



Research Paper

Record of Indian Common Mormon *Papilio polytes romulus* Cramer, 1775 (Lepidoptera: Papilionidae) from Chauka, Chhatarpur district, Madhya Pradesh, India with systematic account, distribution, larval host plants and other aspects

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Abstract: *Papilio polytes romulus*, the Indian Common Mormon, a beautiful butterfly, belonging to family Papilionidae, is recorded here from Chauka, Chhatarpur district (Madhya Pradesh, India) with its systematic account, altitudinal range, distribution, habitat, food and feeding, breeding, behaviour and larval host plants.

Keywords: Record, *Papilio polytes romulus*, Chauka, Chhatarpur

Introduction:

Butterfly fauna / diversity of Madhya Pradesh has attracted the attention of various workers during the past (Betham, 1890, 1891; Bingham, 1907; Talbot, 1939; Chandra, 2002; Chandra et al., 2000a, b; Choudhury and Khan, 2002; Chandra et al., 2007; Siddiqui and Singh, 2004; Tiple and Kumar, 2012) but no locality record of *Papilio polytes romulus* Cramer, 1775, the Indian Common Mormon from Chhatarpur is available, though recorded from the district. Recently a good specimen was sighted in a residential area of Chauka in

the district which has been recorded here with locality, systematic account, altitudinal distribution, habitat, food & feeding, breeding, behaviour and larval host plants.

Additionally, Andaman & Nicobar Island populations of the species have been considered as *Papilio polytes stichioides* Evans, 1927, the Andaman Common Mormon and *Papilio polytes nicobarus* Felder, 1862, the Nicobar Common Mormon, based on Varshney and Smetacek (2015) and Saji et al. (2021).

Study site: Chhatarpur, Madhya Pradesh

Physiography: Chhatarpur lies in north-east of Madhya Pradesh state, bordering Uttar Pradesh state and is located at coordinates 24. 63°N and 79.5°E with an av. elevation of 305 m. Chauka is a village under tehsil Chhatarpur on 226 m elevation.

Climate: Humid-subtropical with hot (47° C in June) summers, cool (1° C in January) winters and rainy monsoon season during

July-August. Temperature during sighting of butterfly at village Chauka was around 20° C with clear sky.

Flora Around: Herbs, shrubs and trees under following families (Husain and Dubey, 2021; personal information):

Families Acanthaceae (*Asystasia* spp., *Peristrophe* spp. and), Anacardiaceae (*Lannea coromandelica*), Apocyanaceae (*Carissa carandas* and *Holarrhena pubescens*), Arecaceae (*Dypsis* sp.), Apocyanaceae (*Carissa carandas* and *Holarrhena pubescens*), Arecaceae (*Dypsis* sp.), Capparaceae (*Capparis deciduas* and *Maerua arenaria*); Burseraceae *Boswellia serrata*; Combretaceae (*Anogeissus latifolia*, *A. pendula* and *Terminalia chebula*), Ebenaceae (*Diospyros malabarica*, *D. montana*), Euphorbiaceae (*Euphorbia nivulia* and *Jatropha* spp.), Lamiaceae (*Anisomeles indica*, *Hyptis sauveolens*, *Leonotis nepetifolia* and *Vitex negundo*), Leguminosae (*Acacia catechu*, *A. farnesiana*, *A. leucophloea*, *Butea monosperma*, *Mimosa himalayana*, *Prosopis juliflora*, *Senna auriculata*, *S. stipulacea*, *S. tora* and *Tephrosia purpurea*), Lamiaceae (*Anisomeles indica*, *Hyptis sauveolens*, *Leonotis nepetifolia* and *Vitex negundo*), Lythraceae (*Lagerstroemia parviflora* and *Woodfordia fruticosa*), Mavaceae (*Helicteres isora* and *Hibiscus rosa-sinensis*), Moraceae (*Ficus benjamina*), Olacaceae (*Jasminum* spp., *Nyctanthes arbor-tristis* and *Olex scandens*), Phyllanthaceae (*Phyllanthus emblica*), Poaceae (*Aristida hystrix*, *Heteropogon contortus*, *Iseilema laxum* and *Themeda quadrivalvis*), Rhamnaceae (*Ziziphus oenopolia* and *Z. xylopyrus*), Rubiaceae (*Ixora pavetta* and *Mussaenda* spp.), Rutaceae (*Citrus* spp.), Rutaceae (*Citrus limon*), Salicaceae (*Flacourtia indica*), Sapotaceae (*Madhuca longifolia*), Scrophulariaceae (*Buddleja asiatica*) and Verbenaceae (*Lantana camara*).

SYSTEMATIC ACCOUNT:

Papilio polytes romulus Cramer, 1775
Indian Common Mormon

Synonymy:

Papilio romulus Cramer, 1775. *Pap. Exot.*, 1 (1-7): 67, pl. 43, fig. A (type-locality: S. India, Coromandel Coast); Cramer, 1776. *Pap. Exot.*, 1: 67, pl. 43, fig. A (female); Moore, 1881. *Lep. Ceylon*, 1: 150, pl. 59, fig. 1b, 1c (female).

Papilio cyrus Fabricius, 1793. *Ent. Syst.*, 3 (1): 7 (female).

Papilio mutius Fabricius, 1793. *Ent. Syst.*, 3 (1): 3 (type-locality: Tranquebar).

Princeps heroicus stichius Huebner, 1806-1818. *Samml. Exot. Schmett.*, 1, fig. 112 (wing-span: 107 mm).

Papilio polytes var. *ceylanicus* C. & R. Felder, 1864. *Verh. Zool.-bot. Ges. Wien*, 14 (3): 319, 367 (type-locality: Rambodde, Ceylon).

Papilio sakontala Hewitson, 1852. *Trans. Ent. Soc. Lond.*, 2 (New Series): 24, pl. 5, fig. 1.

Laertias romulus, Moore, 1881. *Lepid. Ceylon*, 1 (4): 150, pl. 59, figs. 1 (male), 1a (female), 1c (female, part).

Papilio walkeri Janson, 1879. *Cist. Ent.*, 2: 433, pl. 8, fig. 2 (male) (type-locality: S. India) (wing-span: 113 mm).

Papilio polytes, Davidson & Aitken, 1890. *J. Bombay nat. Hist. Soc.*, 5: 366 (larva, pupa).

Papilio polytes f. *cyrus* Rothschild, 1895. *Novit. Zool.*, 2 (3): 347 (female).

Papilio polytes f. *stichius*, Rothschild, 1895. *Novit. Zool.*, 2 (3): 347 (female).

Papilio polytes romulus, Rothschild, 1895. *Novit. Zool.*, 2 (3): 347; Bingham, 1907.

Faun. Brit. India, 2 (1st ed.): 62; Talbot, 1939. *Faun. Brit. India*, Butterflies, 1: 178-184, figs. 46 (male), 47, 48 (female), pl. I, figs. 18a, b (larva), fig. 19 (pupa); Chandra et al., 2000a. *Rec. zool. Surv. India*, 98 (4): 12; Huang, 2003. *Neue. Ent. Nachr.*, 55: 45; Yoshino, 2018. *Butterfly Science*, 12: 70 (note), 74 (list); Varshney

& Smetacek, 2015. *A synoptic catalogue of the butterflies of India*: 8; Saji et al., 2021. In: Kunte, Sondhi, & Roy (Chief Editors). *Butterflies of India*, v. 3.17.

Laertias sakontala Moore, 1903. *Lep. Indica*, 6: 232, pl. 465, fig. 1, 1a (male) (type-locality: Sylhet).

Papilio polytes polytes Fruhstrofer, 1903. *Dt. Ent. Z. Iris*, 15 (2): 309 (type-locality: Okinawa; Ishigaki).

Papilio polytes pammon f. *cyroides* Fruhstrofer, 1909. *Ent. Zs.*, 22 (43): 178 (female) (type-locality: Sikkim).

Papilio polytes f. *rubida* Fruhstrofer, 1909. *Ent. Zs.*, 22 (43): 179 (female) (type-locality: Malabar).

Papilio polytes romulus ab. *astreans* Jordan, 1909. In: Seitz, *Grossschm. Erde*, 9: 61, fig. 32a (male) (type-locality: S. India).

Papilio polytes romulus f. *cyrus*, Jordan, 1909. In: Seitz, *Macrolep.*, Fauna Indo-Austral., 9: 61, fig. 31a.

Papilio polytes neomelanides Fruhstrofer, 1909. *Ent. Zs.*, 22 (43): 178 (type-locality: Perak; Singapore).

Papilio ab. *coomani* Dufrane, 1946. *Bull. Ann. Soc. Ent. Belg.*, 82: 116.

Papilio joannisi Dufrane, 1946. *Bull. Ann. Soc. Ent. Belg.*, 82: 116.

Papilio ab. *obliterata* Dufrane, 1946. *Bull. Ann. Soc. Ent. Belg.*, 82: 116.

Papilio polytes polycles, Kudma, 1974. *Atlanta*, 5: 95.

Papilio polytes, Alleppa & Shrivastava, 2016. *Open Science Journal*, 1 (2): 4.

Classification: Order Lepidoptera, superfamily Papilionoidea, family Papilionidae, subfamily Papilioninae, tribe Papilionini, genus *Papilio* Linnaeus, 1758.

Material Examined: 1 example (female); Village Chauka, District Chhatarpur, Madhya Pradesh, India; 10.09.2021; by 2nd author (AKD).

Diagnostic Features: Dark-coloured swallow-tailed butterfly, exhibiting sexual dimorphism.

Male: Fore-wings with a series of white spots decreasing in size towards apex; hind-wings with a complete band of elongated white spots; abdomen black; smaller than females.

Monomorphic, occurring in a single colour form.

Female: Fore-wings with faded white lines towards margin; hind-wings with squarish red markings on outer side and four elongated white patches in middle, edged with red on inner side; abdomen black with red cross bands.

Polymorphic form, occurring in different colour forms.

Wing-span: 90-110 mm (Moore, 1901-1903); 92-114 mm (Bingham, 1907); 90-100 mm (Talbot, 1939; wikipedia); 100 mm (present specimen).

ALTITUDINAL RANGE: Below 2,000 m elevation (Varshney and Smetacek, 2015).

DISTRIBUTION:

Chhatarpur district: Chhatarpur (old record without any locality, Chandra et al., 2007); Village Chauka (present locality record).

Rest of Madhya Pradesh: Balaghat, Bhind, Bhopal, Chhindwara, Dhar, Hoshangabad, Indore, Jabalpur, Mandla, Panna, Sidhi (Pachokhar) and Umairia districts Pachmarhi,

Rest of India: Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Chandigarh, Chhattisgarh, Delhi, Goa, Gujarat, Himachal Pradesh, Jammu and Kashmir, Jharkhand, Karnataka, Kerala, Lakshadweep, Maharashtra, Manipur, Mizoram, Odisha (Barkuda Island, Chilka Lake), Puducherry, Punjab, Sikkim, Tamil Nadu, Telangana, Tripura, Uttarakhand, Uttar Pradesh and West Bengal.

Elsewhere: Bangladesh, Cambodia, Malaysia, Myanmar, Nepal, Singapore, Sri Lanka and Thailand.

HABITAT: Light greenery, mostly gardens having nectar plants both in plains and hills.

FOOD AND FEEDING: Adults butterflies visit flowers, especially with long corollar tubes, like *Asystasia*, *Lantana*, *Jatropha*, *Ixora*, *Jasminum*, *Mussaenda*, *Peristrophe* and like in gardens, flower beds in residential dwellings and forest areas for nectar sucking by their long proboscis.

BREEDING: Eggs rounded and yellowish seen on leaves; last instar caterpillars with deep red osmeterium (a defensive organ on prothoracic segment) and yellowish-brown head and black and white oblique band on 8th and 9th segments; pupa light green and without any markings, with two projections on head and one on thorax (Bingham, 1907).

BEHAVIOUR: Males do mud-puddling in shaded areas and have been known to collect saline soil for minerals (Pola and García-París, 2005). It mimics unpalatable resembling butterflies to save herself from predators (Kunte et al., 2014).

LARVAL HOST PLANTS: *Aegle marmelos*, *Atalantia racemosa*, *Citrus aurantifolia*, *Citrus aurantium*, *Citrus Japonica* (syn. *Fortunella japonica*), *Citrus limon*, *Citrus maxima*, *Citrus medica*, *Citrus x polytrifolia* (syn. *Poncirus x polyandra*), *Citrus sinensis*, *Clausena anisata*, *Clausena excavata*, *Clausena lansium*, *Correa* spp., *Euodia* spp., *Glycosmis pentaphylla* (syn. *G. arborea*), *Glycosmis parviflora* (syn. *G. citricola*), *Glycosmis pentaphylla* (syn. *G. arborea*), *Micromelum* spp., *Murraya koenigii*, *Murraya paniculata*, *Paramignya* spp., *Ravenia spectabilis*, *Toddalia asiatica*, *Zanthoxylum armatum*, *Zanthoxylum avicennae* and *Zanthoxylum nitidum* (Rutaceae) (Wynter-Blyth 1957; Chandra et al., 2000a; Vane-Wright & de Jong, 2003; Kunte 2000, 2006; Robinson et al. 2010; Nitin et al., 2018; Saji et al. 2021; ftp.funet.fi; wikipedia).

Zanthoxylum rhetsa recorded by Chandra et al., (2000a) is presently considered unresolved (plantlist.org).

REMARKS: Chandra et al. (2000a) considered Andaman & Nicobar Island population also as *Papilio polytes romulus* but Varshney and Smetacek (2015) and Saji et al. (2021) treated as *Papilio polytes stichioides* Evans, 1927, the Common Andaman Mormon and *Papilio polytes nicobarus* Felder, 1862, the Common Nicobar Mormon from Andaman and Nicobar respectively.

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Figure 1. *Papilio polytes romulus*, the Common Mormon, female



Figure 2. *Papilio polytes romulus*, the Common Mormon, female