

PAPILIONIDAE Latreille, [1802]

(swallowtails and parnassians)

Range: cosmopolitan; about 550 species in three subfamilies, only one of which occurs in the Malay Archipelago, including the Sulawesi Region.

Foodplants: approximately 45 families of flowering plants, amongst which the following are particularly important: Annonaceae, Aristolochiaceae, Lauraceae, Magnoliaceae and Rutaceae.

Status: the Papilionidae are the only family of insects to have been made the subject of an IUCN Red Data Book; the conservation status is given for each species, following Collins & Morris (1985). See also New & Collins (1991).

Key works: Munroe (1961), Igarashi (1979, 1984), Haugum *et al.* (1980), d'Abrera (1982), Tsukada & Nishiyama (1982), Hancock (1983b), Collins & Morris (1985), Bridges (1988a), Corbet & Pendlebury (1992), Häuser (1993), Tyler *et al.* (1994), Scriber *et al.* (1994), Parsons (1996a,b), Igarashi & Fukuda (1997a, 2000).

PAPILIONINAE Latreille, [1802]

(birdwings, kites and swallowtails—Pls 3–5)

Range: cosmopolitan; about 480 species in four tribes, three of which occur in the Sulawesi Region.

Foodplants: as family.

Key works: Tsukada & Nishiyama (1982), Hancock (1983b), Collins & Morris (1985), Miller (1987), Bridges (1988a).

TROIDINI Talbot, 1939

(birdwings, batwings, roses, windmills and clubtails—Pl. 3)

Range: pantropical (except for African mainland), with weak extension into temperate regions; about 130 species in 12 genera, 4 of which occur in the Sulawesi Region: *Troides*, *Atrophaneura*, *Losaria* and *Pachliopta*. *Ornithoptera* is very doubtfully recorded from Kep. Sula.

Foodplants: Aristolochiaceae, Piperaceae.

Key works: Munroe (1961), Tsukada & Nishiyama (1982), Collins & Morris (1985), Miller (1987), Parsons (1996a,b).

TROIDES Hübner, 1819

(birdwings—Pl. 3, figs 1, 5)

Range (W): Oriental Region, including Philippines, Lesser Sunda Islands, Sulawesi and Maluku, with one species extending into the Papuan Region. About 20 species, in 2 subgenera (one monobasic). All species are protected under CITES.

Foodplants: *Aristolochia*, *Thottea* (Aristolochiaceae).

Key works: d'Abrera (1975), Igarashi (1979), Tsukada & Nishiyama (1982), Haugum & Low (1985), Collins & Morris (1985), Miller (1987), Parsons (1996a,b), Igarashi & Fukuda (1997a), Matsuka (2001).

Subgenus **RIPPONIA** Haugum & Low, 1975

(birdwings—Pl. 3, fig. 1)

Range: A single species restricted to the Sulawesi region and Maluku. Sometimes placed as a separate genus, but its distinction from *Troides* is doubtful (Matsuka, 2001: 163).

Foodplants: *Aristolochia* (Aristolochiaceae).

Key works: d'Abrera (1975), Tsukada & Nishiyama (1982), Haugum & Low (1985), Collins & Morris (1985), Miller (1987), Parsons (1996a,b), Igarashi & Fukuda (1997a), Matsuka (2001).

T. (R.) hypolitus Cramer, 1775

(Rippon's Birdwing—Pl. 3, fig.1)

Range (3+4): Sulawesi Region, N & C Maluku.

Foodplants: *Aristolochia* (Aristolochiaceae). Igarashi & Fukuda (1997a) illustrate all life stages (see also Igarashi, 1979; Matsuka, 2001).

Status: Not rare and apparently not threatened, but protected in Indonesia.

***T. (R.) hypolitus cellularis** Rothschild, 1895

Range: Sulawesi, Kep. Sangihe, Kep. Talaud (Salibabu), Kep. Togian, Butung, Muna, Kep. Tukangbesi (Wangiwangi, Tomea, Binongko), Salayar (Matsuka, 2001).

***T. (R.) hypolitus caelicola** Haugum & Low, 1982

Range: Kep. Banggai (Peleng, Potil-besar).

***T. (R.) hypolitus sulaensis** Staudinger, 1895

Range: Kep. Sula (Mangole, Sanana, Taliabu).

Subgenus **TROIDES** Hübner, 1819
(birdwings—Pl. 3, fig. 5)
Range: as genus.
Foodplants: as genus.
Key works: as genus.

T. (T.) helena Linnaeus, 1758
(Common Yellow Birdwing—Pl. 3, fig. 5)
Range (5+6+7): India, Indo-China, Hainan, Malay Peninsula, Sumatra, Java, western Lesser Sunda Islands, Borneo, Sulawesi Region. This and the next four species belong to the *helena*-group, comprising about 15 species with a total distribution extending from Sri Lanka to New Guinea (including the Philippines and the Lesser Sunda Islands).
Foodplants: *Aristolochia*, *Thottea* (Aristolochiaceae). Igarashi & Fukuda (1997a) illustrate the early stages (see also Igarashi, 1979; Matsuka, 2001).
Status: often common, but vulnerable in places (Peninsular Malaysia); protected in Indonesia.
***T. (T.) helena hephaestus** Felder & Felder, 1864
Range: Sulawesi, Salayar, Kep. Tukangbesi (Tomea, Binongko), Kabaena, Muna, Kabaena, Butung, Kep. Banggai (Peleng), Kep. Sula (Mangole) (Matsuka, 2001).

T. (T.) oblongomaculatus Goeze, 1779
(Eastern Yellow Birdwing)
Range (4): Sulawesi, central Maluku, New Guinea.
Foodplants: *Aristolochia* (Aristolochiaceae). Igarashi & Fukuda (1997a) illustrate the early stages (see also Matsuka, 2001).
Status: Common, not threatened.
***T. (T.) oblongomaculatus thestius** Staudinger, 1895
Range: Salayar, Butung, Kep. Tukangbesi, Tanahjampea (Matsuka, 2001).
***T. (T.) oblongomaculatus** subsp. ('Celebean form': Haugum & Low, 1985)
Range: Sulawesi (N, C, S).
Note: Hancock (1983b) considered the rare Sulawesi *oblongomaculatus* might be examples of *T. helena* affected by introgression from *T. haliphron*; Haugum & Low (1985) considered them to represent a relict race of uncertain status. Not included by Matsuka (2001).
T. (T.) oblongomaculatus bouruensis Wallace, 1865 (= *mangolensis* Tsukada & Nishiyama, 1982)
Range: Kep. Sula (Mangole), Buru.

T. (T.) haliphron Boisduval, 1836
(Southern Yellow Birdwing)
Range (5): southern Sulawesi Region, S Maluku (Lucipara island), Lesser Sunda Islands.
Foodplants: "small-leaved *Aristolochia*" (Aristolochiaceae) (Matsuka, 2001, who also illustrates all stages; see also Igarashi, 1979).
Status: not known to be threatened, but protected in Indonesia.
***T. (T.) haliphron haliphron** Boisduval, 1836
Range: Sulawesi (C, S, SE).
***T. (T.) haliphron pallens** Oberthür, 1879
Range: Salayar.
***T. (T.) haliphron pistor** Rothschild, 1896
Range: Tanahjampea, Kajuadi, Kalao, Kalaotoa, Karompa, Madu, Bonerate (Matsuka, 2001).
***T. (T.) haliphron purahu** Kobayashi, 1987
Range: Batuata.

T. (T.) criton Felder, 1860
(Halmahera Yellow Birdwing)
Range: ?Sulawesi, northern Maluku (including Obi).
Foodplants: *Aristolochia* (Aristolochiaceae). Matsuka (2001) illustrates the early stages (from N. Maluku).
Status: not known to be threatened, but protected in Indonesia.
***T. (T.) criton celebensis** Wallace, 1865 [hybrid?]

Range: Sulawesi.

**T. (T.) criton selayarensis* Kobayashi & Koiwaya, 1981 [hybrid?]

Range: Salayar.

Note: according to Hancock (1983b) and Haugum (quoted in Collins & Morris, 1985), *celebensis* and *selayarensis* represent hybrids, *T. helena* x *T. haliphron*, and thus true *T. criton* is not represented in the Sulawesi Region. According to Matsuka (2001: 165), H. Detani confirmed hybrid status in 1994 by handpairing. However, it appears that relatively numerous specimens of 'celebensis' have been collected in recent years (B. d'Abrera, pers. comm.), and it is not clear if these are the result of deliberate breeding or not. The status of these butterflies requires further investigation.

**T. (T.) dohertyi* Rippon, 1893

(Sangihe Yellow Birdwing)

Range (L): Kep. Talaud (Salibabu, Karakelong, Kaburuang), Kep. Sangihe (Sangihe) (Matsuka, 2001).

Foodplants: *Aristolochia* (Aristolochiaceae). Matsuka (2001) illustrates all stages.

Status: listed as vulnerable by Collins & Morris (1985) on account of its very restricted range, and as Indeterminate by New & Collins (1991). Protected under Indonesian legislation (as subspecies of *rhadamantus*, a species otherwise restricted to the Philippines). Separation from *rhadamantus* is based on adult colour difference, and may not be justified (Matsuka, 2001).

ORNITHOPTERA Boisduval, 1832

(birdwings—not illustrated)

Range: ?Kep. Sula, Maluku, New Guinea, Bismarcks, Solomon Islands, Australia. All 12 species are protected under CITES.

Foodplants: *Aristolochia*, but mainly *Pararistolochia* (Aristolochiaceae).

Key works: d'Abrera (1975), Igarashi (1979), Haugum & Low (1980), Collins & Morris (1985), Parsons (1996a,b), Matsuka (2001).

O. croesus Wallace, 1859

(Wallace's Golden Birdwing)

Range: ?Kep. Sula, northern Maluku. A member of the *priamus* species-group which, including *croesus*, is only confirmed to occur east of Weber's Line.

Foodplants: *Pararistolochia* (Aristolochiaceae). Matsuka (2001) illustrates the early stages (from N. Maluku; see also Igarashi, 1979).

Status: vulnerable (Collins & Morris, 1985).

**O. croesus sananaensis* Tsukada & Nishiyama, 1980

Range: ?Kep. Sula (Sanana).

Note: almost certainly recorded in error (see Haugum & Low, 1981; Matsuka, 2001: 349).

There exists much disagreement about the taxonomy of the next three genera (see Parsons, 1999: 218). Here we follow the arrangement proposed by Häuser *et al.* (2001).

ATROPHANEURA Reakirt, 1865

(batwings—Pl. 3, figs 3, 4, 7, 8)

Range (1+2+6+7): Assam and Indo-China to Sundaland, Taiwan, Philippines and Sulawesi; 12 species.

Note: Hancock (1988) treats this genus as the *nox* species group of *Atrophaneura* (*Atrophaneura*).

Foodplants: *Aristolochia*, *Pararistolochia*, *Thottea* (Aristolochiaceae), Piperaceae.

Key works: Tsukada & Nishiyama (1982), Hancock (1983b, 1988), Collins & Morris (1985), Miller (1987), Parsons (1996a,b).

**A. kuehni* Honrath, 1886

(Kuehn's Batwing—Pl. 3, figs 7, 8)

Range (E): Sulawesi.

Foodplants: *Thottea* (Aristolochiaceae). Igarashi & Fukuda (1997a) illustrate larva and pupa.

Status: ?rare (Collins & Morris, 1985); insufficiently known (New & Collins, 1991).

**A. kuehni mesolamprus* Rothschild, 1908

Range: Sulawesi (N).

**A. kuehni kuehni* Honrath, 1886

Range: Sulawesi (C, E).

**A. dixonii* Grose Smith, 1901
(Dixon's Batwing—Pl. 3, figs 3, 4)
Range (E): Sulawesi (N, C).
Status: ?rare (Collins & Morris, 1985); insufficiently known (New & Collins, 1991).

LOSARIA Moore, [1902]
(clubtails—Pl. 3, fig. 6)
Range (1+6+7): Assam and Hainan, south to Andamans, Greater Sunda Islands, Palawan and Sulawesi.
Subgenus *Losaria* includes just four species, none of which is found in the Philippines or to the east of Sulawesi.
A single endemic occurs on Sulawesi (Hancock, 1984), included by Miller (1987) in *Pachliopta* (*Losaria*).
Hancock (1988), however, placed *Losaria* as a synonym of *Atrophaneura* subgenus *Pachliopta*.
Foodplants: *Aristolochia*, *Thottea* (Aristolochiaceae), Piperaceae.
Key works: Tsukada & Nishiyama (1982), Hancock (1983b, 1988), Collins & Morris (1985), Miller (1987), Parsons (1996a,b).

**L. palu* Martin, 1912
(Sulawesi Clubtail—Pl. 3, fig. 6)
Range (E): Sulawesi (C—Palu district).
Status: insufficiently known (Collins & Morris, 1985). See New & Collins (1991).

PACHLIOPTA Reakirt, [1865]
(roses—Pl. 3, fig. 2)
Range (W): Mainly Oriental, but extending as far as N Queensland; 16 species.
Note: Hancock (1988) treats *Pachliopta* as a subgenus of *Atrophaneura*.
Foodplants: *Aristolochia*, *Thottea* (Aristolochiaceae), *Piper* (Piperaceae).
Key works: Tsukada & Nishiyama (1982), Hancock (1983b, 1988), Collins & Morris (1985), Miller (1987), Page & Treadaway (1995), Parsons (1996a,b).

P. polyphontes Boisduval, 1836
(Sulawesi Rose—Pl. 3, fig. 2)
Range (3): Sulawesi Region, northern and ?central Maluku (?Seram: J. Weintraub, pers. comm.).
Note: no record for central Maluku is confirmed by Page & Treadaway (1995), who interestingly suggest that *P. polyphontes* is most closely related to the Philippine species, *P. kotzebuea* Eschscholtz.
Foodplants: *Aristolochia* (Aristolochiaceae), *Piper* (Piperaceae). Igarashi & Fukuda (1997a) illustrate all life stages.
Status: not known to be threatened.
**P. polyphontes polyphontes* Boisduval, 1836
Range: Sulawesi, Kep. Sangihe, Kep. Talaud, Wowoni, Muna, Kabaena (Jurriaanse & Lindemans, 1920)
**P. polyphontes aipytos* Fruhstorfer, 1908
Range: Kep. Banggai (Peleng), Kep. Sula (Taliabu, Mangole, Sanana), ?Kasiruta (Fujioka *et al.*, 1997).
**P. polyphontes rosea* Oberthür, 1879
Range: Salayar.

P. adamas Zinken 1831
(Zinken's Rose)
Range (P): Enganno, Java, Kangean, Bawean, Tanahjampea, western Lesser Sunda Islands, from Bali to Flores (see Page and Treadaway 1995, who have only recently separated this taxon from *P. aristolochiae* Fabricius).
Foodplants: probably *Aristolochia*, *Thottea* (Aristolochiaceae).
Status: not threatened.
**P. adamas agricola* Tsukada & Nishiyama, 1980
Range: Tanahjampea.

PAPILIONINI Latreille, [1802]
(mimes, helens, mormons, peacocks and swallowtails—Pl. 4)
Range: cosmopolitan; about 210 species in three genera, two of which occur in Sulawesi.
Foodplants: approximately 30 families of flowering plants, the most important being: Apiaceae, Lauraceae, Magnoliaceae, Rutaceae.

Key works: Hancock (1983b, 1993), Collins & Morris (1985), Miller (1987).

CHILASA Moore, [1881]

(mimes—Pl. 4, fig. 2)

Range (1+2+5+6+7): Oriental Region, extending east to Philippines, Sulawesi and Lesser Sunda Islands, absent from the Moluccas, but recurs in New Guinea, Bismarck Archipelago and the Solomon Islands. Thirteen species recognised in two subgenera, of which one is restricted to China and Taiwan.

Foodplants: Lauraceae (*Cinnamomum*, *Cryptocarya*, *Litsea*).

Subgenus **CHILASA** Moore, [1881]

Range: as genus; 11 species in 4 groups, of which the single, endemic species found on Sulawesi represents the *veiovis*-group, otherwise only known from two Philippine species (Mindanao and Leyte).

Foodplants: as genus.

***C. (C.) veiovis** Hewitson, 1865

(Sulawesi Mime—Pl. 4, fig. 2)

Range (E): Sulawesi (see Roos, 1995)

Status: not known to be threatened.

PAPILIO Linnaeus, 1758

(helens, mormons, peacocks and swallowtails—Pl. 4)

Range (W): cosmopolitan; about 195 species, divided into 9 subgenera of which three occur in the Sulawesi Region.

Note: Hancock (1983b) divided *Papilio* into six genera, with two of these divided into two subgenera, and a third with four subgenera. Collins & Morris (1985) recognised Hancock's six full genera as subgenera, and treated all his subgenera as synonyms. The classification adopted here is that of Häuser *et al.* (2001), with a total of nine subgenera, three of which occur in the Sulawesi Region.

Foodplants: as tribe.

Key works: Igarashi (1979), Tsukada & Nishiyama (1982), Hancock (1983b), Collins & Morris (1985).

Subgenus **ACHILLIDES** Hübner, [1819]

(peacocks—Pl. 4, figs 5, 8)

Range: About 25 species, mainly in Oriental Region, but extending into E Palaearctic, and eastward to Solomon Islands, Australia and New Caledonia.

Foodplants: Rutaceae.

***P. (A.) blumei** Boisduval, 1836

(Blume's Peacock—Pl. 4, fig. 5)

Range (E): Sulawesi. This outstandingly beautiful insect is an endemic member of the five *palinurus*-group species, distributed from Sri Lanka to Sumatra, Borneo and the Philippines.

Foodplants: *Euodia*, *Toddalia* (Rutaceae). Igarashi (1994) and Igarashi & Fukuda (2000) illustrate larvae and pupae.

Status: not known to be threatened (Collins & Morris, 1985); insufficiently known (New & Collins, 1991).

***P. (A.) blumei blumei** Boisduval, 1836

Range: Sulawesi (N, C, SE; see also Roos, 1993).

***P. (A.) blumei fruhstorferi** Röber, 1897

Range: Sulawesi (S).

P. (A.) peranthus Fabricius, 1787

(Swift Peacock—Pl. 4, fig. 8)

Range (5+6): Java, Bawean, Lesser Sunda Islands (to Alor), and Sulawesi Region. The *peranthus*-group currently comprises four species, distributed from Java to Tanimbar, Sulawesi, the Moluccas and Irian Jaya.

Note: the Sulawesi Region races grouped here under *peranthus* are much larger than *peranthus* from Java and the Lesser Sundas, and may eventually prove to represent a separate, endemic species (Collins & Morris, 1985).

In northern Sulawesi this species can often be seen flying along streams and valleys in rapid flight, but is far less often encountered on damp sand than *P. blumei*.

Foodplants: *Micromelum* (Rutaceae). Early stages and hostplant illustrated from Sulawesi by Igarashi (1979) and Igarashi & Fukuda (2000).

Status: not known to be threatened.

**P. (A.) peranthus adamantius* Felder & Felder, 1864

Range: Sulawesi (N).

**P. (A.) peranthus insulicola* Rothschild, 1896

Range: Sulawesi (S, ?C—Kitahara, 1989), Salayar.

**P. (A.) peranthus* subsp. (Roos, 1993)

Range: Sulawesi (SE).

**P. (A.) peranthus intermedius* Snellen, 1890

Range: Tanahjampea, Kalao, Bonerate.

**P. (A.) peranthus kransi* Jurriaanse & Lindemans, 1920

Range: Butung.

**P. (A.) peranthus wangiwangiensis* Kitahara, 1989

Range: Kep. Tukangbesi (Wangiwangi)

Note: Kitahara (1989) did not compare his new taxon with subspecies *kransi*, but only with mainland *peranthus*.

Subgenus *MENELAIDES* Hübner, [1819]

(helens, mormons and swallowtails—Pl. 4, figs 1, 3, 4, 6, 7)

Range: Oriental and Australian Regions, slightly extending to temperate Asia. Nearly 60 species, divided amongst 10 species-groups, 10 and 5 of which respectively are found in the Sulawesi Region.

Foodplants: Rubiaceae, Rutaceae.

**P. (M.) gigon* Felder & Felder, 1864

(Sulawesi Banded Swallowtail—Pl. 4, fig. 7)

Range (R): Sulawesi Region. One of the four members of the *demolion*-group, distributed from Asia to the Papuan region, including the Philippines but not the Lesser Sunda Islands.

Foodplants: *Citrus*, *Euodia*, *Glycosmis* (Rutaceae). Igarashi & Fukuda (1997a) illustrate all life stages (see also Igarashi, 1979).

Status: not known to be threatened.

**P. (M.) gigon gigon* Felder & Felder, 1864

Range: Sulawesi, Kep. Sangihe (Siao).

**P. (M.) gigon neriotes* Rothschild, 1908

Range: Kep. Talaud, Kep. Sangihe (Sangihe).

**P. (M.) gigon mangolinus* Fruhstorfer, 1899

Range: Kep. Banggai (Peleng), Kep. Sula (Mangole, Sanana, Taliabu).

**P. (M.) sataspes* Felder & Felder, 1864

(Sulawesi Red Helen—Pl. 4, fig. 6)

Range (R): Sulawesi Region. Endemic representative of the *helenus*-group (about eight species), found from Asia to the Philippines, Sulawesi and the Lesser Sunda Islands, but not in the Moluccas or New Guinea.

Foodplants: *Euodia*, *Micromelum*, *Toddalia* (Rutaceae) (Igarashi & Fukuda, 2000, who also illustrate the early stages).

Status: not known to be threatened.

**P. (M.) sataspes sataspes* Felder & Felder, 1864

Range: Sulawesi.

**P. (M.) sataspes artaphernes* Honrath, 1886

Range: Kep. Banggai (Banggai, Peleng).

**P. (M.) sataspes ahasverus* Staudinger, 1895

Range: Kep. Sula (Sanana).

P. (M.) hipponous Felder & Felder, 1862

Range (P): Philippines (Haugum & Collins, 1987; Treadaway, 1995), Kep. Talaud, Kep. Sangihe, ?Sulawesi.

Foodplants: *Citrus* (Rutaceae). Ae (1977) described the early stages.

Status: insufficiently known (New & Collins, 1991).

P. (M.) fuscus Goeze, 1779

(Blue Helen)

Range (3+4+5): Lesser Sunda Islands (including Bali), Sulawesi Region, N & C Maluku, New Guinea region, Australia, Solomon Islands, Vanuatu. The *fuscus* complex consists of three allopatric species (Hancock, 1983a, 1985, 1992) distributed from Asia to Vanuatu.

Foodplants: *Morinda* (Rubiaceae); *Bosistoa*, *Citrus*, *Clausena*, *Euodia*, *Fagara*, *Geijera*, *Glycosmis*, *Halfordia*, *Microcitrus*, *Micromelum*, *Murraya*, *Zanthoxylum* (Rutaceae). Igarashi & Fukuda (2000) illustrate eggs, larvae and pupae (see also Igarashi, 1979).

Status: not known to be threatened.

P. (M.) fuscus minor Oberthür, 1879

Range: Sulawesi (N), Kep. Sangihe (Sangihe, Siao).

P. (M.) fuscus pertinax Wallace, 1865

Range: Sulawesi (S, SE: Roos, 1995), Kabaena. Jurriaanse & Lindemans (1920) suggested that a separate subspecies may fly on Kabaena, but the three females in Coll. Lindemans in the Leiden Museum, although variable in the extension of white on the hindwing, do not warrant separation (see also Roos, 1995).

P. (M.) fuscus lunifer Rothschild, 1895

Range: Kep. Talaud (Salebabu, ?Karakelong).

P. (M.) fuscus porrothenus Jordan, 1909

Range: Sulawesi (SW), Kalao, Tanahjampea, ?Salayar.

P. (M.) fuscus metagenes Fruhstorfer, 1904

Range: Kep. Tukangbesi (Binongko).

P. (M.) fuscus talyabona Joicey & Talbot, 1932

Range: Kep. Sula (Mangole, Sanana).

P. (M.) alphenor Cramer, 1776

(Philippine Mormon)

Range (1+2+3+4): Philippines (including Palawan), Palau Islands, Kep. Talaud, Kep. Sangihe, Kep. Sula, N & C Maluku, Misool, ?New Guinea (not noted by Parsons, 1999). This and the next two species belong to the *polytes*-group, five species with a combined distribution ranging from Sri Lanka to the Solomon Islands.

Status: not known to be threatened.

****P. (M.) alphenor perversus*** Rothschild, 1895 (= *P. polytes alpheios* Jordan, 1909, see Moonen, 1998)

Range : Sulawesi (N), Kep. Talaud, Kep. Sangihe.

****P. (M.) alphenor polycritos*** Fruhstorfer, 1901

Range : Kep. Banggai (Peleng), Kep. Sula (Taliabu, Sanana).

P. (M.) polytes Linnaeus, 1758

(Common Mormon)

Range (5+6+7): Sri Lanka, India, Indo-China, China, Ryukyu Islands, Malay Peninsula, Sumatra, Java, Lesser Sunda Islands, Borneo, Philippines (Batan Islands only), Sulawesi Region.

Foodplants: *Aegle*, *Atalantia*, *Citrus*, *Clausena*, *Euodia*, *Fortunella*, *Glycosmis*, *Micromelum*, *Murraya*, *Paramignya*, *Poncirus*, *Toddalia*, *Triphasia*, *Zanthoxylum* (Rutaceae). Igarashi (1979) and Bascombe *et al.* (1999) illustrate the early stages.

Status: common.

****P. (M.) polytes alcindor*** Oberthür, 1879

Range: Sulawesi (N, C, S, SE), Kabaena, Butung, Salayar. See Moonen (1998).

****P. (M.) polytes tucanus*** Jordan, 1909

Range: Kep. Tukangbesi (Binongko, Kaledupa).

****P. (M.) jordani*** Fruhstorfer, 1906

(Jordan's Mormon—Pl. 4, figs 3, 4)

Range (E): Sulawesi (N).

Note: the females of this rare species look and fly remarkably like the danaine *Idea blanchardii* (Pl. 16, fig. 2), with which they occur locally in the Minahassa Peninsula (RIVW, pers. obs.).

Status: rare (Collins & Morris, 1985). See New & Collins (1991).

P. (M.) rumanzovia Eschscholtz, 1821

(Red Mormon)

Range (P): Philippines (excluding Balabac, and central and southern Palawan: see Treadaway, 1995), Kep. Talaud, Kep. Sangihe (Sangihe, Siao). This and the next 2 species belong to the *memnon*-group, 13 species with a collective range from India to the Philippines, Sulawesi, Moluccas and Lesser Sunda Islands.

Foodplants: *Atalantia*, *Citrus* (Rutaceae).
Status: not known to be threatened.

P. (M.) memnon Linnaeus, 1758
(Great Mormon)

Range (P): north-east India, Indo-China, China, Taiwan, southern Japan, Malay Peninsula, Sumatra, Java, Lesser Sunda Islands (to Alor), Borneo, Kangean, Kalao, ?Maluku (?Obi: *P. memnon nestor* Talbot, 1929; ?Ambon; note: a recently introduced hybrid "race" of *P. memnon* is now widespread in C Maluku; Andrew Rawlins, pers. comm.).

Foodplants: *Aristolochia* (Aristolochiaceae) ; *Magnolia*, *Michelia* (Magnoliaceae) ; *Atalantia*, *Citrus*, *Fortunella*, *Paramignya*, *Poncirus*, *Severinia*, *Toddalia*, *Zanthoxylum* (Rutaceae). Igarashi (1979) and Bascombe *et al.* (1999) illustrate the early stages.

Status: not threatened.

****P. (M.) memnon kalaomemnon*** Hachitani, 1987

Range: Kalao.

****P. (M.) ascalaphus*** Boisduval, 1836
(Sulawesi Blue Mormon—Pl. 4, fig. 1)

Range (R): Sulawesi Region.

Foodplants: *Citrus* (Rutaceae). Igarashi (1979) illustrates the early stages.

Status: not known to be threatened.

****P. (M.) ascalaphus ascalaphus*** Boisduval, 1836

Range: Sulawesi, Salayar, Butung (Fujioka *et al.*, 1997).

****P. (M.) ascalaphus munascalaphus*** Hachitani, 1988

Range: Muna.

****P. (M.) ascalaphus fukuyamai*** Detani, 1983

Range: Kep. Banggai (Peleng) (Fujioka *et al.*, 1997, record material from Peleng as nominate subspecies). ****P.***

(M.) ascalaphus ascalon Staudinger, 1895

Range: Kep. Sula (Sanana).

Subgenus ***PRINCEPS*** Hübner, [1807]

(swallowtails—not illustrated)

Range: 19 species divided amongst 6 species groups. Afrotropical except one invasive species occurring from the Arabian Peninsula eastward through the Oriental and Australian Regions, and into the Pacific (Hawaii and possibly other Pacific islands).

Foodplants: as genus, but not including Apiaceae.

P. (Pr.) demoleus Linnaeus, 1758

(Lime, Lemon, or Chequered Swallowtail)

Range (P): Arabia, Afghanistan, Oriental and Australian Regions, including Malay Peninsula, Sumatra, Java (Kato, 1989; sporadic introduction?—see Moonen, 1991), Lesser Sunda Islands, Borneo (Otsuka, 1988), Palawan, Philippines, Irian Jaya (Moonen, 1999), Australia (Braby, 2000) and Papua New Guinea (Parsons, 1999; Igarashi & Fukuda, 2000), but absent from the Sulawesi Region (except Kep. Sula, Kep. Sangihe and Kep. Talaud) and Maluku. The other four species belonging to the *demoleus*-group occur in the Afrotropical Region, three being Madagascan endemics.

Foodplants: *Cullen* (Australia; Braby, 2000; previously included in *Psoralea*), *Psoralea* (Fabaceae); *Fagraea* (Loganiaceae); *Michelia* (Magnoliaceae); *Ziziphus* (Rhamnaceae); *Acronychia*, *Aegle*, *Atalantia*, *Chloroxylon*, *Citrus* (cultivars!), *Clausena*, *Flindersia*, *Fortunella*, *Glycosmis*, *Limonia*, *Microcitrus*, *Micromelum*, *Murraya*, *Ruta*, *Zanthoxylum* (Rutaceae). Igarashi (1979) illustrates all life stages.

Status: common.

P. (Pr.) demoleus libanius Fruhstorfer, 1908

Range: Taiwan, Philippines (including Palawan), Kep. Talaud, Kep. Sangihe (Sangihe; F. Kodong, pers. comm.), Kep. Sula (Sanana).

LEPTOCIRCINI Kirby, 1896 (= Graphiini, = Lampropterini)

(kites, triangles, jays, swordtails and dragontails—Pl. 5)

Range: pantropics, with extensions into temperate regions; about 150 species in 7 genera, only 2 of which occur in the Sulawesi Region.

Foodplants: primarily Annonaceae; also Lauraceae, Rosaceae.

Key works: Tsukada & Nishiyama (1982), Hancock (1983b, 1993), Collins & Morris (1985), Miller (1987).

GRAPHIUM Scopoli, 1777

(kites, triangles, jays and swordtails—Pl. 5, figs 1–6)

Range (W): palaeotropics, with weak extensions to temperate regions. Some 97 species in 5 subgenera, 3 of which occur in Sulawesi.

Foodplants: predominantly Annonaceae and Lauraceae; also ?Apocynaceae, Aquifoliaceae, Atherospermataceae, Euphorbiaceae, Hernandiaceae, Magnoliaceae, Monimiaceae, Myrtaceae, Rutaceae, Sapotaceae, Winteraceae.

Key works: Saigusa *et al.* (1982), Tsukada & Nishiyama (1982), Collins & Morris (1985), Miller (1987), Hancock (1993).

Subgenus **GRAPHIUM** Scopoli, 1777

(Pl. 5, figs 2–4, 6)

Range: Indo-Australian region, extending to Japan. About 28 species (6 in Sulawesi) in 5 species groups (3 in Sulawesi).

Foodplants: range similar to genus.

G. (G.) codrus Cramer, 1779

(Eastern Olive Triangle—Pl. 5, fig. 6)

Range (2+3+4): Philippines (excluding Palawan), Sulawesi Region, N & C Maluku, New Guinea region, Solomon Islands. This and the next two species are members of the *sarpedon*-group, ten species with a combined widespread distribution from Sri Lanka to Japan, New Caledonia and Tasmania. *G. empedovana* Corbet, which occurs throughout the Greater Sundas, is sometime included as a subspecies of *codrus* (see Collins & Morris, 1985).

Foodplants: *Annona*, *Uvaria* (Annonaceae); *Hernandia* (Hernandiaceae); ?*Thespesia* (Malvaceae). Igarashi (1979) and Igarashi & Fukuda (2000) illustrate larvae and pupae.

Status: not known to be threatened.

***G. (G.) codrus celebensis** Wallace, 1865

Range: Sulawesi, Kep. Banggai (Peleng).

***G. (G.) codrus taloranus** Jordan, 1909

Range: Kep. Talaud.

***G. (G.) codrus stiris** Jordan, 1909

Range: Kep. Sula (Sanana).

***G. (G.) monticolus** Fruhstorfer, 1896

(Sulawesi Blue Triangle—Pl. 5, fig. 4)

Range (E): Sulawesi.

Note: long treated as a subspecies of *G. sarpedon*, separation as a montane Sulawesi endemic appears justified (d'Abrera, 1982; Roos, 1993; Moonen, 1998; Parsons, 1999).

Foodplants: According to Toxopeus (1950), can be bred on (literally) the same plant as *G. anthedon milon*—unfortunately he did not say what it was! Based on Igarashi & Fukuda (2000), possibly *Cinnamomum* (Lauraceae).

Status: not known to be threatened.

***G. (G.) monticolus textrix** Tsukada & Nishiyama, 1980 (= *longilinea* Joicey & Talbot, 1922; = *longilineatus* Toxopeus, 1950; unavailable names)

Range: Sulawesi (C).

Note: d'Abrera (1982) regarded this as a straight synonym of *monticolus*, but the work of Toxopeus (1950) indicates that this is not the case. Superficial examination of museum material even suggests that the two taxa could represent separate species.

***G. (G.) monticolus monticolus** Fruhstorfer, 1896

Range: Sulawesi (S).

G. (G.) anthedon Felder & Felder, 1864

(Wallacea Bluebottle)

Note: this species was long treated as a subspecies of *G. sarpedon*. Tsukada & Nishiyama (1980) recognised it as separate, under the name *G. milon* Felder & Felder, 1865, but this name is junior to *anthedon* Felder &

Felder, 1864 (Kirby, 1871; Moonen, 1998). Application of Article 23.9 (ICZN, 1999) to conserve the use of *milon* by giving it precedence over *antheodon* does not appear justifiable, given the relative obscurity of this taxon.

Foodplants: *Cinnamomum* (Lauraceae). Igarashi & Fukuda (2000) illustrate foodplant and early stages (as *G. milon*).

Range (3+4): Sulawesi Region, N & C Maluku.

Status: not known to be threatened.

**G. (G.) antheodon milon* Felder & Felder, 1865

Range: Sulawesi, Kep. Talaud, Kabaena, Butung, Kep. Banggai (Peleng). Fujioka *et al.* (1997) include material from Peleng and Kep. Sangihe in the following subspecies.

**G. (G.) antheodon coelius* Fruhstorfer, [May] 1899 (= *sulaensis* Lathy, June 1899)

Range: Kep. Sula (Mangole, Sanana).

G. (G.) eurypylus Linnaeus, 1758

(Pale Green Triangle, or Great Jay)

Range (W): northern India, Indo-China, China, Malay Peninsula, Sumatra, Java, Lesser Sunda Islands, Borneo, Palawan, Philippines, Sulawesi Region, Maluku, New Guinea region, Australia. This and the next species belong to the *eurypylus*-group, nine species which together have a widespread distribution extending from Sri Lanka to Japan, New Guinea and northern Australia.

Foodplants: *Annona* (also on introduced and cultivated species), *Artabotrys*, *Desmos*, *Fitzalania*, *Melodorum*, *Miliusa*, *Mitrephora*, *Polyalthia*, *Pseuduvaria*, *Rauwenhoffia*, *Saccopetalum*, *Uvaria* (Annonaceae); in Thailand on *Michelia* (Magnoliaceae); in Australia also found on introduced *Magnolia* (Magnoliaceae). Igarashi & Fukuda (2000) illustrate eggs, larvae and pupae.

Status: not known to be threatened.

**G. (G.) eurypylus pamphylus* Felder & Felder, 1865

Range: Sulawesi.

**G. (G.) eurypylus sangira* Oberthür, 1879

Range: Kep. Sangihe.

G. (G.) eurypylus gordion Felder & Felder, 1864

Range: Philippines, Kep. Talaud.

**G. (G.) eurypylus insularis* Rothschild, 1896

Range: Salayar, Kalao, Tanahjampea.

**G. (G.) eurypylus fumikoe* Detani, 1983

Range: Kep. Banggai (Peleng).

**G. (G.) eurypylus arctofasciatus* Lathy, 1899.

Range: Kep. Sula (Sanana).

**G. (G.) meyeri* Hopffer, 1874

(Meyer's Triangle—Pl. 5, fig. 2)

Range (R): Sulawesi Region.

Status: not known to be threatened.

**G. (G.) meyeri meyeri* Hopffer, 1874

Range: Sulawesi (see Roos, 1993), Kep. Banggai (Peleng).

**G. (G.) meyeri extremum* Tsukada & Nishiyama, 1980

Range: Kep. Sula (Sanana).

G. (G.) agamemnon Linnaeus, 1758

(Green-spotted Triangle, or Tailed Jay—Pl. 5, fig. 3)

Range (W): Sri Lanka, India, southern China, Indo-China, Malay Peninsula, Sumatra, Java, Lesser Sunda Islands, Borneo, Palawan, Philippines, Sulawesi Region, Maluku, New Guinea region, Solomon Islands, northern Australia. *G. agamemnon* is the only widespread member of the *agamemnon*-group of subgenus *Graphium*, the other six members being completely restricted to the Papuan region, to the east of Weber's Line.

Foodplants: *Ancana*, *Annona* (also on introduced and cultivated species), *Artabotrys*, *Cyathostemma*, *Desmos*, *Fissistigma*, *Fitzalania*, *Goniothalamus*, *Guatteria*, *Haplostichanthus*, *Meiogyne*, *Melodorum*, *Miliusa*, *Mitrephora*, *Oncodostigma*, *Polyalthia*, *Pseuduvaria*, *Rauwenhoffia*, *Rollinia*, *Uvaria*, *Xylophia* (Annonaceae); *Durio* (Bombacaceae); *Dioscorea* (Dioscoreaceae); *Cassia* (Fabaceae); *Cinnamomum*, *Cryptocarya* (Lauraceae); *Elmerillia*, *Magnolia*, *Michelia* (Magnoliaceae); *Piper* (Piperaceae); *Citrus* (Rutaceae). Igarashi & Fukuda (2000) illustrate the early stages; see also Igarashi (1979) and Bascombe *et al.* (1999).

Status: common.

**G. (G.) agamemnon comodus* Fruhstorfer, 1903

Range: throughout Sulawesi Region.

Subgenus *PATHYSA* Reakirt, 1865

(swordtails and zebras—Pl. 5, fig. 5)

Range: Oriental and Australian Regions. Collins & Morris (1985) recognised 23 species in two species groups, the *antiphates* group and the *macareus* group. These groups are recognised here as subgenus *Pathysa* and subgenus *Paranticopsis*, respectively. *Pathysa* includes about a dozen species, five of which occur in Sulawesi. Foodplants: Annonaceae, Lauraceae, Magnoliaceae.

**G. (Pat.) rhesus* Boisduval, 1836

(Monkey Swordtail)

Range (R): Sulawesi Region.

Status: not known to be threatened.

**G. (Pat.) rhesus rhesus* Boisduval, 1836

Range: Sulawesi (N, ?C, E, SE—see Roos, 1993), Butung.

**G. (Pat.) rhesus rhesulus* Fruhstorfer, 1902

Range: Sulawesi (?C, S), Kep. Banggai (Peleng).

**G. (Pat.) rhesus rhapsia* Jordan, 1908

Range: Tanahjampea, Kep. Tukangbesi.

**G. (Pat.) rhesus* subsp. (Okano, 1988)

Range: Kalao.

**G. (Pat.) rhesus parvimacula* Joicey & Talbot, 1922

Range: Kep. Sula (Sanana, Mangole).

**G. (Pat.) androcles* Boisduval, 1836

(Lion Swordtail)

Range (R): Sulawesi Region.

Status: not known to be threatened.

**G. (Pat.) androcles androcles* Boisduval, 1836

Range: Sulawesi (see Roos, 1993).

**G. (Pat.) androcles pelengensis* Detani, 1983

Range: Kep. Banggai (Peleng).

**G. (Pat.) androcles cleomenes* Fruhstorfer, 1911

Range: Kep. Sula (Sanana).

**G. (Pat.) dorcus* de Haan, 1840

(Tabitha's Swordtail—Pl. 5, fig. 5)

Range (E): Sulawesi.

Status: Insufficiently known (Collins & Morris, 1985; New & Collins, 1991).

**G. (Pat.) dorcus dorcus* de Haan, 1840

Range: Sulawesi (N; see Haugum, 1988).

**G. (Pat.) dorcus ventus* Tsukada & Nishiyama, 1980

Range: Sulawesi (C).

G. (Pat.) antiphates Cramer, 1775

(Five-bar Swordtail)

Range (5+6+7): Sri Lanka, southern and northern India, Indo-China, China, Malay Peninsula, Sumatra, Java, Lesser Sunda Islands, Borneo, southern Sulawesi Region.

Foodplants: *Annona*, *Desmos*, *Goniothalamus*, *Melodorum*, *Miliusa*, *Uvaria*, *Xylopi*a (Annonaceae); *Michelia* (Magnoliaceae). Igarashi & Fukuda (2000) illustrate the early stages.

Status: not known to be threatened.

**G. (Pat.) antiphates kurosawai* Igarashi, 1979

Range: Sulawesi (C, S).

G. (Pat.) antiphates kalaoensis Rothschild, 1896

Range: Lesser Sunda Islands (Lombok to Alor), Kalao, Tanahjampea.

G. (Pat.) euphrates Felder & Felder, 1862
(Euphrates Swordtail)

Range (1+2+3): Banggai (small island between Borneo and Balabac), Balabac, Palawan, Philippines, Sulawesi, N Maluku (Halmahera and Bacan: Andrew Rawlins, pers. comm.). See Tsukada & Nishiyama (1980), Page (1987).

Foodplants: Lauraceae.

Status: not known to be threatened.

***G. (Pat.) euphrates elegantia** Tsukada & Nishiyama, 1980

Range: Sulawesi (S).

Subgenus **PARANTICOPSIS** Wood-Mason & de Nicéville, 1887
(zebras—Pl. 5, fig. 1)

Range: Oriental and Australian Regions. Only two species of this group (including one of the two species in Sulawesi) are found east of the Wallace Line. These eastern species do not occur beyond New Guinea. Collins & Morris (1985) distinguished the 12 species involved as the *macareus* group of the subgenus *Pathysa*.

Foodplants: Aquifoliaceae (Hancock, 1983).

***G. (Par.) encelades** Boisduval, 1836
(Sulawesi Zebra)

Range (R): Sulawesi, Kep. Banggai (Peleng).

Status: not known to be threatened.

G. (Par.) deucalion Boisduval, 1836
(Yellow Zebra—Pl. 5, fig. 1)

Range (3): Sulawesi, Kep. Banggai, northern Maluku, Biak (Irian Jaya).

Note: inclusion of the Biak population (*felixi* Joicey & Noakes) within *G. deucalion* follows the novel suggestion of Hancock (1979), but Parsons (1999) appears to retain *felixi* as a subspecies of *G. thule* Wallace (from Waigeo and New Guinea).

Status: not known to be threatened.

***G. (Par.) deucalion deucalion** Boisduval, 1836

Range: Sulawesi.

***G. (Par.) deucalion marabuntana** Detani, 1983

Range: Kep. Banggai (Peleng).

LAMPROPTERA Gray, 1832
(dragontails—Pl. 5, fig. 7)

Range (1+2+6+7): Assam, Indo-China and southern China south to Sumatra, Java, Philippines and Sulawesi Region. Two species only; both occur together throughout much of their range, except that *L. meges*, the species found in Sulawesi, exceeds the range of *L. curius* by extending through the Philippines proper to Sulawesi and Kep. Banggai.

Foodplants: Hernandiaceae.

Key works: Tsukada & Nishiyama (1982), Collins & Morris (1985).

L. meges Zinken, 1831
(Green Dragontail—Pl. 5, fig. 7)

Range (1+2+6+7): Assam, Indo-China, Hainan, Malay Peninsula, Sumatra, Java, Borneo, Palawan, Philippines, Sulawesi.

Foodplants: *Illigera* (Hernandiaceae). In the Philippines also recorded from *Zanthoxylum* (Rutaceae). Igarashi & Fukuda (2000) illustrate eggs, larvae and pupae.

Status: not known to be threatened (in Indonesia).

***L. meges ennius** Felder & Felder, 1865

Range: Sulawesi (N, C, S, SE; see also Roos, 1993), Kep. Banggai (Peleng).

***L. meges akirai** Tsukada & Nishiyama, 1980

Range: Sulawesi (S).

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ADDITIONAL REFERENCE

Fujioka, T., Tsukiyama, H. & Chiba, H. 1997. *Japanese butterflies and their relatives in the world I*. ISBN4-88293-146-X C3645. Japan.

LEGENDS INCLUDED HERE AS CROSS-CHECK; THE NAMES AND FIGURE NUMBERS HAVE BEEN UPDATED AND CHECKED OFF AGAINST THE LIST BY RIVW, 21.IV.2002

Plate 3 Papilionidae (Figs 1-8, Papilioninae, Troidini). **1:** *Troides (Ripponia) hypolitus cellularis* Rothschild (female), Sulawesi (Gorontalo, 1896, A. W. Mucks, J. J. Joicey Coll.). **2:** *Pachliopta polyphontes polyphontes* Boisduval (male), Sulawesi (Toli-Toli, xi-xii.1895, H. Fruhstorfer, Fruhstorfer Coll.). **3:** *Atrophaneura dixonii* Grose-Smith (male), Sulawesi (Palopo, 8.vi.1975, C. G. Treadaway). **4:** the same (holotype female), Sulawesi (N. Sulawesi, Bhoole, F. Dixon, ex Grose-Smith, J. J. Joicey Coll.). **5:** *Troides (Troides) helena hephaestus* Felder & Felder (male), Sulawesi (Tondano, Fruhstorfer Coll.). **6:** *Losaria palu* Martin (male), Sulawesi (Palu, 14.iv.1983, ex D. L. Hancock). **7:** *Atrophaneura kuehni kuehni* Honrath (male syntype), Sulawesi (Tombogu, 1885, H. Kühn, H. J. Adams Bequest). **8:** *A. kuehni mesolamprus* Rothschild (female), Sulawesi (Toli Toli, xi-xii.1895, H. Fruhstorfer, H. Fruhstorfer Coll.).

Plate 4 Papilionidae (Figs 1-8, Papilioninae, Papilionini). **1:** *Papilio (Menelaides) ascalaphus ascalaphus* Boisduval (female), Sulawesi (N. Sulawesi, Djiko Malobok, Bolaang Magondouw, 10.2.1927, *Braekel*, J. J. Joicey Coll.). **2:** *Chilasa (Chilasa) veiovis* Hewitson (male), Sulawesi (Ujung Pandang, 1896, *W. Doherty*, C. Oberthür Coll.). **3:** *Papilio (Menelaides) jordani* Fruhstorfer (male), Sulawesi (N. Sulawesi, Djiko Malobok, Bolaang Magondouw, 25.vii.1927, *Braekel*, J. J. Joicey Coll.). **4:** the same (female), Sulawesi (N. Sulawesi, ex Niepelt, ex Joicey, H. M. Peebles Coll.). **5:** *Papilio (Achillides) blumei blumei* Boisduval (male), Sulawesi (Tenggari, 1898, C. Oberthür Coll.). **6:** *Papilio (Menelaides) sataspes sataspes* Felder & Felder (female), Sulawesi (Tondano, Fruhstorfer Coll.). **7:** *Papilio (Menelaides) gigon gigon* Felder & Felder (male), Sulawesi (Gorontalo, 1896, *A. W. Mucks*, P. I. Lathy Coll.). **8:** *Papilio (Achillides) peranthus insulicola* Rothschild (male), Sulawesi (between Maros and Tjamba, 1898, *W. Doherty*, C. Oberthür Coll.).

Plate 5 Papilionidae (Figs 1-7, Papilioninae, Leptocircini). **1:** *Graphium (Paranticopsis) deucalion deucalion* Boisduval (male), Sulawesi (Tondano, 9.10.1899, R. E. Turner Coll.). **2:** *Graphium (Graphium) meyeri* Hopffer (male), Sulawesi (Ujung Pandang, 1896, W. Doherty, C. Oberthür Coll.). **3:** *Graphium (Graphium) agamemnon comodus* Fruhstorfer (male), Sulawesi (Tonsea Lama, 29.iii.1920, ex Zoological Museum Buitenzorg). **4:** *Graphium (Graphium) monticola* CHECK!!!! Fruhstorfer (male), Sulawesi (Bua-Kraeng, 5000', ii.1896, H. Fruhstorfer, Fruhstorfer Coll.). **5:** *Graphium (Pathysa) dorcus dorcus* de Haan (male), Sulawesi (no data, ?ex Honrath, H. J. Adams Bequest). **6:** *Graphium (Graphium) codrus celebensis* Wallace (male), Sulawesi (Toli-Toli, xi-xii.1895, H. Fruhstorfer, Rothschild Bequest). **7:** *Lamproptera meges akirai* Tsukada & Nishiyama (male), Sulawesi (Ujung Pandang, 1896, W. Doherty, C. Oberthür Coll.).

PAPILIONID RANGES (uncorrected at 21.iv.2002: Rienk to go through main list and put direct into spreadsheet; note that list of genera has changed, and some extra endemics, no *G. sarpedon* etc.)

(E)

- **A. kuehni* Honrath, 1886
- **A. dixonii* Grose Smith, 1901
- **L. palu* Martin, 1912
- **C. (C.) veiovii* Hewitson, 1865
- **P. (A.) blumei* Boisduval, 1836
- **P. (M.) jordani* Fruhstorfer, 1906
- **G. (Pat.) dorcus* de Haan, 1840

(R)

- **P. (M.) gigon* Felder & Felder, 1864
- **P. (M.) satespes* Felder & Felder, 1864
- **P. (M.) ascalaphus* Boisduval, 1836
- **G. (G.) meyeri* Hopffer, 1874
- **G. (Pat.) rhesus* Boisduval, 1836
- **G. (Pat.) androcles* Boisduval, 1836
- **G. (Par.) encelades* Boisduval, 1836

(L)

- **T. (T.) dohertyi* Rippon, 1893

(P)

- P. adamas* Zinken 1831
- P. (M.) hipponous* Felder & Felder, 1862
- P. (M.) rumanzovia* Eschscholtz, 1821
- P. (M.) memnon* Linnaeus, 1758
- P. (Pr.) demoleus* Linnaeus, 1758

(3)

- P. polyphontes* Boisduval, 1836
- G. (Par.) deucalion* Boisduval, 1836

(4)

- T. (T.) oblongomaculatus* Goeze, 1779

(5)

- T. (T.) haliphron* Boisduval, 1836

(3+4)

- T. (R.) hypolitus* Cramer, 1775
- G. (G.) anthedon* Felder & Felder, 1864

(5+6)

- P. (A.) peranthus* Fabricius, 1787

(1+2+3)

- G. (Pat.) euphrates* Felder & Felder, 1862

(1+6+7)

- LOSARIA* Moore, [1902]

(2+3+4)

G. (G.) codrus Cramer, 1779

(3+4+5):

P. (M.) fuscus Goeze, 1779

(5+6+7)

T. (T.) helena Linnaeus, 1758
P. (M.) polytes Linnaeus, 1758
G. (Pat.) antiphates Cramer, 1775

(1+2+3+4)

P. (M.) alphenor Cramer, 1776

(1+2+6+7)

ATROPHANEURA Reakirt, 1865

[CHECK]

LAMPROPTERA Gray, 1832
L. meges Zinken, 1831

(1+2+5+6+7)

CHILASA Moore, [1881]
G. (G.) sarpedon Linnaeus, 1758

(W)

TROIDES Hübner, 1819 [really Asian!!!!]
PACHLIOPTA Reakirt, [1865]
PAPILIO Linnaeus, 1758
GRAPHIUM Scopoli, 1777
G. (G.) eurypylus Linnaeus, 1758
G. (G.) agamemnon Linnaeus, 1758

