

Subspecies Catalogue of the Butterflies of India (Pieridae)

A Synopsis

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Family PAPILIONIDAE

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Errata

The correct spelling for the *Parnassius* species listed as *hannynngtoni* on page 8 is *Parnassius hunnyngtoni* Avinov, 1916. The spelling *hannynngtoni* was introduced by Avinov in 1920 but despite not being Code compliant some modern authors have followed this spelling.

A comma should also be placed between author name and year for all the *Parnassius* species listed.

—Adam Cotton.

Family PIERIDAE

Subfamily COLIADINAE

(1) Genus *Catopsilia* Hübner, 1819

1. *C. pomona* (Fabricius, 1775) - Throughout India.
2. *C. pyranthe* (Linnaeus, 1758) - Throughout India.

(2) Genus *Dercas* Doubleday, 1847

1. *D. verhuelli* (van der Hoeven, 1839)
 - i. *D. v. doubledayi* Moore, 1905 - Assam, Arunachal Pradesh, Manipur, Meghalaya, Nagaland, Sikkim, W. Bengal.
2. *D. lycorias* (Doubleday, 1842) - Arunachal Pradesh, Nagaland, Manipur, Meghalaya, Sikkim, W. Bengal.

(3) Genus *Gonepteryx* Leach, 1815

1. *G. rhamni* (Linnaeus, 1758)
 - i. *G. r. nepalensis* Doubleday, 1847 - Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Sikkim,

Uttarakhand, W. Bengal.

2. *G. chitralensis* (Moore, 1905) - Himachal Pradesh, Jammu & Kashmir.

3. *G. mahaguru* (Gistel, 1857)

- i. *G. m. mahaguru* (Gistel, 1857) - Himachal Pradesh, Jammu & Kashmir, Uttarakhand.

(4) Genus *Gandaca* Moore, 1906

1. *G. harina* (Horsfield, 1829)

- i. *G. h. assamica* Moore, 1906 - Assam, Arunachal Pradesh, Manipur, Meghalaya, Nagaland, Sikkim, W. Bengal.
- ii. *G. h. andamana* Moore, 1906 - Andaman Is.
- iii. *G. h. nicobarica* Evans, 1932 - Nicobar Is.

(5) Genus *Eurema* Hübner, 1819

1. *E. brigitta* (Stoll, 1780)

- i. *E. b. rubella* Wallace, 1867 - Throughout India, Andaman and Nicobar Is., ascending the Himalaya to over 2000m elevation.

2. *E. herla* Macleay, 1826

- i. *E. h. laeta* Boisduval, 1836 - Throughout India, west of Sikkim and West Bengal.
- ii. *E. h. sikkima* Moore, 1906 - Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, West Bengal.

3. *E. blanda* Boisduval, 1836

- i. *E. b. silhetana* Wallace, 1867 - Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, Uttarakhand, W. Bengal.
- ii. *E. b. moorei* Butler, 1886 - N. & C. Nicobar Is.

- iii. *E. b. grisea* (Evans, 1932) - S. Nicobar Is.
 iv. *E. b. davidsoni* Moore, 1906 - Goa, Gujarat, Karnataka, Kerala, Maharashtra, Tamil Nadu.
 v. *E. b. roepstorffi* Moore, 1907 - Andaman Is.
4. *E. hecabe* (Linnaeus, 1758)
 i. *E. h. hecabe* (Linnaeus, 1758) - Throughout India, including the Andaman and Nicobar Islands.
5. *E. andersoni* Moore, 1886
 i. *E. a. evansi* Corbet & Pendlebury, 1932 - S. Andaman Is.
 ii. *E. a. jordani* Corbet & Pendlebury, 1932 - Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, West Bengal.
 iii. *E. a. shimai* Yata & Gaonkar, 1999 - Karnataka, Kerala, Tamil Nadu.
6. *E. nilgiriensis* Yata, 1990 - Karnataka, Kerala, Tamil Nadu.
7. *E. simulatrix* Semper, 1891
 i. *E. s. sarinoides* Frühstorfer, 1910 - Sikkim.
 ii. *E. s. grandis* (Moore, 1907) - Meghalaya.
- (6) Genus *Colias* Fabricius, 1807
 1. *C. thrasibulus* Frühstorfer, 1910
 i. *C. t. thrasibulus* Frühstorfer, 1910 - Jammu & Kashmir.
2. *C. ladakensis* Felder & Felder, 1865 - Himachal Pradesh, Jammu & Kashmir, Uttarakhand.
3. *C. stoliczkana* Moore, 1878
 i. *C. s. stoliczkana* Moore, 1878 - Jammu & Kashmir.
 ii. *C. s. miranda* Frühstorfer, 1903 - Sikkim.
4. *C. erate* (Esper, 1805) - Himachal Pradesh, Jammu & Kashmir, Uttarakhand.
5. *C. nilagiriensis* Felder & Felder, 1859 - Kerala, Tamil Nadu.
6. *C. eogene* Felder & Felder, 1865
 i. *C. e. eogene* Felder & Felder, 1865 - Himachal Pradesh, Jammu & Kashmir, Uttarakhand.
7. *C. leechi* Grum-Grshimailo, 1893 - Jammu & Kashmir.
8. *C. fieldi* Menétriés, 1855 - Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir, Manipur, Meghalaya, Nagaland, Sikkim, Uttarakhand, West Bengal.
- Subfamily PIERINAE**
Tribe PIERINI
- (1) Genus *Leptosia* Hübner, 1818
 1. *L. nina* (Fabricius, 1793)
 i. *L. n. nina* (Fabricius, 1793) - Throughout India east of Uttarakhand, including the Andaman Islands.
 ii. *L. n. nicobarica* Doherty, 1886 - S. Nicobar Islands.
- (2) Genus *Baltia* Moore, 1878
 1. *B. shawii* (Bates, 1873)
- i. *B. s. shawii* (Bates, 1873) - Jammu & Kashmir.
2. *B. butleri* Moore, 1882
 i. *B. b. butleri* Moore, 1882 - Jammu & Kashmir, Himachal Pradesh, Uttarakhand.
 ii. *B. b. sikkima* Frühstorfer, 1903 - Sikkim.
- (3) Genus *Mesapia* Gray, 1856
 1. *M. peloria* (Hewitson, [1856]) - Uttarakhand.
- (4) Genus *Aporia* Hübner, 1819
 1. *A. leucodice* (Eversmann, 1843)
 i. *A. l. balucha* Marshall, 1882 - Jammu & Kashmir.
 2. *A. soracta* Moore, 1857
 i. *A. s. soracta* Moore, 1857 - Jammu & Kashmir, Himachal Pradesh, Uttarakhand.
 ii. *A. s. sara* Evans, 1932 - Uttarakhand.
3. *A. nabellica* (Boisduval, 1836)
 i. *A. n. nabellica* (Boisduval, 1836) - Jammu & Kashmir, Himachal Pradesh, Uttarakhand.
4. *A. agathon* (Gray, 1831)
 i. *A. a. agathon* (Gray, 1831) - Arunachal Pradesh, Meghalaya, Nagaland, Sikkim, W. Bengal.
 ii. *A. a. caphusa* (Moore, 1872) - Uttarakhand.
 iii. *A. a. phryxe* (Boisduval, 1836) - Jammu & Kashmir, Himachal Pradesh, Uttarakhand.
- (5) Genus *Pieris* Schrank, 1801
 1. *P. brassicae* (Linnaeus, 1758)
 i. *P. b. nepalensis* Gray, 1846 - Arunachal Pradesh, Assam, Bihar, Himachal Pradesh, Jammu & Kashmir, Manipur, Meghalaya, Mizoram, Nagaland, New Delhi, Punjab, Sikkim, Tripura, Uttar Pradesh, Uttarakhand, W. Bengal.
 2. *P. deota* (de Nicéville, 1884) - Jammu & Kashmir.
 3. *P. canidia* (Sparrman, 1768)
 i. *P. c. canis* Evans, 1912 - Kerala, Tamil Nadu.
 ii. *P. c. indica* Evans, 1926 - Arunachal Pradesh, Assam, Himachal Pradesh, Jammu & Kashmir, Manipur, Meghalaya, Mizoram, Nagaland, New Delhi, Punjab, Sikkim, Uttar Pradesh, Uttarakhand, W. Bengal.
4. *P. krueperi* Staudinger, 1860
 i. *P. k. devta* (de Nicéville, 1886) - Jammu & Kashmir.
5. *P. ajaka* Moore, 1865 - Himachal Pradesh, Jammu & Kashmir, Uttarakhand.
6. *P. melete* Menétriés, 1857
 i. *P. m. melaina* Röber, 1907 - Arunachal Pradesh, Nagaland, Sikkim.
7. *P. dubernardi* Oberthür, 1884
 i. *P. d. chumbiensis* de Nicéville, 1897 - Sikkim.
8. *P. rapae* (Linnaeus, 1758)
 i. *P. r. iranica* Le Cerf, 1913 - Jammu & Kashmir.
- (6) Genus *Talbotia* Bernardi, 1958

1. *T. naganum* (Moore, 1884)
 - i. *T. n. naganum* (Moore, 1884) - Nagaland.
- (7) Genus *Pontia* Fabricius, 1807
 1. *P. callidice* (Hübner, [1800])
 - i. *P. c. kalora* Moore, 1865 - Himachal Pradesh, Jammu & Kashmir, Uttarakhand.
 2. *P. daplidice* (Linnaeus, 1758)
 - i. *P. d. moorei* Röber, 1907 - Assam, Himachal Pradesh, Jammu & Kashmir, Manipur, Sikkim, Uttarakhand, West Bengal.
 3. *P. glauconome* Klug, 1829 Uttarakhand (vagrant).
- (8) Genus *Pontieuchloia* Verity, 1929
 1. *P. chloridice* (Hübner, [1803-18])
 - i. *P. c. alpina* (Verity, 1911) - Himachal Pradesh, Jammu & Kashmir, Uttarakhand.
- (9) Genus *Ixias* Hübner, [1819]
 1. *I. marianne* (Cramer, [1779]) - Andhra Pradesh, Bihar, Delhi, Goa, Gujarat, Haryana, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, Uttarakhand.
 2. *I. pyrene* (Linnaeus, 1764)
 - i. *I. p. sesia* (Fabricius, 1777) - Throughout mainland India.
 - ii. *I. p. andamana* Moore, 1877 - Andaman Is.
- (10) Genus *Colotis* Hübner, [1819]
 1. *C. amata* (Cramer, 1775)
 - i. *C. a. amata* (Fabricius, 1775) - Delhi, Gujarat, Haryana, Maharashtra, Punjab, Rajasthan, Uttar Pradesh.
 - ii. *C. a. modestus* Butler, 1876 - Andhra Pradesh, Karnataka, Kerala, Odisha, Tamil Nadu, W. Bengal.
 2. *C. aurora* (Cramer, 1780)
 - i. *C. a. aurora* (Cramer, 1780) - Goa, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Tamil Nadu.
 3. *C. danae* (Fabricius, 1775)
 - i. *C. d. danae* (Fabricius, 1775) - Goa, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Tamil Nadu.
 4. *C. phisadia* Godart, 1819
 - i. *C. p. protractus* Butler, 1876 - Gujarat, Punjab, Rajasthan.
 5. *C. vestalis* Butler, 1876
 - i. *C. v. vestalis* Butler, 1876 - Delhi, Haryana, Gujarat, Punjab, Rajasthan, Uttar Pradesh.
 6. *C. etrida* (Boisduval, 1836)
 - i. *C. e. etrida* (Boisduval, 1876) - Andhra Pradesh, Delhi, Goa, Gujarat, Haryana, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, Uttarakhand.
 7. *C. fausta* (Olivier, [1801])
 - i. *C. f. fausta* (Olivier, [1801]) - Delhi, Haryana, Gujarat, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Uttar Pradesh.
- Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Uttar Pradesh.
 - ii. *C. f. fulvia* (Wallace, 1867) - Karnataka, Kerala, Tamil Nadu.
- (11) Genus *Appias* Hübner, [1819]
 1. *A. libythea* (Fabricius, 1775)
 - i. *A. l. libythea* (Fabricius, 1775) - Andhra Pradesh, Arunachal Pradesh, Assam, Delhi, Haryana, Goa, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Punjab, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttar Pradesh, Uttarakhand, W. Bengal.
 2. *A. lalage* (Doubleday, 1842)
 - i. *A. l. lalage* (Doubleday, 1842) - Arunachal Pradesh, Assam, Kerala, Manipur, Meghalaya, Nagaland, Sikkim, Tamil Nadu, Uttarakhand, W. Bengal.
 3. *A. indra* Moore, 1857
 - i. *A. i. indra* Moore, 1857 - Arunachal Pradesh, Assam, Manipur, Meghalaya, Nagaland, Sikkim, West Bengal.
 - ii. *A. i. shiva* (Swinhoe, 1885) - Goa, Karnataka, Kerala, Tamil Nadu.
 4. *A. lycida* (Cramer, 1777)
 - i. *A. l. latifasciata* Moore, 1881 - Goa, Karnataka, Kerala, Maharashtra, Tamil Nadu.
 - ii. *A. l. eleonora* Boisduval, 1836 - Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, W. Bengal.
 - iii. *A. l. nicobarica* Moore, 1905 - Car Nicobar Is & Central Nicobar Is.
 - iv. *A. l. galbana* Frühstorfer, 1910 - South Nicobar Is.
 5. *A. paulina* (Cramer, 1777)
 - i. *A. p. darada* Felder & Felder, 1865 - Arunachal Pradesh, Assam, Goa, Karnataka, Kerala, Maharashtra, Manipur, Nagaland, Odisha, Sikkim, Tamil Nadu, Uttarakhand, W. Bengal.
 - ii. *A. p. galathea* Felder & Felder, 1862 - Nicobar Is.
 6. *A. wardi* Moore, 1884 - Goa, Karnataka, Kerala, Maharashtra, Tamil Nadu.
 7. *A. nero* (Fabricius, 1793)
 - i. *A. n. galba* Wallace, 1867 - Arunachal Pradesh, Assam, Manipur, Meghalaya, Nagaland, Sikkim, W. Bengal.
- (12) Genus *Saletara* Distant, 1885
 1. *S. panda* (Godart, [1819])
 - i. *S. p. chrysaea* Frühstorfer, 1903 - Nicobar Is.
- (13) Genus *Prioneris* Wallace, 1867
 1. *P. thestylis* (Doubleday, 1842)
 - i. *P. t. thestylis* (Doubleday, 1842) - Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Uttarakhand, W. Bengal.

2. *P. sita* (Felder & Felder, 1865) - Goa, Karnataka, Kerala, Maharashtra, Tamil Nadu.
3. *P. philonome* (Boisduval, 1836)
- i. *P. p. clemathe* (Doubleday, 1842) - Arunachal Pradesh, Assam, Manipur, Meghalaya, Nagaland, Sikkim, W. Bengal.
- (14) Genus *Belenois* Hübner, [1819]
1. *B. aurota* (Fabricius, 1793) - Throughout India except north eastern states.
- (15) Genus *Cepora* Billberg, 1820
1. *C. nerissa* (Fabricius, 1775)
- i. *C. n. evagete* (Cramer, 1779) - Andhra Pradesh, Chhatisgarh, Delhi, Goa, Gujarat, Haryana, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Tamil Nadu, W. Bengal.
- ii. *C. n. phryne* (Fabricius, 1775) - Arunachal Pradesh, Assam, Bihar, Himachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, Uttar Pradesh, Uttarakhand, W. Bengal.
- iii. *C. n. lichenosa* (Moore, 1877) - Andaman Is.
2. *C. nadina* (Lucas, 1852)
- i. *C. n. nadina* (Lucas, 1852) - Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, W. Bengal.
- ii. *C. n. remba* (Moore, 1857) - Goa, Gujarat, Karnataka, Kerala, Maharashtra, Tamil Nadu.
- iii. *C. n. andamana* Swinhoe, 1889 - Andaman Is.
- (16) Genus *Delias* Hübner, [1819]
1. *D. eucharis* (Drury, 1777) - Throughout India except Andaman & Nicobar Is., Lakshadweep.
2. *D. belladonna* (Fabricius, 1793)
- i. *D. b. horsfieldi* (Gray, 1831) - Himachal Pradesh, Jammu & Kashmir, Uttarakhand.
- ii. *D. b. ithiela* Butler, 1869 - Sikkim, W. Bengal.
- iii. *D. b. lugens* Jordan, 1925 - Arunachal Pradesh, Assam, Manipur, Meghalaya, Nagaland.
3. *D. lativitta* Leech, 1893
- i. *D. l. naga* Tytler, 1939 - Nagaland.
4. *D. sanaca* (Moore, 1857)
- i. *D. s. sanaca* (Moore, 1857) - Himachal Pradesh, Uttarakhand.
- ii. *D. s. oreas* Talbot, 1928 - Sikkim.
5. *D. berinda* (Moore, 1872)
- i. *D. b. boyleae* Butler, 1885 - ? Arunachal Pradesh, Sikkim.
- ii. *D. b. berinda* (Moore, 1872) - Meghalaya.
- iii. *D. b. cooperi* Tytler, 1939 - Nagaland.
6. *D. pasithoe* (Linnaeus, 1758)
- i. *D. p. dione* (Drury, 1773) - Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, W. Bengal.
7. *D. acalis* (Godart, 1819)
- i. *D. a. pyramus* (Wallace, 1867) - Arunachal Pradesh, Assam, Himachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, Uttarakhand, W. Bengal.
- ii. *D. a. kandha* Doherty, 1886 - Andhra Pradesh, ? Odisha.
8. *D. descombesi* Boisduval, 1836
- i. *D. d. leucacantha* Frühstorfer, 1910 - Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, W. Bengal.
9. *D. agostina* Hewitson, 1852
- i. *D. a. agostina* Hewitson, 1852 - Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, W. Bengal.
10. *D. hyparete* (Linnaeus, 1758)
- i. *D. h. indica* (Wallace, 1867) - Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, W. Bengal.
- ii. *D. h. ethire* Doherty, 1886 - Andhra Pradesh, Odisha.
- iii. *D. h. metarete* Butler, 1879 - Andaman Is.
- Tribe EUCHLOEINI
- (17) Genus *Euchloe* Hübner, [1819]
1. *E. ausonia* (Hübner, [1803])
- i. *E. a. daphalis* Moore, 1865 - Uttarakhand.
- (18) Genus *Pareronia* Bingham, 1907
1. *P. avatar* (Moore, 1857)
- i. *P. a. avatar* (Moore, 1857) - Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, W. Bengal.
2. *P. ceylanica* (Felder & Felder, 1865)
- i. *P. c. ceylanica* (Felder & Felder, 1865) - Goa, Karnataka, Kerala, Tamil Nadu.
- ii. *P. c. naraka* (Moore, 1877) - Andaman Is.
3. *P. valeria* (Cramer, [1776])
- i. *P. v. hippia* (Fabricius, 1787) - Throughout India except Jammu & Kashmir, Punjab, Rajasthan.
- (19) Genus *Hebomoia* Hübner, [1819]
1. *H. glaucippe* (Linnaeus, 1758)
- i. *H. g. glaucippe* (Linnaeus, 1758) - Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, W. Bengal.
- ii. *H. g. australis* Butler, 1898 - Goa, Gujarat, Karnataka, Kerala, Maharashtra, Tamil Nadu.
- iii. *H. g. roepstorffii* Wood-Mason, 1880 - Andaman Is. except Little Andaman Is.
- iv. *H. g. khatrii* Suzuki, 2004 - Little Andaman Is.

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(Fam. Pieridae concluded).

(Subsp. Catalogue concluded).

Bt Brinjal Debate

While the brinjal opens a larger debate on the entry of GM crops into India, the government says the answers to food shortages and low crop yields lie in GM crops and it will not ban tested GM crops. Trials for Bt Brinjal enter the final round and the vegetable is expected to arrive in the market soon.

"It will be the first GM vegetable in the world. In the next three years, over a dozen other GM vegetables and crops will flood the Indian markets. It is not possible to segregate these vegetables in a typical Indian vegetable market, so people who want to say no to GM crops, will simply have to boycott vegetables," said Kavita Kuruganti of the 'Coalition of GM free India' that is organising the celebrities' protest to raise awareness against GM foods. Among the celebrities are Nandita Das, Amala, Milind Soman, Khushboo, Rabbi Shergill and Nafisa Ali. "They will boycott the brinjal to spread the message that it will no longer be safe to eat the vegetable," Kuruganti added.

The Maharashtra Hybrid Seed Company (Mahyco), the company that is bringing the brinjal, has mainly sourced the Bt gene for the brinjal from the US major Monsanto that also holds a stake in the Indian company. "India has a strong regulatory system comparable to any developed country. There should be no concern on that front," said Dr. M.K. Sharma, general manager, Mahyco, Mumbai.

Those opposing GM crops say genetically alternating a food makes it unsafe for human consumption and tests that are carried out can never predict what might go wrong in the long run. The debate on the brinjal also opens a window to the larger debate in India on whether India should allow GM foods?

The government, however, says it can't disallow GM crops that clear the prescribed tests. "Nothing is untouchable. Risk-assessed GM crops are good and the government's policy is crystal clear on this," Dr Mangla Rai, Secretary, Department of Agricultural Research and Education, said. Rai believes that GM crops can increase stagnating yields of food crops and answer the concerns about India's food security. "For problems of the future, we will need futuristic answers that lie in the transgenics," he said.

"The biotech lobby has started saying that the answer to the food crisis is GM foods. But how can you overlook the health aspect?" said Suman Sahai of Gene Campaign. The Campaign cites Australian and American studies that show organ damage in mice that were fed GM grains.