) Early stages of Japanese Moths in colour, Vol. I; placed *japonica* BUTLER as subspecies to *wallichii*. A \Im adult, an early instar larva and the mature larvae of *japonica* were figured in color (: pl. 13, fig. 33) [text in Japanese].

Remarks: *B.* (*Brahmophthalma*) *japonica* BUTLER, 1873 is endemic to Japan and distinct on species level from *B.* (*Brahmophthalma*) *wallichii* (GRAY, 1831).

- Naturalia (1966) Enciclopedia Ecologica De Las Ciencias Naturales, Vol. 7, p. 110; figured the adult ob *Brahmaea japonica* in color.
- Sauter (1967) [20.vii.1967] Mitt. schweiz. ent. Ges., XL (1/2), 1967: pp. [125]-129, 2 text-figs., placed *japonica* BUTLER in the genus *Brahmaeops* BRYK and cited *japonica* BUTLER as typus generis for *Brahmaeops*. There were no further remarks on *japonica* BUTLER by Sauter.

Remarks: Brahmaeops BRYK, 1949 is a junior synonym of Brahmophthalma MELL, 1928.

Schepdael (1967) Linneana Belgica, 3 (5): pp. 91-103; provided some information on the biology and the ecology of *Brahmaea europaea*. Schepdael recorded the distribution range of the family Brahmaeidae from Japan, Korea, East and North China, India, Amur, the Caucasus, Cilicus and Ethiopia. He noted that Hartig [1963] listed seven forms for this faunal region, belonging to three species only [see "Remarks" below]. Those were *Brahmaea certhia* FABRICIUS [sic], *B. certhia ledereri* ROGENHOFER, *B. certhia lunulata* BREMER & GREY [sic], *B. certhia carpenteri* BUTLER, *B. cristophi* [sic] STAUDINGER, *B. japonica* BUTLER, and *B. japonica* nigrans BUTLER. The author discussed about the history of the development of the Brahmaeidae.

Remarks: Hartig (1963) listed three species and four subspecies in the "Bibliografia" (: 6). In this compilation, the names did not appear in the text part of the work by Hartig, see Hartig (1963).

B. (Brahmaea) ledereri ledereri ROGENHOFER, 1873 and B. (Brahmaea) ledereri christophi STAUDINGER, 1885 as well as B. (Brahmaea) lunulata lunulata (BREMER & GREY, 1853 ["1852"] and B. (Brahmaea) lunulata carpenteri BUTLER, 1883 are distinct from B. (Brahmaea) certhia (FABRICIUS, 1793). B. (Brahmophthalma) nigrans BUTLER, 1880 is a junior subjective synonym of B. (Brahmophthalma) japonica BUTLER, 1873.

Villiard (1969: 154-155, 233, 237, 238) Moths and how to rear them; recorded *Brahmaea japonica* (Brahmaeidae) from Japan and the Indo-Asian Region. The life history [uncertain identity] was described and the 3° adult and 5^{th} instar larva were illustrated in phot.h.-t. (: 154).

Remarks: *Brahmaea japonica* BUTLER, 1880 is restricted to Japan and replaced by distinct species in the Indo-Australian Region.

- Dufay (1970) Alexanor, VI, 6, 1970, pp. 249-260, reported on *Acanthobrahmaea europaea* (HARTIG) (Brahmaeidae) and cited the Attacidae in comparison for the allied Brahmaeidae. Information on the genera *Brahmaea* and *Acanthobrahmaea* SAUTER, 1967 were given. *Brahmaea japonica* BUTLER was cited (: 249).
- Schuler (ed.) (1970) Fliegende Kleinodien, ein farbiges Falterbuch, 145 pp, 39 col.pls.; placed the families Saturnidae [sic] and Lemoniidae [2 off 24] to the moths [Heterocera]; the family Brahmaeidae was omitted although *Brahmaea japonica* (Asia, Japan) was illustrated in line drawings (: 96) and color (: [97], pl. 20). A adult of *Lemonia dumi* was figured in color (: pl. 5).

Remarks: the record of *B*. (*Brahmophthalma*) *japonica* BUTLER, 1873 from Asia refers to one or more distinct species of *Brahmaea* (*Brahmophthalma*).

Esaki, Issiki, Mutuura, Inoue, Ogata, Okagaki & Kuroko (1971) Icones Heterocerorum Japanicorum In Coloribus Naturalibus, placed *japonica* BUTLER as subspecies to *wallichii*. [Japanese]

Remarks: *B.* (*Brahmophthalma*) *wallichii* (GRAY, 1831) and *B.* (*Brahmophthalma*) *japonica* BUTLER, 1873 are recognized as distinct species.

Laithwaite, Watson & Whalley (1975) [01.i.1975] The Dictionary of Butterflies and Moths, xlvi + 296 pp., 405 col.-pls. / figs.; placed Acanthobrahmaea, Brahmaea, Calliprogonus [sic], and Dactyloceras in Brahmaeidae, a small family of about 20 species. Brahmaea WALKER was reported (: 169) with less than 10 described species ranging from S. Europe to Japan, China and S.E. Asia as far east as Sulawesi. B. wallichii GRAY [sic] was recorded from N. India, Sikkim, Nepal, China, Formosa, and Japan. The Japanese B. wallichii japonica was illustrated in color (: fig. 340d) as B. wallichii.

Remarks: the record of *Brahmaea* from S. Europe is considered to be a lapsus since the author placed *Acanthobrahmaea* (Italy) in generic rank into the family Brahmaeidae. *B.* (*Brahmophthalma*) wallichii (GRAY, 1831) is absent in Japan and *B.* (*Brahmophthalma*) *japonica* BUTLER, 1873 is a distinct species.

- Rougeot (1975) L'Entomologiste, XXXI (4-5) (:147-149; 7 figs.) mentioned that during the first discovery of *Acanthobrahmaea europaea* the specimen was first assigned to the Japanese *Brahmaeops japonica* BUTLER.
- Holloway (1976) Moths of Borneo, [x +] 264 pp.; placed *Brahmidia hearseyi* (WHITE, 1861 [sic]) to the genus *Brahmidia* BRYK (: 85, 108) (Brahmaeidae). He

recorded *Brahmidia hearseyi* (WHITE, 1861 [sic]) for Borneo, Japan, W China, Sikkim, Assam, N Burma [N Myanmar], Java, Philippines, and Sulawesi.

Remarks: Brahmidia BRYK, 1949 is considered a junior synonym of Brahmophthalma MELL, 1928. Locations cited were partly based on misinterpretations and erroneous citations in literature. Records of *B. (Brahmophthalma) hearseyi* WHITE, 1862 ["1861"] refer to allied species of the genus Brahmaea WALKER, 1855 rather. Those are *B. (Brahmophthalma) japonica* BUTLER, 1873 (Japan), *B. (Brahmophthalma) ardjoeno* KALIS, 1934 (Java), *B. (Brahmophthalma) celebica* TOXOPEUS, 1937 (Sulawesi), *B. (Brahmophthalma) naessigi* NAUMANN & BROSCH, 2005 (Philippines: Mindanao), *B. (Brahmophthalma) paukstadtorum* NAUMANN & BROSCH, 2005 (Philippines: Negros [type locality], Luzon and Samar), and *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCH, 2005 (Borneo).

Chu & Wang (1977) [ii.1977] Acta Ent. Sinica, 20 (1), 1977, pp. 83-84, figs. 1-7 (separate plate); recorded seven species of the family Brahmaeidae from China. Those were *Brahmaea certhia* FABRICIUS [sic] (fig. 1) (Heilongija Province: Yichun, Dailin; Zhejia Province: Zhoushan; Central and North China), Brahmaea christophi STAUDINGER (fig. 2) (Beijing; Caucasus), Brahmaea ledereri ROGENHOFER (fig. 3) (Shanghai; Zhejian Province: Tianmu Shan; Turkey and Asia Minor), the new species Brahmaea porphyria CHU & WANG (fig. 4) (Zhejian Province; Jianxi Province; Shanghai, and Jianshu Province: Wuxi), Brahmophthalma hearsevi (WHITE) (fig. 5) (Sichuan Province; Henan Province; Gueichou Province; Guangdong Province; Fujian Province; Ceylon [Sri Lanka]; India; Burma [Myanmar]), Brahmophthalma wallichii (GRAY) (fig. 7) (Yünnan Province: Kunming: Sichuan Province: Hunan Province: Changviang: Taiwan: India), and Brahmophthalma japonica (BUTLER) (fig. 6) (Taiwan, Japan and India). The family was divided into two genera depending on the larval morphology, those were Brahmaea and Brahmophthalma.

Remarks: ranges recorded in Chinese [not translated, but see Chu & Wang (1983)].

Records of *B.* (*Brahmaea*) ledereri ROGENHOFER, 1873, *B.* (*Brahmaea*) christophi STAUDINGER, 1885 and *B.* (*Brahmophthalma*) japonica BUTLER, 1873 from China based on misinterpretations and erroneous citations in literature. Above three taxa are absent in China. *B.* (*Brahmaea*) porphyria CHU & WANG, 1977 is a junior subjective synonym of *B.* (*Brahmaea*) certhia (FABRICIUS, 1793). The record of *B.* (*Brahmophthalma*) japonica BUTLER, 1873 from Taiwan refers to *B.* (*Brahmophthalma*) wallichii insulata INOUE, 1984.

Schuler *in* Schuler (ed.) (1977, 4th ed.) Fliegende Kleinodien, ein farbiges Falterbuch, 145 pp., 39 col.-pls.; placed the families Saturnidae [sic] and Lemoniidae [2 off 24] to the moths [Heterocera]; the family Brahmaeidae was omitted although *Brahmaea japonica* (Asia, Japan) was illustrated in line drawings (: 96) and color (: [97], pl. 20). A ♂ adult of *Lemonia dumi* was figured in color (: pl. 5).

Remarks: the record of *B*. (*Brahmophthalma*) *japonica* BUTLER, 1873 from Asia refers to one or more distinct species of *Brahmaea* (*Brahmophthalma*).

Esaki, Issiki, Mutuura, Inoue, Ogata, Okagaki & Kuroko (1971 [Reprint 1979]) Icones Heterocerorum Japanicorum In Coloribus Naturalibus, placed *japonica* BUTLER as subspecies to *wallichii*. [Japanese] **Remarks:** *B.* (*Brahmophthalma*) wallichii (GRAY, 1831) and *B.* (*Brahmophthalma*) *japonica* BUTLER, 1873 are distinct on species level.

- Yang (1978) Moths of North China, 523 pp, 29 col.pls. [in Chinese without English summary]; recorded *B. certhia* (Fabricius) and *B. undulata* (Bremer & Grey) of the genus *Brahmaea* (Brahmaeidae) from North China (: 424-427). Concluded from text *Saturnia lunulata* BREMER & GREY [sic] was cited in subordination of *Brahmaea undulata* (BREMER & GREY). Notes on *B. christophi* STAUDINGER from Lenkoran, *Brahmaea certhia* (FABRICIUS) (pl. 28, fig. 2 [♂]) and *Brahmaea undulata* (BREMER & GREY) (pl. 28, fig. 1 [♂]) were figured.
 - **Remarks:** the record and figure of *B. (Brahmaea) undulata* (BREMER & GREY, 1853) refer to *B. (Brahmaea) lunulata* (BREMER & GREY, 1853 ["1852"]). *B. (Brahmaea) undulata* (BREMER & GREY, 1853) is a junior objective synonym of *B. (Brahmaea) lunulata* (BREMER & GREY, 1853 ["1852"]).
- Inoue, *in*: Inoue, Sugi, Kuroko, Moriuti & Kawabe (ed.) (1982a) Moths of Japan, I, Vol. I: Text, 966 pp.; placed the family Brahmaeidae in Bombycoidea. The author (: 586) listed *japonica* BUTLER as subspecies of *Brahmaea wallichii* (GRAY).

Remarks: *B.* (*Brahmophthalma*) *japonica* BUTLER, 1873 is a species distinct from *B.* (*Brahmophthalma*) *wallichii* (GRAY, 1831).

Inoue, *in*: Inoue, Sugi, Kuroko, Moriuti & Kawabe (ed.) (1982b) Moths of Japan, II, Vol. II: Plates and Synonymic Catalogue, 552 pp.; \mathcal{J} and \mathcal{Q} adults were figured in color (pl. 126, fig. 4 [\mathcal{J}] and fig. 5 [\mathcal{Q}]. Inoue (: 459) listed *Brahmophthalma* MELL, *Brahmaeops* BRYK, and *Brahmidia* BRYK explicitly as new synonyms of *Brahmaea* WALKER in the "Synopsis of new taxa and other nomenclatural changes".

Remarks: *B.* (*Brahmophthalma*) *japonica* BUTLER, 1873 is a species distinct from *B.* (*Brahmophthalma*) *wallichii wallichii* (GRAY, 1831).

Nässig (1980) [xii.1980] Nachr. entomol. Ver. Apollo, Frankfurt/Main, N. F. Bd. 1 (3/4), pp. 77-91; 7 figs. [incl. 3 maps.]; recognized four genera in the Brahmaeidae. Those were the African *Dactyloceras* MELL, the Italian *Acanthobrahmaea* SAUTER, the Asian typical *Brahmaea* WALKER and the isolated *Calliprogonos* MELL from SW China. Two subgenera of *Brahmaea* were recognized. Those were *Brahmaea* WALKER and *Brahmophthalma* MELL. The author remarked that the subspecies [sic] of the subgenus *Brahmophthalma* of *Brahmaea* are all from East Asia: *hearseyi* from N India, Sikkim, Assam through Southeast Asia to the Philippines, and in the north to Central China, *japonica* from Japan and supposedly Korea, and *wallichii* from Nepal, Sikkim to S and Central China (: 91).

Remarks: the record of *B*. (*Brahmophthalma*) *japonica* BUTLER, 1873 from Korea most probably based on misinterpretations in literature and refers to *B*. (*Brahmaea*) *lunulata carpenteri* BUTLER, 1883 rather.

Fletcher & Nye *in* Nye (1982) The Generic Names of Moths of the World, 4, noted that *Brahmaea japonica* BUTLER, 1873 is a subspecies of *Bombyx wallichii* GRAY, 1831 (: 25).

Remarks: *B.* (*Brahmophthalma*) *japonica* BUTLER, 1873 is distinct from *B.* (*Brahmophthalma*) *wallichii* (GRAY, 1831) on species level.

Gardiner (1982) A Silkmoths Rearer's Handbook, xiii + 255 pp., 125 figs. phot.h.-t. / line drawings, XXXII col.-pls.; recorded *Brahmaea japonica* BUTLER from Japan ("possibly just an island race of *wallichii*") and reported the foodplants privet, lilac, and elder. Other species in this genus listed were: *B. carpenteri* BUTLER, *B. certhia* FABRICIUS [sic], *B. lunulata* BREMER & GREY [sic], and *B. nigrans* BUTLER.

Remarks: *B.* (*Brahmaea*) carpenteri BUTLER, 1883 is a subspecies of *B.* (*Brahmaea*) *lunulata* (BREMER & GREY, 1853 ["1852"]). *B.* (*Brahmophthalma*) *nigrans* BUTLER, 1880 is a junior subjective synonym of *B.* (*Brahmophthalma*) *japonica* BUTLER, 1873.

Zhu Hongfu [Chu, H.F.] & Wang Linyao (1983) Iconographia Heterocerorum Sinicorum, IV, pp. 414-415, col.-figs. 2985-2991, [actually a reprint of Chu & Wang (1977)]; recorded seven species of the family Brahmaeidae from China. Those were Brahmaea certhia FABRICIUS [sic] (fig. 2985), Brahmaea christophi STAUDINGER (fig. 2986), Brahmaea ledereri ROGENHOFER (fig. 2987), Brahmaea porphyrio [sic] CHU et WANG (fig. 2988), Brahmophthalma hearseyi (WHITE) (fig. 2989), Brahmophthalma wallichii (GRAY) (fig. 2990), and Brahmophthalma japonica (BUTLER) (fig. 2991).

Remarks: the following distribution range was recorded for *B. (Brahmophthalma) japonica* BUTLER, 1873: Taiwan, Japan and India. Locations cited can be partly based on misinterpretations and erroneous citations in literature. Taiwan is occupied by the later described subspecies *B. (Brahmophthalma) wallichii insulata* INOUE, 1984. *B. (Brahmaea) ledereri* ROGENHOFER, 1873, *B. (Brahmaea) ledereri christophi* STAUDINGER, 1885 and *B. (Brahmophthalma) japonica* BUTLER, 1873 are no taxa of the fauna of China and India. *B. (Brahmaea) porphyria* CHU & WANG, 1977 is a junior subjective synonym of *B. (Brahmaea) certhia* (FABRICIUS, 1793).

Inoue (1984) Tinea, Vol. 11 (20), pp. 177-181 [30 Nov. 1984], described the populations of the genus *Brahmaea* from Taiwan new subspecies of *B. wallichii* (Gray). The new subspecies *insulata* INOUE, 1984 was compared with *wallichii* (Khasi Hills) and *wallichii japonica* BUTLER (Japan: Hokaido and Honshu).
Bernstein B. (Brahmatichi Japonica) insulata INOUE, 1872, in distinct from P.

Remarks: *B.* (*Brahmophthalma*) *japonica* BUTLER, 1873 is distinct from *B.* (*Brahmophthalma*) *wallichii wallichii* (GRAY, 1831) on species level.

- Sbordoni & Forestiero (1984) Il Mondo delle Farfalle, 312 pp.; cf. Sbordoni & Forestiero (1985) Weltenzyklopädie der Schmetterlinge [German Edition].
- Sbordoni & Forestiero (1985) Weltenzyklopädie der Schmetterlinge, 312 pp.; placed the genera *Dactyloceras*, *Acanthobrahmaea*, *Brahmaea*, and *Calliprogonos* in the Brahmaeidae and the genera *Lemonia*, *Spiramiopsis*, and *Sabalia* in the Lemoniidae (: 142). The authors noted that *Spiramiopsis* was also placed sometimes to the Eupterotidae or Brahmaeidae. Information on the distribution range was provided for *B. wallichii* (India, China, and Japan). The proboscis of the taxa in the family Brahmaeidae were noted being without function and the adults in the Lemoniidae were characterized as having no proboscis.

Remarks: the record of *B.* (*Brahmophthalma*) *wallichii* (GRAY, 1831) for Japan refers to *Brahmaea* (*Brahmophthalma*) *japonica* BUTLER, 1873.

- Paukstadt, U. & Paukstadt, L. H. (1986) [02.vi.1986] Ent. Z. (Essen), 96 (11), pp. 145-152, 6 figs. (phot.h.-t.); described and figured the preimaginal instars of *Brahmidia hearseyi* (WHITE, 1861) [sic] for the first time being. The authors noted that *B. japonica* and *B. wallichii* were currently listed as separate species. A generic revision was considered needed. The authors noted that the mature larvae of *wallichii* and *hearseyi* (Sumatra) are very similar but there are bigger differences between the preimaginals of *hearseyi* (Sumatra) and *japonica* (Japan).
 Remarks: the documentation on *B. (Brahmophthalma) hearseyi* WHITE, 1862 ["1861"] from Sumatra refers to the later described and closely related *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCH, 2005 which occupy Sumatra, the Malay Peninsula and Borneo. At the time being *Brahmidia* BRYK, 1949 is considered to be a junior synonym of *Brahmophthalma* MELL, 1928.
- Sauter (1986) [31.xii.1986] Nota lepid., 9 (3-4), 1986 [December 31st, 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 family Brahmaeidae. *Calliprogonos* MELL & HERING, 1937 [sic] and *Dactyloceras* MELL, 1930 [sic] were placed in the new subfamily Dactyloceratinae. The author noted that he dissected *Brahmaeops japonica* Butler and *Brahmophthalma wallichi* [sic] Gray [sic] and found that *japonica* is very similar with *Acanthobrahmaea*.

Remarks: Brahmaeops BRYK, 1949 and Brahmidia BRYK, 1949 are junior synonyms of Brahmophthalma MELL, 1928. Brahmophthalma MELL, 1928 is placed as subgenus to Brahmaea WALKER, 1855. Calliprogonos MELL, 1937 and Dactyloceras MELL [in Hering] in Seitz (ed.), 1927 are genera in Brahmaeidae SWINHOE, 1892.

- Holloway (1987) The Moths of Borneo, part 3; noted (: 92) that *japonica* BUTLER is the type species of *Brahmaeops* BRYK, and that the larva was illustrated by Mutuura et al. (1965).
- Paukstadt, U. & Paukstadt, L. H. (1987) [04.v.1987] Ent. Z. (Essen), 97 (9): pp. 113-121; 4 figs.; recorded for the first time that the adults of the family Brahmaeidae were observed being able sucking water and honey/sugar solution with the reduced proboscis. Related species like *B. japonica* BUTLER and *Acanthobrahmaea* HARTIG were reported repeatedly reared successfully even though no water was offered. The authors noted that it seems very plausible that adults of *B. hearseyi* and most likely other Brahmaeidae take up liquids in nature due to the fact that the natural resting position usually is on ground of rainforest. The proboscis of *Brahmidia hearseyi* (West Sumatra) (fig. 1a), *Brahmaea japonica* (Japan) (fig. 1b), and *Dactyloceras lucina* (Kamerun) (fig. 1c) were figured in phot.h.-t.

Remarks: the documentation on *B.* (*Brahmophthalma*) *hearseyi* WHITE, 1862 ["1861"] from Sumatra refers to the later described and closely related *B.* (*Brahmophthalma*) *loeffleri* NAUMANN & BROSCH, 2005 which occupies Sumatra, the Malay Peninsula and Borneo.

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* was demonstrated in fig. 1 (distribution map). The chromosome numbers of *B. japonica* and *Acanthobrahmaea europaea* HERTIG [sic] were compared. The authors noted that the so far only karyologically studied Brahmaeidae were *A. europaea* (n = 32; 2n = 64) and *B. japonica* (n = 47; 2n = 94). The authors assumed that the variable chromosome numbers in Brahmaeidae are probably due to chromosomal rearrangements (fusion and dissociations), as already reported in other non-parthenogenetic Lepidoptera.

Chang [1989-91] Illustrated Moths of Taiwan, 5 Vol. (1989); listed four subspecies of *wallichii* GRAY [sic] including the nominotypical subspecies *wallichii* (: 229). Further subspecies listed were subsp. *saifulica*, subsp. *japonica* and subsp. *insulata. Brahmaea wallichii insulata* INOUE was recorded from Taiwan. The genus *Brahmaea* was assigned to the family Brahmaeidae. The preimaginals (except 1st instar larva) and the adult of *B. wallichii insulata* INOUE, 1984 were figured in color.

Remarks: text in Chinese without English abstracts.

B. (*Brahmophthalma*) saifulica DE FREINA & WITT, 1982 and *B.* (*Brahmophthalma*) insulata INOUE, 1984 are subspecies of *B.* (*Brahmophthalma*) wallichii (GRAY, 1931), *B.* (*Brahmophthalma*) japonica BUTLER, 1873 is distinct from *B.* (*Brahmophthalma*) wallichii (GRAY, 1931) on species level.

- Paukstadt, U. & Ragus (1990) [15.i.1990] Ent. Z. (Essen), 100 (1/2), pp. 11-30, 29 figs. phot.h.-t., discussed on *Brahmaea* WALKER, 1855 including the taxonomy, biology, ecology, and distribution range. A distribution map (: 13) included *Brahmaea certhia* FABRICIUS, 1793 [sic], *B. tancrei* AUSTAUT, 1896, *B. "porphyria"* (likely a junior synonym of *certhia*) CHU & WANG, 1977, *B. japonica* BUTLER, 1880, *B. wallichii*, *B. wallichii insulata*, *B. hearseyi*, and *B. japonica*.
 Remarks: Brahmaea (Brahmaea) tancrei AUSTAUT, 1896 is a junior subjective synonym of *B. (Brahmaea lunulata carpenteri* BUTLER, 1883.
- Paukstadt, U. & Paukstadt, L. H. (1990) [15.vi.1990] Ent. Z. (Essen), 100 (12): pp. 219-225, 8 figs. phot.h.-t.; provided the life-history of *Brahmaea* (*Brahmophthalma*) wallichii insulata INOUE, 1984 from Taiwan. The first instar larva was reported being allied those of *B*. (*Brahmophthalma*) japonica BUTLER (Japan) and *B*. (*Brahmophthalma*) hearseyi WHITE (Southeast Asia) but distinct from those of *B*. (*Brahmaea*) tancrei AUSTAUT (Korea). The mature larva was figured by Villiard (1969) and found being distinct. The larval instars were figured in phot.h.-t.

Remarks: Brahmaea (Brahmaea) tancrei AUSTAUT, 1896 (Korea) is a junior subjective synonym of *B*. (Brahmaea) lunulata carpenteri BUTLER, 1883. The citation of *B*. (Brahmophthalma) hearseyi WHITE, 1862 ["1861"] (Southeast Asia) refers to *B*. (Brahmophthalma) loeffleri NAUMANN & BROSCH, 2005 (Sumatra) rather. No further preimaginals of *B*. (Brahmophthalma) hearseyi WHITE, 1862 ["1861"] s.l. have been known from literature.

Nässig & Paukstadt, U. (1990) [xii.1990] Heterocera Sumatrana (Göttingen), 6, pp. 117-136, 15 col.figs, 14 figs. phot.h.-t.; placed *wallichii* (GRAY, 1831) in the

genus *Brahmophthalma* MELL, [1930] [sic]. The authors confirmed that *Brahmophthalma japonica* (BUTLER, 1873) [status revised by Nässig & Paukstadt, U.] [see "Remarks" below] is a distinct species and not conspecific with *Brahmophthalma wallichii* (GRAY, 1831). The authors noted that the sister-group of (*hearseyi* + *celebica*) is very likely the group (*wallichii* + *japonica*). Some further general notes on taxonomy of the family Brahmaeidae were presented.

Remarks: Paukstadt, U. & Paukstadt, L. H. (1990) [15.vi.1990] Ent. Z. (Essen), 100 (12): pp. 219-225; already treated *B. (Brahmophthalma) japonica* BUTLER, 1873 as distinct from *B. (Brahmophthalma) wallichii* (GRAY, 1831). So this has been not a revised status by Nässig & Paukstadt (1990).

Oberprieler & Duke (1994) [xi.1994] Nachr. entomol. Ver. Apollo, Frankfurt/Main, N.F. 15 (3), pp. 199-244, 8 col.-figs., 8 b/w-figs.; presented a historical review of the taxonomic placements of the genus *Spiramiopsis* HAMPSON, 1901. The immature stages of *S. comma* were compared with those of other selected bombycoids, mainly with those of *Brahmaea* (including *Acanthobrahmaea*, *Brahmophthalma*, and *Brachygnatha*) and *Dactyloceras*. The authors noted that the larvae of *Brahmaea* are still incompletely described, particularly the 1st larval instars and their chaetotaxy. Comparisons were done with larvae of *B. ledereri* ROGENHOFER, 1973 [sic], *B. tancrei* AUSTAUT, 1896, *B. japonica* (BUTLER) [sic], *B. hearseyi* (WHITE), *B. hearseyi ardjono* KALIS, 1934 (sensu Nässig & Paukstadt 1990). The taxonomic position of *Spiramiopsis comma* on preimaginal characters in the Bombycoidea was discussed in detail (: 225-238). The authors concluded that the taxonomic position of *Spiramiopsis* remains not entirely clear but proposed to place this genus in a family of its own. Consequently, *Spiramiopsis* was not placed to any family but remains as *incertae sedis* in Bombycoidea.

Remarks: B. (Brahmaea) tancrei AUSTAUT, 1896 (Korea) is a junior subjective synonym of B. (Brahmaea) lunulata carpenteri BUTLER, 1883. B. (Brahmophthalma) ardjoeno KALIS, 1934 is distinct from B. (Brahmophthalma) hearseyi WHITE, 1862 ["1861"] and the citation of 'B. hearseyi ardjono KALIS, 1934 (sensu Nässig & Paukstadt 1990)' refers to several closely related taxa of the hearseyi-group: B. (Brahmophthalma) hearseyi WHITE, 1862 ["1861"] (Continental Asia north of the Isthmus of Kra), B. (Brahmophthalma) ardjoeno KALIS, 1934 (endemic to Java), B. (Brahmophthalma) loeffleri NAUMANN & BROSCH, 2005 (Malay Peninsula, Sumatra and Borneo), B. (Brahmophthalma) naessigi NAUMANN & BROSCH, 2005 (Negros [type locality], Luzon and Samar).

Fletcher & Nye *in* Nye (1995: 25 [reprint]) The Generic Names of Moths of the World, 4, noted that *Brahmaea japonica* BUTLER, 1873 is a subspecies of *Bombyx wallichii* GRAY, 1831 (: 25).

Remarks: *B.* (*Brahmophthalma*) *japonica* BUTLER, 1873 is distinct from *B.* (*Brahmophthalma*) *wallichii* (GRAY, 1831) on species level.

Brosch & Naumann (2005) galathea, Suppl. 16, pp. 209-210; provided an overview (English and German abstracts and a short introduction only) on the Brahmaeidae & Saturniidae (Lepidoptera) described or cited by Rudolf [sic?] Felder in the "Reise der Österreichischen Fregatte "Novara" um die Erde in den Jahren 1857, 1858, 1859 unter den Befehlen des Commodore B. von Wüllerstorf-Urbair. Zoologischer Theil, Band II, Abtheilung 2: Lepidoptera, Atlas. Herausgeb.

Akademie d. Wissenschaften Wien". It has been mentioned in a footnote that the paper is continued in galathea – Berichte des Kreises Nürnberger Entomologen eV – Supplement 17. *Brahmaea mniszechii* R. FELDER *in* C. Felder & Rogenhofer [sic?] [see "Remarks" below], 1874 was listed and considered to be a junior subjective synonym of *Brahmaea japonica* BUTLER, 1873.

Remarks: unfortunately this important paper has been never continued in galathea. The editor of galathea confirmed that the announced Supplement 17 has been never issued.

The authors of Zoologischer Theil . Zweiter Band . Zweite Abtheilung: Lepidoptera which includes the ATLAS with plates 1-140 are unmistakable Dr. Cajetan Felder, Rudolf Felder and Alois F. Rogenhofer. The authors of new taxa in the Erklärung der Tafeln [Explanation of the Plates] are either F., Feld. & Roghfr. (F. & R.), or Roghfr., and if abbreviated F. the name is written out Felder in the plates. From the text it cannot be determined which of the two gentlemen Felder, C. Felder or R. Felder, is the actual author.

- Paukstadt, L. H. & Paukstadt, U. (2015) [20.vi.2015] Beiträge zur Kenntnis der wilden Seidenspinner (Wilhelmshaven), 13 (8), pp. 388-404; described and figured the immature stages of *Brahmaea wallichii* (GRAY, 1831) from the mountainous China (Lepidoptera: Brahmaeidae). The following species was cited: *B. (Brahmophthalma) japonica* BUTLER, 1873 from Japan. A short overview on the family Brahmaeidae was provided (: 390-391). The authors noted that the preimaginal instars of *B. (Brahmophthalma) japonica* were ample described and figured.
- Gegechkori & Didmandze (2015) American Journal of Environmental Protection, 2015, 4 (3-1), pp. 82-92, recognized four genera in the Brahmaeidae, namely the Oriental and Palaearctic genus *Brahmaea* WALKER with 8 species, a monotypic European genus *Acanthobrahmaea* SAUTER, a monotypic Chinese genus *Calliprogonos* MELL, and the Afrotropical genus *Dactylocerus* [sic] MELL with 8 species. Gegechkori & Didmandze remarked that the Palearctic *Lemonia* HÜBNER with about 20 species was included in the Brahmaeidae by some authors. 5-6 species of *Brahmaea* were reported endemic to the Palearctic region. One of those has been *Brahmaei* japonica (BUTLER) [sic] from Japan. Quite controversial citations of Brahmaeidae taxa and probably erroneous collecting sites in literature were noted.

Wu (2016) The Marvelous Moths of China, 403 pp.; placed *wallichii* in the genus *Brahmophthalma*. The author recorded *wallichii* from the Chinese Mainland, Taiwan, Japan, northern India, Nepal, and Burma [Myanmar].
Remarks: the record from Taiwan refers to the subspecies *B*. (*Brahmophthalma*) *wallichii insulata* INOUE, 1984 and the record from Japan refers to the distinct species *B*. (*Brahmophthalma*) *japonica* BUTLER, 1873. At the time being *wallichii* is placed in the subgenus *Brahmophthalma* MELL, 1928 of the genus *Brahmaea* WALKER, 1855.

Mitsuhashi (2016) [29.xii.2016 / eBook] (2017) Edible Insects of the World; contains 2,141 species of edible insects, including *Dactylocerus* [sic] *lucina* and *Brahmaea japonica*. The author noted (: 144) that the larvae of *Brahmaea japonica* (ligustrum moth), the Japanese name is ibotaga, were roasted with a bit of sugar-soy sauce, or skewer-roasted in the Chiba Prefecture (Miyake 1919). The roasted larvae were highly prized as a medicine for tuberculosis (Kuwana 1930).

Paukstadt, U. & Paukstadt, L. H. (2017b) [14.v.2017] Beiträge zur Kenntnis der wilden Seidenspinner (Wilhelmshaven), 15 (2), pp. 47-72; described and figured the preimaginal instars of *Brahmaea certhia* (FABRICIUS, 1793) from Jiangsu, China. The following taxon was cited: *B. (Brahmophthalma) japonica* BUTLER, 1873. The life histories of only a few taxa of the subgenera *Brahmaea* and *Brahmophthalma* were reported known so far. Those were *B. japonica* (Japan), *B. hearseyi* (China: Guangdong and Indonesia: Sumatra), *B. tancrei* (South Korea), *B. wallichii insulata* (Taiwan), *B. celebica* (Indonesia: South Sulawesi), and *B. wallichii* (Central China).

Remarks: the record of *B. (Brahmophthalma) hearseyi* WHITE, 1862 ["1861"] from Sumatra refers to *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCH, 2005. *B. (Brahmaea) tancrei* AUSTAUT, 1896 is a junior subjective synonym of *B. (Brahmaea) lunulata carpenteri* BUTLER, 1883.

Paukstadt, U. & Paukstadt, L. H. (2017c) [14.v.2017] Beiträge zur Kenntnis der wilden Seidenspinner (Wilhelmshaven), 15 (2), 73-88, described and figured in the preimaginal instars of *Brahmaea (Brahmaea) tancrei* AUSTAUT, 1896 from Russia, Siberia, ?Sacha. The preimaginal instars of the following taxa of *Brahmaea* and *Brahmophthalma* were reported being well known: *B. japonica* BUTLER, 1873 (Japan), *B. hearseyi* WHITE, 1862 ("1861") (China: Guangdong and Indonesia: Sumatra), *B. tancrei* AUSTAUT, 1896 (South Korea), *B. wallichii insulata* INOUE, 1984 (Taiwan), *B. celebica* TOXOPEUS, 1939 ("1938") (South Sulawesi), and *B. wallichii* (GRAY, 1831) (Central China).

Remarks: the record of *B.* (*Brahmophthalma*) *hearseyi* WHITE, 1862 ["1861"] from Sumatra refers to *B.* (*Brahmophthalma*) *loeffleri* NAUMANN & BROSCH, 2005. *B.* (*Brahmaea*) *tancrei* AUSTAUT, 1896 (sensu U. & L. H. Paukstadt 2017c) is a junior subjective synonym of *B.* (*Brahmaea*) *lunulata carpenteri* BUTLER, 1883.

- Kaleka, Singh & Saini (2017) J. Entomol., 14 (5), pp. 234-240, 2017; noted that the family Brahmaeidae is presented by four genera, namely the Oriental and Palaearctic genus *Brahmaea* WALKER with 8 species, the monotypic European genus *Acanthobrahmaea* SAUTER, the monotypic Chinese genus *Calliprogonos* MELL, and the Afrotropical genus *Dactyloceras* MELL with 8 species. Six species of *Brahmaea* endemic to the Palaearctic region were listed. One of those has been *Brahmaea japonica* (BUTLER) [sic] from Japan.
- Fujiwara, Kasai & Tanaka (2018) [vii.2018] Japan Heterocerists' J., 286, pp. 274-278, 2018; discussed on the correlation between the frequency of collecting and the number of moth species collected by light traps: a simulation approach based on the surveillance at Dodogahora, Gifu Prefecture [Honshu I., N of Nagoya]. *B. japonica* was included this study.
- Hamilton, St. Laurent, Dexter, Kitching, Breinhold, Zwick, Timmermans, Barber & Kawahara (2019) [bioRxiv reprint doi: https://doi.org/10.1101 /51799517995 online version posted 11.i.2019], reported that the Bombycoidea are an ecologically and taxonomically diverse superfamily but little attention has been given to understanding their evolution and the drivers of their diversity. A well-supported phylogeny that identified important evolutionary patterns was produced. The tree did contain the Brahmaeidae with 68 spp. as sister family of the species-

rich Eupterotidae with 396 spp. The tree contains *Brahmaea japonica*, *B. hearseyi*, *B. europaea*, *Dactyloceras* sp., *Spiramiopsis comma*, and *Lemonia philopalus* in the Brahmaeidae.

Chandra, Kumar, Singh, Raha & Sanyal (2019) [ix.2019] Zoological Survey of India, 457 pp; recorded two species of the genus *Brahmaea* (subgenus unassigned) of the family Brahmaeidae SWINHOE, 1892 from Himalayan India. The following global distribution of *B. wallichi* [sic] was recorded: Pakistan, Nepal, Bhutan, Myanmar, China, Taiwan, Vietnam, Laos, Thailand, Philippines, and Japan.

Remarks: the record of *B. (Brahmophthalma) wallichii* (GRAY, 1831) from Pakistan refers to the subspecies *B. (Brahmophthalma) wallichii saifulica* de FREINA & WITT, 1982 rather and the record from Taiwan refers to the subspecies *B. (Brahmophthalma) wallichii insulata* INOUE, 1984. *B. (Brahmophthalma) wallichii* is absent in the Philippines and replaced by the distinct species *B. (Brahmophthalma) japonica* BUTLER, 1873 in Japan. The Philippines are occupied by taxa of the *hearseyi*-group of the subgenus *Brahmophthalma* MELL, 1928. Global records of *B. (Brahmophthalma) wallichii* were obviously based on misinterpretations in older literature and not reviewed in detail.

Kishida (2020) Saturniidae of Japan, 144 pp.; reported on *Brahmaea japonica* BUTLER, 1873 from Japan. This species was compared with *Brahmaea wallichii* (GRAY, 1831) (: 138). The ♂ adult of *japonica* was figured in color dorsally (: 90, fig. 1) and a further specimen of unstated sex alive. The 1st instar and the mature larvae were figured in color (: 90).

Remarks: text mostly in Japanese, header with Latin species names.

mniszechii FELDER in C. Felder, R. Felder & Rogenhofer,

[1874] [junior subjective synonym]

Original citation and spelling: Brahmaea Mniszechii F. [n. sp.]

Original description: Felder *in:* Felder, C., Felder, R. & Rogenhofer, A. F. (1864-1867) [1874]: Lepidoptera, *in* Reise der österreichischen Fregatte Novara um die Erde in den Jahren 1857, 1858, 1859 unter den Befehlen des Commodore B. von Wüllerstorf-Urbair. Zoologischer Theil. Zweiter Band. Zweite Abtheilung: Lepidoptera. 4, Heterocera. (Sphinges et Bombyces.), p. 2; Atlas von 140 Tafeln – mit 2500 Abbildungen, (1864 – Juli 1875), pls. LXXV – CVII (Heterocera, Sphinges et Bombyces): [original description] col.pl. XCIII, fig. 4 (♂ dorsally) and 5 (♂ ventrally / side view).

Remarks: the date of publication [1874] is uncertain to us. The color plate has been marked "del. Jul. 1866 edit. 1868". That means that the color plate has been already available some time in 1868.

Erklärung der Tafeln [= legend to the plates] LXXV bis [to] CVII Novara-Exped. zoolog. Theil, Band II, Abtheilung 2. Heterocera. (Sphinges et Bombyces) (: 2) cited *Brahmaea Mniszechii* [sic] FELDER as author.

Strand in Wagner (1913: 4) cited f. Mniszechi [sic] FELDER, 1874.

The authors of Zoologischer Theil . Zweiter Band . Zweite Abtheilung: Lepidoptera which includes the ATLAS with plates 1-140 are unmistakable Dr. Cajetan Felder, Rudolf Felder and Alois F. Rogenhofer. The authors of new taxa in the Erklärung der Tafeln [Explanation of the Plates] are either F., Feld. & Roghfr. / F. & R., or Roghfr., and if abbreviated F. the name is written out Felder in the plates. From the text it cannot be determined which of the two gentlemen Felder, C. Felder or R. Felder, is the actual author.

Type locality: Japonica [Japan]

Geographical and altitudinal distribution: n/a

- **Etymology:** not mentioned in the original description. Most likely this species was named in honor of Jerzy Wandalin Mniszech (1824-1881). Jerzy Wandalin Mniszech's collection of beetles was probably the largest in the world. Concluded from literature Mniszech formulated real scientific programs of entomological research also for people in East Asia. He has also put large sums of money in research / expeditions.
- **Type material:** not specified in the text. A \mathcal{J} adult was illustrated in color which might be either a holotype by monotypy or a syntype.
- **Taxonomic notes:** *mniszechii* FELDER *in* C. Felder, R. Felder & Rogenhofer, [1874] is a junior subjective synonym of *Brahmaea* (*Brahmophthalma*) *japonica* BUTLER, 1873.

The name *mniszechii* FELDER, C. & FELDER, R. [sic], [1874] was listed in the Brahmaeidae as species synonym of *Brahmaea* (*Brahmophthalma*) *japonica* BUTLER, 1873 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.e222 36.

We cannot confirm the authorship of C. & R. Felder due to the fact that the authors C. Felder, R. Felder & Rogenhofer confirmed only "Felder" as author in plate XCIII and legend to the plate (: 2).

- General notes: Felder, C., Felder, R. & Rogenhofer [1874] illustrated *Brahmaea Mniszechii* [sic] FELDER in Pls. LXXV – CVII Heterocera (Sphinges et Bombyces): col.pl. XCIII, fig. 4 (♂ dorsally) and 5 (♂ ventrally / side view). Conte (1911: col.pl. XIV, fig. 5) figured *B. Mniszechii* [sic]. Conte (1919: pl. XIV, fig. 5) illustrated *B. Mniszechii* [sic].
- **Synonyms:** for misinterpretations see the appropriate text parts. Junior subjective synonyms, junior objective synonyms, errors and incorrect subsequent spellings for *mniszechii* FELDER, [1874] are as follows:
 - *mniszechii* FELDER, R. *in* C. Felder & Rogenhofer [1874]; Brosch & Naumann (2005: 210) [error in authorship]

- *mniszechii* FELDER, C. & FELDER, R. [1874]; Kitching, Rougerie, Zwick, Hamilton, St Laurent, Naumann, Ballesteros Mejia & Kawahara (2018) [error in authorship]
- *‡mniszechi*; Leech (1889: 635) [incorrect subsequent spelling]
- *Mniszchii*; Conte (1911: 83) [lapsus, incorrect subsequent spelling]
- *Mniszechi*; Strand *in* Wagner (1913: 4) [incorrect subsequent spelling]
- *‡Mniszchii*; Conte (1919: 253 [reprint]) [lapsus, incorrect subsequent spelling] *‡muiszechii*; Stüber (2008: Index) [incorrect subsequent spelling]
- **Hybridizations:** inter-generic and inter-specific pairings with *mniszechii* FELDER *in* Felder, C., Felder, R. & Rogenhofer, [1874] are unknown from literature.

Further readings on *mniszechii* FELDER *in* C. Felder, R. Felder & Rogenhofer, [1874]

Butler (1880b) Ent. mon. Mag., XVII, 1880-81, pp. 110-111; was grouping the genus Brahmaea as follows: Section I: Brahmaea Lucina [sic] DRURY (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 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 off 11 species [sensu Butler 1880] were not represented in the National Collection.

Remarks: Butler confused taxa of the genus *Brahmaea* WALKER, 1855. *B.* (*Brahmophthalma*) *japonica* BUTLER, 1873 with its junior subjective synonyms *B.* (*Brahmophthalma*) *mniszechii* FELDER [1874] and *B.* (*Brahmophthalma*) *nigrans* BUTLER, 1880 are conspecific. *B.* (*Brahmophthalma*) *wallichii* wallichii (GRAY, 1831) with its junior subjective synonyms *B.* (*Brahmophthalma*) *conchifera* BUTLER, 1880 and *B.* (*Brahmophthalma*) *rufescens* BUTLER, 1880 are conspecific. A further synonym of *wallichii* was omitted by Butler: *B.* (*Brahmophthalma*) *spectabilis* (HOPE, 1841). Another taxon was omitted: *B.* (*Brahmophthalma*) *hearseyi* WHITE, 1862 ["1861"] but its junior subjective synonym *B.* (*Brahmophthalma*) *whitei* BUTLER, 1866 was listed instead. *B.* (*Brahmaea*) *lunulata* (BREMER & GREY, 1853 ["1852"]) was erroneously cited as junior synonym of *B.* (*Brahmaea*) *certhia* (FABRICIUS, 1793). The Afrotropical taxa were correctly placed in a separate group (Section I).

Silhet = Sylhet, is metropolitan city in northeastern Bangladesh; Darjiling = Darjeeling, is a city and a muncipality in the Indian state of West Bengal.

Leech (1889) [01.iv.1889] Proc. zool. Soc. London, 1888, pp. 580-655; recognized two species in the genus *Brahmaea* from Japan and Corea. Those were *B. japonica* BUTLER, 1873 and *B. certhia* (FABRICIUS). *B. mniszechi* [sic] FELDER, 1864-5 [sic] was cited in subordination of *japonica* (: 635).

Remarks: the record of *B. (Brahmaea) certhia* (FABRICIUS, 1793) for Korea refers to *B. (Brahmaea) lunulata carpenteri* BUTLER, 1883 and the record for Japan refers to *B.*

(Brahmophthalma) japonica BUTLER, 1873. B. (Brahmaea) lunulata lunulata (BREMER & GREY, 1853 ["1852"]) and B. (Brahmaea) lunulata carpenteri BUTLER, 1883 are distinct from the Chinese B. (Brahmaea) certhia (FABRICIUS, 1793).

- Swinhoe (1892) Cat. East. a. Austr. Lep. Het. Oxford Mus., Part I., Sphinges and Bombyces, 1892, VIII + 324 pp., 8 col. pls.; listed (: 308, Addenda) 1185 A. *Brahmaea mniszechii* FELDER, 1868 [sic] from Japan in the Catalogue of eastern and Australian Lepidoptera Heterocera in the Collection of the Oxford University Museum.
- Kirby (1892) Syn. Cat. Lep. Het., I, Sphinges and Bombyces, XII + 951 pp.; placed the genus *Brahmaea* in the Bombycidae (: 723-724, Appendix: 933). The author included 14 species in *Brahmaea*. Three of those were 3. *B. Japonica* [sic] BUTLER, 1873 from Japan, 4. *B. Mniszechii* [sic] FELDER, 1874 from Japan and 5. *B. Nigrans* [sic] BUTLER, 1881 [sic] from Japan.

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 considered to be 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.

B. (*Brahmophthalma*) *mniszechii* FELDER, [1874] and *B.* (*Brahmophthalma*) *nigrans* BUTLER, 1880 are junior subjective synonyms of *B.* (*Brahmophthalma*) *japonica* BUTLER, 1873.

Leech (1889) Proc. zool. Soc. London, 1888, pp. 580-655, col.pls. XXX-XXXII; listed in 'Lepidoptera of Japan and Corea' two species of the genus *Brahmaea* (: 635). Those were *Brahmaea japonica* with its probable synonym *mniszechi* [sic] FELDER, 1864-5 [sic] and *Brahmaea certhia* FABRICIUS with its synonyms *Bombyx wallichii* GRAY, *Brahmaea carpenteri* BUTLER, 1883, *Saturnia lunulata* MOTSCHULSKY, *Saturnia undulata* BREMER & GREY, 1853. The author remarked that *Brahmaea carpenteri* BUTLER is the only form of *B. certhia* recorded from the region under consideration, but at best can only rank as a variety of *certhia*.

Remarks: *B.* (*Brahmopthalma*) *mniszechii* FELDER, [1874] is a junior subjective synonym of *B.* (*Brahmophthalma*) *japonica* BUTLER, 1873. *B.* (*Brahmophthalma*) *wallichii* (GRAY, 1831), *B.* (*Brahmaea*) *lunulata* (BREMER & GREY, 1853 ["1852"]) and *B.* (*Brahmaea*) *lunulata* carpenteri BUTLER, 1883 are distinct from the Chinese *B.* (*Brahmaea*) *certhia* (FABRICIUS, 1793).

- Leech (1898) [30.ix.1898] Trans. ent. Soc. London, Part III, 1898, pp. 261-379; listed in ,Heterocera from China, Japan, and Corea⁶ four species of the genus *Brahmaea* WALKER, 1855 of the family Brahmaeidae (: 269-270). One of those has been 20. *Brahmaea japonica* BUTLER, 1873 from Japan with its synonyms *Brahmaea mniszechii* FELDER, 1874 and *Brahmaea nigrans* BUTLER, 1880. Leech noted that in Felder's fig. 4 of *mniszechii* the abdomen and part of the ocellus are ochreous but in fig. 5 the body was presented in the proper color.
- Strecker (1899) Index of Species to Kirby's Syn. Cat. Lep. Het., Vol. I, pp. [1]-45; listed *Mniszechii* [sic], 723 (: 29).
- Packard (1904) Proc. Amer. Acad. 39, pp. 570-578, 1904, provided info regarding the biology, cf. Strand

- Nawa (1906) Konch. Sek. Gifu, 10, 1906, pp. 415-416; provided information regarding the biology.
- Conte (1911) Essai d. Class. Lep. Prod. de Soie, *in*: Rapp. du Laborat. d'ét. de la Soie, 14, pp. [1]-90; recorded *Brahmaea Mniszchii* [sic] FELDER, 1874 from Japan. The adult was described (: 83-84) and figured in color dorsally (pl. XIV, fig. 5). The genus was placed in the family Bombycides.

Remarks: Brahmaea (Brahmophthalma) mniszechii FELDER in C. FELDER, R. Felder & Rogenhofer, [1874] is a junior subjective synonym of Brahmaea (Brahmophthalma) japonica BUTLER, 1873.

Seitz (1911) [10.xi.1911] 15. Familie: Brahmaeidae, in: Seitz (ed.) Die Grossschmetterlinge der Erde . I. Abt., Bd. 2, pp. 227-228, col. pl. 35C; placed only a single genus in the Brahmaeidae: Brahmaea WALKER. The author recognized three Palearctic species and several forms [concluded from text in the sense of subspecies] in Brahmaea. Those were 1. B. certhia FABRICIUS [sic] (Amur, North and Central China), 2. B. christophi STAUDINGER (Lenkoran, Caucasia), and 3. B. japonica BUTLER (Japan) with its synonym mniszechii FELDER. Brahmaea christophi, B. certhia, B. ledereri, and B. japonica were figured in color dorsally (pl. 35C).

Remarks: *B.* (*Brahmaea*) *certhia* (FABRICIUS, 1793) is absent in the Amur region. The record for Amur might refers to *B.* (*Brahmaea*) *lunulata* (BREMER & GREY, 1853 ["1852"]) rather.

- Seitz (1911) [10.xi.1911] 15. Family: Brahmaeidae, *in*: Seitz (ed.) The Macrolepidoptera of the Palearctic Fauna . 2. Volume: The Palearctic Bombyces & Sphinges. I. Division, Vol. 2, pp. 227-228, col.-pl. 35c; - please read: Seitz (1911) German Edition.
- Strand in Wagner (1913) [05.ix.1913] Lep. Cat., Pars 16: Brahmaeidae, pp. [3]-5; included a single genus in the family Brahmaeidae, which has been Brahmaea WALKER, 1855. The following taxa were included Brahmaea: B. japonica BUTLER, 1873 (Japan) with its synonyms ab. nigrans BUTLER, 1880, f. Mniszechi [sic] FELDER, 1874. The author distinguished between 'Species' and 'Varitates' [varieties] in the Index Brahmaeidarum (: 6); he explicitly placed Mniszechi [sic] FELDER as variation in Brahmaea WALKER.

Remarks: B. (Brahmophthalma) nigrans BUTLER, 1880 and B. (Brahmophthalma) mniszechii FELDER, [1874] are junior subjective synonyms of B. (Brahmophthalma) japonica BUTLER, 1873.

Strand *in* Wagner was the first who treated *B*. (*Brahmophthalma*) *nigrans* BUTLER, 1880 as an aberration and *B*. (*Brahmophthalma*) *mniszechii* FELDER, [1874] as a form of *B*. (*Brahmophthalma*) *japonica* BUTLER, 1873.

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 (253-254, 257) recorded *Brahmaea Mniszchii* [sic] FELD.[ER], 1874 from Japan. *Brahmaea Mniszechii* [sic] was figured (pl. XIV, fig. 5).

Remarks: Brahmaea (Brahmophthalma) mniszechii FELDER in C. Felder, R. Felder & Rogenhofer, [1874] is a junior subjective synonym of Brahmaea (Brahmophthalma) japonica BUTLER, 1873.

Brosch & Naumann (2005) galathea Suppl. 16, pp. 209-210; provided an overview (English and German abstracts and a short introduction only) on the Brahmaeidae & Saturniidae (Lepidoptera) described or cited by Rudolf Felder in the "Reise der Österreichischen Fregatte "Novara" um die Erde in den Jahren 1857, 1858, 1859 unter den Befehlen des Commodore B. von Wüllerstorf-Urbair. Zoologischer Theil, Band II, Abtheilung 2 : Lepidoptera, Atlas. Herausgeb. Akademie d. Wissenschaften Wien". It has been mentioned in a footnote that the paper is continued in galathea – Berichte des Kreises Nürnberger Entomologen eV – Supplement 17]. Brahmaea mniszechii R. [sic?] FELDER in C. Felder & Rogenhofer [sic?] [see "Remarks" below], 1874 was listed and considered to be a junior subjective synonym of Brahmaea japonica BUTLER, 1873.

Remarks: unfortunately this important paper has been never continued in galathea. The editor of galathea confirmed that the announced Supplement 17 has been never issued.

The authors of Zoologischer Theil . Zweiter Band . Zweite Abtheilung: Lepidoptera which includes the ATLAS with plates 1-140 are unmistakable Dr. Cajetan Felder, Rudolf Felder and Alois F. Rogenhofer. The authors of new taxa in the Erklärung der Tafeln [Explanation of the Plates] are either F., Feld. & Roghfr. (F. & R.), or Roghfr., and if abbreviated F. the name is written out Felder in the plates. From the text it cannot be determined which of the two gentlemen Felder, C. Felder or R. Felder, is the actual author.

- Kitching, Rougerie, Zwick, Hamilton, St Laurent, Naumann, Ballesteros Mejia & Kawahara (2018) [12.ii.2018] listed the name *mniszechii* FELDER, C. & FELDER, R., [sic] [1874] as species synonym of *Brahmaea (Brahmophthalma) japonica* BUTLER, 1873 in 'A global checklist of the Bombycoidea (Insecta: Lepidoptera)'.
 Remarks: the name *nigrans* BUTLER, 1880 was originally described as new species and therefore considered to be a junior subjective synonym of *B. (Brahmophthalma) japonica* BUTLER, 1873 rather than an infrasubspecific name.
- Fujiwara, Kasai & Tanaka (2018) [vii.2018] Japan Heterocerists' J., 286: pp. 274-278; reported on the correlation between the frequency of collecting and the number of moth species collected by light traps: a simulation approach based on the surveillance at Dodogahora, Gifu Prefecture. *Brahmaea japonica* was listed.

nigrans BUTLER, 1880 (Brahmaea) stat. rev.

[junior subjective synonym]

Original citation and spelling: 7. Brahmæa nigrans, n. sp.

- **Original description:** Butler, A. G. (1880): Descriptions of a new Species of *Brahmaea* from Japan. The Entomologist's monthly Magazine, XVII, 1880-81: pp. 110-111.
- **Type locality:** Japan. Butler noted that it is unfortunate that the exact locality of this species cannot be ascertained.

Geographical and altitudinal distribution: n/a

Etymology: the name *nigrans* indicates the black color of the new species.

- **Type material:** the description based most likely on a single specimen with unstated sex. The holotype by monotypy was mentioned in the original description being preserved in coll. O. Janson.
- **Taxonomic notes:** *nigrans* BUTLER, 1880 is considered being a junior subjective synonym of *Brahmaea* (*Brahmophthalma*) *japonica* BUTLER, 1873 due to the fact that *nigrans* was clearly described as a n. sp. [new species], although man can assume (concluded from text) that an infrasubspecific status was meant by Butler.

The name *nigrans* BUTLER, 1880 was listed as infrasubspecific name within *Brahmaea* (*Brahmophthalma*) *japonica* BUTLER, 1873 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 revise the status from infrasubspecific to junior subjective synonym of *B*. (*Brahmophthalma*) *japonica* BUTLER, 1873.

- **General notes:** Waterhouse (1881: col.pl. 29) figured 'the original type of' *B. nigrans* in color dorsally and ventrally from the collection of Mr. O. Janson (Preface).
- **Synonyms:** for misinterpretations see the appropriate text parts. Junior subjective synonyms, junior objective synonyms, errors and incorrect subsequent spellings for *nigrans* BUTLER, 1880 are as follows:
- *japonica* BUTLER, 1873; STATUS-; senior subjective synonym of *nigrans* BUTLER, 1880
- **Hybridizations:** inter-generic and inter-specific pairings with *nigrans* BUTLER, 1880 are unknown from literature.

Further readings on nigrans BUTLER, 1880

Butler (1880b) Ent. mon. Mag., XVII, 1880-81, pp. 110-111; was grouping the genus *Brahmaea* as follows: Section I: *Brahmaea Lucina* [sic] DRURY (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 Mniszechii* [sic] FELDER (Japan); Section III: *Brahmaea japonica* 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 off 11 species [sensu Butler 1880] were not represented in the National Collection.

Remarks: Butler confused taxa of the genus *Brahmaea* WALKER, 1855. *B.* (*Brahmophthalma*) japonica BUTLER, 1873 with its junior subjective synonyms *B*.

(Brahmophthalma) mniszechii FELDER, [1874] and B. (Brahmophthalma) nigrans BUTLER, 1880 are conspecific. B. (Brahmophthalma) conchifera BUTLER, 1880 and B. (Brahmophthalma) rufescens BUTLER, 1880 are junior subjective synonyms of B. (Brahmophthalma) wallichii wallichii (GRAY, 1831). A further synonym of wallichii was omitted by Butler: B. (Brahmophthalma) spectabilis (HOPE, 1841). Another taxon was omitted: B. (Brahmophthalma) hearseyi WHITE, 1862 ["1861"] but its junior subjective synonym B. (Brahmophthalma) whitei BUTLER, 1866 was listed instead. B. (Brahmaea) hunulata (BREMER & GREY, 1853 ["1852"]) was erroneously cited as junior synonym of B. (Brahmaea) certhia (FABRICIUS, 1793). The Afrotropical taxa were correctly placed in a separate group (Section I).

Silhet = Sylhet, is metropolitan city in northeastern Bangladesh; Darjiling = Darjeeling, is a city and a muncipality in the Indian state of West Bengal.

- Waterhouse (1881) Aid Ident. Ins., i., [16] pp. + 100 col.-pls.; cited *Brahmaea nigrans* in the Lasiocampidae (: 9, 14) and figured 'the original type of' *B. nigrans* in color dorsally and ventrally (pl. 29) from the collection of Mr. O. Janson (: Preface).
- Kirby (1892) Syn. Cat. Lep. Het., I, Sphinges and Bombyces, XII + 951 pp.; placed the genus *Brahmaea* in the Bombycidae (: 723-724, Appendix: 933). The author included 14 species in *Brahmaea*. Three of those were 3. *B. Japonica* [sic] BUTLER, 1873 from Japan, 4. *B. Mniszechii* [sic] FELDER, 1874 from Japan and 5. *B. Nigrans* [sic] BUTLER, 1881 [sic] from Japan.

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 considered to be invalid because the name *conchifera* BUTLER, 1880 was not originally included in Walker (1855: 1315-1316) and *certhia* (sensu Walker 1855: 1316) considered being misidentified.

B. (*Brahmophthalma*) *mniszechii* FELDER, [1874] and *B.* (*Brahmophthalma*) *nigrans* BUTLER, 1880 are junior subjective synynyms of *B.* (*Brahmophthalma*) *japonica* BUTLER, 1873.

- Leech (1898) [30.ix.1898] Trans. ent. Soc. London, Part III, 1898, pp. 261-379; listed in ,Heterocera from China, Japan, and Corea^c four species of the genus *Brahmaea* WALKER, 1855 of the family Brahmaeidae (: 269-270). One of those has been 20. *Brahmaea japonica* BUTLER, 1873 from Japan with its synonyms *Brahmaea mniszechii* FELDER, 1874 and *Brahmaea nigrans* BUTLER, 1880.
- Strecker (1899) Index of Species to Kirby's Syn. Cat. Lep. Het., Vol. I, pp. [1]-45; listed *Nigrans* [sic], 723 (: 30).
- Conte (1911) cited *B. Nigrans* [sic] BUTLER, 1880 and Butler (1881) in subordination of *Brahmaea Japonica* [sic] BUTLER, 1873 and Butler (1878).
- Seitz (1911) [10.xi.1911] 15. Familie: Brahmaeidae, in: Seitz (ed.) Die Grossschmetterlinge der Erde . I. Abt., Bd. 2, pp. 227-228, col. pl. 35C; placed only a single genus in the Brahmaeidae: Brahmaea WALKER. The author recognized three Palearctic species and several forms [concluded from text in the sense of subspecies] in Brahmaea. Those were 1. B. certhia FABRICIUS [sic] (Amur, North and Central China), 2. B. christophi STAUDINGER (Lenkoran, Caucasia), and 3. B. japonica BUTLER (Japan) with its synonym mniszechii FELDER and he noted that nigrans BUTLER, unknown to him in nature, is probably

only a dark specimen. *Brahmaea christophi*, *B. certhia*, *B. ledereri*, and *B. japonica* were figured in color dorsally (pl. 35C).

Remarks: *B.* (*Brahmaea*) *certhia* (FABRICIUS, 1793) is absent in the Amur region. This record might refers to *B.* (*Brahmaea*) *lunulata* (BREMER & GREY, 1853 ["1852")] rather.

- Seitz (1911) [10.xi.1911] 15. Family: Brahmaeidae, *in*: Seitz (ed.) The Macrolepidoptera of the Palearctic Fauna . 2. Volume: The Palearctic Bombyces & Sphinges. I. Division, Vol. 2, pp. 227-228, col.-pl. 35c; - please read: Seitz (1911) German Edition.
- 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*: *B. japonica* BUTLER, 1873 (Japan) with its synonyms ab. [sic] nigrans BUTLER, 1880, f. [sic] Mniszechi [sic] FELDER, 1874. The author distinguished between 'Species' and 'Varitates' [varieties] in the Index Brahmaeidarum (: 6); he explicitly placed nigrans BUTLER as variation in Brahmaea WALKER.

Remarks: Strand *in* Wagner was the first who treated *B*. (*Brahmophthalma*) *nigrans* BUTLER, 1880 as an aberration of *B*. (*Brahmophthalma*) *japonica* BUTLER, 1873.

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 (255-256, 257) recorded *Brahmaea Hearseyi* [sic] WHITE, 1862 from India and Japan. *B. Whitei* [sic] BUTLER, 1866 was cited in subordination [concluded from text as synonym]. An adult of *Brahmaea Japonica* [sic] BUTLER, 1873 was illustrated dorsally (: pl. XIV, fig. 4) and recorded from Japan (: 253). *B. Nigrans* [sic] BUTLER, 1880 was cited in subordination of *Japonica* [sic].

Remarks: the record of *Brahmaea* (*Brahmophthalma*) *hearseyi* WHITE, 1861 ["1862"] for Japan refers to *B*. (*Brahmophthalma*) *japonica* BUTLER, 1873 rather. *B. whitei* BUTLER, 1866 is a junior subjective synonym of *B*. (*Brahmophthalma*) *hearseyi* WHITE, 1861 ["1862"]. *Brahmaea* (*Brahmophthalma*) *nigrans* BUTLER, 1880 is a junior subjective synonym of *B*. (*Brachmophthalma*) *japonica* BUTLER, 1873.

Hartig (1963) Boll. Ass. Romana ent., XVIII (1), compared *Bramaea* [sic] *europaea* HARTIG, 1963 with *Bramaea* [sic] *certhia* FABRICIUS (including *ledereri* ROGENHOFER and *carpenteri* BUTLER), *christophi* STAUDINGER, and *japonica* BUTLER.

Remarks: concluded from text above names were most probably used in species rank, though *ledereri* ROGENHOFER, *lunulata* BREMER & GREY, and *carpenteri* BUTLER were listed as subspecies of *certhia* FABRICIUS in the "Bibliografia". *Bramaea* [sic] *cristophi* [sic] STAUDINGER and *japonica* BUTLER were cited in species rank with *nigrans* BUTLER as subspecies of *japonica* BUTLER in the "Bibliografia".

B. (*Brahmaea*) *lunulata lunulata* (BREMER & GREY, 1853 ["1852"]) and *B.* (*Brahmaea*) *lunulata carpenteri* BUTLER, 1883 are distinct from *B.* (*Brahmaea*) *certhia* (FABRICIUS, 1793) on species level. *B.* (*Brahmophthalma*) *nigrans* BUTLER, 1880 is a junior subjective synonym of *B.* (*Brahmophthalma*) *japonia* BUTLER, 1873.

Schepdael (1967) Linneana Belgica, 3 (5): pp. 91-103; provided some information on the biology and the ecology of *Brahmaea europaea*. Schepdael recorded the distribution range of the family Brahmaeidae from Japan, Korea, East and North China, India, Amur, the Caucasus, Cilicus and Ethiopia. He noted that Hartig [1963] listed seven forms for this faunal region, belonging to three species only [see "Remarks" below]. Those were *Brahmaea certhia* FABRICIUS [sic], *B. certhia ledereri* ROGENHOFER, *B. certhia lunulata* BREMER & GREY [sic], *B. certhia carpenteri* BUTLER, *B. cristophi* [sic] STAUDINGER, *B. japonica* BUTLER, and *B. japonica* nigrans BUTLER. The author discussed about the history of the development of the Brahmaeidae.

Remarks: Hartig (1963) listed three species and four subspecies in the "Bibliografia" (: 6). In this compilation, the names did not appear in the text part of the work by Hartig, see Hartig (1963).

B. (*Brahmaea*) ledereri ledereri ROGENHOFER, 1873 and *B.* (*Brahmaea*) ledereri christophi STAUDINGER, 1885 as well as *B.* (*Brahmaea*) lunulata lunulata (BREMER & GREY, 1853 ["1852"] and *B.* (*Brahmaea*) lunulata carpenteri BUTLER, 1883 are distinct from *B.* (*Brahmaea*) certhia (FABRICIUS, 1793). *B.* (*Brahmophthalma*) nigrans BUTLER, 1880 is a junior subjective synonym of *B.* (*Brahmophthalma*) japonica BUTLER, 1873.

Gardiner (1982) A Silkmoths Rearer's Handbook, xiii + 255 pp., 125 figs. phot.h.-t. / line drawings, XXXII col.-pls.; recorded *B. christophi* STAUDINGER (Caucasus), *B. japonica* BUTLER (Japan), *B. ledereri* ROGENHOFER (Asia Minor), and *Brahmaea wallichii* GRAY [sic] (India or Assam). Other species listed in this genus were: *B. carpenteri* BUTLER, *B. certhia* FABRICIUS [sic], *B. lunulata* BREMER & GREY [sic], and *B. nigrans* BUTLER.

Remarks: *B.* (*Brahmaea*) christophi STAUDINGER, 1885 is a subspecies of *B.* (*Brahmaea*) ledereri ROGENHOFER, 1873. *B.* (*Brahmaea*) carpenteri BUTLER, 1883 is a subspecies of *B.* (*Brahmaea*) lunulata (BREMER & GREY, 1853 ["1852"]). *B.* (*Brahmophthalma*) nigrans BUTLER, 1880 is a junior subjective synonym of *B.* (*Brahmophthalma*) japonica BUTLER, 1873.

Kitching, Rougerie, Zwick, Hamilton, St Laurent, Naumann, Ballesteros Mejia & Kawahara (2018) [12.ii.2018] listed the name *nigrans* BUTLER, 1880 as infrasubspecific name within *Brahmaea* (*Brahmophthalma*) *japonica* BUTLER, 1873 in 'A global checklist of the Bombycoidea (Insecta: Lepidoptera)'.

Remarks: the name *nigrans* BUTLER, 1880 was originally described as new species and therefore considered to be a junior subjective synonym of *B*. (*Brahmophthalma*) *japonica* BUTLER, 1873 rather than an infrasubspecific name.

sinica HAO, ZHANG & YANG, 2000 (Brahmophthalma)

Original citation and spelling: Brahmophthalma sinica sp. nov.

Original description: Hao Hui-Ling, Zhang Liu-Rong & Yang Chi-Kum (2000): Two new species of Brahmaeidae from China (Lepidoptera: Brahmaeidae). – Acta Zootaxonomica Sinica; Vol. 25, No. 1, 2000: pp. 90-93; 7 figs. [English abstract pp. 92-93].

Remarks: Hao, Zhang & Yang (2002: 54) cited *B.[Brahmophthalma] sinica* ZHANG & HAO.

This taxon can be published several times under the same name in different journals and under different combinations of authors. Further research is considered needed.

- **Type locality:** China, Shaanxi Province, Duleimen, Mt. Taibai (33.9°N 107.7°E).
- **Geographical and altitudinal distribution:** thus far recorded from the type locality, China, Shaanxi Province, from 1,780 m.
- **Etymology:** not explicitly mentioned in the original descriptions but most likely the name *sinica* is pointing to the distribution in China (Latin sinica = China)
- **Type material:** the description most likely based on the ♂ holotype by original designation only. The ♂ holotype is preserved in the PLA University of Agricultural and Animal Sciences, Changchun, Jilin 130062, China, cf. original description.
- Taxonomic notes: the name *sinica* HAO, ZHANG & YANG, 2000 was listed as species of *Brahmaea* (*Brahmophthalma*) 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: *Brahmaea* (*Brahmophthalma*) *sinica* HAO, ZHANG & YANG, 2000 was figured in the original description (: 91, figs. 5-7), ♂ valva of the genitalia (fig. 5), ♂ holotype dorsally (fig. 6), and ♂ holotype ventrally (fig. 7).
- Synonyms: for misinterpretations see the appropriate text parts. Junior subjective synonyms, junior objective synonyms, errors and incorrect subsequent spellings for *sinica* (HAO, ZHANG & YANG, 2000) are as follows:
 - *sinica* ZHANG & HANG, 1996; Zhang, Hao & Yang (1999: 41) [has to be finally confirmed: error in authorship and error in publication date]
 - *‡sinica* ZHANG, HAO & YANG (1999: 41) [nomen nudum]
 - sinica ZHANG & HAO; Hao, Zhang & Yang (2002: 54, 55) [error in authorship] Remarks: citations in Chinese literature are somehow confusing since English abstracts are short or even lacking. Translations prepared by an internet translator are often not translating the complete text but fragments only. This makes an objective evaluation of Chinese entomological literature difficult. This taxon can be published several times under the same name in different journals and under different combinations of authors. Further research is considered needed.
- **Hybridizations:** inter-generic and inter-specific pairings with *sinica* HAO, ZHANG & YANG, 2000 are unknown from literature.

Further readings on sinica HAO, ZHANG & YANG, 2000

Zhang, Hao & Yang (1999) J. China Agricult. Univers., 1999, 4 (5), pp. 37-42; presented an overview on the Chinese brahmid moths. The authors recognized

four genera in the family Brahmaeidae of China. One of those has been the genus *Brahmophthalma* MELL with the species *Brahmophthalma wallichii* GRAY, 1831 [sic] and *Bth*. [*Brahmophthalma*] *sinica* ZHANG & HANG, 1996 [sic].

Remarks: text in Chinese with English summary. Unfortunately, a lot of misspellings of the taxa names had found their way into above publication.

The name *Brahmophthalma sinica* ZHANG & HANG, 1996 as cited in Zhang, Hao & Yang (1999: 41) was not found in literature and therefore might be erroneously cited. However, *Brahmophthalma sinica* Hao, Zhang & Yang, 2000 was published later than the citation by Zhang, Hao & Yang (1999). In this case *Brahmophthalma sinica* even might represents a *nomen nudum*, which needs to be assigned to Zhang, Hao & Yang, 1999 as authors: *Brahmophthalma ‡sinica* ZHANG, HAO & YANG, 1999 (*nomen nudum*).

- Hao, Zhang & Yang (2000) Acta Zootaxonomica Sinica; Vol. 25, No. 1, 2000: pp. 90-93, placed *wallichii* (GRAY) [sensu Bryk 1949: Arkiv For Zoologie, 41 (A) 1] and the new species *Brahmophthalma sinica* HAO, ZHANG & YANG, 2000 in the genus *Brahmophthalma* MELL, 1928.
- Hao, Zhang & Yang (2002) [vii.2002] Acta Entomologica Sinica, 2002, 45 (Suppl.), 2002, pp. 53-55, compared the new species *Brahmophthlma* [sic] *litserra* with *B. sinica* ZHANG & HAO [sic] (: 55).
- Paukstadt, L. H. & Paukstadt, U. (2015) [20.vi.2015] Beiträge zur Kenntnis der wilden Seidenspinner (Wilhelmshaven), 13 (8), pp. 388-404; described and figured the immature stages of *Brahmaea wallichii* (GRAY, 1831) from the mountainous China (Lepidoptera: Brahmaeidae). The following species was cited with uncertain status: *B. (Brahmophthalma) sinica* HAO, ZHANG & YANG, 2000. A short overview on the family Brahmaeidae was provided (: 390-391). The authors noted that the name *sinica* at the time being was not used by them because the status of the Chinese *wallichii* populations being uncertain and the reared adults did not well fit with those described as *sinica*.
- Kitching, Rougerie, Zwick, Hamilton, St Laurent, Naumann, Ballesteros Mejia & Kawahara (2018) [12.ii.2018 online] listed the name *sinica* HAO, ZHANG & YANG, 2000 as species of *Brahmaea* (*Brahmophthalma*) in 'A global checklist of the Bombycoidea (Insecta: Lepidoptera)'.

litserra HAO, ZHANG & YANG, 2002 (Brahmophthalma)

- **Original citation and spelling:** *Brahmophthlma* [sic] *litserra* sp. nov.
- **Original description:** Hao, Hui-Ling, Zhang, Xiu-Rong & Yang, Ji-Kun (2002): Two new species of Brahmaeidae from China (Lepidoptera: Brahmaeidae). – Acta Entomologica Sinica, July 2002, 45 (Supplement): pp. 53-55; 8 figs. (col. figs. / line drawings).
- **Type locality:** Qifeng Village, Yi County, Hebei Province [China] **Remarks:** Hebei (alternately Hopeh) is a coastal province of the People's Republic of China, and is part of the North China region. Because of its horseshoe-shaped shape of the

Hebei Province, Beijing is almost in the center of the province, but administratively does not belong to it.

- **Geographical and altitudinal distribution:** so far known from the type locality the Hebei Province; no altitudinal distribution recorded.
- **Etymology:** not explicitly mentioned in the English Appendix.
- **Type material:** the description was based on a ♂ holotype by original designation and a ♂ paratype collected in July 1986. Both type specimens are deposited in the Insect Collections 'Department of Plant Protection' PLA University of Agricultural and Animal Sciences in Changchun, Jilin, China.
- **Taxonomic notes:** *B. litserra* is allied to *B. (Brahmophthalma) wallichii wallichii* (GRAY, 1831) in external morphology. No taxonomic conclusions are drawn herein.

The name *litserra* HAO, ZHANG & YANG, 2002 was listed as species of *Brahmaea* (*Brahmophthalma*) 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.e 22236.

- **General notes:** in the original description the \bigcirc holotype? was figured in color dorsally (: 55, fig. 8) and ventrally (: 55, fig. 7), and the \bigcirc genitalia structures (line drawings, incomplete), the valva (: 55, fig. 5), and the uncus (: 55, fig. 6).
- Synonyms: for misinterpretations see the appropriate text parts. Junior subjective synonyms, junior objective synonyms, errors and incorrect subsequent spellings for *litserra* HAO, ZHANG & YANG, 2002 are as follows:

thus far not found in literature

Hybridizations: inter-generic and inter-specific pairings with *litserra* HAO, ZHANG & YANG, 2002 are unknown from literature.

Further readings on litserra HAO, ZHANG & YANG, 2002

- Hao, Zhang & Yang (2002) [vii.2002] Acta Entomologica Sinica, 2002, 45 (Suppl.), pp. 53-55, compared the new species *Brahmophthlma* [sic] *litserra* with *B. sinica* ZHANG & HAO [sic] (: 55). The ♂ adult [holotype?] was figured in color dorsally (: 55, fig. 8) and ventrally (: 55, fig. 7) and the genitalia structures [part.] were figured (: 55, figs. 5-6). [Text Chinese with English abstracts].
- Gegechkori & Didmandze (2015) American Journal of Environmental Protection, 2015, 4 (3-1), pp. 82-92, recognized four genera in the Brahmaeidae, namely the Oriental and Palaearctic genus *Brahmaea* WALKER with 8 species, a monotypic European genus *Acanthobrahmaea* SAUTER, a monotypic Chinese genus *Calliprogonos* MELL, and the Afrotropical genus *Dactylocerus* [sic] MELL with 8

species. Gegechkori & Didmandze remarked that the Palearctic *Lemonia* HÜBNER with about 20 species was included in the Brahmaeidae by some authors. 5-6 species of *Brahmaea* were reported endemic to the Palearctic region. One of those has been *Brahmaea* litserra HAO, ZHANG & YANG from northern China. Quite controversial citations of Brahmaeidae taxa and probably erroneous collecting sites in literature were pointed out.

- Kaleka, Singh & Saini (2017) J. Entomol., 14 (5), pp. 234-240, 2017; noted that the family Brahmaeidae is presented by four genera, namely the Oriental and Palearctic genus *Brahmaea* WALKER with 8 species, the monotypic European genus *Acanthobrahmaea* SAUTER, the monotypic Chinese genus *Calliprogonos* MELL, and the Afrotropical genus *Dactyloceras* MELL with 8 species. Six species of *Brahmaea* endemic to the Palearctic region were listed. One of those has been *Brahmaea litserra* HAO, ZHANG & YANG from N China.
- Kitching, Rougerie, Zwick, Hamilton, St Laurent, Naumann, Ballesteros Mejia & Kawahara (2018) [12.ii.2018 online] listed the name *litserra* HAO, ZHANG & YANG, 2002 as species of *Brahmaea* (*Brahmophthalma*) in 'A global checklist of the Bombycoidea (Insecta: Lepidoptera)'.
- **Remarks**: Literature, Internet References and Acknowledgements are provided with the last issue of this series on the family Brahmaeidae SWINHOE, 1892.

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