

**A Preliminary Annotated Checklist of the  
Brahmaeidae of the World – Part IIB. Further  
taxa of the *hearseyi*-group of the subgenus  
*Brahmophthalma* MELL, 1928  
(Lepidoptera: Brahmaeidae)**

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# **A Preliminary Annotated Checklist of the Brahmaeidae of the World – Part IIB. Further taxa of the *hearseyi*-group of the subgenus *Brahmophthalma* MELL, 1928 (Lepidoptera: Brahmaeidae)**

**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 IIB befasst sich speziell mit weiteren Taxa der *hearseyi*-Gruppe (sensu Paukstadt & Paukstadt 2021) der Untergattung *Brahmophthalma* MELL, 1928 der Gattung *Brahmaea* WALKER, 1855 von der Malaiischen Halbinsel, dem Malaiischen Archipel und China. Diese erste zusammenhängende Analyse der Familie Brahmaeidae soll keine Gattungsrevision darstellen, sondern lediglich den heutigen Kenntnisstand aufzeigen und eine gute Arbeitsgrundlage für weitere Studien zur Familie Brahmaeidae SWINHOE, 1892 bieten.

**Summary:** The following contribution to knowledge the family Brahmaeidae SWINHOE, 1892 (Lepidoptera) is part of the series "*Brahmaeidae of the World*", which should give a complete overview of this family after completion. New results of studies 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 IIB deals specifically with further taxa of the *hearseyi*-group (sensu Paukstadt & Paukstadt 2021) of the subgenus *Brahmophthalma* MELL, 1928 of the genus *Brahmaea* WALKER, 1855 of the Malay Peninsula, the Malay Archipelago and 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)*

### *ardjoeno* KALIS, 1934 (*Brahmophthalma*)

**Original citation and spelling:** “*Brahmophthalma hearseyi* White (= *Whitei* Btlr.)”

*Subsp. ardjoeno* subsp. nov. (*Brahmaeidae*).

**Original description:** Kalis, J. P. A. (1934): Über javanische Heteroceren V. – Entomologische Rundschau (Stuttgart), 51: pp. 209-210.

**Type locality:** [Indonesia], Ost-Java [East Java], Ardjoeno Gebirge [Arjuna Mts.], Poenten [Punten], 4,000 ft. [1,219 m].

**Geographical and altitudinal distribution:** records from Indonesia, East Java are from the Arjuna Mts., from 4,000 ft. (1,219 m), cf. Kalis (1934: 209-210) and from the Ijen Plateau from ca. 1,000 m, cf. Dupont (1937: 10-12) [under the name of *luchti*]. East Java, Mt. Raung, ca. 1,000-1,500 m (Research Collection of U. & L. H. Paukstadt, Wilhelmshaven, Germany).

**Etymology:** the name *ardjoeno* refers to the place where the holotype was found, the Ardjoeno Mountains [Dutch spelling; Arjuna Mts.]

**Type material:** the description based on a single ♂ specimen only, which was not figured in the original description. The holotype by monotypy / original designation (called “type” in the original description) was cited being preserved in coll. Van Delden, Soerabaja [Surabaya, East Jawa, Indonesia]. Nässig & Paukstadt, U. (1990: 121) *Heterocera Sumatrana* (Göttingen), 6, remarked that the only type specimen was preserved in the collection van Delden, Surabaya and has not been found in Museum Zoologicum Bogoriense / MZB (Bogor) and is therefore possibly lost. Thus far the present location of the ♂ holotype could not be determined.

**Taxonomic notes:** Nässig & Treadaway (1998) applied the name *hearseyi ardjoeno* to the populations from the Philippines, West Malaysia, Borneo, Sumatra, and Java, while Paukstadt, Paukstadt & Brosch (2000) applied this taxon in species rank to the Javanese populations of the subgenus *Brahmophthalma* MELL, 1928. At the time being the name *ardjoeno* KALIS, 1934 is applied in species rank to the Javanese populations and is presently placed in the subgenus *Brahmophthalma* MELL, 1928 of the genus *Brahmaea* WALKER, 1855: *Brahmaea (Brahmophthalma) ardjoeno* KALIS, 1934.

The name *ardjoeno* KALIS, 1934 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:** the first illustration of a ♂ adult of *ardjoeno* has been by Dupont (1937: pl. 2 fig. 2) [as *luchti*]. Paukstadt, U., Paukstadt, L. H. & Brosch (2000: 6-8) figured the ♂ genitalia structures of *ardjoeno* in phot.h.-t.: (p. 6 fig. 1, p. 7, fig. 5, p. 8, fig. 9).

**Synonyms:** for misinterpretations see the appropriate text parts, junior subjective synonyms, junior objective synonyms, errors and incorrect subsequent spellings for *ardjoeno* KALIS, 1934 are as follows:

*luchti* DUPONT, 1937 (*Brahmophthalma*); STATUS-; junior subjective synonym of *ardjoeno* KALIS, 1934.

‡*ardjuno*; Roepke (1950: 26, 27) [intentional citation, incorrect subsequent spelling] [see “Remarks” under Roepke (1950) below]

‡*ardjono*; Nässig & Treadaway (1998: 434, 438) [lapsus, incorrect subsequent spelling]

**Hybridizations:** inter-generic and inter-specific pairings with *ardjoeno* KALIS, 1934 are unknown from literature.

## Further readings on *ardjoeno* KALIS, 1934

Dupont (1937) Ent. Med. Ned.-Indië, 3 (1), 1937, pp. 10-12, pls. 1-2; described *Brahmophthalma hearseyi luchti* DUPONT, 1937 from Java as a new subspecies. In his opinion this has been the first record of this genus on the other Sunda Islands [not specified] except Borneo thus far.

**Remarks:** it has been unknown to Dupont that the populations from Indonesia, East Java were already described as new: *Brahmophthalma hearseyi ardjoeno* KALIS, 1934.

The record of *B. (Brahmophthalma) hearseyi* WHITE, 1862 [“1861”] from Borneo refers to the later described *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCHE, 2005 which is distributed on the Malay Peninsula south of the Isthmus of Kra, Sumatra and Borneo. The holotype of *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCHE, 2005 is from Southeast Borneo. The records of *B. (Brahmophthalma) hearseyi* WHITE, 1862 [“1861”] from South and West China can refer to one or more Chinese taxa of uncertain rank of the *hearseyi*-group (sensu Paukstadt & Paukstadt 2021).

Roepke (1950) [01.ii.1950] Entomologische Berichten (Amsterdam), No. 296, Deel XIII, 1950, pp. 25-28; placed *hearseyi* WHITE, 1861 [sic] from India as species in the subgenus *Bramophthalma* [sic] MELL, 1928 of the genus *Brahmaea* WALKER. *B. hearseyi* was recorded from India (*hearseyi* WHITE, 1861 [sic]), Darjiling (*whitei* BUTLER, 1881 [not explicitly listed as synonym]), Sikkim, Assam, Borneo, West China, Central China, South China, Tonkin, East Java (*Bramophthalma* [sic] *hearseyi ardjoeno* n. ssp. [sic]) (rect. *ardjuno*! [sic]), East Java, Blawan-Idjen (*hearseyi luchti* n. ssp. [sic]), and Central and North Celebes [Sulawesi, actually

South Sulawesi Province and North Sulawesi Province] (*Brahmaea hearseyi celebica* TOXOPEUS, 1937 [sic]). The author settled the synonymy of *Brahmaea hearseyi luchti* DUPONT, 1937 = *Brahmaea hearseyi ardjoeno* KALIS, 1934 (: 28).

**Remarks:** *B. (Brahmophthalma) whitei* BUTLER, 1866 is a junior objective synonym of *B. (Brahmophthalma) hearseyi* WHITE, 1862 [“1861”]. The record of *B. (Brahmophthalma) hearseyi* WHITE, 1862 [“1861”] from Borneo refers to the related species *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCHE, 2005, records from China can refer to allied Chinese taxa which were later described. *B. (Brahmophthalma) ardjoeno* KALIS, 1934 from Java and *B. (Brahmophthalma) celebica* TOXOPEUS, 1939 [“1938”] from Sulawesi are distinct endemic species.

Roepke (1950) [01.ii.1950] Entomologische Berichten (Amsterdam), No. 296, Deel XIII, 1950, pp. 25-28; made remarks on *Bramophthalma* [sic] MELL, 1928. He noted „Kalis then promotes *Bramophthalma* [sic] to a separate genus, so man easily propose synonyms!“. Roepke recorded *hearseyi* from East Java (*Bramophthalma* [sic] *hearseyi ardjoeno* n. ssp. [sic]) (rect. *ardjuno*! [sic]), East Java, Blawan-Idjen (*hearseyi luchti* n. ssp. [sic]), and Central and North Celebes [Sulawesi, actually South Sulawesi Province and North Sulawesi Province] (*Brahmaea hearseyi celebica* TOXOPEUS, 1937 [sic]). The author settled the synonymy of *Brahmaea hearseyi luchti* DUPONT, 1937 = *Brahmaea hearseyi ardjoeno* KALIS, 1934 (: 28).

**Remarks:** the record of *B. (Brahmophthalma) hearseyi* WHITE, 1862 [“1861”] from Borneo refers to the later described closely related species *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCHE, 2005, records from China can refer to allied Chinese taxa which were later described. *B. (Brahmophthalma) ardjoeno* KALIS, 1934 from Java and *B. (Brahmophthalma) celebica* TOXOPEUS, 1939 [“1938”] from Sulawesi are distinct species endemic in their distribution ranges respectively.

Concluded from text Roepke probably considered the name *ardjoeno* being a misspelling and proposed *ardjuno* as the correct name for *ardjoeno*, which was not followed by any author thus far and also not by Roepke. Roepke cited “*Bramophthalma* [sic] *hearseyi ardjoeno* (rect. *ardjuno*!)”, “(rect. *ardjuno*)”, and “*ardjoeno*” within his paper. Concluded from text we do not confirm that Roepke proposed a demonstrably intentional change in the original spelling of the name *ardjoeno*, therefore his remarks cannot be understood as an “emendation” as such, cf. ICZN (1999) Art. 33.2.

Perhaps Roepke just wanted to point out the changed spelling of the name: “Mt. Ardjoeno” during the Dutch colonial period and “Mt. Ardjuno” in the new Indonesian spelling. The spelling changed again later with the Indonesian spelling reform and is now “Mt. Arjuno”, although many older Javanese still use traditionally “Ardjoeno”.

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]) from Borneo, Japan, W China, Sikkim, Assam, N Burma [N Myanmar], Java, Philippines, and Sulawesi.

**Remarks:** *Brahmidia* BRYK, 1949 is 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, 1939 [“1938”] (Sulawesi), *B. (Brahmophthalma) naessigi* NAUMANN & BROSCHE, 2005 (Philippines: Mindanao), *B. (Brahmophthalma)*

*paukstadtorum* NAUMANN & BROSCHE, 2005 (Philippines: Negros [type locality], Luzon and Samar), and *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCHE, 2005 (Borneo). China inhabits more than one closely related taxon of uncertain status of the *hearseyi*-group (sensu Paukstadt & Paukstadt 2021).

Nässig & Paukstadt, U. (1990: 117-136) [xii.1990] *Heterocera Sumatrana* (Göttingen), 6; placed the populations of the family Brahmaeidae WALKER, 1855 from the island of Sumatera, Indonesia (tentatively) to *Brahmophthalma hearseyi ardjoeno* KALIS, 1934.

**Remarks:** solely the populations of the island of Java are presently assigned to the name *B. (Brahmophthalma) ardjoeno* KALIS, 1934. The populations from the Malay Peninsula south of the Isthmus of Kra, Sumatra and Borneo belong to the distinct species *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCHE, 2005.

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., gave 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 1<sup>st</sup> larval instars and their chaetotaxy. Comparisons were done with larvae of *B. ledereri* ROGENHOFFER, 1973 [sic], *B. tancrei* AUSTAUT, 1896, *B. (Brahmophthalma) japonica* (BUTLER) [sic], *B. (Brahmophthalma) hearseyi* (WHITE) [sic], *B. (Brahmophthalma) hearseyi ardjoeno* 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.

**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 ardjoeno* 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 & BROSCHE, 2005 (Malay Peninsula, Sumatra and Borneo), *B. (Brahmophthalma) naessigi* NAUMANN & BROSCHE, 2005 (Mindanao), and *B. (Brahmophthalma) paukstadtorum* NAUMANN & BROSCHE, 2005 (Negros [type locality], Luzon and Samar).

Nässig & Treadaway (1998) *The Brahmaeidae (Lepidoptera) of the Philippines*. – *Nachr. entomol. Ver. Apollo*, Frankfurt/Main, Suppl. 17 (Frankfurt am Main): pp. 425-440, placed the populations of the genus *Brahmaea* from Luzon, Mindoro, Panay, Negros, and Mindanao (Philippines) temporarily to *B. hearseyi ardjoeno* KALIS, 1934. The populations from Sumatra, West Malaysia, and Borneo were placed to *B. hearseyi ardjoeno*, too.

**Remarks:** *B. (Brahmophthalma) ardjoeno* KALIS, 1934 is an endemic species from the island of Java. This species is replaced on the Malay Peninsula, Sumatra and Borneo by *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCHE, 2005. *B. (Brahmophthalma) naessigi*

NAUMANN & BROSCHE, 2005 (Mindanao) and *B. (Brahmophthalma) paukstatorum* NAUMANN & BROSCHE, 2005 (Negros [type locality], Luzon and Samar [based on barcoding by BOLD]) are the only recognized species in the Philippines.

Paukstadt, U., Paukstadt, L. H. & Brosch (2000) Entomol. Z. (Stuttgart), 110 (1): pp. 5-9, raised *hearseyi ardjoeno* (KALIS, 1934) [sic] to full species rank due to significant differences in the ♂ genitalia structures. The name *ardjoeno* was applied to the populations of the island of Java only and placed to the subgenus *Brahmophthalma* MELL, 1928: *Brahmaea (Brahmophthalma) ardjoeno* (KALIS, 1934) [sic]. The taxon *luchti* DUPONT, 1937 was confirmed to be a junior synonym of *ardjoeno*. *B. hearseyi* was recorded from Sumatra, Peninsular Malaysia, Laos, Huangdong (P. R. China), and the Philippines. *B. celebica* was reported from Sulawesi. *B. hearseyi* WHITE, [1862] *B. ardjoeno* (KALIS, 1934) [sic], and *B. celebica* TOXOPEUS, [1939] were cited as members of the *hearseyi*-group. The ♂ genitalia structures were illustrated in phot. h.-t.: *ardjoeno* (p. 6 fig. 1, p. 7, fig. 5, p. 8, fig. 9).

**Remarks:** not code-conform citation of (KALIS, 1934), correct as KALIS, 1934.

The records of *B. (Brahmophthalma) hearseyi* WHITE, 1862 [“1861”] from the Malay Peninsula, Sumatra and Borneo refer to *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCHE, 2005. The record from the Philippines refers to *B. (Brahmophthalma) naessigi* NAUMANN & BROSCHE, 2005 (Mindanao) and *B. (Brahmophthalma) paukstatorum* NAUMANN & BROSCHE, 2005 (Negros [type locality], Luzon and Samar [based on barcoding by BOLD]). China is occupied by more than one taxon of the *hearseyi*-group with partly uncertain status.

Holloway, Kibby & Pegg (2001) The families of Malesian moths and butterflies (Fauna Malesiana Handbook 3), 455 pp, 8 pls.; recorded a single species of the genus *Brahmaea* for Malesia, *B. hearseyi*, extending from the N.E. Himalayan region through S.E. Asia to Sundaland and the Philippines.

**Remarks:** the cited distribution range of *B. (Brahmophthalma) hearseyi* WHITE, 1862 [“1861”] was based on the taxonomic knowledge of the genus at the time. Today four distinct species of the *hearseyi*-group are recognized for Sundaland and the Philippines. Those are *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCHE, 2005 (Malay Peninsula, Sumatra, Borneo), *B. (Brahmophthalma) ardjoeno* KALIS, 1934 (Java), *B. (Brahmophthalma) naessigi* NAUMANN & BROSCHE, 2005 (Philippines: Mindanao), and *B. (Brahmophthalma) paukstatorum* NAUMANN & BROSCHE, 2005 (Philippines: Negros [type locality], Luzon, Samar).

Paukstadt, U. & Paukstadt, L. H. (2007) [06.ix.2007] Beiträge zur Kenntnis der wilden Seidenspinner (Wilhelmshaven), 5 (6), pp. 255-259; recorded observations on the brahmids (Brahmaeidae) of the Indonesian province Nanggroe Aceh Darussalam, Sumatra Island. The authors cited *luchti* (DUPONT, 1937) [sic] as junior subjective synonym of *B. (Brahmophthalma) ardjoeno* (KALIS, 1934) [sic]. The record of *B. (Brahmophthalma) ardjoeno* (KALIS, 1934) [sic] for the Nanggroe Aceh Darussalam Province of Sumatra ‘for the first time’ was based on a lapsus [correct as: first record of *B. (Brahmophthalma) hearseyi*]. The authors noted that the populations of *B. (Brahmophthalma)* from Sulawesi and Java were separated as independent species from *B. hearseyi* due to differences in the ♂ genitalia structures.

- Remarks:** the record from the Nanggroe Aceh Darussalam Province, Sumatra refers to *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCHE, 2005.
- Paukstade, U. & Paukstade, L. H. (2009) [11.i.2009] Beiträge zur Kenntnis der wilden Seidenspinner (Wilhelmshaven), 7 (2): pp. 81-92; recorded observations on *Brahmaea (Brahmophthalma) hearseyi* WHITE, 1862 ("1861") from the Nanggroe Aceh Darussalam Province of Sumatra Island. *B. (Brahmophthalma) ardjoeno* (KALIS, 1934) [sic] (Java) with its junior subjective synonym *B. (Brahmophthalma) lucti* (DUPONT, 1937) [sic] were cited.
- Remarks:** the record from the Nanggroe Aceh Darussalam Province, Sumatra refers to *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCHE, 2005.
- Paukstade, U. & Paukstade, L. H. (2009) [14.xii.2009] Beiträge zur Kenntnis der wilden Seidenspinner (Wilhelmshaven), 7 (8), pp. 367-379, reported finally on the brahmids of the Nanggroe Aceh Darussalam Province, Sumatra, Indonesia based on observations during their expeditions from between 2006 and 2009. *B. (Brahmophthalma) lucti* (DUPONT, 1937) [sic] was cited as junior subjective synonym of *B. (Brahmophthalma) ardjoeno* (KALIS, 1934) [sic] an endemic to Java. The authors noted that the ♂ genitalia structures of the Javanese *B. (Brahmophthalma) ardjoeno* (KALIS, 1934) [sic] are quite different from those of Sumatra and Borneo.
- Remarks:** the citations of *B. (Brahmophthalma) hearseyi* WHITE, 1862 ("1861") from Sumatra and Borneo refer to *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCHE, 2005.
- Paukstade, L. H. & Paukstade, 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) ardjoeno* KALIS, 1934. A short overview on the family Brahmaeidae was provided (: 390-391). The authors noted that a contribution on the taxonomic status of *B. ardjoeno* was published by Paukstade, Paukstade & Brosch (2000) (: 392).
- Kitching, Rougerie, Zwick, Hamilton, St Laurent, Naumann, Ballesteros Mejia & Kawahara (2018) A global checklist of the Bombycoidea (Insecta: Lepidoptera); published online 2018 Feb 12. doi: 10.3897/BDJ.6.e 22236; listed the name *ardjoeno* KALIS, 1934 as species of *Brahmaea (Brahmophthalma)*.
- Mishra & Smetacek (2019) [xii.2019] Bionotes, Vol. 21 (4), Dec. 2019, p. 171; recorded *Brahmaea* [sic] *hearseyi* WHITE, 1862 from India, Taptapani, Ganjam district, Odisha, 550 m (: 171). The distribution range of *B. hearseyi* was recorded as follows: from Uttarakhand, 1,500 m elevation (Smetacek 2008) along the Himalaya to the N.E. Himalaya, W. China, Myanmar, Sundaland, and the Philippines (Holloway 1987).
- Remarks:** the records of *B. (Brahmophthalma) hearseyi* WHITE, 1862 ["1861"] based on more than one taxon of the *hearseyi*-group. Those were *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCHE, 2005 from the Malay Peninsula, Sumatra and Borneo, *B. (Brahmophthalma) ardjoeno* KALIS, 1934 from Java, *B. (Brahmophthalma) paukstatorum* NAUMANN & BROSCHE, 2005 from Negros [type locality], Luzon and Samar, Philippines and *B. (Brahmophthalma) naessigi* NAUMANN & BROSCHE, 2005 from Mindanao, Philippines.



Kishida in Kishida (ed.) (2020) Moths of Laos, Part I, p. 98, pl. 40 fig. 4; recorded the distribution range of *Brahmaea hearseyi* WHITE, 1861 [sic] (Brahmaeidae) from India, Nepal, Myanmar, Laos, Sundaland, and China.

**Remarks:** the record of *B. (Brahmophthalma) hearseyi* WHITE, 1862 ["1861"] from Sundaland refers to *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCH, 2005 (Peninsular Malaysia, Sumatra and Borneo) and *B. (Brahmophthalma) ardjoeno* KALIS, 1834 (Java), and the record from China can refer to one or more than one Chinese species with uncertain status closely related to *B. (Brahmophthalma) hearseyi* WHITE, 1862 ["1861"].

### ***luchti* DUPONT, 1937 (*Brahmophthalma*)**

[junior subjective synonym]

**Original citation and spelling:** *Brahmophthalma hearseyi luchti* subsp. nov. (pl. 2, fig. 2.)

**Original description:** Dupont, F. (1937): Three Moths New for the Fauna of Java . (Sphingidae, Brahmaeidae and Cossidae). – Entomologische Mededeelingen van Nederlandsch-Indië, Deel 3 No. 1 (1 March 1937): pp. 10-12, pl. 2 fig. 2 (♂)

**Type locality:** [Indonesia] East Java [East Java Province, Bondowoso Regency], Blawan [Ijen Plateau], ± 1,000 m.

**Geographical and altitudinal distribution:** n/a, see under the senior subjective synonym *B. (Brahmophthalma) ardjoeno* KALIS, 1934.

**Etymology:** the ♂ singleton was presented by Mr. Lucht, that's why the new subspecies was named after him: *luchti*.

**Type material:** the description based on a single ♂ specimen in coll. Dupont (figured in the original description) which is considered to be a holotype by monotypy. The present location of the ♂ holotype was not determined by us. Nässig & Paukstadt, U. (1990: 122) Heterocera Sumatrana (Göttingen), 6, remarked that the only type specimen was preserved in the Rijksmuseum van Natuurlijke Historie (RMNH), Leiden, as per Dupont's statement; but repeated search in this collection did not result in finding this specimen. The type specimen was reported evidently lost (: 119). By the way, there is no hint in Dupont's original description on the location of the type specimen, but there is a hint available in Roepke (1950): Entomologische Berichten (Amsterdam), No. 269, Deel [Part] XIII, 1950: p. 27, confirming that the type specimen was transferred to Wageningen together with Dupont's collection.

**Taxonomic notes:** the name *luchti* DUPONT, 1937 was lowered as junior synonym to *ardjoeno* KALIS, 1934 by Nässig & Paukstadt (1990).

The name *luchti* DUPONT, 1937 was listed as species synonym of *Brahmaea (Brahmophthalma) ardjoeno* KALIS, 1934 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.

**Synonyms:** for misinterpretations see the appropriate text parts. Junior subjective synonyms, junior objective synonyms, errors and incorrect subsequent spellings for *luchti* DUPONT, 1937 are as follows:

‡*luchli*; Holloway (1987: 93) [incorrect subsequent spelling]

**Hybridizations:** n/a

### Further readings on *luchti* DUPONT, 1937

Dupont (1937) Ent. Med. Ned.-Indië, 3 (1), 1937, pp. 10-12, pls. 1-2; recorded *Brahmophthalma hearseyi hearseyi* WHITE from India, Burma [Myanmar], Assam, S and W China, and Borneo. He noted that the new subspecies *hearseyi luchti* from Java has been the first record of this genus on the other Sunda Islands [not specified] thus far.

**Remarks:** the record of *B. (Brahmophthalma) hearseyi* WHITE, 1862 [“1861”] from Borneo refers to the later described *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCHE, 2005 which is distributed on the Malay Peninsula south of the Isthmus of Kra, Sumatra and Borneo. The holotype of *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCHE, 2005 is from Southeast Borneo. The records of *B. (Brahmophthalma) hearseyi* WHITE, 1862 [“1861”] from South and West China can refer to one or more than one Chinese taxon of uncertain rank of the *hearseyi*-group (sensu Paukstadt & Paukstadt 2021).

Toxopeus (1939) Zool. Meded., XX, 1938, p. [183]-185, reported that the form of *hearseyi* from East Java has been described meanwhile as the new subspecies *Brahmophthalma hearseyi luchti* DUPONT, 1937. *B. hearseyi celebica* was described as a dark Celebes [Sulawesi] form and *B. hearseyi luchti* as a very light subspecies, quite the reverse (: 185 <footnote>).

**Remarks:** the name *B. (Brahmophthalma) luchti* DUPONT, 1937 is a junior subjective synonym of *B. (Brahmophthalma) ardjoeno* KALIS, 1934.

Roepke (1950) [01.ii.1950] Entomologische Berichten (Amsterdam), No. 296, Deel XIII, 1950, pp. 25-28; recorded *hearseyi* WHITE, 1861 [sic] from India, Darjiling, Sikkim, Assam, Borneo, West China, Central China, South China, Tonkin, East Java (*Brahmophthalma* [sic] *hearseyi ardjoeno* n. ssp. [sic]) (rect. *ardjuno*! [sic]), East Java, Blawan-Idjen (*hearseyi luchti* n. ssp. [sic]), and Central and North Celebes [Sulawesi, actually South Sulawesi Province and North Sulawesi Province] (*Brahmaea hearseyi celebica* TOXOPEUS, 1937 [sic]). The author settled the synonymy of *Brahmaea hearseyi luchti* DUPONT, 1937 = *Brahmaea hearseyi ardjoeno* KALIS, 1934 (: 28).

**Remarks:** the record of *B. (Brahmophthalma) hearseyi* WHITE, 1862 [“1861”] from Borneo refers to the later described related species *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCHE, 2005, records from China can refer to allied Chinese taxa of uncertain status which were described later. *B. (Brahmophthalma) ardjoeno* KALIS, 1934 from Java and *B. (Brahmophthalma) celebica* TOXOPEUS, 1939 [“1938”] from Sulawesi are distinct endemic species.

Holloway (1987) The Moths of Borneo, Part 3, listed *luchli* [sic] DUPONT from Java as synonym of *Brahmaea hearseyi ardjoeno* from Java (: 93).

**Remarks:** *B. (Brahmophthalma) ardjoeno* KALIS, 1934 is distinct from *B. (Brahmophthalma) hearseyi* WHITE, 1862 [“1861”] on species level.

Nässig & Paukstadt, U. (1990) [xii.1990] Heterocera Sumatrana (Göttingen), 6, listed *luchti* DUPONT, 1937 as a junior [subjective] synonym of *Brahmaea hearseyi ardjoeno* KALIS, 1934 (: 121).

**Remarks:** a trinomial citation was used in this work. *B. (Brahmophthalma) ardjoeno* KALIS, 1934 is distinct from *B. (Brahmophthalma) hearseyi* WHITE, 1862 [“1861”] on species level.

Paukstadt, U., Paukstadt, L. H. & Brosch (2000) Entomol. Z. (Stuttgart), 110 (1): pp. 5-9, raised the name *hearseyi ardjoeno* (KALIS, 1934) [sic] to full species rank. The taxon *luchti* DUPONT, 1937 was confirmed to be a junior synonym of *ardjoeno*.

**Remarks:** not code-conform citation of (KALIS, 1934), correct as KALIS, 1934.

Paukstadt, U. & Paukstadt, L. H. (2007) [06.ix.2007] Beiträge zur Kenntnis der wilden Seidenspinner (Wilhelmshaven), 5 (6), pp. 255-259; recorded observations on the brahmids (Brahmaeidae) of the Indonesian province Nanggroe Aceh Darussalam, Sumatra Island. *Brahmaea (Brahmophthalma) luchti* (DUPONT, 1937) [sic] was cited as junior subjective synonym of *B. (Brahmophthalma) ardjoeno* (KALIS, 1934) [sic].

Paukstadt, U. & Paukstadt, L. H. (2009) [11.i.2009] Beiträge zur Kenntnis der wilden Seidenspinner (Wilhelmshaven), 7 (2): pp. 81-92; recorded observations on *B. (Brahmophthalma) hearseyi* WHITE, 1862 (“1861”) from the Nanggroe Aceh Darussalam Province of Sumatra Island. *B. (Brahmophthalma) ardjoeno* (KALIS, 1934) [sic] (Java) with its junior subjective synonym *B. (Brahmophthalma) luchti* (DUPONT, 1937) [sic] were cited.

**Remarks:** citations of *B. (Brahmophthalma) hearseyi* WHITE, 1862 (“1861”) from the Nanggroe Aceh Darussalam Province refer to *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCHE, 2005.

Paukstadt, U. & Paukstadt, L. H. (2009) [14.xii.2009] Beiträge zur Kenntnis der wilden Seidenspinner (Wilhelmshaven), 7 (8), pp. 367-379, reported finally on the brahmids of the Nanggroe Aceh Darussalam Province, Sumatra, Indonesia based on observations during their expeditions from between 2006 and 2009. *B. (Brahmophthalma) luchti* (DUPONT, 1937) [sic] was cited as junior subjective synonym of *B. (Brahmophthalma) ardjoeno* (KALIS, 1934) [sic] an endemic to Java.

Kitching, Rougerie, Zwick, Hamilton, St Laurent, Naumann, Ballesteros Mejia & Kawahara (2018) A global checklist of the Bombycoidea (Insecta: Lepidoptera);

published online 2018 Feb 12. doi: 10.3897/BDJ.6.e 22236; listed the name *luchti* DUPONT, 1937 as species synonym of *ardjoeno* KALIS, 1934 in *Brahmaea* (*Brahmophthalma*).

### ***celebica* TOXOPEUS, 1939 [“1938”] (*Brahmaea*)**

**Original citation and spelling:** *Brahmaea* hearseyi *celebica* nov. subspec.

**Original description:** Toxopeus, L. J. (1939 “1938”): On a new *Brahmaea* from the Netherlands East Indies (Lepidoptera, Heterocera). – Zoologische Mededeelingen (Leiden), XX (13), 1937: pp. [183]-185, fig. 1 (♂ dorsally), fig. 2 (♂ ventrally)

**Type locality:** Central Celebes [South Sulawesi Province], Rantepao [Tana Toraja Regency], Nanggala [Village].

**Geographical and altitudinal distribution:** Holloway (1987: 93) noted that *celebica* was encountered more in montane forests in Sulawesi. Paukstadt, L. H. & Paukstadt, U. (1996: 444) recorded *celebica* from Sulawesi, South Sulawesi Province, Puncak Palopo, 1,300 m. Naumann & Brosch (2005: 103) recorded *celebica* from Sulawesi and Peleng [Peleng Island, Banggai Archipelago].

**Etymology:** the name *celebica* refers to the island where the type material was found, the island of Celebes [=Sulawesi]

**Type material:** ♂ holotype by original designation [called “type ♂, unique” in the description] in the Leiden Museum. Toxopeus remarked that there is “another ♂” in the Zoological Museum Amsterdam. We consider from text that the second specimen not belongs to the type series, since Toxopeus expressly remarked that there is a unique ♂ type, cf. ICZN (1999) Art. 72.4.6.

**Taxonomic notes:** Holloway (1987: 93) raised *celebica* to full species status: *Brahmaea celebica* TOXOPEUS.

The name *celebica* TOXOPEUS, 1937 [sic] 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:** Toxopeus (1939: p. [183], fig. 1, ♂ dorsally and p. 184, fig. 2, ♂ ventrally, figured the ♂ holotype. Paukstadt, L. H. & Paukstadt, U. (1996: 443-449) figured the preimaginal instars of *celebica* from Sulawesi. The 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> larval instars (: 445, figs. 1-4) and the 4<sup>th</sup>

and 5<sup>th</sup> larval instars (: 447, figs. 5-8) were figured, the ♂ adult was figured in photo halftone (: 448, fig. 9). Paukstadt, U., Paukstadt, L. H. & Brosch (2000): Entomologische Zeitschrift (Stuttgart), 110 (1): pp. 5-9, figured the ♂ genitalia structures in phot.h.-t.: *celebica* (p. 6 fig. 2, p. 7 fig. 6, p. 8 fig. 10).

**Synonyms:** for misinterpretations see the appropriate text parts. Junior subjective synonyms, junior objective synonyms, errors and incorrect subsequent spellings for *celebica* TOXOPEUS, 1939 ["1938"] are as follows:

*celebica* TOXOPEUS, 1937; Roepke (1950: 26) [error in publication date]

*celebica* TOXOPEUS, 1937; Kitching, Rougerie, Zwick, Hamilton, St Laurent, Naumann, Ballesteros Mejia & Kawahara (2018) [error in publication date]

‡*celebesica*; Holloway, Kibby & Peggie (2001: 262, 360) [incorrect subsequent spelling]

**Hybridizations:** inter-generic and inter-specific pairings with *celebica* TOXOPEUS, 1939 ["1938"] are unknown from literature.

## Further readings on *celebica* TOXOPEUS, 1939 ["1938"]

Toxopeus (1939) Zool. Meded., XX, 1938, p. [183]-185, compared the new subspecies *Brahmaea hearseyi celebica* with *Brahmophthalma hearseyi luchtii* DUPONT, 1937 which has been described from East Java. *Brahmaea hearseyi celebica* was described as a dark Celebes [Sulawesi] form and *Brahmophthalma hearseyi luchtii* [citation] as a very light subspecies, quite the reverse.

**Remarks:** the name *B. (Brahmophthalma) luchtii* DUPONT, 1937 is a junior subjective synonym of *B. (Brahmophthalma) ardoeno* KALIS, 1934.

Roepke (1950) [01.ii.1950] Entomologische Berichten (Amsterdam); No. 296, Deel XIII, 1950: pp. 25-28; recorded *celebica* TOXOPEUS, 1937 [sic] from Central [today known as the northern part of the South Sulawesi Province] and North Sulawesi and placed this taxon as subspecies to *Brahmaea hearseyi* WHITE, 1861 [sic].

**Remarks:** the original description of *B. (Brahmophthalma) celebica* TOXOPEUS, 1939 ["1938"] was issued in Volume XX, 1938 but has been actually published February 10<sup>th</sup>, 1939. The lapsus regarding the wrong publication date of *B. (Brahmophthalma) celebica* TOXOPEUS, 1939 ["1938"] probably happened due to the fact that *luchtii* DUPONT, 1937 was cited by Roepke in the same chapter.

This obviously incorrect publication date was probably copied by Kitching, I.J., Rougerie, R., Zwick, A., Hamilton, C.A., St Laurent, R.A., Naumann, S., Ballesteros Mejia, L. & Kawahara, A.Y. (2018).

Holloway (1976) Moths of Borneo, [x +] 264 pp.; placed *Brahmidia hearseyi* (WHITE, 1861 [sic]) in 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 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, 1939 ["1938"] (Sulawesi), *B. (Brahmophthalma) naessigi* NAUMANN & BROSCHE, 2005 (Philippines: Mindanao), *B. (Brahmophthalma) paukstadorum* NAUMANN & BROSCHE, 2005 (Philippines: Negros [type locality], Luzon and Samar [confirmed with barcoding by BOLD]), and *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCHE, 2005 (Borneo).

Holloway (1987: 91-93) The Moths of Borneo, Part 3; recognized *celebica* TOXOPEUS from Sulawesi as distinct on species level for the first time being: *Brahmaea celebica* TOXOPEUS.

Nässig & Paukstadt, U. (1990: 117-136) [xii.1990] Heterocera Sumatrana (Göttingen), 6; placed the populations of the family Brahmaeidae WALKER, 1855 from the island of Sulawesi, Indonesia (tentatively) to *Brahmophthalma celebica* (TOXOPEUS, [1939]) (sensu Holloway, 1987). The authors noted that *B. celebica* is most likely the sister-species of *B. hearseyi*; the sister-group of (*hearseyi* + *celebica*) is very likely the group (*wallichii* + *japonica*). Further general notes on taxonomy of the family Brahmaeidae were presented.

**Remarks:** *B. (Brahmophthalma) celebica* TOXOPEUS, 1939 ["1938"] is a species of the subgenus *Brahmophthalma* MELL, 1928.

Paukstadt, L. H. & Paukstadt, U. (1996) Entomol. Z. (Essen), 106 (11): pp. 443-449; 10 b/w-figs., described and figured the preimaginal instars of *Brahmaea (Brahmophthalma) celebica* TOXOPEUS, [1939] from Sulawesi, South Sulawesi Province, Puncak Palopo, 1,300 m for the first time being. In the header of the contribution the genus *Brahmaea* was erroneously placed in (Lepidoptera: Saturniidae) due to a lapsus [copy paste]. The preimaginal instars were compared to those of *B. (Brahmophthalma) hearseyi* WHITE, [1862] and found being different. The 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> larval instars (: 445, figs. 1-4) and the 4<sup>th</sup> and 5<sup>th</sup> larval instars (: 447, figs. 5-8) were figured, the ♂ adult was figured in photo halftone (: 448, fig. 9) and compared with a ♂ adult of *hearseyi* (: 448, fig. 10) from Sumatra.

**Remarks:** *B. (Brahmophthalma) celebica* TOXOPEUS, 1939 ["1938"] was actually compared with the later described *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCHE, 2005 from the West Sumatra Province.

Holloway, Kibby & Pegg (2001) [13.xii.2000] The families of Malesian moths and butterflies (Fauna Malesiana Handbook 3); recorded the slightly smaller [than *B. hearseyi*] endemic species *B. celebesica* [sic] from Sulawesi.

Paukstadt, U., Paukstadt, L. H. & Brosch (2000) Entomol. Z. (Stuttgart), 110 (1): pp. 5-9, recorded *B. celebica* from Sulawesi. *B. hearseyi* WHITE, [1862], *B. ardjoeno* (KALIS, 1934) [sic], and *B. celebica* TOXOPEUS, [1939] were cited as members of the *hearseyi*-group. The ♂ genitalia structures were illustrated in phot. h.-t.: *celebica* (p. 6 fig. 2, p. 7 fig. 6, p. 8 fig. 10).

**Remarks:** not code-conform citation of (KALIS, 1934), correct as KALIS, 1934.

Paukstadt, U. & Paukstadt, L. H. (2007) [06.ix.2007] Beiträge zur Kenntnis der wilden Seidenspinner (Wilhelmshaven), 5 (6), pp. 255-259; recorded observations

on the brahmids (Brahmaeidae) of the Indonesian province Nanggroe Aceh Darussalam, Sumatra Island. The authors cited *B. (Brahmophthalma) celebica* TOXOPEUS, 1939 (“1938”) from Sulawesi and Peleng (: 255). The authors noted that the populations of *Brahmaea (Brahmophthalma)* from Sulawesi and Java were separated as distinct species from *B. hearseyi* due to differences in the ♂ genitalia structures.

Paukstadt, U. & Paukstadt, L. H. (2009) [11.i.2009] Beiträge zur Kenntnis der wilden Seidenspinner (Wilhelmshaven), 7 (2): pp. 81-92; recorded observations on *Brahmaea (Brahmophthalma) hearseyi* WHITE, 1862 (“1861”) from the Nanggroe Aceh Darussalam Province of Sumatra Island. *B. (Brahmophthalma) celebica* TOXOPEUS, 1939 (“1938”) (Sulawesi and the Peleng Archipelago?) was cited.

**Remarks:** citations of *B. (Brahmophthalma) hearseyi* WHITE, 1862 (“1861”) from the Nanggroe Aceh Darussalam Province refer to *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCHE, 2005.

Paukstadt, U. & Paukstadt, L. H. (2009) [14.xii.2009] Beiträge zur Kenntnis der wilden Seidenspinner (Wilhelmshaven), 7 (8), pp. 367-379, reported finally on the brahmids of the Nanggroe Aceh Darussalam Province, Sumatra, Indonesia based on observations during their expeditions from between 2006 and 2009. *B. (Brahmophthalma) celebica* TOXOPEUS, 1939 (“1938”) was listed as an endemic to Sulawesi.

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) celebica* TOXOPEUS, 1939 (“1938”). The authors noted that ample descriptions and illustrations of the preimaginals were available. A short overview on the family Brahmaeidae was provided (: 390-391).

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) celebica* TOXOPEUS, 1939. 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 citation of *B. (Brahmophthalma) hearseyi* WHITE, 1862 (“1861”) from Sumatra refers to *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCHE, 2005.

Paukstadt, U. & Paukstadt, L. H. (2017c) [14.v.2017] Beiträge zur Kenntnis der wilden Seidenspinner (Wilhelmshaven), 15 (2), 73-88, described and figured 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 citations of *B. (Brahmaea) tancrei* AUSTAUT, 1896 from Russia and South Korea refer to *B. (Brahmaea) lunulata carpenteri* BUTLER, 1883. The record of *B. (Brahmophthalma) hearseyi* WHITE, 1862 [“1861”] from Indonesia, Sumatra refers to *B. (Brahmophthalma) hearseyi* WHITE, 1862 [“1861”].

Kitching, Rougerie, Zwick, Hamilton, St Laurent, Naumann, Ballesteros Mejia & Kawahara (2018) A global checklist of the Bombycoidea (Insecta: Lepidoptera); published online 2018 Feb 12. doi: 10.3897/BDJ.6.e22236; listed the name *celebica* TOXOPEUS, 1937 [sic] as species of *Brahmaea (Brahmophthalma)*.

### ***paukstadtorum* NAUMANN & BROSC, 2005 (*Brahmaea*)**

**Original citation and spelling:** *Brahmaea paukstadtorum* NAUMANN & BROSC **spec. nov.**

Unfortunately the following multiple original spellings were cited in the original description: ‡*pauckstadtorum* NAUMANN & BROSC, 2005 [second of a multiple original spelling] and ‡*pauckstadtorumm* NAUMANN & BROSC, 2005 [third of a multiple original spelling]. The correct spelling of the name is derived from the family name Paukstadt and should therefore be correctly written *paukstadtorum*.

**Original description:** Naumann, S. & Brosch, U. (2005): Zur Verbreitung der *hearseyi*-Gruppe (Lepidoptera; Brahmaeidae: *Brahmaea* WALKER, 1855) in Indonesien und auf den Philippinen. – galathea – Berichte des Kreises Nürnberger Entomologen, 21 (2): pp. 97-104; 1 col-pl. with 6 figs.

**Type locality:** Philippines, Negros Island, Mt. Canlaon, 1,000 m.

**Geographical and altitudinal distribution:** this species is endemic to some islands in the Philippines: Negros, Luzon and Samar (based on genetic analysis by BOLD). Records from other islands of the Philippines, except for Mindanao) were not barcoded thus far, or the barcoding results were not published. Altitudinal records were from 325 m, 800 m, 1,000 m, 1,200 m, 1,800 m, 800 ft [244 m], and 1,500 ft [457 m], cf. Naumann & Brosch (2005). Kemal, Kızıldağ & Koçak (2019: 38) recorded *hearseyi* from Negros Is. [= *paukstadtorum*], Murcia, Mt. Kanlaon 1,500 m. A record is from Mt. Tabon / Mt. Kanlaon National Park, Negros, cf. [www.flickr.com](http://www.flickr.com).



**Etymology:** *paukstadorum* NAUMANN & BROSCHE, 2005 was named in honor of Laela Hayati Paukstadt and Captain Ulrich Paukstadt in recognition of their publications on the Saturniidae and Brahmaeidae of Southeast Asia.

**Type material:** the description based on the ♂ holotype by original designation ex coll. Naumann (Berlin) in ZMHU (Berlin), 1 ♀ allotype in coll. Naumann (Berlin), 7 ♂ paratypes in coll. Brosch (Hille), 6 ♂ paratypes in coll. Meister (Prenzlau), 26 ♂ 1 ♀ paratypes in coll. L. H. Paukstadt (Wilhelmshaven) [via Museum Witt (München) in Zoologische Staatssammlung München (München)], 14 ♂ paratypes in coll. Naumann (Berlin), 4 ♂ paratypes in coll. Löffler (Lichtenstein), and 51 ♂ 4 ♀ paratypes in coll. Senckenberg-Museum (Frankfurt am Main).

**Taxonomic history:** no changes after the original description found in literature.

**Taxonomic notes:** both species of the *hearseyi*-group of the Philippines look very similar. However, there are phenological tendencies that become visible in large series and, in addition, stable morphological differences in the ♂ genital structures were observed by Naumann & Brosch (2005).

The name *paukstadorum* NAUMANN & BROSCHE, 2005 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:** the ♂ holotype was figured in the original description in color dorsally as *Brahmaea paukstadorum* [sic, multiple of an original spelling!] (: 101, fig. 1) and the ♂ genitalia structures as *Brahmaea paukstadorumm* [sic, multiple of an original spelling!] (: 101, fig. 4). Hamilton, St. Laurent, Dexter, Kitching, Breinhold, Zwick, Timmermans, Barber & Kawahara (2019) figured *B. paukstadorum* in color.

**Synonyms:** for misinterpretations see the appropriate text parts. Junior subjective synonyms, junior objective synonyms, errors and incorrect subsequent spellings for *paukstadorum* NAUMANN & BROSCHE, 2005 are as follows:

*paukstadorum* NAUMANN & BROSCHE, 2005 [original spelling]

‡*paukstadorum* NAUMANN & BROSCHE, 2005 [second of a multiple original spelling]

‡*paukstadtorumm* NAUMANN & BROSCH, 2005 [third of a multiple original spelling]

**Hybridizations:** inter-generic and inter-specific pairings with *paukstadtorum* NAUMANN & BROSCH, 2005 are unknown from literature.

### Further readings on *paukstadtorum* NAUMANN & BROSCH, 2005

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 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, 1939 [“1938”] (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). The record from West China can refer to a closely related Chinese taxon of uncertain status distinct from *B. (Brahmophthalma) hearseyi* WHITE, 1862 [“1861”].

Holloway (1987) The Moths of Borneo, Part 3; 199 pp., 163 genitalia figs. in phot.h.-t., 20 col.-pls.; recorded *Brahmaea hearseyi* WHITE of the family Brahmaeidae from lowland to lower montane of the Himalaya to Sundaland and the Philippines (1 species) (: 194). The ♂ adult [from Borneo?] was figured in color (pl. 7, fig. 8) and the ♂ genitalia structures (aedeagus separate) (fig. 130). An early instar and mature larva was figured in color (pl. 20, figs. 1 and 2) from Perinsular Malaysia.

**Remarks:** the record of *B. (Brahmophthalma) hearseyi* WHITE, 1862 [“1861”] from the Philippines refers to the later described *B. (Brahmophthalma) naessigi* NAUMANN & BROSCH, 2005 (Philippines: Mindanao) and *B. (Brahmophthalma) paukstadtorum* NAUMANN & BROSCH, 2005 (Philippines: Negros [type locality], Luzon and Samar), and the record from Sundaland to *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCH, 2005 (Borneo, Sumatra, Peninsular Malaysia), and *B. (Brahmophthalma) ardjoeno* KALIS, 1934 (Java).

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*. Comparisons were done with larvae of *B. ledereri* ROGENHOFER, 1973 [sic], *B. tancrei* AUSTAUT, 1896, *B. japonica* (BUTLER) [sic], *B. hearseyi* (WHITE) [sic], *B. hearseyi ardjoeno* KALIS, 1934 (sensu Nässig & Paukstadt 1990).

**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 ardjoeno* KALIS, 1934 (sensu Nässig & Paukstadt 1990)' refers to several closely related taxa of the *hearseyi*-group. Those are *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 & BROSCHE, 2005 (Malay Peninsula, Sumatra and Borneo), *B. (Brahmophthalma) naessigi* NAUMANN & BROSCHE, 2005 (Mindanao), and *B. (Brahmophthalma) paukstadtorum* NAUMANN & BROSCHE, 2005 (Negros [type locality], Luzon and Samar based on DNA barcoding by BOLD).

Holloway, Kibby & Pegg (2001) The families of Malesian moths and butterflies (Fauna Malesiana Handbook 3), 455 pp, 8 pls.; recorded a single species of the genus *Brahmaea* for Malesia, *B. hearseyi*, extending from the N.E. Himalayan region through S.E. Asia to Sundaland and the Philippines.

**Remarks:** the cited distribution range of *B. (Brahmophthalma) hearseyi* WHITE, 1862 ["1861"] was based on the taxonomic knowledge of the genus at the time. Today four distinct species of the *hearseyi*-group are recognized for Sundaland and the Philippines. Those are *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCHE, 2005 (Malay Peninsula, Sumatra, Borneo), *B. (Brahmophthalma) ardjoeno* KALIS, 1934 (Java), *B. (Brahmophthalma) naessigi* NAUMANN & BROSCHE, 2005 (Philippines: Mindanao), and *B. (Brahmophthalma) paukstadtorum* NAUMANN & BROSCHE, 2005 (Philippines: Negros [type locality], Luzon, Samar).

Kemal, Kızıldağ & Koçak (2019) [23.12.2019] Priamus, Vol. 18 (2), 100 pp.; recorded under "Material studied" a ♂ adult of *Brahmaea (Brahmophthalma) hearseyi* WHITE, [1862] with its synonyms *hearseyi* WHITE, [1862] and *whitei* BUTLER, 1866, from Negros Is., Murcia, Mt. Kanlaon 1500 m for coll. Cesa. The "List of species recorded from Negros Island" included 47. *Brahmaea (Brahmophthalma) hearseyi* WHITE, [1862] (Brahmaeidae) and 48. *Brahmaea (Brahmophthalma) paukstadtorum* S. NAUMANN & BROSCHE, 2005 (Brahmaeidae). The "List of species recorded from Leyte Island" included 112. *Brahmaea (Brahmophthalma) hearseyi* WHITE, [1862] (Brahmaeidae). The "List of species recorded from Mindanao Island" included 103. *Brahmaea (Brahmophthalma) hearseyi* WHITE, [1862] (Brahmaeidae) and 104. *Brahmaea (Brahmophthalma) naessigi* S. NAUMANN & BROSCHE, 2005 (Brahmaeidae).

**Remarks:** records of *B. (Brahmophthalma) hearseyi* WHITE, 1862 ["1861"] from the Philippines refer either to *B. (Brahmophthalma) paukstadtorum* NAUMANN & BROSCHE, 2005 (Negros [type locality], Luzon and Samar) or *B. (Brahmophthalma) naessigi* NAUMANN & BROSCHE, 2005 (Mindanao I.). *B. (Brahmophthalma) hearseyi* WHITE, 1862 ["1861"] is absent in the Philippines.

Paukstadt, U. & Paukstadt, L. H. (2000) [v.2000] galathea, Suppl. 7, pp. 22-34; recorded and figured (diagram 45, 46) the circadian flight times of *Brahmaea hearseyi* WHITE, 1862 ("1861") of the family Brahmaeidae SWINHOE, 1892 from the island of Negros, Philippines (: 34).

**Remarks:** the record of *B. (Brahmophthalma) hearseyi* WHITE, 1862 ["1861"] from Negros refers to the later described *B. (Brahmophthalma) paukstadtorum* NAUMANN & BROSCHE, 2005.

- Koçak & Koçak (2008) [26.i.2008] Cent. Ent. Stud., Priamus Suppl. 12, pp. 1-89; presented a first attempt in preparing a comprehensive list of patronyms among the genus- and species-group names in the Lepidopterology. 5175 patronyms of the Lepidoptera were listed, including 742. *Brahmaea* (*Brahmophthalma*) *paukstadorum* NAUMANN & BROSCHE, 2005 (Brahmaeidae) (: 18).
- Paukstadt, U. & Paukstadt, L. H. (2009) [11.i.2009] Beiträge zur Kenntnis der wilden Seidenspinner (Wilhelmshaven), 7 (2): pp. 81-92; recorded observations on *Brahmaea* (*Brahmophthalma*) *hearseyi* WHITE, 1862 ("1861") from the Nanggroe Aceh Darussalam Province of Sumatra Island. *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCHE, 2005 (Philippines), *B. (Brahmophthalma) naessigi* NAUMANN & BROSCHE, 2005 (Philippines), and *B. (Brahmophthalma) paukstadorum* NAUMANN & BROSCHE, 2005 (Philippines) were cited. *B. loeffleri* was erroneously recorded from the Philippines [lapsus].
- Kitching, Rougerie, Zwick, Hamilton, St Laurent, Naumann, Ballesteros Mejia & Kawahara (2018) A global checklist of the Bombycoidea (Insecta: Lepidoptera); published online 2018 Feb 12. doi: 10.3897/BDJ.6.e 22236; listed the name *paukstadorum* NAUMANN & BROSCHE, 2005 as species of *Brahmaea* (*Brahmophthalma*).
- Hamilton, St. Laurent, Dexter, Kitching, Breinhold, Zwick, Timmermans, Barber & Kawahara (2019) [bioRxiv reprint doi: <https://doi.org/10.1101/517995> 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. *Brahmaea paukstadorum* was figured in color.
- 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. wallichii* [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 Japan and 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* (GRAY, 1831) were obviously based on misinterpretations in older literature and not reviewed in detail.
- Mishra & Smetacek (2019) [xii.2019] Bionotes, Vol. 21 (4), Dec. 2019, p. 171; recorded *Brahmea* [sic] *hearseyi* WHITE, 1862 from India, Taptapani, Ganjam district, Odisha, 550 m (: 171). The distribution range of *B. hearseyi* was recorded as follows: from Uttarakhand, 1,500 m elevation (Smetacek 2008) along the

Himalaya to the N.E. Himalaya, W. China, Myanmar, Sundaland, and the Philippines (Holloway 1987).

**Remarks:** records of *B. (Brahmophthalma) hearseyi* WHITE, 1862 [“1861”] based on unproven records in literature and on more than one taxon of the *hearseyi*-group. Those are *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCH, 2005 from the Malay Peninsula, Sumatra and Borneo, *B. (Brahmophthalma) ardjoeno* KALIS, 1934 from Java, *B. (Brahmophthalma) paukstadtorum* NAUMANN & BROSCH, 2005 from Negros [type locality], Luzon and Samar, Philippines, and *B. (Brahmophthalma) naessigi* NAUMANN & BROSCH, 2005 from Mindanao, Philippines.

### ***naessigi* NAUMANN & BROSCH, 2005 (*Brahmaea*)**

**Original citation and spelling:** *Brahmaea naessigi* NAUMANN & BROSCH spec. nov.

**Original description:** Naumann, S. & Brosch, U. (2005): Zur Verbreitung der *hearseyi*-Gruppe (Lepidoptera; Brahmaeidae: *Brahmaea* WALKER, 1855) in Indonesien und auf den Philippinen. – galathea – Berichte des Kreises Nürnberger Entomologen, 21 (2): pp. 97-104; 1 col-pl. with 6 figs.

**Type locality:** Philippines, Mindanao Island, Mt. Dalongdong.

**Geographical and altitudinal distribution:** this species is endemic to Mindanao Island. Altitudinal records were from 700 m, 1,200 m, 1,300 m, and 1,700 m, cf. Naumann & Brosch (2005).

**Etymology:** *naessigi* NAUMANN & BROSCH, 2005 was named in honor of Dr. Wolfgang Nässig, Section Entomology II, Senckenberg Natural History Museum (Frankfurt am Main) as a long-time editor on the Saturniid and Brahmaeid fauna of the Philippines.

**Type material:** the description based on the ♂ holotype by original designation ex coll. Naumann (Berlin) in ZMHU (Berlin), 1 ♀ allotype in coll. Naumann (Berlin), 4 ♂ paratypes in coll. Brosch (Hille), 5 ♂ paratypes in coll. Meister (Prenzlau), 7 ♂ paratypes in coll. L. H. Paukstadt (Wilhelmshaven) [via Museum Witt (München) in Zoologische Staatssammlung München (München)], 15 ♂ 1 ♀ paratypes in coll. Naumann (Berlin), 4 ♂ 1 ♀ paratypes in coll. Löffler (Lichtenstein), and 32 ♂ 3 ♀ paratypes in coll. Senckenberg-Museum (Frankfurt am Main).

**Taxonomic history:** no changes after the original description found in literature.

**Taxonomic notes:** both species of the *hearseyi*-group of the Philippines look very similar. However, there are phenological tendencies that

become visible in large series and, in addition, stable morphological differences in the ♂ genital structures as noted in the original description by Naumann & Brosch (2005).

The name *naessigi* NAUMANN & BROSCH, 2005 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:** the ♂ holotype of *naessigi* was figured in the original description in color dorsally (: 101, fig. 2) and the ♂ genitalia structures (: 101, fig. 5).

**Synonyms:** for misinterpretations see the appropriate text parts. Junior subjective synonyms, junior objective synonyms, errors and incorrect subsequent spellings for *naessigi* NAUMANN & BROSCH, 2005 are as follows:

**Hybridizations:** inter-generic and inter-specific pairings with *naessigi* NAUMANN & BROSCH, 2005 are unknown from literature.

### Further readings on *naessigi* NAUMANN & BROSCH, 2005

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 a junior synonym of *Brahmophthalma* MELL, 1928. Locations cited by Holloway 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, 1939 ["1938"] (Sulawesi), *B. (Brahmophthalma) naessigi* NAUMANN & BROSCH, 2005 (Philippines: Mindanao), *B. (Brahmophthalma) paukstatorum* NAUMANN & BROSCH, 2005 (Philippines: Negros [type locality], Luzon and Samar), and *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCH, 2005 (Borneo). The record from West China can refer to a closely related taxon with uncertain status.

Holloway (1987) The Moths of Borneo, Part 3; 199 pp., 163 genitalia figs. in phot.h.-t., 20 col.-pls.; recorded *Brahmaea hearseyi* WHITE of the family Brahmaeidae from lowland to lower montane of the Himalaya to Sundaland and the Philippines (1 species) (: 194). The ♂ adult [from Borneo?] was figured in color (pl. 7, fig. 8) and the ♂ genitalia structures (aedeagus separate) (fig. 130). An early instar and mature larva was figured in color (pl. 20, figs. 1 and 2) from Perinsular Malaysia.

**Remarks:** the record of *B. (Brahmophthalma) hearseyi* WHITE, 1862 ["1861"] from the Philippines refers to *B. (Brahmophthalma) naessigi* NAUMANN & BROSCH, 2005 (Philippines: Mindanao) and *B. (Brahmophthalma) paukstatorum* NAUMANN & BROSCH,

2005 (Philippines: Negros [type locality], Luzon and Samar), and the record from Sundaland to *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCHE, 2005 (Borneo, Sumatra, Peninsular Malaysia) and *B. (Brahmophthalma) ardjoeno* KALIS, 1934 (Java).

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*. Comparisons were done with larvae of *B. ledereri* ROGENHOFER, 1973 [sic], *B. tancrei* AUSTAUT, 1896, *B. japonica* (BUTLER) [sic], *B. hearseyi* (WHITE), *B. hearseyi ardjoeno* KALIS, 1934 (sensu Nässig & Paukstadt 1990).

**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 ardjoeno* 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 & BROSCHE, 2005 (Malay Peninsula, Sumatra and Borneo), *B. (Brahmophthalma) naessigi* NAUMANN & BROSCHE, 2005 (Mindanao), and *B. (Brahmophthalma) paukstadtorum* NAUMANN & BROSCHE, 2005 (Negros [type locality], Luzon and Samar).

Holloway, Kibby & Pegg (2001) The families of Malesian moths and butterflies (Fauna Malesiana Handbook 3), 455 pp, 8 pls.; recorded a single species of the genus *Brahmaea* for Malesia, *B. hearseyi*, extending from the N.E. Himalayan region through S.E. Asia to Sundaland and the Philippines.

**Remarks:** the cited distribution range of *B. (Brahmophthalma) hearseyi* WHITE, 1862 ["1861"] was based on the taxonomic knowledge of the genus at the time. Today four distinct species of the *hearseyi*-group are recognized for Sundaland and the Philippines. Those are *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCHE, 2005 (Malay Peninsula, Sumatra, Borneo), *B. (Brahmophthalma) ardjoeno* KALIS, 1934 (Java), *B. (Brahmophthalma) naessigi* NAUMANN & BROSCHE, 2005 (Philippines: Mindanao), and *B. (Brahmophthalma) paukstadtorum* NAUMANN & BROSCHE, 2005 (Philippines: Negros [type locality], Luzon, Samar).

Koçak & Koçak (2008) [26.i.2008] Cent. Ent. Stud., Priamus Suppl. 12, pp. 1-89; presented a first attempt in preparing a comprehensive list of patronyms among the genus- and species-group names in the Lepidopterozoology. 5175 patronyms of the Lepidoptera were listed, including 741. *Brahmaea (Brahmophthalma) naessigi* S. NAUMANN & BROSCHE, 2005 (Brahmaeidae) (: 18).

Paukstadt, U. & Paukstadt, L. H. (2009) [11.i.2009] Beiträge zur Kenntnis der wilden Seidenspinner (Wilhelmshaven), 7 (2): pp. 81-92; recorded observations on *B. (Brahmophthalma) hearseyi* WHITE, 1862 ("1861") from the Nanggroe Aceh Darussalam Province of Sumatra Island. *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCHE, 2005 (Philippines), *B. (Brahmophthalma) naessigi* NAUMANN & BROSCHE, 2005 (Philippines), and *B. (Brahmophthalma)*

*paukstadorum* NAUMANN & BROSCHE, 2005 (Philippines) were cited. *B. loeffleri* was erroneously recorded from the Philippines [lapsus].

**Remarks:** the record of *B. (Brahmophthalma) hearseyi* WHITE, 1862 (“1861”) from Sumatra refers to *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCHE, 2005.

Kitching, Rougerie, Zwick, Hamilton, St Laurent, Naumann, Ballesteros Mejia & Kawahara (2018) A global checklist of the Bombycoidea (Insecta: Lepidoptera); published online 2018 Feb 12. doi: 10.3897/BDJ.6.e 22236; listed the name *naessigi* NAUMANN & BROSCHE, 2005 as species of *Brahmaea (Brahmophthalma)*.

Kemal, Kızıldağ & Koçak (2019) [23.xii.2019] Priamus, Vol. 18 (2), 100 pp.; recorded under “Material studied” a ♂ adult of *Brahmaea (Brahmophthalma) hearseyi* WHITE, [1862] with its synonyms *hearseyi* WHITE, [1862] and *whitei* BUTLER, 1866, from Negros Is., Murcia, Mt. Kanlaon 1,500 m for coll. Cesa. The “List of species recorded from Negros Island” included 47. *Brahmaea (Brahmophthalma) hearseyi* WHITE, [1862] (Brahmaeidae) and 48. *Brahmaea (Brahmophthalma) paukstadorum* S. NAUMANN & BROSCHE, 2005 (Brahmaeidae). The “List of species recorded from Leyte Island” included 112. *Brahmaea (Brahmophthalma) hearseyi* WHITE, [1862] (Brahmaeidae). The “List of species recorded from Mindanao Island” included 103. *Brahmaea (Brahmophthalma) hearseyi* WHITE, [1862] (Brahmaeidae) and 104. *Brahmaea (Brahmophthalma) naessigi* S. NAUMANN & BROSCHE, 2005 (Brahmaeidae).

**Remarks:** records of *Brahmaea (Brahmophthalma) hearseyi* WHITE, 1862 [“1861”] from the Philippines refer either to *paukstadorum* NAUMANN & BROSCHE, 2005 (Negros [type locality], Luzon and Samar) or *naessigi* NAUMANN & BROSCHE, 2005 (Mindanao I.).

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. wallichii* [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.

Mishra & Smetacek (2019) [xii.2019] Bionotes, Vol. 21 (4), Dec. 2019, p. 171; recorded *Brahmea* [sic] *hearseyi* WHITE, 1862 from India, Taptapani, Ganjam district, Odisha, 550 m (: 171). The distribution range of *B. hearseyi* was recorded as follows: from Uttarakhand, 1500 m elevation (Smetacek 2008) along the Himalaya to the N.E. Himalaya, W. China, Myanmar, Sundaland, and the Philippines (Holloway 1987).

**Remarks:** records of *B. (Brahmophthalma) hearseyi* WHITE, 1862 [“1861”] based on more than one taxon of the *hearseyi*-group. Those are *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCHE, 2005 from the Malay Peninsula, Sumatra and Borneo, *B. (Brahmophthalma) ardjoeno* KALIS, 1934 from Java, *B. (Brahmophthalma) paukstadorum* NAUMANN & BROSCHE, 2005 from Negros [type locality], Luzon and Samar, Philippines and *B. (Brahmophthalma) naessigi* NAUMANN & BROSCHE, 2005 from Mindanao, Philippines. The



record from West China can refers to a taxon of the *hearseyi*-group with uncertain status closely related to *B. (Brahmophthalma) hearseyi* WHITE, 1862 [“1861”].

## ***loeffleri* NAUMANN & BROSCH, 2005 (*Brahmaea*)**

**Original citation and spelling:** *Brahmaea loeffleri* NAUMANN & BROSCH spec. nov.

**Original description:** Naumann, S. & Brosch, U. (2005): Zur Verbreitung der *hearseyi*-Gruppe (Lepidoptera; Brahmaeidae: *Brahmaea* WALKER, 1855) in Indonesien und auf den Philippinen. – galathea – Berichte des Kreises Nürnberger Entomologen, 21 (2): pp. 97-104; 1 col-pl. with 6 figs.

**Type locality:** Indonesia, Borneo Island, Kalimantan Selatan Province [South Kalimantan Province], Meratus Mts.

**Geographical and altitudinal distribution:** the type series is from Borneo Island. Naumann & Brosch (2005: 103) recorded *loeffleri* from Borneo, Sumatra, and West Malaysia (south of the Isthmus of Kra in southern Thailand). Altitudinal records were from 500-700 m, 568 m, 1,100 m, 1,509 m, and 1,600 m, cf. Naumann & Brosch (2005). Paukstadt, U. & Paukstadt, L. H. (2007a) recorded this taxon as *B. hearseyi* from the Nanggroe Aceh Darussalam Province, Sumatra for the first time. The altitudinal distribution for Aceh was given with 1,428 m and 1,795 m, and the circadian flight times 19:30 hrs lt. and 19:42 hrs lt. Paukstadt, U. & Paukstadt, L. H. (2007b) recorded *B. hearseyi* WHITE, 1862 (“1861”) [= *loeffleri*] for Aceh from 1,428 m (: 273). Paukstadt, U. & Paukstadt, L. H. (2009: 31) recorded *B. hearseyi* [= *loeffleri*] from Takengon (1,795 and 1,798 m), Nanggroe Aceh Darussalam Province, Sumatra, Indonesia. A record is from Borneo, Sabah, Trusmadi area, 1,150 m, cf. [www.Flickr.com](http://www.Flickr.com).

**Etymology:** *loeffleri* NAUMANN & BROSCH, 2005 was named in honor of Swen Löffler (Lichtenstein) in recognition of the good long-term cooperation with the authors.

**Type material:** the description based on the ♂ holotype by original designation ex coll. Naumann (Berlin) in ZMHU (Berlin), 1 ♀ allotype in coll. Naumann (Berlin), 7 ♂ paratypes in coll. Brosch (Hille), 5 ♂ paratypes in coll. Meister (Prenzlau), 13 ♂ 1 ♀ paratypes in coll. Naumann (Berlin), 30 ♂ 3 ♀ paratypes in coll. Löffler (Lichtenstein), and 2 ♂ 2 ♀ paratypes in coll. Senckenberg-Museum (Frankfurt am Main). All specimens were from the island of Borneo (Indonesia and Malaysia).

**Taxonomic history:** so far no changes found in literature after the original description of this species.

**Taxonomic notes:** both species of the *hearseyi*-group of the Philippines and the Bornean species look very similar. However, there are phenological tendencies that become visible in large series and, in addition, stable morphological differences in the ♂ genital structures were confirmed in the original description by Naumann & Brosch (2005).

The name *loeffleri* NAUMANN & BROSCH, 2005 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:** the ♂ holotype of *loeffleri* was figured in the original description in color dorsally (: 101, fig. 3) and the ♂ genitalia structures (: 101, fig. 6). Holloway (1987) figured the ♂ adult [likely from Borneo] in color (pl. 7, fig. 8) and the ♂ genitalia structures (aedeagus separate) (fig. 130); an early instar and the mature larva were figured in color (pl. 20, figs. 1 and 2) from Perinsular Malaysia [as *hearseyi*, = *loeffleri*]. Paukstadt, U. & Paukstadt, L. H. (2009a) figured the ♂ and ♀ adults of *B. hearseyi* [= *B. loeffleri*] (Nanggroe Aceh Darussalam Prov.) in color dorsally (: 85), dark color morph ♂ (fig. 1), yellowish morph ♂ (fig. 2), and ♀ (fig. 3), all scale 1:1; ventrally (: 87), dark color morph ♂ (fig. 4), yellowish morph ♂ (fig. 5), and ♀ (fig. 6), all scale 1:1. The circadian flight times were recorded (: 89, diagram 1), the altitudinal distribution (: 89, diagram 2), the monthly frequency (total number) (: 90, diagram 3), and the monthly frequency (average number) (: 90, diagram 4). Altitudinal observations were recorded from between 966 and 1,796 m and the circadian flight times of the ♂ adults from 19:18 till 20:01 hrs lt. Paukstadt, U. (2009: cover illustration) figured the ♂ and ♀ adults of *B. hearseyi* [= *loeffleri*] in color dorsally. Paukstadt, U. & Paukstadt, L. H. (2009b) recorded *B. (Brahmophthalma) hearseyi* [correct as *loeffleri*] from the Nanggroe Aceh Darussalam Province from altitudes from between 116 and 1796 m (: 370) and the circadian flight times from between 19:15 and 20:10 hrs lt. (: 376).

**Synonyms:** for misinterpretations see the appropriate text parts. Junior subjective synonyms, junior objective synonyms, errors and incorrect subsequent spellings for *loeffleri* NAUMANN & BROSCH, 2005 are as follows: so far nothing was found in literature.

**Hybridizations:** inter-generic and inter-specific pairings with *loeffleri* NAUMANN & BROSCH, 2005 are unknown from literature.

### Further readings on *loeffleri* NAUMANN & BROSCH, 2005

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 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, 1939 [“1938”] (Sulawesi), *B. (Brahmophthalma) naessigi* NAUMANN & BROSCH, 2005 (Philippines: Mindanao), *B. (Brahmophthalma) paukstadorum* NAUMANN & BROSCH, 2005 (Philippines: Negros [type locality], Luzon and Samar), and *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCH, 2005 (Borneo). China is occupied by more than one taxon (with uncertain status) of the *hearseyi*-group.

Holloway (1987) The Moths of Borneo, Part 3; 199 pp., 163 genitalia figs. in phot.h.-t., 20 col.-pls.; recorded *Brahmaea hearseyi* WHITE of the family Brahmaeidae from lowland to lower montane of the Himalaya to Sundaland and the Philippines (1 species) (: 194). The ♂ adult [from Borneo?] was figured in color (pl. 7, fig. 8) and the ♂ genitalia structures (aedeagus separate) (fig. 130). An early instar and mature larva was figured in color (pl. 20, figs. 1 and 2) from Peninsular Malaysia.

**Remarks:** the record of *B. (Brahmophthalma) hearseyi* WHITE, 1862 [“1861”] from the Philippines refers to *B. (Brahmophthalma) naessigi* NAUMANN & BROSCH, 2005 (Philippines: Mindanao) and *B. (Brahmophthalma) paukstadorum* NAUMANN & BROSCH, 2005 (Philippines: Negros [type locality], Luzon and Samar), and the record from Sundaland to *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCH, 2005 (Borneo, Sumatra, Peninsular Malaysia), and *B. (Brahmophthalma) ardjoeno* KALIS, 1934 (Java).

Paukstadt, U. & Paukstadt, L. H. (1990) [15.vi.1990] Ent. Z. (Essen), 100 (12): pp. 219-225, 8 figs. phot.h.-t.; provided the complete 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).

**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, since the preimaginals of other populations than those from West Sumatra were unknown.

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*. Comparisons were done with larvae of *B. ledereri* ROGENHOFER, 1973 [sic], *B. tancrei* AUSTAUT, 1896, *B. japonica* (BUTLER) [sic], *B. hearseyi* (WHITE), *B. hearseyi ardjoeno* KALIS, 1934 (sensu Nässig & Paukstadt, U. 1990).

**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 ardjoeno* 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 & BROSCHE, 2005 (Malay Peninsula, Sumatra and Borneo), *B. (Brahmophthalma) naessigi* NAUMANN & BROSCHE, 2005 (Mindanao), and *B. (Brahmophthalma) paukstatorum* NAUMANN & BROSCHE, 2005 (Negros [type locality], Luzon and Samar).

Holloway, Kibby & Pegg (2001) The families of Malesian moths and butterflies (Fauna Malesiana Handbook 3), 455 pp, 8 pls.; recorded a single species of the genus *Brahmaea* for Malesia, *B. hearseyi*, extending from the N.E. Himalayan region through S.E. Asia to Sundaland and the Philippines.

**Remarks:** the cited distribution range of *B. (Brahmophthalma) hearseyi* WHITE, 1862 ["1861"] was based on the taxonomic knowledge of the genus at the time. Today four distinct species of the *hearseyi*-group are recognized for Sundaland and the Philippines. Those are *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCHE, 2005 (Malay Peninsula, Sumatra, Borneo), *B. (Brahmophthalma) ardjoeno* KALIS, 1934 (Java), *B. (Brahmophthalma) naessigi* NAUMANN & BROSCHE, 2005 (Philippines: Mindanao), and *B. (Brahmophthalma) paukstatorum* NAUMANN & BROSCHE, 2005 (Philippines: Negros [type locality], Luzon, Samar).

Paukstadt, U. & Paukstadt, L. H. (2007a) [06.ix.2007] Beiträge zur Kenntnis der wilden Seidenspinner (Wilhelmshaven), 5 (6), pp. 255-259; recorded observations on the brahmids (Brahmaeidae) of the Indonesian province Nanggroe Aceh Darussalam, Sumatra Island: *Brahmaea (Brahmophthalma) hearseyi* WHITE, 1862 ("1861"). The record of *B. (Brahmophthalma) ardjoeno* (KALIS, 1934) [sic] for the Nanggroe Aceh Darussalam Province of Sumatra 'for the first time' was based on a lapsus [correct as: first record of *B. (Brahmophthalma) hearseyi*]. *B. hearseyi* was recorded from 1,428 m and 1,795 m in the primary rain forest of the Pusat Gayo Mts. in Aceh and the circadian flight times from 19:30 and 19:42 hrs of ♂ adults (: 258).

**Remarks:** the record of *B. (Brahmophthalma) hearseyi* WHITE, 1862 ["1861"] from Sumatra refers to *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCHE, 2005.

Paukstadt, U. & Paukstadt, L. H. (2007b) Beiträge zur Kenntnis der wilden Seidenspinner (Wilhelmshaven), 5 (6): pp. 260-277; recorded *Brahmaea (Brahmophthalma) hearseyi* WHITE, 1862 ("1861") for the Nanggroe Aceh Darussalam Province, Sumatra Island, Indonesia for the first time being. A ♂ singleton came to light in an altitude of 1,428 m (: 273).

**Remarks:** the record of *B. (Brahmophthalma) hearseyi* WHITE, 1862 ["1861"] from Sumatra refers to *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCHE, 2005.

- Koçak & Koçak (2008) [26.i.2008] Cent. Ent. Stud., Priamus Suppl. 12, pp. 1-89; presented a first attempt in preparing a comprehensive list of patronyms among the genus- and species-group names in the Lepidopterology. 5175 patronyms of the Lepidoptera were listed, including 740. *Brahmaea* (*Brahmophthalma*) *loeffleri* S. NAUMANN & BROSCHE, 2005 (Brahmaeidae) (: 18).
- Paukstadt, U. & Paukstadt, L. H. (2008) [02.vii.2008] Beiträge zur Kenntnis der wilden Seidenspinner (Wilhelmshaven), 6 (1), pp. 3-60; recorded *B. (Brahmophthalma) hearseyi* WHITE, 1862 ("1861") from Takengon (1,795-1,798 m), Nanggroe Aceh Darussalam Province, Sumatra, Indonesia (: 55).  
**Remarks:** the record of *B. (Brahmophthalma) hearseyi* WHITE, 1862 ["1861"] refers to *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCHE, 2005.
- Paukstadt, U. & Paukstadt, L. H. (2009a) [10.i.2009] Beiträge zur Kenntnis der wilden Seidenspinner (Wilhelmshaven), 7 (1): pp. 3-44; recorded *Brahmaea (Brahmophthalma) hearseyi* WHITE, 1862 ("1861") of the family Brahmaeidae SWINHOE, 1892 from Takengon (1,795 and 1,798 m), Nanggroe Aceh Darussalam Province, Sumatra, Indonesia (: 31).  
**Remarks:** the record of *B. (Brahmophthalma) hearseyi* WHITE, 1862 ["1861"] refers to *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCHE, 2005.
- Paukstadt, U. & Paukstadt, L. H. (2009b) [11.i.2009] Beiträge zur Kenntnis der wilden Seidenspinner (Wilhelmshaven), 7 (2): pp. 81-92; recorded observations on *Brahmaea (Brahmophthalma) hearseyi* WHITE, 1862 ("1861") from the Nanggroe Aceh Darussalam Province of Sumatra Island. *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCHE, 2005 (Philippines), *B. (Brahmophthalma) naessigi* NAUMANN & BROSCHE, 2005 (Philippines), and *B. (Brahmophthalma) paukstadtorum* NAUMANN & BROSCHE, 2005 (Philippines) were cited. *B. loeffleri* was erroneously recorded from the Philippines [lapsus]. Observations on *Brahmaea (Brahmophthalma) hearseyi* WHITE, 1862 ("1861") from the Nanggroe Aceh Darussalam Province of Sumatra Island were recorded. The ♂ and ♀ adults of *B. hearseyi* [= *loeffleri*] (Nanggroe Aceh Darussalam Prov.) were illustrated in color dorsally (: 85), dark color morph ♂ (fig. 1), yellowish morph ♂ (fig. 2), and ♀ (fig. 3), all scale 1:1; ventrally (: 87), dark color morph ♂ (fig. 4), yellowish morph ♂ (fig. 5), and ♀ (fig. 6), all scale 1:1. The circadian flight times were recorded (: 89, diagram 1), the altitudinal distribution (: 89, diagram 2), the monthly frequency (total number) (: 90, diagram 3), and the monthly frequency (average number) (: 90, diagram 4). Altitudinal observations were recorded from between 966 and 1,796 m and the circadian flight times of the ♂ adults from 19:18 till 2001 hrs lt.  
**Remarks:** the record, figures and observations on *B. (Brahmophthalma) hearseyi* WHITE, 1862 ["1861"] from Sumatra refer to *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCHE, 2005.
- Paukstadt, U. & Paukstadt, L. H. (2009c) [20.viii.2009] Beiträge zur Kenntnis der wilden Seidenspinner (Wilhelmshaven), 7 (3), pp. 95-148; recorded observations on *Brahmaea (Brahmophthalma) hearseyi* WHITE, 1862 ("1861") from the Nanggroe Aceh Darussalam Province of Sumatra Island. Dates, times of moonrise / moonset and approaches of *B. hearseyi* at light were recorded in Table 3b (: 121)

and the number of collected specimens in Lokop, Ise-Ise, Takengon, and Beutong in Table 4 (: 132). The by far highest number of specimens came to light near Takengon at 1,766 m.

**Remarks:** the records, figures and observations on *B. (Brahmophthalma) hearseyi* WHITE, 1862 ["1861"] from Sumatra refer to *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCHE, 2005.

Paukstade, U. (2009) [14.xii.2009] Beiträge zur Kenntnis der wilden Seidenspinner (Wilhelmshaven), 7 (8), cover illustration, figured the ♂ and ♀ adults of *Brahmaea (Brahmophthalma) hearseyi* WHITE, 1862 ("1861") in color dorsally.

**Remarks:** the figures of *B. (Brahmophthalma) hearseyi* WHITE, 1862 ["1861"] from Sumatra refer to *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCHE, 2005.

Paukstade, U. & Paukstade, L. H. (2009d) [14.xii.2009] Beiträge zur Kenntnis der wilden Seidenspinner (Wilhelmshaven), 7 (8), pp. 367-379, reported finally on the brahmids moths of the Nanggroe Aceh Darussalam Province, Sumatra, Indonesia based on observations during their three years expedition from between 2006 and 2009. The collecting sites of *B. (Brahmophthalma) hearseyi* in the Nanggroe Aceh Darussalam Province of Sumatra were shown in Map 1 (: 372) and the biotope labels in Table 1 (: 371). The observation periods in the years 2006 to 2009 were shown in Diagram 1, the number of collecting nights in Diagram 2, and the average number of specimens at light in Diagram 3 (: 373). Diagram 4 (: 374) indicated that *B. (Brahmophthalma) hearseyi* was rare in the alluvial lowlands but might prefer middle high elevations around 1,000 up to 1,500 m. The annual frequency was demonstrated in Diagram 5 for Aceh and Diagram 6 for Sumatra; the altitudinal distribution was shown in Diagram 7 for Aceh and Diagram 8 for Sumatra (: 375). The circadian flight times for Aceh were demonstrated in Diagram 9 for the ♂ and Diagram 10 for the ♀; the adults were on the wings from between 19:15 and 20:10 hrs lt. (: 376). A single ♂ was observed in the alluvial lowlands (116 m) at 03:46 hrs lt. The authors noted that the ♂ genitalia structures of the Javanese *B. (Brahmophthalma) ardjoeno* (KALIS, 1934) [sic] are quite different from those of Sumatra and Borneo.

**Remarks:** the data of *B. (Brahmophthalma) hearseyi* WHITE, 1862 ["1861"] from Sumatra refer to *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCHE, 2005.

Paukstade, U. & Paukstade, L. H. (2015b) [14.i.2015] Beiträge zur Kenntnis der wilden Seidenspinner (Wilhelmshaven), 13 (3), pp. 99-148; noted in 'A Preliminary Annotated Checklist of the Indonesian Wild Silkmoths – Part IX. The genus *Loepa* MOORE, 1859: Part 3, evaluation of literature for the period of Fletcher & Nye in Nye (1982) to today' that Paukstade, U. & Paukstade, L. H. (2009: 81-92) compared the circadian flight times of *Loepa sumatrana* NÄSSIG, LAMPE & KÄGER, 1989 (Saturniidae) with *Brahmaea hearseyi* WHITE, 1862 ("1861") (Brahmaeidae) from the Nanggroe Aceh Darussalam Province. Both species were observed approaching to light just after sunset (: 133).

**Remarks:** the data of *B. (Brahmophthalma) hearseyi* WHITE, 1862 ["1861"] from Sumatra refer to *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCHE, 2005.

Paukstade, U. & Paukstade, L. H. (2015c) [16.i.2015] Beiträge zur Kenntnis der wilden Seidenspinner (Wilhelmshaven), 13 (5): pp. 211-264; reported in 'A

Preliminary Annotated Checklist of the Indonesian Wild Silkmoths – Part IX. The genus *Loepa* MOORE, 1859: Part 5, the *sikkima*-subgroup of the *katinka*-group' that Paukstadt, U. & Paukstadt, L. H. (2009: 81-92) compared the circadian flight times of *Loepa sumatrana* NÄSSIG, LAMPE & KAGER, 1989 (Saturniidae) with *Brahmaea hearseyi* WHITE, 1862 ("1861") (Brahmaeidae) from the Nanggroe Aceh Darussalam Province. Both species were observed approaching to light just after sunset (: 221).

**Remarks:** the data of *B. (Brahmophthalma) hearseyi* WHITE, 1862 ["1861"] from Sumatra refer to *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCHE, 2005.

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

Kitching, Rougerie, Zwick, Hamilton, St Laurent, Naumann, Ballesteros Mejia & Kawahara (2018) A global checklist of the Bombycoidea (Insecta: Lepidoptera); published online 2018 Feb 12. doi: 10.3897/BDJ.6.e 22236; listed the name *loeffleri* NAUMANN & BROSCHE, 2005 as species of the *Brahmaea (Brahmophthalma)*.

Mishra & Smetacek (2019) [xii.2019] Bionotes, Vol. 21 (4), Dec. 2019, p. 171; recorded *Brahmea* [sic] *hearseyi* WHITE, 1862 from India, Taptapani, Ganjam district, Odisha, 550 m (: 171). The authors noted that the Himalayan species *Brahmea* [sic] *hearseyi* WHITE, 1862 occurs at lower elevation and *B. wallichii* [sic] (GRAY, 1831) occurs at slightly higher elevation in forests of *Quercus* in

India. The distribution range of *B. hearseyi* was recorded as follows: from Uttarakhand, 1,500 m elevation (Smetacek 2008) along the Himalaya to the N.E. Himalaya, W. China, Myanmar, Sundaland, and the Philippines (Holloway 1987). In Borneo it is a lowland species, ascending hills to 1,200 m elevation (Holloway 1987).

**Remarks:** *Quercus* is not the natural food plant for taxa of the genus *Brahmaea* WALKER, 1855. However, the natural food plants usually occur in mixed forests together with *Quercus* species.

The records of *B. (Brahmophthalma) hearseyi* WHITE, 1862 [“1861”] based on more than one taxon of the *hearseyi*-group (sensu Paukstadt & Paukstadt 2021). Those were *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCHE, 2005 from the Malay Peninsula, Sumatra and Borneo, *B. (Brahmophthalma) ardjoeno* KALIS, 1934 from Java, *B. (Brahmophthalma) paukstadtorum* NAUMANN & BROSCHE, 2005 from Negros [type locality], Luzon and Samar, Philippines and *B. (Brahmophthalma) naessigi* NAUMANN & BROSCHE, 2005 from Mindanao, Philippines.

Kishida in Kishida (ed.) (2020) Moths of Laos, Part I, p. 98, pl. 40 fig. 4; recorded the distribution range of *Brahmaea hearseyi* WHITE, 1861 [sic] (Brahmaeidae) from India, Nepal, Myanmar, Laos, Sundaland, and China.

**Remarks:** the record of *B. (Brahmophthalma) hearseyi* WHITE, 1862 [“1861”] from Sundaland refers to *B. (Brahmophthalma) loeffleri* NAUMANN & BROSCHE, 2005 (Peninsular Malaysia, Sumatra and Borneo) and *B. (Brahmophthalma) ardjoeno* KALIS, 1934 (Java), and the record from China can refer to a Chinese species closely related with *B. (Brahmophthalma) hearseyi* WHITE, 1862 [“1861”].

**Remarks:** the taxonomic status of the following Chinese taxa of the *hearseyi*-group (sensu Paukstadt & Paukstadt 2021) is considered to be insufficiently studied so far. We will therefore list the species here, but believe that further taxonomic studies are necessary. The following Chinese species could also be morphs of the polymorphic species *B. (Brahmophthalma) hearseyi* WHITE, 1862 [“1861”]. On the other hand, it would be worth considering whether *B. (Brahmophthalma) hearseyi* might be restricted to India and Continental Southeast Asia north of the Isthmus of Kra. Since the populations of the *hearseyi*-group of the Malay Peninsula and the Malay Archipelago alone belong to five distinct species as presently recognized (mainly based on DNA barcoding by BOLD), the Chinese populations could also belong to distinct taxa for zoogeographical reasons. In this case, however, *B. (Brahmophthalma) hearseyi* is unlikely to occur widely in China. The information / citations provided here on the following three Chinese taxa must be regarded as provisional. So the following chapters only reflect the current state of knowledge.



***panmacula* (ZHANG & HANG, 1996) (*Brahmidia*)**

**Remarks:** the 1996-publication was not found so far. This publication date can be an error by Zhang, Hao & Yang (1999) Journal of China Agricultural University, 1999, 4 (5), pp. 37-42, who cited *Bth.* [*Brahmophthalma*] *sinica* ZHANG et HANG, 1996 and *Bm.* [*Brahmidia*] *panmacula* ZHANG et HANG, 1996 (: 41). The name *Brahmophthalma sinica* was published validly by Hao Huiling, Zhang Xiurong & Yang Jikun (1998) in the Journal of Jilin Forestry University, Vol. 14 (3), pp. [155]-156 and a re-description of *Brahmophthalma sinica* was published by Hao Hui-Ling, Zhang Liu-Rong & Yang Chi-Kum (2000) in the Acta Zootaxonomica Sinica, Vol. 25, No. 1, 2000, pp. 90-93. It seems highly unlikely that a further older (third) valid description of this taxon exists, but it cannot be ruled out with certainty at the time present. Further studies on this matter are in progress.

***panmacula* (HAO, ZHANG & YANG, 1998) (*Brahmidia*)**

**Original citation and spelling:** *Brahmidia panmacula*, sp. nov.

**Original description:** Hao Huiling, Zhang Xiurong & Yang Jikun (1998): Two new Species of Brahmaeisae [sic] from China (Lepidoptera: Brahmaeidae). – Journal of Jilin Forestry University, [July] 1998, (3): pp. [155]-156, 2 [8] figs.

Zhang, Hao & Yang (1999: 41) cited *Bm.* [*Brahmidia*] *panmacula* ZHANG & HANG, 1996.

Hao, Zhang & Yang (2002: 55) cited *Brahmophthlma* [sic] *sinica* ZHANG & HAO but in the “References” Hao, Zhang & Yang (1998), 14 (3): pp. 155-156, was listed [in Chinese].

**Remarks:** the 1996-publication was not found so far. This publication date can be an error by Zhang, Hao & Yang (1999) Journal of China Agricultural University, 1999, 4 (5), pp. 37-42; who cited *Bth.* [*Brahmophthalma*] *sinica* ZHANG et HANG, 1996 and *Bm.* [*Brahmidia*] *panmacula* ZHANG et HANG, 1996 (: 41).

**Type locality:** [in Chinese] China, Fanjing Mountain, Guizhou.

**Geographical and altitudinal distribution:** so far only known from the type locality, China, Guizhou Province, no altitudinal record in the original description provided.

**Etymology:** not mentioned in the original description but the name might somehow pointing to the pattern morphology of the type specimen.

**Type material:** [in Chinese] the description most likely based on the ♂ holotype by original designation only, with the collecting date August

14, 1988, collected by unknown persons. The type specimen was recorded being preserved in the Insect Specimen Room, Department of Plant Protection of the PLA University of Agricultural and Animal Sciences, Changchun, Jilin 130062, China. The type locality, further collecting data, and the sizes of the holotype almost agree with the holotype of *B. (Brahmophthalma) totimacula* (HAO, ZHANG & YANG, 2000) described by the same authors later.

**Taxonomic history:** this taxon did remain in the family Brahmaeidae SWINHOE, 1892 since the original description, but was transferred from the genus *Brahmidia* BRYK, 1949 to the subgenus *Brahmophthalma* MELL, 1928.

**Taxonomic notes:** the taxonomic status of *Brahmaea (Brahmophthalma) panmacula* (Hao, ZHANG & YANG, 1998) (*Brahmidia*) needs confirmation as part of a generic revision. At the time being we cannot rule out with certainty that two “original descriptions” of this taxon were published in 1996 and 1998 with different combinations of authors. *Brahmaea (Brahmophthalma) panmacula* (Hao, ZHANG & YANG, 1998) (*Brahmidia*) is considered to be a senior objective synonym of *B. (Brahmophthalma) totimacula* (Hao, ZHANG & YANG, 2000) (*Brahmidia*) **syn. nov.**

The name *panmacula* (ZHANG & HANG, 1996) 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.

**Remarks:** the appropriate description of *B. (Brahmophthalma) panmacula* (ZHANG & HANG, 1996) as cited in “A global checklist of the Bombycoidea (Insecta: Lepidoptera)” was not found so far.

**General notes:** *Brakmidia* [sic] *panmacula* HAO, ZHANG & YANG, 1998 was illustrated in the original description (fig. 1) dorsally (fig. [1.13] and ventrally (fig. [1.14]), as well as details of the ♂ genitalia structures, uncus (fig. [1.11] and valva (fig. [1.12]). In the copy which is in our hands the illustrations are completely scrambled and cannot read.

**Synonyms:** for misinterpretations see the appropriate text parts. Junior subjective synonyms, junior objective synonyms, errors and incorrect subsequent spellings for *panmacula* (HAO, ZHANG & YANG, 1998) are as follows:

*panmacula* (ZHANG & HANG, 1996); uncertain status / identity / error?

*totimacula* (HAO, ZHANG & YANG, 2000); junior objective synonym

**Hybridizations:** inter-generic and inter-specific pairings with *panmacula* (HAO, ZHANG & YANG, 1998) are unknown from literature.

**Further readings on *panmacula* (HAO, ZHANG & YANG, 1998)**

Zhang & Hang (1996) the appropriate publication was not found so far.

Hao, Zhang & Yang (1998) Journal of Jilin Forestry University, 1998 (3), pp. [155]-156, described the new species *Brahmidia panmacula* and *Brahmophthalma sinica*. *Brakmidia* [sic] *panmacula* was illustrated (fig. 1) dorsally (fig. [1.]3) and ventrally (fig. [1.]4), as well as details of the ♂ genitalia structures, uncus (fig. [1.]1) and valva (fig. [1.]2). The type specimens were recorded being preserved in the Insect Specimen Room, Department of Plant Protection of the University of Agriculture and Animal Sciences.

Zhang, Hao & Yang (1999) J. China Agricult. Univers., 1999, 4 (5), pp. 37-42; presented an overview on the Chinese brahmids. The authors recognized four genera in the family Brahmaeidae of China. One of those has been the genus *Brahmidia* BRYK, 1949 with the species *Brahmidia hearseyi* (WHITE), 1861 [sic] and *Bm.* [*Brahmidia*] *panmacula* ZHANG & HANG, 1996.

**Remarks:** *Brahmidia* BRYK, 1949 is a junior synonym of *Brahmophthalma* MELL, 1928. The paper on *Brahmidia panmacula* ZHANG & HANG, 1996 was not found so far.

Kitching, Rougerie, Zwick, Hamilton, St Laurent, Naumann, Ballesteros Mejia & Kawahara (2018) A global checklist of the Bombycoidea (Insecta: Lepidoptera); published online 2018 Feb 12. doi: 10.3897/BDJ.6.e 22236; listed the name *panmacula* (ZHANG & HANG, 1996) as species of the *Brahmaea* (*Brahmophthalma*).

**Remarks:** the paper on *B. (Brahmophthalma) panmacula* (ZHANG & HANG, 1996) was not found so far.

***totimacula* (HAO, ZHANG & YANG, 2000) (*Brahmidia*)**

[junior objective synonym, **syn. nov.**]

**Original citation and spelling:** *Brahmidia totimacula* sp. nov.

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

**Type locality:** [China,] Guizhou Province, Mt. Fanjing (27.8°N 108.7°E).

**Geographical and altitudinal distribution:** thus far only reported from the holotype: Guizhou Province, P. R. China.

**Etymology:** not mentioned in the original description but might somehow pointing to the pattern morphology of the ♂ holotype.

**Type material:** the description most likely based on the ♂ holotype by original designation only. The holotype was figured in the original description (: 90, figs. 1-4). The holotype was confirmed being preserved in the PLA University of Agricultural and Animal Sciences, Changchun, Jilin 130062, China. The type locality, further collecting data, and the sizes of the holotype almost agree with the description of the holotype of *Brahmidia panmacula* HAO, ZHANG & YANG, 1998.

**Taxonomic history:** this taxon did remain in the family Brahmaeidae SWINHOE, 1892 from the beginning, but was transferred from the genus *Brahmidia* BRYK, 1949 to *Brahmaea* (*Brahmophthalma*).

**Taxonomic notes:** *totimacula* HAO, ZHANG & YANG, 2000 was originally described in the genus *Brahmidia* BRYK, 1949.

The name *totimacula* (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.

We herewith downgrade *Brahmidia totimacula* HAO, ZHANG & YANG, 2000 as **syn. nov.** of *Brahmidia panmacula* HAO, ZHANG & YANG, 1998. *B. (Brahmophthalma) totimacula* (HAO, ZHANG & YANG, 2000) **syn. nov.** is an almost identical re-description of *B. (Brahmophthalma) panmacula* (HAO, ZHANG & YANG, 1998) with different species name.

**General notes:** HAO, ZHANG & YANG (2000: 90) figured the ♂ holotype dorsally (fig. 3) and ventrally (fig. 4), as well as details of the ♂ genitalia structures, uncus (fig. 1) and valva (fig. 2).

**Synonyms:** for misinterpretations see the appropriate text parts. Junior subjective synonyms, junior objective synonyms, errors and incorrect subsequent spellings for *totimacula* (HAO, ZHANG & YANG, 2000) are as follows:

*panmacula* (HAO, ZHANG & YANG, 1998) (*Brahmidia*); senior objective synonym

**Hybridizations:** inter-generic and inter-specific pairings with *totimacula* (HAO, ZHANG & YANG, 2000) are unknown from literature.

### **Further readings on *totimacula* (HAO, ZHANG & YANG, 2000)**

Hao, Zhang & Yang (2000) Acta Zootaxonomica Sinica; Vol. 25, No. 1, 2000: pp. 90-93, placed *Brahmidia hearseyi* (WHITE) [sensu Bryk 1949: Archiv Für Zoologie, 41 (A) 1, pp. 20-26] and the new species *Brahmidia totimacula* HAO, ZHANG & YANG, 2000 in the genus *Brahmidia* BRYK, 1949.

**Remarks:** at the time being *Brahmidia* BRYK, 1949 is recognized as junior synonym of *Brahmophthalma* MELL, 1928. *B. (Brahmophthalma) totimacula* (HAO, ZHANG & YANG,

2000) is a new junior objective synonym of *B. (Brahmophthalma) panmacula* (HAO, ZHANG & YANG, 1998).

Wu (2017) *The Marvelous Moths of China*, 403 pp.; noted (: 272) that China has four genera in the family Brahmaeidae. Those were *Brahmaea*, *Brachygatha* [sic], *Brahmophthlma* [sic], and finally *Brahmidia* with its species *dayaoshansis* [sic] [see “Remarks” below], *hearseyi* (WHITE, 1861 [sic]), *polymehntas* (HAO ZHANG & YANG, 2002) [sic], and *totimacula* (ZHANG HANG [sic] & YANG, 2000) [sic] (: 272).

**Remarks:** *Brahmidia* ‡*dayaoshansis* WU (2017) is considered to be a *nomen nudum*. *Brahmaea* WALKER, 1855 and *Brahmophthalma* MELL, 1928 are subgenera of *Brahmaea* WALKER, 1855. *Brachygnatha* ZHANG & YANG, 1993 is a junior synonym of *Brahmaea* WALKER, 1855 and *Brahmidia* BRYK, 1949 is a junior synonym of *Brahmophthalma* MELL, 1928. *Calliprogonos* MELL, 1937 from China was omitted by the author.

*B. (Brahmophthalma) totimacula* (HAO, ZHANG & YANG, 2000) (*Brahmidia*) is a new junior objective synonym of *B. (Brahmophthalma) panmacula* (HAO, ZHANG & YANG, 1998) (*Brahmidia*).

Kitching, Rougerie, Zwick, Hamilton, St Laurent, Naumann, Ballesteros Mejia & Kawahara (2018) A global checklist of the Bombycoidea (Insecta: Lepidoptera); published online 2018 Feb 12. doi: 10.3897/BDJ.6.e 22236; listed the name *totimacula* (HAO, ZHANG & YANG, 2000) as species of *Brahmaea (Brahmophthalma)*.

**Remarks:** *B. (Brahmophthalma) totimacula* (HAO, ZHANG & YANG, 2000) (*Brahmidia*) is considered to be a new junior objective synonym of *B. (Brahmophthalma) panmacula* (HAO, ZHANG & YANG, 1998) (*Brahmidia*).

## ***polymehntas* (HAO, ZHANG & YANG, 2002) (*Brahmidia*)**

**Original citation and spelling:** *Brahmidia polymehntas* 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 (Suppl.): pp. 53-55; 8 figs. (col. figs. / line drawings).

**Type locality:** Mt. Tianmu, Zhejiang Province, [China]

**Geographical and altitudinal distribution:** so far known from the type locality the Zhejiang Province of China; no altitudinal distribution recorded. Wu (2017: 282) recorded *polymehntas* from the southern provinces of China, and from Yunnan only from the region south of Kunming. Wu (2017) recorded *B. (Brahmophthalma) hearseyi* WHITE, 1862 [“1861”] and *B. (Brahmophthalma) polymehntas* (HAO, ZHANG & YANG, 2002) sympatric in the same regions [unlikely rather].

**Etymology:** not explicitly mentioned in the English Appendix and cannot concluded from the English text. Concluded from the Chinese text

(translation) the name is pointing to the numerous wavy lines which are part of the pattern of the wings.

**Type material:** the description was based on a single ♂ holotype by original designation which has been collected by En-You Huang. All type specimens were reported being deposited in the Insect Collections 'Department of Plant Protection' PLA University of Agricultural and Animal Sciences.

**Taxonomic history:** this taxon did remain in the family Brahmaeidae SWINHOE, 1892 since the original description, but was transferred from the genus *Brahmidia* BRYK, 1949 to *Brahmaea* (*Brahmophthalma*).

**Taxonomic notes:** *B. (Brahmophthalma) polymehntas* (HAO, ZHANG & YANG, 2002) is almost similar *B. (Brahmophthalma) hearseyi* WHITE, 1862 ["1861"] in external morphology.

The name *polymehntas* (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.e22236.

**General notes:** in the original description the ♂ holotype was figured in color dorsally (: 54, fig. 3) and ventrally (: 54, fig. 4), and the ♂ genitalia structures (line drawings, incomplete): valva (: 54, fig. 1) and uncus (: 54, fig. 2). Wu (2017) figured the ♂ and ♀ adults in color dorsally and ventrally (: 278, 280, 282) and the complete preimaginal instars (: 279, 281) (e.g., eggs, 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, and 5<sup>th</sup> larval instars, mature larva after discoloration to orange, fresh and old pupae).

**Synonyms:** for misinterpretations see the appropriate text parts. Junior subjective synonyms, junior objective synonyms, errors and incorrect subsequent spellings for *polymehntas* HAO, ZHANG & YANG, 2002 are as follows: so far unavailable from literature.

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

### **Further readings on *polymehntas* (HAO, ZHANG & YANG, 2002)**

Hao, Zhang & Yang (2002) Acta Entomologica Sinica, 2002, 45 (Suppl.), pp. 53-55, compared the new species *Brahmidia polymehntas* with *B.[rahmidia] hearseyi* (WHITE) (: 53). *Brahmidia polymehntas* was figured in color dorsally (: 54, fig. 3) and ventrally (: 54, fig. 4), the ♂ genitalia structures were partly figured (: 54, figs. 1-2). [Text Chinese with short English abstracts]

Wu (2017) The Marvelous Moths of China, 403 pp.; noted (: 272) that China has four genera in the family Brahmaeidae. Those are *Brahmaea*, *Brachygatha* [sic],

*Brahmophthlma* [sic] with its species *litsera* (HAO ZHANG & YANG, 2002) [sic], and finally *Brahmidia* with its species *dayaoshansis* [sic] [see “Remarks” below], *hearseyi* (WHITE, 1861 [sic]), *polymehntas* (HAO ZHANG & YANG, 2002) [sic], and *totimacula* (ZHANG HANG & YANG, 2000) [sic] (: 272). Records for *polymehntas* (: 282) were from the southern provinces of China, and from Yunnan the region south of Kunming only. The ♂ and ♀ adults were illustrated in color dorsally and ventrally (: 278, 280, 282) as well as the complete preimaginal instars (: 279, 281). **Remarks:** *Brahmidia* ‡*dayaoshansis* WU (2017) is considered to be a *nomen nudum*. *Brahmaea* WALKER, 1855 and *Brahmophthalma* MELL, 1928 are subgenera of *Brahmaea* WALKER, 1855. *Brachygnatha* ZHANG & YANG, 1993 is a junior synonym of *Brahmaea* WALKER, 1855 and *Brahmidia* BRYK, 1949 is a junior synonym of *Brahmophthalma* MELL, 1928. *Calliprogonos* MELL, 1937 from China was omitted by the author.

Kitching, Rougerie, Zwick, Hamilton, St Laurent, Naumann, Ballesteros Mejia & Kawahara (2018) A global checklist of the Bombycoidea (Insecta: Lepidoptera); published online 2018 Feb 12. doi: 10.3897/BDJ.6.e 22236; listed the name *polymehntas* (HAO, ZHANG & YANG, 2002) as species of *Brahmaea* (*Brahmophthalma*).

### ‡*dayaoshansis* WU, 2017 (*Brahmidia*) [*nomen nudum*]

Wu (2017) The Marvelous Moths of China, 403 pp.; noted (: 272) that China has four genera in the family Brahmaeidae. Those were *Brahmaea* with its species *goniata* (ZHANG & YANG, 1994) [sic], *porphyria* (CHUO [sic] & WANG, 1977) [sic], *recta* (YANG & ZHANG, 1994) [sic], and *separata* (YANG & ZHANG, 1994) [sic], *Brachygatha* [sic] with its species *diastemata* (ZHANG & YANG, 1993) [sic], *christophi* (STAUDINGER, 1853 [sic]), *jilinneus* [sic] (ZHANG, 1988), and *ledereri* (ROGENHOFER, 1873), *Brahmophthlma* [sic] with its species *litsera* (HAO ZHANG [sic] & YANG, 2002) [sic], *sinica* (ZHANG HANG [sic] & YANG [sic], 2000) [sic], and *wallichii* (GRAY, 1949 [sic]) [sic], and finally *Brahmidia* with its species *dayaoshansis* [sic] [see “Remarks” below], *hearseyi* (WHITE, 1861 [sic]), *polymehntas* (HAO ZHANG [sic] & YANG, 2002) [sic], and *totimacula* (ZHANG HANG [sic] & YANG [sic], 2000) [sic] (: 272).

**Remarks:** *Brahmidia* ‡*dayaoshansis* WU, 2017 is considered to be a *nomen nudum*. *B. (Brahmaea) porphyria* CHU & WANG, 1977 is a junior subjective synonym of *B. (Brahmaea) certhia* (FABRICIUS, 1793). *Brahmaea* WALKER, 1855 and *Brahmophthalma* MELL, 1928 are subgenera of *Brahmaea* WALKER, 1855. *Brachygnatha* ZHANG & YANG, 1993 is a junior synonym of *Brahmaea* WALKER, 1855 and *Brahmidia* BRYK, 1949 is a junior synonym of *Brahmophthalma* MELL, 1928. *B. (Brahmophthalma) totimacula* (HAO, ZHANG & YANG, 2000) is an almost identical re-description of *B. (Brahmophthalma) panmacula* (HAO, ZHANG & YANG, 1998), therefore *totimacula* (HAO, ZHANG & YANG,

2000) represents a junior objective synonym. *Calliprogonos* MELL, 1937 from China was omitted by the author.

Kitching, Rougerie, Zwick, Hamilton, St Laurent, Naumann, Ballesteros Mejia & Kawahara (2018) A global checklist of the Bombycoidea (Insecta: Lepidoptera); published online 2018 Feb 12. doi: 10.3897/BDJ.6.e 22236; did not include the name ‡*dayaoshansis* WU, 2017 within *Brahmaea* (*Brahmophthalma*).

Concluded from the name “*dayaoshansis*” the specimen on which the name was based has been from the Dayaoshan National Nature Reserve in the Guangxi Zhuang Autonomous Region of China.

### ‡*dayaosbansis* [anonymous], 2021 (*Brahmidia*)

[*nomen nudum*, not considered published]

**Remarks:** “Published”: 2021-06-06 03:38:57 / see shengquian001.com.

Unfortunately there is no further information available at the time being. This can be a misspelling of ‡*dayaoshansis* WU, 2017 rather. Both names, ‡*dayaoshansis* and ‡*dayaosbansis* appear in the WorldWideWeb in Chinese papers / websites occasionally. Further studies on the source of this name are considered needed.

Anonymous (2021) cited 没有加在里面 Méiyǒu jiā zài lǐmiàn = Chinese, not included. So the anonymous author [name in Chinese] explicitly excluded this (misspelled?) name from his list.

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

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Artikel/Article: [A Preliminary Annotated Checklist of the Brahmaeidae of the World – Part IIB. Further taxa of the hearseyi-group of the subgenus Brahmophthalma MELL, 1928 \(Lepidoptera: Brahmaeidae\) 171-210](#)