

## A Revised Classification of the Indian Nymphalidae (Lepidoptera)

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Butterflies of family Nymphalidae are very attractive, comparatively bigger in size and adorned with beautiful colours and patterns on the wings. It was, therefore, a set back that Talbot (1939, 1947), who described butterfly species of several other families of the British India in detail, did not cover this family.

Over the period, Nymphalidae has become even larger family, with the inclusion of some other the then families in it, namely Danaidae, Satyridae, Amathusiidae, Acraeidae and Libytheidae. Its classification has undergone several changes and the placement of genera has also been affected in some cases.

In the recent years, Varshney (2010) has reported the classification and genera occurring within the Indian Region. In another compilation, Smith (2010) reported Nymphalidae of Nepal.

Five years later, Varshney & Smetacek (2015) have catalogued all butterfly taxa in India. Meanwhile, Eliot, who has revised the butterflies of Malay Peninsula (Corbet & Pendlebury—3rd & 4th Edn.; 1978, 1992), has prepared an update for this monograph and there he has commented widely on the classification of Nymphalidae (Eliot, 2006). Harvey (1991) and Wahlberg et al. (2003) have published important documents on the Nymphalid classification. As a result, it seems a revision has become necessary for the Indian region. The compiled account is presented here to report the current status of subfamilies of Nymphalidae and a probable hint of the placement of genera in each. This may hold good till further studies are made.

Classification in Varshney (2010)

Fam. NYMPHALIDAE

Subfam. DANAINAE

Tribe Danaini

*Danaus, Ideopsis, Parantica, Tirumala.*

Tribe Euploecini

*Idea, Euploea.*

Subfam. SATYRINAE

Tribe Satyrini

Subtribe Melanitini

*Melanitis, Cyllogenes, Parantirrhoea.*

Subtribe Elymniini

*Elymnias.*

Subtribe Lethini

*Lethe, Nemetis, Neope, Patala, Zophoessa, Lasiommata, Chonala, Lopinga, Mandarinia, Rhaphicera,*

*Orinoma.*

Subtribe Zetherini

*Penthema, Ethope, Neorina.*

Subtribe Mycalesini

*Mycalesis, Orsotriaena, Zibaetis.*

Tribe Eritini

*Erites, Coelites.*

Subtribe Ragadini

*Ragadia.*

Subtribe Ypthimini

*Ypthima, Callerebia, Dallacha, Hemadara.*

Subtribe Coenonymphini

*Coenonympha.*

Subtribe Maniolini

*Hyponephele, Maniola.*

Subtribe Melanargini

*Melanargia.*

Subtribe Satyrini

*Aulocera, Hipparchia, Karanasa, Paroeneis, Xanthotaenia.*

Subfam. CALINAGINAE

*Calinaga.*

Subfam. AMATHUSIINAE

Tribe Faunidini

*Faunis, Melanocyma, Aemona, Stichophthalma.*

Tribe Amathusiini

*Amathusia, Amathuxidia, Zeuxidia, Thaumantis,*

*Thauria.*

Tribe Discophorini

*Discophora, Enispe.*

Subfam. NYMPHALINAE

Tribe Biblidini

*Ariadne, Laringa, Byblia.*

Tribe Argynnini

Subtribe Argynnini

*Argyreus, Childrena, Fabriciana, Pandoriana, Argyronome, Issoria, Mesoacidalia, Kuekenthaliella, Boloria, Clossiana.*

Tribe Heliconiini

*Phalanta, Cupha, Vagrans, Vindula, Paduca,*

*Cirrochroa, Terinos.*

Tribe Nymphalini

Subtribe Melitacini

*Melitaea.*

Subtribe Nymphalini (Vanessini)

*Symbrenthia, Araschnia, Nymphalis, Aglais, Kaniska, Polygonia, Vanessa, Cynthia, Precis, Junonia.*

Subtribe Hypolimnini

*Kallima, Doleschallia, Rhinopalpa, Yoma, Hypolimnas.*

Tribe Marpesiini

*Cyrestis, Chersonesia.*

Tribe Limenitidini

Subtribe Neptini

*Neptis, Phaedyma, Lasippa, Pantoporia.*

Subtribe Limenitidini

*Athyma, Limenitis, Moduza, Parasarpa, Sumalia, Auzakia, Bhagadatta.*

Subtribe Parthenini

*Lebadea, Parthenos, Neurosigma.*

Subtribe Adoliadini (Euthaliini)

*Abrota, Tanaecia, Dophla, Bassarona, Symphaedra, Euthalia, Lexias.*

Tribe Pseudergolini

*Pseudergolis, Stibochiona, Dichorragia.*

Tribe Apaturini

*Rohana, Chitoria, Apatura, Dilipa, Sepsisa, Helcyra, Eulaceura, Herona, Euripus, Diagora, Hestina, Sasakia.*

Subfam. CHARAXINAE

Tribe Prothoini

*Prothoe, Agatasa.*

Tribe Charaxini

*Polyura, Charaxes.*

Subfam. Acraeinae

Tribe Acraeini

*Acraea, Pareba.*

Tribe Cethosiini

*Cethosia.*

Subfam. LIBYTHEINAE

*Libythea.*

**Classification in Smith (2010)**

Family NYMPHALIDAE

Subfamily LIBYTHEINAE

*Libythea.*

Subfamily ACRAEINAE

*Acraea.*

Subfamily NYMPHALINAE

Tribe Heliconiini

*Cethosia, Cupha, Vagrans, Vindula, Cirrochroa, Phalanta, Argyreus, Childrena, Fabriciana, Mesoacidalia, Issoria, Kuekenthalia, Melitaea.*

Tribe Nymphalini

*Symbrenthia, Vanessa, Aglais, Nymphalis, Kaniska, Polygonia, Precis, Hypolimnas, Doleschallia.*

Tribe Biblidini

*Ariadne.*

Tribe Limenitidini

*Limenitis, Lebadea, Neurosigma, Abrota, Athyma, Pantoporia, Lasippa, Neptis, Phaedyma, Tanaecia, Euthalia, Symphaedra.*

Tribe Pseudergolini

*Pseudergolis, Dichorragia, Stibochiona.*

Tribe Cyrestini (Marpesiini)

*Cyrestis, Chersonesia.*

Tribe Apaturini

*Apatura, Rohana, Dilipa, Hestina, Diagora, Euripus, Herona, Sepsisa.*

Subfamily CHARAXINAE

*Charaxes, Polyura.*

Subfamily AMATHUSIINAE

*Enispe, Discophora, Thaumantis, Stichophthalma.*

Subfamily SATYRINAE

*Melanitis, Letho, Zophoessa, Nemetis, Neope, Patala, Lasiommata, Rhaphicera, Crebeta, Orinoma, Elymnias, Mycalesis, Orsotriaena, Ypthima, Dallacha, Callerebia, Paralasa, Coenonympha, Hyponephele, Aulocera, Hipparchia, Paroeneis.*

Subfamily DANAINAE

Tribe Danaini

*Danaus, Tirumala, Parantica.*

Tribe Euploeini

*Euploea.*

**Classification in Varshney & Smetacek (2015)**

Fam. NYMPHALIDAE

Subfam. DANAINAE

Tribe Danaini

*Danaus, Ideopsis, Parantica, Tirumala.*

Tribe Euploeini

*Idea, Euploea.*

Subfam. CALINAGINAE

*Calinaga.*

Subfam. CHARAXINAE

Tribe Prothoini

*Prothoe.*

Tribe Charaxini

*Polyura, Charaxes.*

Subfam. MORPHINAE

Tribe Amathusiini

*Faunis, Aemona, Stichophthalma, Amathusia, Amathuxidia, Thaumantis, Thauria, Discophora, Enispe.*

Subfam. SATYRINAE

Tribe Elymniini

*Elymnias.*

Tribe Zetherini

*Neorina, Penthema, Ethope.*

Tribe Melanitini

*Melanitis, Cyllogenes, Parantirrhoea.*



## Tribe Satyrini

*Lethe, Neope, Lasiommata, Kirinia, Chonala, Rhaphicera, Orinoma, Heteropsis, Mycalesis, Orsotriaena, Zibaetis, Erites, Coelites, Ragadia, Hyponephele, Callerebia, Paralasa, Loxerebia, Ypthima, Oeneis, Paroeneis, Karanasa, Satyrus, Aulocera, Hipparchia, Chazara, Pseudochazara, Kanetisa.*

## Subfam. LIMENITIDINAE

## Tribe Limenitidini

*Neptis, Phaedyma, Lasippa, Pantoporia, Athyma, Limenitis, Moduza, Parasarpa, Sumalia, Auzakia, Bhagadatta, Lebadea, Parthenos, Neurosigma.*

## Tribe Adoliadini

*Abrota, Cynitia, Tanaecia, Euthalia, Symphaedra, Lexias.*

## Subfam. HELICONIINAE

## Tribe Argynnini

*Argynnis, Issoria, Boloria.*

## Tribe Heliconiini

*Phalanta, Cupha, Vagrans, Vindula, Algia, Cirrochroa.*

## Subfam. BIBLIDINAE

## Tribe Biblidini

*Ariadne, Laringa, Byblia.*

## Subfam. APATURINAE

## Tribe Apaturini

*Rohana, Eulaceura, Chitoria, Mimathyma, Dilipa, Sepsisa, Helcyra, Herona, Euripus, Hestina, Hestinalis, Sasakia.*

## Subfam. CYRESTINAE

## Tribe Cyrestini

*Cyrestis, Chersonesia.*

## Tribe Pseudergolini

*Pseudergolis, Stibochiona, Dichorragia.*

## Subfam. NYMPHALINAE

## Tribe Melitaeini

*Melitaea.*

## Tribe Nymphalini

*Symbrenthia, Araschnia, Nymphalis, Aglais, Kaniska,*

*Polygonia, Vanessa.*

## Tribe Junoniini

*Junonia.*

## Tribe Kallimini

*Hypolimnas, Kallima, Doleschallia, Rhinopalpa,*

*Yoma.*

## Subfam. ACRAEINAE

## Tribe Acraeini

*Acraea.*

## Tribe Cethosiini

*Cethosia.*

## Subfam. LIBYTHEINAE

*Libythea.*

## Notes from Eliot (2006)

Harvey (1991) has divided fam. Nymphalidae into the following 13 subfamilies:

1. Danaeinae, 2. Ithomiinae, 3. Tellervinae, 4. Calinaginae, 5. Morphinae, 6. Brassolinae, 7. Satyrinae, 8. Heliconiinae, 9. Nymphalinae, 10. Limenitidinae, 11. Apaturinae, 12. Charaxinae, and 13. Libytheinae.

Out of these, sl. no. 2, 3 and 6 subfamilies are not found in the Indian Region.

Wahlberg et al. (2003) have further proposed to raise Cyrestini and Biblidini to the subspecies level, to which Eliot agrees.

For Satyrinae, while Varshney (2010) followed Miller (1968), its subfamilies have been downgraded to tribes by Harvey (1991). Amathusiinae has been treated now as a tribe under Morphinae. Eliot (2006) feels that it is a link between Satyrinae and Morphinae and so to be placed in between.

In Limenitidinae, Harvey (op. cit.) included four tribes: Limeitidini, Coloburini (Neotropical; not in Indian region), Biblidini and Cyrestini.

Penz & Pegg (2003) have removed *Cethosia* from Acraeini and placed it in Heliconiini. They subdivided Heliconiinae into four tribes; Acraeini, Heliconiini, Vagrantini and Argynnini.

Eliot (2006) suggested that a new dendogram be made in place of his earlier one given on page 101 in the Corbet & Pendlebury (1992). This new dendogram is prepared here (Fig. 1), on suggestions indicated by Eliot.

The arrangement of some genera (vide Eliot, 2006), within this revised classification may be reproduced as follows:

## Family NYMPHALIDAE

## Subfam. LIMENITIDINAE

## Tribe Limenitidini

*Moduza, Lebadea, Athyma, Sumalia.* (Also Sundanian *Pandita*).

## Tribe Neptini

*Neptis, Phaedyma, Lasippa, Pantoporia.*

## Tribe Parthenini

*Parthenos, Bhagadatta.*

## Tribe Adoliadini

*Tanaecia, Euthalia, Dophla, Bassarona, Lexias.*

## Subfam. BIBLIDINAE

## Tribe Biblidini

*Ariadne, Laringa.*

## Subfam. CYRESTINAE

## Tribe Cyrestini

*Cyrestis, Chersonesia.*

## Tribe Pseudergolini

*Amnosia, Stibochiona, Dichorragia.*

## Subfam. NYMPHALINAE

## Tribe Nymphalini

*Vanessa, Kaniska, Symbrenthia.*

## Tribe Kallimini

*Rhinopalpa, Yoma, Hypolimnas, Doleschallia, Kallima, Junonia.*

## Subfam. HELICONIINAE

## Tribe Acraeini

*Acraea.*

## Tribe Heliconiini

*Cethosia.*

## Tribe Vagrantini

*Phalanta, Cupha, Vagrans, Vindula, Algia (=Paduca), Cirrochroa, Terinos.*

## Tribe Argynnini

*Argyreus* [see infra].

## Subfam. APATURINAE

*Rohana, Eulaceura, Herona, Euripus, Sepsisa, Hestina, Hestinalis.*

The rest of the genera in Indian Nymphalidae may remain on the places as shown in Varshney & Smetacek (loc. cit.).

However, instead of Eliot's use of *Argyreus*, I incline to follow Simonsen (2006), who suggests two subtribes for the Indian region in tribe Argynnini, namely (i) Yrameina, which includes *Boloria*, and (ii) Argynnina, which includes *Issoria* and *Argynnis*. He has reduced following genera [vide supra Varshney (1910); part Heliconiinae of Smith (1910) and Eliot (2006)] into subgenera of *Argynnis*: *Argyreus*, *Argyronome*, *Childrena*, *Pandoriana* and *Fabriciana*; *Mesoacidalia* is discarded; spp. *clara* and *aglaja* included in the subgenus *Speyeria* Scudder.

The subtribes are to be denoted with the suffix '-ina', as per the recent 4th Edn. of the *International Code of Zoological Nomenclature*.

Lastly, I may quote Eliot (2006) on this subject, "Finally I think it is unlikely that the last word has yet been said on nymphalid classification. But it can be said with certainty that the arrangement set out above is much preferable [to that used earlier]."

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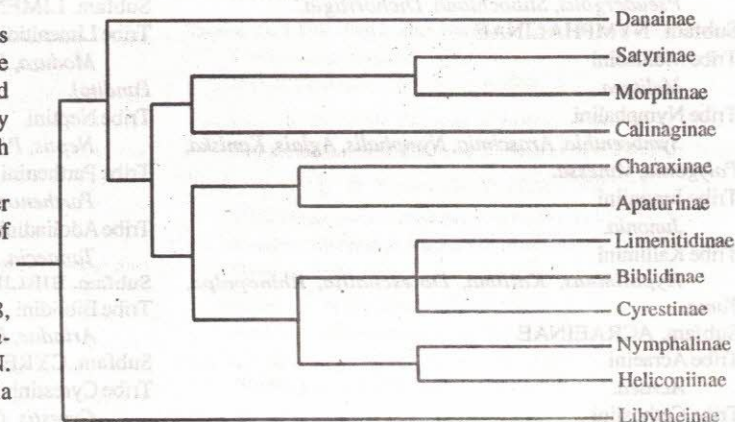


Fig. 1. A provisional arrangement of 12 subfamilies of the Indian Nymphalidae, in revised classification.