

Appendices

7. APPENDICES

Appendix A

Family and Species level Identification of documented butterfly species from the selected fragmented habitats of Gujarat

Sr. No.	Common name	Scientific Name	Species identification
Order Lepidoptera (Linnaeus, 1735) Insects with scaly wings Family Papilionidae Commonly known as Swallowtails; Tailed hind wings; Caterpillars possess forked organ-osmeterium-at the base of the back of the head			
1	Tailed Jay	<i>Graphium agamemnon</i> Linnaeus, 1758	Black butterfly with bring green spots and streaks on the wings; under wing with pale brown with black; red tonal spot on under hind wing; hind wing tail short
2	Common Jay	<i>Graphium doson</i> Felder & Felder, 1864	Black butterfly with pale blue, partially transparent central band of large spots and marginal row of smaller spots along the band; underside brown with similar but whitish markings; hind wing tail short
3	Spot Swordtail	<i>Graphium nomius</i> Esper, 1785	Whitish butterfly with broad, white-spotted black outer margins on upper side of both wings and similar white-spotted brown margins on underside of both wings; prominent central red spots on the underhand wings; hind wings with sword-like tails
4	Common Rose	<i>Pachliopta aristolochiae</i> Fabricius, 1775	Black red bodied butterfly; forewing elongated and black on both sides with paler greyish stripes in distal part of cell and between veins; hind wing tailed with white area made of elongated 5 spots

Sr. No.	Common name	Scientific Name	Species identification
			around end cell with lower spot pink tinged; series of deep red or brownish red spots on outer margin
5	Crimson Rose	<i>Pachliopta hector</i> Linnaeus, 1758	Bright crimson butterfly with large, glossy, bluish black with crimson spots on tailed hind wing; forewing with interrupted dorsal and apical white bands
6	Lime Butterfly	<i>Papilio demoleus</i> Linnaeus, 1758	Tailless hind wings; black butterfly with yellow spots; marginal and terminal rows of yellow spots on both wings on the upper side; abdomen lemon yellow with longitudinal black lines
7	Common Mormon	<i>Papilio polytes</i> Linnaeus, 1758	Jet black butterfly with row of white spots along the central region of the hind wing; series of smaller white spots on the margin of forewing
Family Pieridae Commonly known as Whites and Yellows; wings are mainly white or yellow with red, orange, yellow or black markings			
8	Western Striped Albatross	<i>Appias libythea</i> Fabricius, 1775	In dry season forms, upper forewings of male white with dark apical shading and terminal markings, inwardly produced along veins; under hind wing white; female- white, upper forewing apex and termed broadly black and devoid of spots; broadly blackened costa from base to bar at end cell; upper hind wing with black terminal spots; wet season forms- female darker than male
9	Pioneer	<i>Belenois aurota</i> Fabricius, 1793	Distinct 'hockey stick' mark at the front margin of the forewings; white with apical black margins on the upper side; unmarked hind wings except at the margin; bright yellow with marginal markings and black bands along the veins on the underside

Sr. No.	Common name	Scientific Name	Species identification
10	Common Emigrant	<i>Catopsilia pomona</i> Fabricius, 1775	Most variable butterfly species; wings color range from white to lemon yellow; the bases of all wings yellow on the upper side
11	Mottled Emigrant	<i>Catopsilia pyranthe</i> Linnaeus, 1758	White to greenish yellow butterfly; dull white upper side; underside mottled with light brown or green lines; under hind wings with or without distinct red-ringed silver spots in center; dry season forms- upper side have reddish brown to blackish markings
12	Common Gull	<i>Cepora nerissa</i> Fabricius, 1775	Upper side white & underside yellow; black veins and margins on the wings; prominent veins on the underside whereas upper side with faded veins; strongly marked females; wet season forms- bright yellow and deep black whereas dry season forms are dull yellow and faded black
13	Small Salmon Arab	<i>Colotis amata</i> Fabricius, 1775	Upper side salmon pink; black costal border touches the black spot at end cell; half apical region bears the spots of ground salmon color; dark outer border on the upper hind wings
14	Crimson Tip	<i>Colotis danae</i> Fabricius, 1775	Upper side white with bright crimson tip, black bordered on upper forewings; black band or spots along the termen on upper hindwings; yellowish apical area with pink marked inner border with dark reddish black spots on the under forewings; dark yellowish buff coloured underside hindwings
15	Small Orange Tip	<i>Colotis etrida</i> Boisduval, 1836	Upper side white with orange apical patch edged with black in males; upper forewings with small black cell spot; light black dust at the base of both wings; presence of costal black spot and series of large black marginal spots in upper hindwings

Sr. No.	Common name	Scientific Name	Species identification
16	Common Jezebel	<i>Delias eucharis</i> Drury, 1773	White upper side, bright yellow with black veins underside; underside with marginal series of more or less pentagonal shaped orange red spots
17	Small Grass Yellow	<i>Eurema brigitta</i> Stoll, 1780	Bright yellow; outer margin and apex broadly black with inner border edge evenly curved along the costa. Broadly and narrowly black on the outer margin of the upper hindwing
18	Common Grass Yellow	<i>Eurema hecabe</i> Linnaeus, 1758	Bright yellow butterfly; brown blotches on the underside of forewing; apex and termen broadly black on upper forewing; narrow black terminal border on upper hindwing
19	White Orange Tip	<i>Ixias marianne</i> Cramer, 1779	Upper side white with broad black borders; Upper side forewings with black apical band that encloses orange patch; black terminal border on upper hindwings; row of black spots in the orange portion in females
20	Yellow Orange Tip	<i>Ixias pyrene</i> Linnaeus, 1764	Upper side wings yellow; upper forewing black apical half which encloses an orange band; upper hind wing with black border; underside yellow with brown blotches; white or yellow upper side; extensive black areas on upper side
21	Psyche	<i>Leptosia nina</i> Fabricius, 1793	Bright white butterfly; black borders at the apex on the forewings; pale grey scales and faint green striations on the underside of the wings; prominent black spot on the fore wings

Sr. No.	Common name	Scientific Name	Species identification
22	Common Wanderer	<i>Pareronia hippia</i> Fabricius, 1787	Pale blue or bluish white on upper side in males; prominent marginal spots increases in size towards apex and black margins on upper forewings Female whitish with less blue marginal markings prominent on upper hindwing
Family Nymphalidae Commonly known as brush-footed butterflies; legs covered with long hairs; forelegs reduced; migrant and powerful fliers			
23	Tawny Coster	<i>Acraea terpsicore</i> Linnaeus, 1758	Bright tawny red coloured butterfly; small thorax; long and narrow abdomen; forewings and hindwings tawny red with black border; broader black border on the hindwings and encloses series of white spots; long and broad forewings with rounded apex; round hindwings
24	Angled Castor	<i>Ariadne ariadne</i> Linnaeus, 1763	Dark with regular black lines; forewing termen deeply concaved; darker brown with purplish brown markings on the underside; discal line beyond cell is angled in upper forewings
25	Common Castor	<i>Ariadne merione</i> Cramer, 1777	Rusty brown forewings and hindwings on the upper side; discal line on upper side- double and wavy; apex at upper forewings are slightly squarish; grayish brown with dark brown narrow bands on the underside
26	Common Nawab	<i>Charaxes athamas</i> Drury, 1770	Underside and upper side of forewings and hindwings with wide pale greenish- yellow discal band with small pale green spot near the apex on both wings and on both sides; hindwings with two sharp tails
27	Black Rajah	<i>Charaxes solon</i> Fabricius, 1793	Tailed hindwings; black to brown upper side with

Sr. No.	Common name	Scientific Name	Species identification
			row of closely spaced yellowish green discal spots on both wings; upper forewing with broken row of spots towards apex; presence of sub-marginal and marginal small spots; silvery grey with narrow black wavy lines on underside; underside hindwing with sub-marginal and marginal yellowish green spots; faint sub-marginal spots on under forewings
28	Painted Lady	<i>Vanessa cardui</i> Linnaeus, 1758	Pinkish red upper side with black spots, grey, black, white and red spots on the underside; black apex with three white conjoined apical spots and four sub marginal white spots on upper forewings; three central black spots on the upper forewings
29	Plain Tiger	<i>Danaus chrysippus</i> Linnaeus, 1758	Pale orange with black marginal borders; upper forewing with black tips with sub-apical white band of elongated spots; devoid of bold outlines to veins, hindwings with 3-4 discal spots on both sides; thorax black with white spots
30	Striped Tiger	<i>Danaus genutia</i> Cramer, 1779	Tawny with black bold veins, margins black with small white spots along border; broad black apex with white elongated sub-apical spots; underside paler but similar to upper side
31	Common Indian Crow	<i>Euploea core</i> Cramer, 1780	Upper side dark velvety brown; underside paler with white discal spots and 2 rows of marginal spots; 2 rows of small white spots borders all wings where inner spots larger on both wings which elongates in hindwing; underside forewing with white spot at end-cell; black thorax with white spots
32	Common Baron	<i>Euthalia aconthea</i> Cramer, 1777	Dark brown male- forewings with series of small white spots; pale brown female- forewings with

Sr. No.	Common name	Scientific Name	Species identification
			prominent white band; hindwings show presence of black dots; white underside with sparse black markings; healthy thorax as compared to abdomen
33	Great Eggfly	<i>Hypolimnias bolina</i> Linnaeus, 1758	Males- Upper side black with oval white spot with blue iridescence on each wing; upper hindwing spot bigger; row of big white spots along margin from apex to tornus on upper side; females- broader wings, dark brown without discal row of small white spots on upper side forewings and hindwings; mimic the Crow butterflies
34	Danaid Eggfly	<i>Hypolimnias misippus</i> Linnaeus, 1764	Male- jet black with 2 large spots- one large on hindwing and one small on the forewing; small white spot on the upper side forewing; golden yellow tinged light rusty brown underside; narrow white band on underside forewing and broad one at hindwing; female mimics Plain tiger- forewing apex black coloured with white band; black bordered hindwings with series of white spots
35	Peacock Pansy	<i>Junonia almana</i> Linnaeus, 1758	Tawny orange colored with prominent eyespots on both wings on upper side; large eye-spot on the upper hindwings; two smaller eye-spots on the upper forewings; squarish apex and concave termen of upper forewings; upper side with three narrow black lines borders both pair of wings
36	Grey Pansy	<i>Junonia atlites</i> Linnaeus, 1763	Grey coloured with dark brown lines on the upper side; series of discal eyespots on upper side of both wings
37	Yellow Pansy	<i>Junonia hierta</i> Fabricius, 1798	Bright yellow upper side; upper forewings with yellow markings on black apex, black dorsum,

Sr. No.	Common name	Scientific Name	Species identification
			tornus broadly black; large blue- pupilled eyespots prominent in females but not in males; narrow black margins at costa and termen on both wings; broadly black costal and basal areas of hindwing; upper hindwing with oval shining blue patch, larger in males; dull yellow females with two distal eyespots on upper hindwings; light greyish color with brown bands and lines
38	Chocolate Pansy	<i>Junonia iphita</i> Cramer, 1779	Pale to dark brown upper side with dark brown bands; series of small eyespots on upper hindwings; upper forewings may be or may not be devoid of small eyespots; leaf-like underside
39	Lemon Pansy	<i>Junonia lemonias</i> Linnaeus, 1758	Several eyespots on brown colored wings; upper forewings and hindwings with black and lemon yellow spots
40	Blue Pansy	<i>Junonia orithya</i> Linnaeus, 1758	Upper hindwings bright blue coloured; apex pale brown with white bands on the upper forewings; shiny blue in outer discal area below apex in upper forewings
41	Common Evening Brown	<i>Melanitis leda</i> Linnaeus, 1758	Large brown colored butterfly; brown upper side; upper side forewings with an eye-spot and white pupil surrounded by orange patches; dry season forms with angular apex of forewings
42	Common Bushbrown	<i>Mycalesis perseus</i> Fabricius, 1775	Brown butterfly; upper side forewing with eye spot on the outer margin; wet season form- upper side with white band from leading margin of the forewing to the tornus of hindwing; upper side with row of black eye spots with white centers present between the band and the wing margin; dry season

Sr. No.	Common name	Scientific Name	Species identification
			form usually devoid of white band; underside black eye spots appears as dots in dry season forms
43	Common Sailer	<i>Neptis hylas</i> Linnaeus, 1758	Black wings with two white bands composed of spots; narrow wings; forewing cell white with triangular white mark in front of it; chestnut coloured underside with central white band edged outwardly in black
44	Glassy Tiger	<i>Parantica aglea</i> Stoll, 1782	Upper side brown with bluish white transparent markings; forewing with pale streak in cell, divided by two dark lines; underlings paler
45	Common Leopard	<i>Phalanta phalantha</i> Drury, 1773	Bright tawny butterfly marked with black spots; pale and glossy underside; dry season form with purple glossy on the underside
46	Baronet	<i>Symphaedra nais</i> Forster, 1771	Tawny orange butterfly with outer narrow black discal line and black termen on forewings and hindwings; upper hindwings with discal black line broken into small spots; mid costa of upper hindwings with large black spot; black band beyond cell and black bar at the end-cell of upper forewing
47	Blue Tiger	<i>Tirumala limniace</i> Cramer, 1775	Pale blue streaks and spots against black or brown background; underside hindwing with pale or white cell, with thin black narrow forked streak in the middle; males smaller than females; characteristic flat pendulous pouch near the cell of the hindwing, which contains scent scales
48	Common Five-ring	<i>Ypthima baldus</i> Fabricius, 1775	Pale brown or whitish underside with brown streaks; underside forewing with large eyespot enclosed in a golden yellow ring; underside

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			hindwing with six eye spots in three pairs; upper side forewing with distinct eyespot (visible during basking)
49	Common Four-ring	<i>Ypthima huebneri</i> Kirby, 1871	Underside greyish brown; large yellow-ringed eyespot near apex and indistinct dull brown bands on underside forewings; 2-3 unpupilled eyespots near margin or none; upper hindwing tornal half not white;
Family Lycaenidae Commonly known as Blues; majority of these species have blue upper sides; threadlike tails; due to smaller size, forelegs non-functional			
50	Plum Judy	<i>Abisara echerius</i> Stoll, 1790	Tailless hindwing; Reddish brown butterfly with pale green eyes; toothed hindwing at vein 4, male with purple brown and female with brown upper side; forewings never held together parallel to each other
51	Angled Pierrot	<i>Caleta decidia</i> Hewitson, 1876	Tailed hindwings; black and white butterfly, with broad black markings on white underside; short narrow black streak from base into cell on underside forewing and outer broad angled black band from costa to dorsum; dark blackish with broad white band across entire upper hindwing-dorsum to end cell on upper forewing
52	Common Pierrot	<i>Castalius rosimon</i> Fabricius, 1775	White tipped black tailed hindwings; underside marked with black spots and streaks on white; under forewing with square black spots; metallic green spot at tornus in underside hindwing; white upper side with dark borders and black spots along with metallic blue scales in basal area

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53	Forget-Me-Not	<i>Catochrysops strabo</i> Fabricius, 1793	Tailed hindwing; narrow wings; underside with pale grey with white –edged fawn discal bars; underside forewings with small pale costal spot, near the discal bar; two white ringed black spots along the costa and two black tornal spots; underside hindwing with large yellow crowned tornal spot above tail
54	Lime Blue	<i>Chilades lajus</i> Stoll, 1780	Tailless hindwing; underside light with numerous dark spots; amongst such spots, one pair of spots on each wing are joined at right angles; upper side dull purplish blue with thin black border in males and females blackish brown with metallic blue wing bases
55	Plains Cupid	<i>Chilades pandava</i> Horsfield, 1829	White tipped tailed hindwing; underside with marginal and discal rows of linked spots, slightly brownish grey; underside forewing with unbroken discal row of spots; underside forewings devoid of spot in cell; underside forewing with four spots near base
56	Angled Sunbeam	<i>Curetis dentate</i> Moore, 1877	Tailless hindwing; faint discal bands on underside hindwings which are in line with bar at end cell; broad dark border widens to dark and broad dorsal area and prominent basal streak above the cell which leaves only basal red discal patch; upper hindwing with dark bar which defines the end cell
57	Indian Sunbeam	<i>Curetis thetis</i> Drury, 1773	Tailless hindwing; underside glossy white; and no small black dots except the presence from lines or bands; upper side golden red in males and orange discal patches in females

Sr. No.	Common name	Scientific Name	Species identification
58	Gram Blue	<i>Euchrysops cnejus</i> Fabricius, 1798	Tailed hindwing; underside hind wings with orange crowned black tornal spots with metallic silver centers, one on either side; males pale violet blue on upper side and females brown on upper side with slight blue scaling at the base of both wings
59	Indian Cupid	<i>Everes lacturnus</i> Godart, 1824	Tailed hindwing; underside white with few black spots; underside hindwings with two bright orange crowned black spots in spaces 2 and 3 on tornus; upper side dark blue in males with broad border on upper side forewings and two black tornal spots; black or brown female with or without pale blue discal areas
60	Common Cerulean	<i>Jamides celeno</i> Cramer, 1775	Tailed hindwing; wet season form- greyish white underside; dry season form- pale brown; underside forewing with three narrow white marginal lines and four vertical white discal lines; underside hindwing with six more white lines; underside glistening pale blue
61	Pea Blue	<i>Lampides boeticus</i> Linnaeus, 1767	Long, white tipped tailed hindwing; white underside with light or dark reddish line; distinct white band within the outer margin of the hind wing, where the lines are absent; underside forewing with no spots; underside hindwing with two orange-ringed black tornal spots, with metallic silver crown
62	Zebra Blue	<i>Leptotes plinius</i> Fabricius, 1793	Tailed hindwing; translucent wings; when wings open markings on the underside can be seen through the upper side; underside with black and white 'zebra' pattern; underside whitish with irregular, broad and narrow, alternative brown

Sr. No.	Common name	Scientific Name	Species identification
			bands right angled to costa
63	Pale Grass Blue	<i>Pseudozizeeria maha</i> Kollar, 1848	Tailless hindwing; upper side pale blue; underside almost white; underside forewing with faint rounded black spots in discal band, end-cell spot, tiny spot mid cell and tiny spot on costa discal
64	Common Silverline	<i>Spindasis vulcanus</i> Fabricius, 1775	Narrow and pointed wings; 2 large lobes and 2 long tails on the hind wings; light yellow with brilliant red bands on the underside, bands are bordered with black lines on either side with central golden lines; upper side wings dark with orange bands
65	Red Pierrot	<i>Talicauda nyseus</i> Guerin- Meneville, 1843	Tailed hind wing; upper side blackish brown with broad orange –red area on lower half of the upper hindwings; white underside with black spots; outer half of under forewings with white spots; underside hind wings with orange red marginal band followed by black up to costa, both with white spots
66	Stripped Pierrot	<i>Tarucus nara</i> Kollar, 1848	White marked with black; more than three metallic green spots on the lower corner and hindwing on the underside;
67	Dark Grass Blue	<i>Zizeeria karsandra</i> Moore, 1865	Tailless hindwing; underside greyish brown with small, rounded black spots; upper side dark blue
68	Lesser Grass Blue	<i>Zizina otis</i> Fabricius, 1787	Tailless hindwing; underside pale grayish brown with rounded and not very dark spots; underside forewing devoid of costal spots or any spot inside the cell; underside hindwing- 1 st two spots from costa separate, 3 rd -6 th forms a curve, 7 th separate towards the termen
69	Tiny Grass Blue	<i>Zizula hylax</i> Fabricius, 1775	Tailless hindwing; underside pale grayish brown

Sr. No.	Common name	Scientific Name	Species identification
			with fine, small, distinct, dark known or black spots; underside with row of discal spots, separated and angled inwards and bar at end cell, no spot in mid-cell; underside hindwing with two costal spots and spot near the end cell, moreover, a spot in the cell next to two more spots near base
Family Hesperidae Stout bodies; Hooked (apiculus) antennae; rapid flight			
70	Brown Awl	<i>Badamia exclamationis</i> Fabricius, 1775	Brown coloured; relatively darker on upper side & light on the underside; abdomen light brown with prominent black bands; narrow wings with fast flight
71	Rice Swift	<i>Borbo cinnara</i> Wallace, 1866	Dark brown wings with semi-transparent spots on the fore wings; these spots decrease in size from the lower margin of the wing towards the upper margin; white spots on the underside of the hindwings;
72	Dark Palm-Dart	<i>Telicota bambusae</i> Moore, 1878	Black coloured with orange bands on the forewings which is narrow towards the apex; hind wings black with pale orange band

[Source: (Kunte, 2000), (Kehimkar, 2008)] [Scientific names: Website- www.ifoundbutterflies.org]

Appendix B

Habitat Preferences of documented butterfly species from the selected fragmented habitats of Gujarat

Sr. No	Family	Common Name	Scientific Name	Types of Fragmented Habitats				
				UR	AL	IV	BG	HS
1	Papilionidae	Tailed Jay	<i>Graphium agamemnon</i> Linnaeus, 1758	√	√	√	√	√
2		Common Jay	<i>Graphium doson</i> Felder & Felder, 1864	√	√	√	√	√
3		Spot Swordtail	<i>Graphium nomius</i> Esper, 1785				√	√
4		Common Rose	<i>Pachliopta aristolochiae</i> Fabricius, 1775	√	√		√	√
5		Crimson Rose	<i>Pachliopta hector</i> Linnaeus, 1758	√			√	√
6		Lime Butterfly	<i>Papilio demoleus</i> Linnaeus, 1758	√	√	√	√	√
7		Common Mormon	<i>Papilio polytes</i> Linnaeus, 1758	√	√	√	√	√
8	Pieridae	Western Striped Albatross	<i>Appias libythea</i> Fabricius, 1775	√			√	√
9		Pioneer	<i>Belenois aurota</i> Fabricius, 1793	√	√	√	√	√
10		Common Emigrant	<i>Catopsilia pomona</i> Fabricius, 1775	√	√	√	√	√
11		Mottled Emigrant	<i>Catopsilia pyranthe</i> Linnaeus, 1758	√	√	√	√	√
12		Common Gull	<i>Cepora nerissa</i> Fabricius, 1775	√	√	√	√	√
13		Small Salmon Arab	<i>Colotis amata</i> Fabricius, 1775	√	√	√	√	√
14		Crimson Tip	<i>Colotis danae</i> Fabricius, 1775	√	√	√	√	√
15		Small Orange Tip	<i>Colotis etrida</i> Boisduval, 1836				√	√
16		Common Jezebel	<i>Delias eucharis</i> Drury, 1773	√	√	√	√	√
17		Small Grass Yellow	<i>Eurema brigitta</i> Stoll, 1780	√	√	√	√	√
18		Common Grass Yellow	<i>Eurema hecabe</i> Linnaeus, 1758	√	√	√	√	√
19		White Orange Tip	<i>Ixias marianne</i> Cramer, 1779		√	√	√	√
20		Yellow Orange Tip	<i>Ixias pyrene</i> Linnaeus, 1764	√	√	√	√	√
21		Psyche	<i>Leptosia nina</i> Fabricius, 1793				√	√
22		Common Wanderer	<i>Pareronia hippia</i> Fabricius, 1787				√	√
23	Nymphalidae	Tawny Coster	<i>Acraea terpsicore</i> Linnaeus, 1758	√	√	√	√	√
24		Angled Castor	<i>Ariadne ariadne</i> Linnaeus, 1763	√	√		√	√

Sr.	Family	Common Name	Scientific Name	Types of Fragmented Habitats				
25		Common Castor	<i>Ariadne merione</i> Cramer, 1777	√	√		√	√
26		Common Nawab	<i>Charaxes athamas</i> Drury, 1770				√	
27		Black Rajah	<i>Charaxes solon</i> Fabricius, 1793	√	√		√	√
28		Painted Lady	<i>Vanessa cardui</i> Linnaeus, 1758				√	√
29		Plain Tiger	<i>Danaus chrysippus</i> Linnaeus, 1758	√	√	√	√	√
30		Striped Tiger	<i>Danaus genutia</i> Cramer, 1779	√			√	√
31		Common Indian Crow	<i>Euploea core</i> Cramer, 1780	√	√	√	√	√
32		Common Baron	<i>Euthalia aconthea</i> Cramer, 1777				√	
33		Great Eggfly	<i>Hypolimnas bolina</i> Linnaeus, 1758	√	√	√	√	√
34		Danaid Eggfly	<i>Hypolimnas misippus</i> Linnaeus, 1764	√	√	√	√	√
35		Peacock Pansy	<i>Junonia almana</i> Linnaeus, 1758	√	√		√	√
36		Grey Pansy	<i>Junonia atlites</i> Linnaeus, 1763	√			√	√
37		Yellow Pansy	<i>Junonia hierta</i> Fabricius, 1798	√			√	√
38		Chocolate Pansy	<i>Junonia iphita</i> Cramer, 1779				√	√
39		Lemon Pansy	<i>Junonia lemonias</i> Linnaeus, 1758	√	√	√	√	√
40		Blue Pansy	<i>Junonia orithya</i> Linnaeus, 1758	√	√		√	√
41		Common Evening Brown	<i>Melanitis leda</i> Linnaeus, 1758	√	√		√	√
42		Common Bushbrown	<i>Mycalesis perseus</i> Fabricius, 1775				√	
43		Common Sailer	<i>Neptis hylas</i> Linnaeus, 1758				√	
44		Glassy Tiger	<i>Parantica aglea</i> Stoll, 1782				√	√
45		Common Leopard	<i>Phalanta phalantha</i> Drury, 1773				√	√
46		Baronet	<i>Symphaedra nais</i> Forster, 1771				√	√
47		Blue Tiger	<i>Tirumala limniace</i> Cramer, 1775			√	√	√
48		Common Five-ring	<i>Ypthima baldus</i> Fabricius, 1775				√	√
49		Common Four-ring	<i>Ypthima huebneri</i> Kirby, 1871				√	-√
50	Lycaenidae	Plum Judy	<i>Abisara echerius</i> Stoll, 1790				√	√
51		Angled Pierrot	<i>Caleta decidia</i> Hewitson, 1876	√			√	√
52		Common Pierrot	<i>Castalius rosimon</i> Fabricius, 1775	√	√	√	√	√
53		Forget-Me-Not	<i>Catochrysops strabo</i> Fabricius, 1793				√	√

Sr.	Family	Common Name	Scientific Name	Types of Fragmented Habitats				
54		Lime Blue	<i>Chilades lajus</i> Stoll, 1780			√	√	√
55		Plains Cupid	<i>Chilades pandava</i> Horsfield, 1829	√	√	√	√	√
56		Angled Sunbeam	<i>Curetis dentate</i> Moore, 1879				√	
57		Indian Sunbeam	<i>Curetis thetis</i> Drury, 1773	√	√		√	√
58		Gram Blue	<i>Euchrysops cnejus</i> Fabricius, 1798			√	√	√
59		Indian Cupid	<i>Everes lacturnus</i> Godart, 1824				√	√
60		Common Cerulean	<i>Jamides celeno</i> Cramer, 1775				√	√
61		Pea Blue	<i>Lampides boeticus</i> Linnaeus, 1767			√		
62		Zebra Blue	<i>Leptotes plinius</i> Fabricius, 1793	√	√	√	√	√
63		Pale Grass Blue	<i>Pseudozizeeria maha</i> Kollar, 1848				√	√
64		Common Silverline	<i>Spindasis vulcanus</i> Fabricius, 1775	√	√			
65		Red Pierrot	<i>Talica nyseus</i> Guerin- Meneville, 1843				√	√
66		Stripped Pierrot	<i>Tarucus nara</i> Kollar, 1848	√			√	√
67		Dark Grass Blue	<i>Zizeeria karsandra</i> Moore, 1865				√	√
68		Lesser Grass Blue	<i>Zizina otis</i> Fabricius, 1787	√			√	√
69		Tiny Grass Blue	<i>Zizula hylax</i> Fabricius, 1775			√	√	√
70	Hesperiidae	Brown Awl	<i>Badamia exclamations</i> Fabricius, 1775	√			√	√
71		Rice Swift	<i>Borbo cinnara</i> Wallace, 1866	√			√	√
72		Dark Palm-Dart	<i>Telicota bambusae</i> Moore, 1878				√	√

(where UR: Urban Residentials; AL: Agricultural Landscapes; IV: Industrial Vicinity; BG: Botanical Garden; HS: Hill Station)

Appendix C1

Seasonal Distribution of documented species of butterflies from Urban Residentials of Vadodara

Sr. no	Family	Common Name	Scientific Name	Pre Monsoon	Monsoon	Post Monsoon
1	Papilionidae	Tailed Jay	<i>Graphium agamemnon</i> Linnaeus, 1758	✓	✓	✓
2		Common Jay	<i>Graphium doson</i> Felder & Felder, 1864	✓	✓	✓
3		Common Rose	<i>Pachliopta aristolochiae</i> Fabricius, 1775			✓
4		Crimson Rose	<i>Pachliopta hector</i> Linnaeus, 1758		✓	✓
5		Lime Butterfly	<i>Papilio demoleus</i> Linnaeus, 1758	✓	✓	✓
6		Common Mormon	<i>Papilio polytes</i> Linnaeus, 1758			✓
7	Pieridae	Western Striped Albatross	<i>Appias libythea</i> Fabricius, 1775	✓		✓
8		Pioneer	<i>Belenois aurota</i> Fabricius, 1793	✓	✓	✓
9		Common Emigrant	<i>Catopsilia pomona</i> Fabricius, 1775	✓	✓	✓
10		Mottled Emigrant	<i>Catopsilia pyranthe</i> Linnaeus, 1758	✓	✓	✓
11		Common Gull	<i>Cepora nerissa</i> Fabricius, 1775	✓		✓
12		Small Salmon Arab	<i>Colotis amata</i> Fabricius, 1775		✓	✓
13		Crimson Tip	<i>Colotis danae</i> Fabricius, 1775		✓	✓
14		Common Jezebel	<i>Delias eucharis</i> Drury, 1773	✓	✓	✓
15		Small Grass Yellow	<i>Eurema brigitta</i> Stoll, 1780	✓	✓	✓
16		Common Grass Yellow	<i>Eurema hecabe</i> Linnaeus, 1758	✓	✓	✓
17		White Orange Tip	<i>Ixias marianne</i> Cramer, 1779	✓	✓	✓
18		Yellow Orange Tip	<i>Ixias pyrene</i> Linnaeus, 1764	✓	✓	✓
19	Nymphalidae	Tawny Coster	<i>Acraea terpsicore</i> Linnaeus, 1758	✓	✓	✓
20		Angled Castor	<i>Ariadne ariadne</i> Linnaeus, 1763			✓
21		Common Castor	<i>Ariadne merione</i> Cramer, 1777			✓
22		Black Rajah	<i>Charaxes solon</i> Fabricius, 1793		✓	✓
23		Plain Tiger	<i>Danaus chrysippus</i> Linnaeus, 1758	✓	✓	✓
24		Striped Tiger	<i>Danaus genutia</i> Cramer, 1779			✓

Sr. no	Family	Common Name	Scientific Name	Pre Monsoon	Monsoon	Post Monsoon
25		Common Indian Crow	<i>Euploea core</i> Cramer, 1780	✓	✓	✓
26		Great Eggfly	<i>Hypolimnas bolina</i> Linnaeus, 1758	✓	✓	✓
27		Danaid Eggfly	<i>Hypolimnas misippus</i> Linnaeus, 1764		✓	✓
28		Peacock Pansy	<i>Junonia almana</i> Linnaeus, 1758	✓	✓	✓
29		Grey Pansy	<i>Junonia atlites</i> Linnaeus, 1763		✓	✓
30		Yellow Pansy	<i>Junonia hierta</i> Fabricius, 1798	✓		✓
31		Lemon Pansy	<i>Junonia lemonias</i> Linnaeus, 1758	✓	✓	✓
32		Blue Pansy	<i>Junonia orithya</i> Linnaeus, 1758	✓		✓
33		Common Evening Brown	<i>Melanitis leda</i> Linnaeus, 1758		✓	✓
34	Lycaenidae	Angled Pierrot	<i>Caleta decidia</i> Hewitson, 1876		✓	✓
35		Common Pierrot	<i>Castalius rosimon</i> Fabricius, 1775		✓	✓
36		Plains Cupid	<i>Chilades pandava</i> Horsfield, 1829			✓
37		Indian Sunbeam	<i>Curetis thetis</i> Drury, 1773	✓		✓
38		Zebra Blue	<i>Leptotes plinius</i> Fabricius, 1793	✓	✓	✓
39		Common Silverline	<i>Spindasis vulcanus</i> Fabricius, 1775			✓
40		Stripped Pierrot	<i>Tarucus nara</i> Kollar, 1848	✓		✓
41		Lesser Grass Blue	<i>Zizina otis</i> Fabricius, 1787			✓
42	Hesperiidae	Brown Awl	<i>Badamia exclamationis</i> Fabricius, 1775			✓
43		Rice Swift	<i>Borbo cinnara</i> Wallace, 1866			✓

Appendix C2

Seasonal Distribution of documented species of butterflies from Agricultural landscapes (Chhani) of Vadodara

Sr. no	Family	Common Name	Scientific Name	Pre Monsoon	Monsoon	Post Monsoon
1	Papilionidae	Tailed Jay	<i>Graphium agamemnon</i> Linnaeus, 1758	✓	✓	✓
2		Common Jay	<i>Graphium doson</i> Felder & Felder, 1864	✓	✓	✓
3		Common Rose	<i>Pachliopta aristolochiae</i> Fabricius, 1775	✓	✓	✓
4		Lime Butterfly	<i>Papilio demoleus</i> Linnaeus, 1758	✓	✓	✓
5		Common Mormon	<i>Papilio polytes</i> Linnaeus, 1758		✓	✓
6	Pieridae	Pioneer	<i>Belenois aurota</i> Fabricius, 1793	✓	✓	
7		Common Emigrant	<i>Catopsilia pomona</i> Fabricius, 1775	✓	✓	✓
8		Mottled Emigrant	<i>Catopsilia pyranthe</i> Linnaeus, 1758	✓	✓	✓
9		Common Gull	<i>Cepora nerissa</i> Fabricius, 1775	✓	✓	✓
10		Small Salmon Arab	<i>Colotis amata</i> Fabricius, 1775	✓	✓	✓
11		Crimson Tip	<i>Colotis danae</i> Fabricius, 1775		✓	✓
12		Common Jezebel	<i>Delias eucharis</i> Drury, 1773	✓	✓	✓
13		Small Grass Yellow	<i>Eurema brigitta</i> Stoll, 1780	✓	✓	✓
14		Common Grass Yellow	<i>Eurema hecabe</i> Linnaeus, 1758	✓	✓	✓
15		White Orange Tip	<i>Ixias marianne</i> Cramer, 1779	✓	✓	✓
16		Yellow Orange Tip	<i>Ixias pyrene</i> Linnaeus, 1764	✓	✓	✓
17	Nymphalidae	Tawny Coster	<i>Acraea terpsicore</i> Linnaeus, 1758	✓	✓	✓
18		Angled Castor	<i>Ariadne ariadne</i> Linnaeus, 1763			✓
19		Common Castor	<i>Ariadne merione</i> Cramer, 1777			✓
20		Black Rajah	<i>Charaxes solon</i> Fabricius, 1793	✓	✓	✓
21		Plain Tiger	<i>Danaus chrysippus</i> Linnaeus, 1758	✓	✓	✓
22		Common Indian Crow	<i>Euploea core</i> Cramer, 1780	✓	✓	✓
23		Great Eggfly	<i>Hypolimnas bolina</i> Linnaeus, 1758	✓	✓	✓
24		Danaid Eggfly	<i>Hypolimnas misippus</i> Linnaeus, 1764	✓	✓	✓
25		Peacock Pansy	<i>Junonia almana</i> Linnaeus, 1758	✓	✓	✓

Sr. no	Family	Common Name	Scientific Name	Pre Monsoon	Monsoon	Post Monsoon
26		Lemon Pansy	<i>Junonia lemonias</i> Linnaeus, 1758	✓	✓	✓
27		Blue Pansy	<i>Junonia orithya</i> Linnaeus, 1758	✓		✓
28		Common Evening Brown	<i>Melanitis leda</i> Linnaeus, 1758		✓	✓
29		Common Pierrot	<i>Castalius rosimon</i> Fabricius, 1775	✓	✓	✓
30		Plains Cupid	<i>Chilades pandava</i> Horsfield, 1829		✓	✓
31	Lycaenidae	Indian Sunbeam	<i>Curetis thetis</i> Drury, 1773			✓
32		Zebra Blue	<i>Leptotes plinius</i> Fabricius, 1793	✓	✓	✓
33		Common Silverline	<i>Spindasis vulcanus</i> Fabricius, 1775			✓

Appendix C3

Seasonal Distribution of documented species of butterflies from Industrial Vicinity of Ankleshwar, Bharuch

Sr. no	Family	Common Name	Scientific Name	Pre Monsoon	Monsoon	Post Monsoon
1	Papilionidae	Tailed Jay	<i>Graphium agamemnon</i> Linnaeus, 1758	✓	✓	✓
2		Common Jay	<i>Graphium doson</i> Felder & Felder, 1864	✓	✓	✓
3		Lime Butterfly	<i>Papilio demoleus</i> Linnaeus, 1758	✓	✓	✓
4		Common Mormon	<i>Papilio polytes</i> Linnaeus, 1758			✓
5	Pieridae	Pioneer	<i>Belenois aurota</i> Fabricius, 1793	✓	✓	✓
6		Common Emigrant	<i>Catopsilia pomona</i> Fabricius, 1775	✓	✓	✓
7		Mottled Emigrant	<i>Catopsilia pyranthe</i> Linnaeus, 1758	✓		✓
8		Common Gull	<i>Cepora nerissa</i> Fabricius, 1775	✓	✓	✓
9		Small Salmon Arab	<i>Colotis amata</i> Fabricius, 1775		✓	✓
10		Crimson Tip	<i>Colotis danae</i> Fabricius, 1775		✓	✓
11		Common Jezebel	<i>Delias eucharis</i> Drury, 1773	✓	✓	✓
12		Small Grass Yellow	<i>Eurema brigitta</i> Stoll, 1780		✓	✓
13		Common Grass Yellow	<i>Eurema hecabe</i> Linnaeus, 1758	✓	✓	✓
14		White Orange Tip	<i>Ixias marianne</i> Cramer, 1779		✓	✓
15		Yellow Orange Tip	<i>Ixias pyrene</i> Linnaeus, 1764		✓	✓
16	Nymphalidae	Tawny Coster	<i>Acraea terpsicore</i> Linnaeus, 1758		✓	✓
17		Plain Tiger	<i>Danaus chrysippus</i> Linnaeus, 1758	✓	✓	✓
18		Common Indian Crow	<i>Euploea core</i> Cramer, 1780	✓	✓	✓
19		Great Eggfly	<i>Hypolimnas bolina</i> Linnaeus, 1758	✓		✓
20		Danaid Eggfly	<i>Hypolimnas misippus</i> Linnaeus, 1764			✓
21		Lemon Pansy	<i>Junonia lemonias</i> Linnaeus, 1758	✓	✓	✓
22		Blue Tiger	<i>Tirumala limniace</i> Cramer, 1775		✓	
23	Lycaenidae	Common Pierrot	<i>Castalius rosimon</i> Fabricius, 1775	✓	✓	✓
24		Lime Blue	<i>Chilades lajus</i> Stoll, 1780		✓	✓

Sr. no	Family	Common Name	Scientific Name	Pre Monsoon	Monsoon	Post Monsoon
25		Plains Cupid	<i>Chilades pandava</i> Horsfield, 1829		✓	✓
26		Gram Blue	<i>Euchrysops cnejus</i> Fabricius, 1798	✓	✓	✓
27		Pea Blue	<i>Lampides boeticus</i> Linnaeus, 1767	✓		
28		Zebra Blue	<i>Leptotes plinius</i> Fabricius, 1793	✓	✓	✓
29		Tiny Grass Blue	<i>Zizula hylax</i> Fabricius, 1775			✓

Appendix C4

Seasonal Distribution of documented species of butterflies from Waghai Botanical Garden of The Dangs

Sr. no	Family	Common Name	Scientific Name	Pre Monsoon	Monsoon	Post Monsoon
1	Papilionidae	Tailed Jay	<i>Graphium agamemnon</i> Linnaeus, 1758	✓	✓	✓
2		Common Jay	<i>Graphium doson</i> Felder & Felder, 1864	✓	✓	✓
3		Spot Swordtail	<i>Graphium nomius</i> Esper, 1785	✓		
4		Common Rose	<i>Pachliopta aristolochiae</i> Fabricius, 1775			✓
5		Crimson Rose	<i>Pachliopta hector</i> Linnaeus, 1758			✓
6		Lime Butterfly	<i>Papilio demoleus</i> Linnaeus, 1758	✓	✓	✓
7		Common Mormon	<i>Papilio polytes</i> Linnaeus, 1758			✓
8	Pieridae	Western Striped Albatross	<i>Appias libythea</i> Fabricius, 1775	✓		✓
9		Pioneer	<i>Belenois aurota</i> Fabricius, 1793	✓	✓	✓
10		Common Emigrant	<i>Catopsilia pomona</i> Fabricius, 1775	✓	✓	✓
11		Mottled Emigrant	<i>Catopsilia pyranthe</i> Linnaeus, 1758	✓	✓	✓
12		Common Gull	<i>Cepora nerissa</i> Fabricius, 1775	✓		✓
13		Small Salmon Arab	<i>Colotis amata</i> Fabricius, 1775	✓	✓	✓
14		Crimson Tip	<i>Colotis danae</i> Fabricius, 1775			✓
15		Small Orange Tip	<i>Colotis etrida</i> Boisduval, 1836	✓	✓	✓
16		Common Jezebel	<i>Delias eucharis</i> Drury, 1773	✓	✓	✓
17		Small Grass Yellow	<i>Eurema brigitta</i> Stoll, 1780	✓	✓	✓
18		Common Grass Yellow	<i>Eurema hecabe</i> Linnaeus, 1758	✓	✓	✓
19		White Orange Tip	<i>Ixias marianne</i> Cramer, 1779	✓	✓	✓
20		Yellow Orange Tip	<i>Ixias pyrene</i> Linnaeus, 1764	✓	✓	✓
21		Psyche	<i>Leptosia nina</i> Fabricius, 1793	✓		✓
22		Common Wanderer	<i>Pareronia hippia</i> Fabricius, 1787			✓
23	Nymphalidae	Tawny Coster	<i>Acraea terpsicore</i> Linnaeus, 1758	✓	✓	✓
24		Angled Castor	<i>Ariadne ariadne</i> Linnaeus, 1763	✓	✓	✓
25		Common Castor	<i>Ariadne merione</i> Cramer, 1777	✓	✓	✓

Sr. no	Family	Common Name	Scientific Name	Pre Monsoon	Monsoon	Post Monsoon
26		Common Nawab	<i>Charaxes athamas</i> Drury, 1770		✓	✓
27		Black Rajah	<i>Charaxes solon</i> Fabricius, 1793	✓		✓
28		Painted Lady	<i>Vanessa cardui</i> Linnaeus, 1758	✓		✓
29		Plain Tiger	<i>Danaus chrysippus</i> Linnaeus, 1758	✓	✓	✓
30		Striped Tiger	<i>Danaus genutia</i> Cramer, 1779	✓		✓
31		Common Indian Crow	<i>Euploea core</i> Cramer, 1780	✓	✓	✓
32		Common Baron	<i>Euthalia aconthea</i> Cramer, 1777	✓		
33		Great Eggfly	<i>Hypolimnas bolina</i> Linnaeus, 1758	✓		✓
34		Danaid Eggfly	<i>Hypolimnas misippus</i> Linnaeus, 1764		✓	✓
35		Peacock Pansy	<i>Junonia almana</i> Linnaeus, 1758	✓	✓	✓
36		Grey Pansy	<i>Junonia atlites</i> Linnaeus, 1763			✓
37		Yellow Pansy	<i>Junonia hierta</i> Fabricius, 1798	✓		
38		Chocolate Pansy	<i>Junonia iphita</i> Cramer, 1779	✓		✓
39		Lemon Pansy	<i>Junonia lemonias</i> Linnaeus, 1758	✓	✓	✓
40		Blue Pansy	<i>Junonia orithya</i> Linnaeus, 1758	✓		
41		Common Evening Brown	<i>Melanitis leda</i> Linnaeus, 1758	✓		✓
42		Common Bushbrown	<i>Mycalesis perseus</i> Fabricius, 1775		✓	✓
43		Common Sailer	<i>Neptis hylas</i> Linnaeus, 1758	✓		
44		Glassy Tiger	<i>Parantica aglea</i> Stoll, 1782			✓
45		Common Leopard	<i>Phalanta phalantha</i> Drury, 1773	✓		✓
46		Baronet	<i>Symphaedra nais</i> Forster, 1771	✓		✓
47		Blue Tiger	<i>Tirumala limniace</i> Cramer, 1775		✓	✓
48		Common Five-ring	<i>Ypthima baldus</i> Fabricius, 1775	✓		✓
49		Common Four-ring	<i>Ypthima huebneri</i> Kirby, 1871	✓		✓
50	Lycaenidae	Plum Judy	<i>Abisara echerius</i> Stoll, 1790	✓	✓	✓
51		Angled Pierrot	<i>Caleta decidia</i> Hewitson, 1876		✓	✓
52		Common Pierrot	<i>Castalius rosimon</i> Fabricius, 1775	✓	✓	✓
53		Forget-Me-Not	<i>Catochrysops strabo</i> Fabricius, 1793		✓	✓

Sr. no	Family	Common Name	Scientific Name	Pre Monsoon	Monsoon	Post Monsoon
54		Lime Blue	<i>Chilades lajus</i> Stoll, 1780	✓	✓	✓
55		Plains Cupid	<i>Chilades pandava</i> Horsfield, 1829		✓	✓
56		Angled Sunbeam	<i>Curetis dentate</i> Moore, 1879		✓	✓
57		Indian Sunbeam	<i>Curetis thetis</i> Drury, 1773	✓		✓
58		Gram Blue	<i>Euchrysops cnejus</i> Fabricius, 1798	✓	✓	✓
59		Indian Cupid	<i>Everes lacturnus</i> Godart, 1824	✓	✓	✓
60		Common Cerulean	<i>Jamides celeno</i> Cramer, 1775	✓		✓
61		Zebra Blue	<i>Leptotes plinius</i> Fabricius, 1793	✓	✓	✓
62		Pale Grass Blue	<i>Pseudozizeeria maha</i> Kollar, 1848	✓	✓	✓
63		Red Pierrot	<i>Talica nyseus</i> Guerin- Meneville, 1843	✓	✓	✓
64		Stripped Pierrot	<i>Tarucus nara</i> Kollar, 1848	✓	✓	✓
65		Dark Grass Blue	<i>Zizeeria karsandra</i> Moore, 1865	✓	✓	✓
66		Lesser Grass Blue	<i>Zizina otis</i> Fabricius, 1787	✓	✓	✓
67		Tiny Grass Blue	<i>Zizula hylax</i> Fabricius, 1775	✓	✓	✓
68	Hesperiidae	Brown Awl	<i>Badamia exclamationis</i> Fabricius, 1775		✓	✓
69		Rice Swift	<i>Borbo cinnara</i> Wallace, 1866			✓
70		Dark Palm-Dart	<i>Telicota bambusae</i> Moore, 1878		✓	✓

Appendix C5

Seasonal Distribution of documented species of butterflies from Saputara Hill Station of The Dangs

Sr. no	Family	Common Name	Scientific Name	Pre Monsoon	Monsoon	Post Monsoon
1	Papilionidae	Tailed Jay	<i>Graphium agamemnon</i> Linnaeus, 1758	✓	✓	✓
2		Common Jay	<i>Graphium doson</i> Felder & Felder, 1864	✓		✓
3		Spot Swordtail	<i>Graphium nomius</i> Esper, 1785	✓		
4		Common Rose	<i>Pachliopta aristolochiae</i> Fabricius, 1775			✓
5		Crimson Rose	<i>Pachliopta hector</i> Linnaeus, 1758			✓
6		Lime Butterfly	<i>Papilio demoleus</i> Linnaeus, 1758	✓	✓	✓
7		Common Mormon	<i>Papilio polytes</i> Linnaeus, 1758			✓
8	Pieridae	Western Striped Albatross	<i>Appias libythea</i> Fabricius, 1775	✓		✓
9		Pioneer	<i>Belenois aurota</i> Fabricius, 1793	✓	✓	✓
10		Common Emigrant	<i>Catopsilia pomona</i> Fabricius, 1775	✓	✓	✓
11		Mottled Emigrant	<i>Catopsilia pyranthe</i> Linnaeus, 1758	✓		✓
12		Common Gull	<i>Cepora nerissa</i> Fabricius, 1775	✓	✓	✓
13		Small Salmon Arab	<i>Colotis amata</i> Fabricius, 1775	✓		✓
14		Crimson Tip	<i>Colotis danae</i> Fabricius, 1775		✓	✓
15		Small Orange Tip	<i>Colotis etrida</i> Boisduval, 1836			✓
16		Common Jezebel	<i>Delias eucharis</i> Drury, 1773	✓	✓	✓
17		Small Grass Yellow	<i>Eurema brigitta</i> Stoll, 1780	✓	✓	✓
18		Common Grass Yellow	<i>Eurema hecabe</i> Linnaeus, 1758	✓	✓	✓
19		White Orange Tip	<i>Ixias marianne</i> Cramer, 1779	✓	✓	✓
20		Yellow Orange Tip	<i>Ixias pyrene</i> Linnaeus, 1764	✓	✓	✓
21		Psyche	<i>Leptosia nina</i> Fabricius, 1793	✓		✓
22		Common Wanderer	<i>Pareronia hippia</i> Fabricius, 1787			✓
23	Nymphalidae	Tawny Coster	<i>Acraea terpsicore</i> Linnaeus, 1758	✓		✓

Sr. no	Family	Common Name	Scientific Name	Pre Monsoon	Monsoon	Post Monsoon
24		Angled Castor	<i>Ariadne ariadne</i> Linnaeus, 1763	✓		
25		Common Castor	<i>Ariadne merione</i> Cramer, 1777	✓		
26		Black Rajah	<i>Charaxes solon</i> Fabricius, 1793	✓		✓
27		Painted Lady	<i>Vanessa cardui</i> Linnaeus, 1758	✓		✓
28		Plain Tiger	<i>Danaus chrysippus</i> Linnaeus, 1758	✓	✓	✓
29		Striped Tiger	<i>Danaus genutia</i> Cramer, 1779	✓		✓
30		Common Indian Crow	<i>Euploea core</i> Cramer, 1780	✓	✓	✓
31		Great Eggfly	<i>Hypolimnas bolina</i> Linnaeus, 1758	✓	✓	✓
32		Danaid Eggfly	<i>Hypolimnas misippus</i> Linnaeus, 1764			✓
33		Peacock Pansy	<i>Junonia almana</i> Linnaeus, 1758	✓	✓	✓
34		Grey Pansy	<i>Junonia atlites</i> Linnaeus, 1763		✓	✓
35		Yellow Pansy	<i>Junonia hierta</i> Fabricius, 1798	✓		
36		Chocolate Pansy	<i>Junonia iphita</i> Cramer, 1779	✓	✓	✓
37		Lemon Pansy	<i>Junonia lemonias</i> Linnaeus, 1758	✓	✓	✓
38		Blue Pansy	<i>Junonia orithya</i> Linnaeus, 1758	✓		
39		Common Evening Brown	<i>Melanitis leda</i> Linnaeus, 1758	✓	✓	✓
40		Glassy Tiger	<i>Parantica aglea</i> Stoll, 1782			✓
41		Common Leopard	<i>Phalanta phalantha</i> Drury, 1773	✓		
42		Baronet	<i>Symphaedra nais</i> Forster, 1771	✓		✓
43		Blue Tiger	<i>Tirumala limniace</i> Cramer, 1775			✓
44		Common Five-ring	<i>Ypthima baldus</i> Fabricius, 1775	✓	✓	✓
45		Common Four-ring	<i>Ypthima huebneri</i> Kirby, 1871	✓	✓	✓
46	Lycaenidae	Plum Judy	<i>Abisara echerius</i> Stoll, 1790			✓
47		Angled Pierrot	<i>Caleta decidia</i> Hewitson, 1876		✓	✓
48		Common Pierrot	<i>Castalius rosimon</i> Fabricius, 1775	✓	✓	✓
49		Forget-Me-Not	<i>Catochrysops strabo</i> Fabricius, 1793		✓	✓
50		Lime Blue	<i>Chilades lajus</i> Stoll, 1780	✓		✓
51		Plains Cupid	<i>Chilades pandava</i> Horsfield, 1829		✓	✓

Sr. no	Family	Common Name	Scientific Name	Pre Monsoon	Monsoon	Post Monsoon
52		Indian Sunbeam	<i>Curetis thetis</i> Drury, 1773	✓		
53		Gram Blue	<i>Euchrysops cnejus</i> Fabricius, 1798	✓		✓
54		Indian Cupid	<i>Everes lacturnus</i> Godart, 1824	✓		✓
55		Common Cerulean	<i>Jamides celeno</i> Cramer, 1775	✓		✓
56		Zebra Blue	<i>Leptotes plinius</i> Fabricius, 1793	✓	✓	✓
57		Pale Grass Blue	<i>Pseudozizeeria maha</i> Kollar, 1848	✓		✓
58		Red Pierrot	<i>Talicaa nyseus</i> Guerin- Meneville, 1843	✓		✓
59		Stripped Pierrot	<i>Tarucus nara</i> Kollar, 1848	✓	✓	✓
60		Dark Grass Blue	<i>Zizeeria karsandra</i> Moore, 1865	✓		✓
61		Lesser Grass Blue	<i>Zizina otis</i> Fabricius, 1787	✓		✓
62		Tiny Grass Blue	<i>Zizula hylax</i> Fabricius, 1775	✓		✓
63	Hesperiidae	Brown Awl	<i>Badamia exclamationis</i> Fabricius, 1775			✓
64		Rice Swift	<i>Borbo cinnara</i> Wallace, 1866			✓
65		Dark Palm-Dart	<i>Telicota bambusae</i> Moore, 1878			✓

Appendix D

Plant utilization by butterfly species documented from the selected fragmented habitats of Gujarat

Sr. No.	Family	Common Name	Scientific Name	Associated Plants
1	Papilionidae	Tailed Jay	<i>Graphium agamemnon</i> Linnaeus, 1758	<i>Annona squamosa</i> , <i>Polyalthia longifolia</i> , <i>Michelia champaca</i> , <i>Jatropha integerrima</i>
2		Common Jay	<i>Graphium doson</i> Felder &Felder, 1864	<i>Polyalthia longifolia</i> , <i>Michelia champaca</i>
3		Spot Swordtail	<i>Graphium nomius</i> Esper, 1785	<i>Polyalthia longifolia</i>
4		Common Rose	<i>Pachliopta aristolochiae</i> Fabricius, 1775	<i>Aristolochia sp.</i>
5		Crimson Rose	<i>Pachliopta hector</i> Linnaeus, 1758	<i>Aristolochia sp.</i>
6		Lime Butterfly	<i>Papilio demoleus</i> Linnaeus, 1758	<i>Citrus sp.</i> , <i>Aegle marmelos</i> , <i>Murraya koenigii</i>
7		Common Mormon	<i>Papilio polytes</i> Linnaeus, 1758	<i>Aegle marmelos</i> , <i>Murraya koenigii</i>
8	Pieridae	Western Striped Albatross	<i>Appias libythea</i> Fabricius, 1775	<i>Capparis sp.</i>
9		Pioneer	<i>Belenois aurota</i> Fabricius, 1793	<i>Cadaba fruticosa</i> , <i>Capparis sp.</i> , <i>Tridax procumbens</i>
10		Common Emigrant	<i>Catopsilia pomona</i> Fabricius, 1775	<i>Cassia fistula</i> , <i>Cassia tora</i> , <i>Bauhinia racemosa</i> , <i>Butea monosperma</i> , <i>Jatropha integerrima</i>
11		Mottled Emigrant	<i>Catopsilia pyranthe</i> Linnaeus, 1758	<i>Cassia fistula</i> , <i>Cassia tora</i> , <i>Cassia occidentalis</i> , <i>Jatropha integerrima</i>
12		Common Gull	<i>Cepora nerissa</i> Fabricius, 1775	<i>Cadaba fruticosa</i> , <i>Capparis sp.</i> , <i>Tridax procumbens</i>
13		Small Salmon Arab	<i>Colotis amata</i> Fabricius, 1775	<i>Salvadora sp.</i> , <i>Tridax procumbens</i>
14		Crimson Tip	<i>Colotis danae</i> Fabricius, 1775	<i>Capparis sp.</i> , <i>Cadaba fruticosa</i> , <i>Tridax procumbens</i>
15		Small Orange Tip	<i>Colotis etrida</i> Boisduval, 1836	<i>Salvadora sp.</i> , <i>Cadaba fruticosa</i> , <i>Tridax procumbens</i>

Sr. No.	Family	Common Name	Scientific Name	Associated Plants
16	Nymphalidae	Common Jezebel	<i>Delias eucharis</i> Drury, 1773	<i>Jatropha integerrima</i> , <i>Viscum</i> sp., <i>Albizia</i> sp.
17		Small Grass Yellow	<i>Eurema brigitta</i> Stoll, 1780	<i>Cassia</i> sp., <i>Tridax procumbens</i>
18		Common Grass Yellow	<i>Eurema hecabe</i> Linnaeus, 1758	<i>Cassia fistula</i> , <i>Cassia tora</i> , <i>Acacia</i> sp., <i>Pithecolobium dulce</i> , <i>Tridax procumbens</i>
19		White Orange Tip	<i>Ixias marianne</i> Cramer, 1779	<i>Capparis</i> sp., <i>Cadaba fruticosa</i> , <i>Tridax procumbens</i>
20		Yellow Orange Tip	<i>Ixias pyrene</i> Linnaeus, 1764	<i>Capparis</i> sp., <i>Tridax procumbens</i>
21		Psyche	<i>Leptosia nina</i> Fabricius, 1793	<i>Capparis</i> sp., <i>Tridax procumbens</i>
22		Common Wanderer	<i>Pareronia hippia</i> Fabricius, 1787	<i>Capparis</i> sp.
23		Tawny Coster	<i>Acraea terpsicore</i> Linnaeus, 1758	<i>Passiflora</i> sp.
24		Angled Castor	<i>Ariadne ariadne</i> Linnaeus, 1763	<i>Ricinus communis</i> , <i>Tragia</i> sp.
25		Common Castor	<i>Ariadne merione</i> Cramer, 1777	<i>Ricinus communis</i> , <i>Tragia</i> sp.
26		Common Nawab	<i>Charaxes athamas</i> Drury, 1770	<i>Delonix regia</i> , <i>Albizia lebbeck</i>
27		Black Rajah	<i>Charaxes solon</i> Fabricius, 1793	<i>Bauhinia racemosa</i> , <i>Tamarindus indica</i> , <i>Lantana camara</i>
28		Painted Lady	<i>Vanessa cardui</i> Linnaeus, 1758	<i>Lantana camara</i> , <i>Alternanthera pungens</i> , <i>Zornia gibbosa</i>
29		Plain Tiger	<i>Danaus chrysippus</i> Linnaeus, 1758	<i>Asclepias currasavica</i> , <i>Calotropis procera</i> , <i>Lantana camara</i> , <i>Tridax procumbens</i>
30		Striped Tiger	<i>Danaus genutia</i> Cramer, 1779	<i>Lantana camara</i> , <i>Tridax procumbens</i> , <i>Asclepias currasavica</i> , <i>Tagetes erecta</i> , <i>Crotalaria retusa</i>
31		Common Indian Crow	<i>Euploea core</i> Cramer, 1780	<i>Nerium</i> sp., <i>Hemidesmus indicus</i> , <i>Ixora coccinea</i> , <i>Lantana camara</i> , <i>Crotalaria</i> sp.
32		Common Baron	<i>Euthalia aconthea</i> Cramer, 1777	<i>Anacardium occidentale</i> , <i>Mangifera indica</i>
33		Great Eggfly	<i>Hypolimnas bolina</i> Linnaeus, 1758	<i>Ixora coccinea</i> , <i>Lantana camara</i> , <i>Sida rhombifolia</i> , <i>Portulaca oleracea</i> , <i>Abutilon</i> sp.
34		Danaid Eggfly	<i>Hypolimnas misippus</i> Linnaeus,	<i>Abelmoschus</i> sp., <i>Abutilon</i> sp., <i>Portulaca</i>

Sr. No.	Family	Common Name	Scientific Name	Associated Plants
			1764	<i>oleracea</i> , <i>Lantana camara</i>
35		Peacock Pansy	<i>Junonia almana</i> Linnaeus, 1758	<i>Barleria</i> sp., <i>Hydrophila articulate</i>
36		Grey Pansy	<i>Junonia atlites</i> Linnaeus, 1763	<i>Barleria</i> sp., <i>Hydrophila articulate</i>
37		Yellow Pansy	<i>Junonia hierta</i> Fabricius, 1798	<i>Barleria</i> sp., <i>Hydrophila articulate</i>
38		Chocolate Pansy	<i>Junonia iphita</i> Cramer, 1779	<i>Hydrophila articulate</i> , <i>Lantana camara</i>
39		Lemon Pansy	<i>Junonia lemonias</i> Linnaeus, 1758	<i>Barleria</i> sp., <i>Hydrophila auriculata</i> , <i>Sida rhombifolia</i> , <i>Alternanthera pungens</i>
40		Blue Pansy	<i>Junonia orithya</i> Linnaeus, 1758	<i>Sida rhombifolia</i> , <i>Hydrophila auriculata</i>
41		Common Evening Brown	<i>Melanitis leda</i> Linnaeus, 1758	<i>Orzo sativum</i> , <i>Sorghum</i> sp. <i>Zeal mays</i>
42		Common Bushbrown	<i>Mycalesis perseus</i> Fabricius, 1775	Grasses
43		Common Sailer	<i>Neptis hylas</i> Linnaeus, 1758	<i>Dalbergia</i> sp., <i>Zizyphus</i> sp.
44		Glassy Tiger	<i>Parantica aglea</i> Stoll, 1782	<i>Calotropis</i> sp., <i>Crotalaria retusa</i> , flowers of <i>Lantana</i> , <i>Tagetes</i> , <i>Stachyterpheta</i> & <i>Zinnia</i> sp.
45		Common Leopard	<i>Phalanta phalantha</i> Drury, 1773	<i>Alternanthera pungens</i> , flowers of <i>Asteraceae</i>
46		Baronet	<i>Symphaedra nais</i> Forster, 1771	<i>Shorea robusta</i>
47		Blue Tiger	<i>Tirumala limniace</i> Cramer, 1775	<i>Lantana camara</i> , <i>Calotropis procera</i> , <i>Asclepias currasavica</i> , <i>Crotalaria retusa</i>
48		Common Five-ring	<i>Ypthima baldus</i> Fabricius, 1775	Grasses
49		Common Four-ring	<i>Ypthima huebneri</i> Kirby, 1871	Grasses
50	Lycaenidae	Plum Judy	<i>Abisara echerius</i> Stoll, 1790	Mostly found in shades
51		Angled Pierrot	<i>Caleta decidia</i> Hewitson, 1876	<i>Zizyphus</i> sp.
52		Common Pierrot	<i>Castalius rosimon</i> Fabricius, 1775	<i>Zizyphus</i> sp.
53		Forget-Me-Not	<i>Catochrysops strabo</i> Fabricius, 1793	Legumes
54		Lime Blue	<i>Chilades lajus</i> Stoll, 1780	<i>Citrus</i> sp.
55		Plains Cupid	<i>Chilades pandava</i> Horsfield, 1829	<i>Cycas</i> sp., <i>Acacia</i> sp. cultivated varieties of

Sr. No.	Family	Common Name	Scientific Name	Associated Plants
				beans & grams
56		Angled Sunbeam	<i>Curetis dentate</i> Moore, 1879	Mostly found on damp patches
57		Indian Sunbeam	<i>Curetis thetis</i> Drury, 1773	<i>Lantana camara</i>
58		Gram Blue	<i>Euchrysops cnejus</i> Fabricius, 1798	<i>Vigna sp.</i> , <i>Butea monosperma</i> , <i>Acacia sp.</i> , cultivated varieties beans & grams
59		Indian Cupid	<i>Everes lacturnus</i> Godart, 1824	<i>Desmodium sp.</i>
60		Common Cerulean	<i>Jamides celeno</i> Cramer, 1775	<i>Saraca asoka</i> , <i>Butea monosperma</i>
61		Pea Blue	<i>Lampides boeticus</i> Linnaeus, 1767	<i>Butea monosperma</i> , <i>Crotalaria sp.</i> <i>Pisum sativum</i>
62		Zebra Blue	<i>Leptotes plinius</i> Fabricius, 1793	<i>Albizia lebbeck</i> , <i>Plumbago zeylanica</i>
63		Pale Grass Blue	<i>Pseudozizeeria maha</i> Kollar, 1848	<i>Oxalis corniculata</i> , <i>Strobilanthus sp.</i>
64		Common Silverline	<i>Spindasis vulcanus</i> Fabricius, 1775	<i>Cadaba fruticosa</i> , <i>Zizyphus sp.</i> <i>Clerodendrum sp.</i>
65		Red Pierrot	<i>Talica nyseus</i> Guerin- Meneville, 1843	<i>Kalanchoe sp.</i> , <i>Bryophyllum</i>
66		Stripped Pierrot	<i>Tarucus nara</i> Kollar, 1848	<i>Zizyphus sp.</i>
67		Dark Grass Blue	<i>Zizeeria karsandra</i> Moore, 1865	<i>Zornia gibbosa</i> , <i>Amaranthus spinosus</i> , <i>Polygonum plebeium</i>
68		Lesser Grass Blue	<i>Zizina otis</i> Fabricius, 1787	<i>Vicia sp.</i>
69		Tiny Grass Blue	<i>Zizula hylax</i> Fabricius, 1775	<i>Lantana camara</i> , <i>Hydrophila auriculata</i> , <i>Strobilanthus sp.</i>
70	Hesperiidae	Brown Awl	<i>Badamia exclamationis</i> Fabricius, 1775	<i>Combretum sp.</i> , <i>Ficus sp.</i>
71		Rice Swift	<i>Borbo cinnara</i> Wallace, 1866	<i>Oryza sativa</i> , <i>Andropogon sp.</i> , <i>Cymbopogon sp.</i>
72		Dark Palm-Dart	<i>Telicota bambusae</i> Moore, 1878	<i>Oryza sp.</i>