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near Mt. Lamond (pers. obs.)	+		+		+		+		
Claudie River (Waterhouse & Lyell 1914)		+	+	+		+	+	+	+
Iron Range (Le Souef 1971)		+	+	+	+	+	+	+	+
Iron Range (Daniels 1975)	+	+	+	+	+	+	+	+	
71				+	+	+		+	+
72			+	+	+	+		+	+
73				+	+	+			
74				+	+	+		+	
75				+	+	+		+	

HOPE VALE-TOWNSVILLE

78		+	+	+	+	+		+	+
79									+
80			+	+	+			+	
81			+	+	+			+	+
28 km S Cape Tribulation (pers. obs.)			+		+				+
82		+	+	+	+				+
83		+	+	+	+	+		+	
84			+		+				
100			+	+	+			+	+

101	+	+	+	+	+		+	+
102		+						
114	+		+	+	+			
115	+	+	+	+	+			+
116	+	+		+				+
117	+	+	+	+				+
168	+	+	+	+	+		+	+
169	+	+	+	+	+		+	
170	+	+	+	+	+			
152		+	+	+			+	
153		+	+	+	+			
154	+		+	+	+			
156		+		+				+
Ollera Creek, 10 km NW Rollingstone (pers. obs.)	+	+	+	+	+		+	+

TOWNSVILLE-
ST.LAWRENCE

Mt. Elliot Nat. Park (pers. obs.)		+	+	+	+		+	+
Cape Cleveland (pers. obs.)		+	+	+	+		+	+
118		+	+	+				+
119		+	+		+			

120				+				
121								
122		+	+	+		+	+	
123			+	+	+	+		
124				+		+	+	
125				+				
126					+			
1			+	+	+			
2		+	+	+	+	+		
3		+		+			+	
4		+		+			+	
5		+	+	+	+		+	
6		+	+	+	+			
7		+	+	+	+	+		
8		+	+	+	+	+		
9		+	+	+	+	+		
10		+	+	+	+	+	+	
11				+				
12		+	+	+	+	+		
Mackay (Waterhouse & Lyell 1914)	+	+		+	+	+	+	+
13		+	+	+	+	+		

14					+	+	+		+						
15				+	+	+	+		+						
16				+	+	+									
33				+	+	+	+						+		
34					+	+			+						

ST.LAWRENCE-
ROCKHAMPTON

21				+		+	+		+	+					
22				+		+				+					
23				+		+	+		+	+					
Byfield (pers. obs.)				+	+	+			+	+					
Byfield (Stewart 1981)				+	+	+	+		+		+				
Yeppoon (Turner 1925)				+		+	+		+	+			+		
Totals for Zone 1	3	1	19	56	52	67	46	5	42	36	3	3	1	0	0

Total sites = 76

Zone 2

CAPE YORK-HOPE VALE

Upper Jardine River (Moulds & d'Apice 1982)				+	+	+	+		+	+					
61									+						
62										+					
63															

59	+		+	+		+				
60		+								
64										
69	+		+							+
70	+		+							+
56	+		+	+					+	
57			+	+						
58	+		+	+						

HOPE VALE-										
TOWNSVILLE										
76			+	+						
77			+	+						+
50					+					
86			+	+				+		
87			+							
89	+		+	+						
105	+		+	+				+		
160										+
161	+		+	+				+		
162					+					
163										
164			+	+						

Mt. Black, 25 km W Townsville (pers. obs.)																

TOWNSVILLE-																
ST.LAWRENCE																
165																
166																
167																
49																
48																
41																
42																
40																
35																
36																
37																

ST.LAWRENCE-																
ROCKHAMPTON																
20																

Totals for Zone 2	0	0	0	0	14	24	26	18	0	25	10	4	2	0	0	0
Total sites = 37																

Zone 3																
HOPE VALE-																
TOWNSVILLE																

145

146

147

148

149

TOWNSVILLE-
ST.LAWRENCE

130

131

132

133

134

135

136

137

138

139

White Mountains Nat. Park
(pers. obs.)

127

128

129

+

+

+

+

+

+

+

+

+

+

+

+

+

+

44	+																			+
45	+																			+
38	+																			+
39	+																			+

ST.LAWRENCE- ROCKHAMPTON																				
18					+															
19					+															+
17					+															+
32					+															
31					+															
24					+															+
25					+															+
26																				
27					+															+

Totals for Zone 3 0 0 0 0 0 0 2 13 23 22 0 0 27 0 0 0 0 3 0 0

Total sites = 53

Zone 4

ATHERTON
TABLELANDS-PALUMA
RANGE

85																				+
----	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	---

47	+	+	+	+	+	+	+	+	+	+	+	+	
Broken River (pers. obs.)													
BLACKDOWN													
TABLELANDS-													
EXPEDITION RANGE													
28		+			+					+		+	
29		+			+								
30					+							+	
Atkins (1974)		+			+					+		+	
Rainbow Falls (pers. obs.)										+		+	
Totals for Zone 4	0	0	1	8	2	21	8	0	10	7	17	2	4
Total sites =	27												

Appendix 1. Larval host plant records of satyrine butterflies in northern Queensland, 1985, 1989-93. * = Host species introduced to Australia. ϕ = G. Moore (pers. comm.). Egg-laying times are E.S.T.

Satyrine species	Larval host plant	Locality	Date	Observations
<i>Mycalasis perseus</i>	<i>Themeda triandra</i> Forskal	Townsville	1985	1 egg laid ϕ
"	"	30km SE Cardwell	12.iii.1989	1 larva (instar V)
"	"	Townsville	15.v.1990	1 larva (instar IV)
"	"	"	1.vi.1990	1 larva (instar V)
"	"	"	19.iii.1991	1 egg laid
"	"	"	9.iv.1991	1 pupal exuvia
"	"	"	1.vii.1991	1 egg laid at 1630
"	"	"	29.i.1992	1 egg
"	"	15km SE Cardwell	10.vi.1992	1 pupal exuvia
"	<i>Dichanthium sericeum</i> (R.Br.) A. Camus	Townsville	20.iv.1989	1 egg laid at 1530
"	"	"	9.vi.1989	2 larvae (instar V)
"	"	"	1.v.1990	1 egg laid at 1530
"	"	"	12.v.1991	1 egg laid at 1530
"	<i>Heteropogon triticeus</i> (R.Br.) Stapf & Craig	"	8.i.1991	1 larva (instar V)
"	"	20km NW Townsville	10.iii.1991	2 eggs laid at 1654-1716
"	<i>H. contortis</i> (L.) Roemer & Schultes	Townsville	1985	1 egg laid ϕ
"	* <i>Panicum maximum</i> Jacq.	"	18.ii.1990	1 egg laid at 1757
"	"	10km NW Rollingstone	18.i.1992	1 larva (instar V)
"	<i>Aristida calycina</i> R.Br.	Townsville	1985	1 egg laid ϕ
"	<i>Brachiara</i> sp.	"	1985	1 egg laid ϕ
"	<i>Sporobolus</i> sp.	"	1985	1 egg laid ϕ
"	<i>Eriachne</i> sp.	Seaforth	25.iii.1992	1 egg laid at 1611
"	grass sp.1	Mt. Elliot Nat. Park	10.ii.1991	2 eggs laid at 1546

<i>Mycallexis terminus</i>	grass sp.2	"	"	10.ii.1991	1 egg laid at 1610
	<i>Oplismenus aenulatus</i> (P. Br.) Roemer & Schultes	10km NW Rollingstone		30.x.1993	1 egg laid at 1137
	<i>Oplismenus</i> sp.	Townsville		3.iv.1990	1 egg laid at 1520
	"	"		8.iv.1990	2 eggs laid at 1530
	"	"		22.i.1992	2 eggs laid at 1430-1445
	"	Bartle Frere		16.viii.1992	1 egg laid at 1322
	<i>Dichanthium sericeum</i>	Townsville		23.xii.1990	1 egg laid at 1638
	"	"		28.iv.1991	1 egg
	"	"		6.v.1991	2 eggs & 1 larva (instar I)
	* <i>Axonopus compressus</i> (SW.) P. Beauv.	"		1985	3 eggs laid ^φ
	* <i>Panicum maximum</i>	"		1985	4 eggs laid ^φ
	"	10km NW Rollingstone		30.x.1993	1 egg laid at 1052
	<i>Themeda triandra</i>	Cardwell		9.i.1990	1 egg laid at 1610
	grass sp.1	Townsville		22.i.1992	1 egg laid at 1521
	grass sp.2	Seaforth		25.iii.1992	1 egg laid at 1530
	<i>Flagellaria indica</i> L. (Flagellariaceae)	Wenlock River, Cape York Peninsula		2.x.1990	1 egg laid at 1633
<i>Mycallexis sirius</i>	<i>Themeda triandra</i>	8km SE Cardwell		9.vii.1989	2 eggs laid at 1406-1408
"	"	10km SE Cardwell		3.ix.1989	6 eggs laid at 1355-1440
"	* <i>Panicum maximum</i>	Cardwell		8.ix.1989	1 egg laid at 1300
"	<i>Ischaemum australe</i> R.Br.	12km NW Rollingstone		25.v.1992	1 egg laid at 1518
"	"	12km NW Rollingstone		13.vi.1993	7 eggs laid at 1410-1423
"	grass sp.	10km SE Cardwell		3.ix.1989	1 egg laid at 1410
<i>Melanitis leda</i>	* <i>Panicum maximum</i>	Townsville		2.iii.1991	5 larvae
"	"	Cape Cleveland		3.iii.1991	1 larva (instar V)
"	"	Majors Creek		20.iii.1991	eggs, larvae & pupae

"	"	11km W Kennedy	7.iv.1991	3 eggs, ca.100 larvae, 20 pupae
"	"	10km NW Rollingstone	18.i.1992	2 larvae & 5 pupae
"	<i>Imperata cylindrica</i> (L.) P. Beauv.	12km W Kennedy	27.ii.1991	20 larvae
"	"	Cape Cleveland	3.iii.1991	3 larvae (1 instar I, 2 instar V)
"	"	15km SE Cardwell	2.xii.1991	1 egg laid at 1832
"	<i>Ophiuros exaltatus</i> (L.) Kuntze	Mt. Elliot Nat. Park	10.ii.1991	3 pupal exuviae
"	"	15km SE Cardwell	26.ii.1991	3 larvae
"	"	"	2.xii.1991	5 eggs laid at 1825
"	<i>Themeda triandra</i>	Mt. Elliot Nat. Park	10.ii.1991	1 pupal exuvia
"	"	Townsville	20.iii.1991	3 eggs
"	"	Byfield	29.iii.1992	1 egg laid at 1737
"	<i>Heteropogon triticeus</i>	Cardwell	26.iv.1990	1 pupa
"	"	15km SE Cardwell	27.v.1992	2 pupal exuviae
"	* <i>Melinis minutiflora</i> P. Beauv.	12km W Kennedy	27.ii.1991	20 larvae
"	<i>Sorghum</i> sp.	Cape Cleveland	3.iii.1991	3 eggs
"	<i>Chrysopogon</i> sp.	Innot Hot Springs	2.vi.1991	1 larva (instar V)
"	<i>Paspalidium</i> sp.	Byfield	29.iii.1992	2 eggs laid at 1738
"	grass sp.	Townsville	6.v.1991	1 larva (instar V)
<i>Hypocysta adiantae</i>	<i>Themeda triandra</i>	8km SE Cardwell	24.i.1991	1 egg laid at 0833
<i>Hypocysta metirius</i>	<i>Eriachne pallescens</i> R.Br.	Paluma	17.iii.1992	3 eggs laid at 1105-1125
"	grass sp.	10km W Paluma	21.xi.1993	2 eggs laid at 1439-1457

Appendix 2. Adult host plant records of satyrine butterflies in northern Queensland, 1989-93. * = Host species introduced to Australia. Feeding times are E.S.T.

Satyrine species	Adult host plant	Locality	Date	Observations
<i>Mycalopsis perseus</i>	<i>Melaleuca leucadendra</i> (L.) L. (Myrtaceae) (nectar)	Townsville	24.vii.1989	1 ♀ at 1300
"	* <i>Mangifera indica</i> L. (Anacardiaceae) (nectar) (rotting fruit)	18km N Coen	2.x.1990	1 ♂ at 1145
"	"	Townsville	27.xii.1990	♀ ♀ at 0930
"	<i>Alphitonia excelsa</i> (Fenzl) Benth. (Rhamnaceae) (nectar)	Townsville	5.iii.1991	2 ♂♂ & 1 ♀
"	<i>Pandanus</i> sp. (Pandanaeae) (rotting fruit)	15 km NW Bluewater	24.vii.1993	1 ♀ at 1650
<i>Mycalopsis terminus</i>	<i>Pandanus whittei</i> Martelli (Pandanaeae) (rotting fruit)	10km SE Cardwell	25.ix.1990	♀ ♀ at 1500-1520
"	* <i>Mangifera indica</i> (rotting fruit)	Townsville	31.x.1990	2 ♂♂ at 1500-1530
"	"	"	30.xi.1990	1 ♀ at 1515
"	<i>Nauclea orientalis</i> (L.) L. (Rubiaceae) (rotting fruit)	10km NW Rollingsstone	16.iii.1991	♂♂ & ♀ ♀ at 1330
"	"	"	18.i.1992	♂♂ & ♀ ♀ at 1000-1200
"	"	"	5.ii.1994	♂♂ at 1630
"	<i>Ficus racemosa</i> L. (Moraceae) (rotting fruit)	15km W Rupertswood	27.iv.1991	♂♂ & ♀ ♀ at 1520-1600
"	<i>Planchonia careya</i> (F. Muell.) Knuth (Lecythidaceae) (sap)	Townsville	2.iii.1991	1 ♂ at 0830
<i>Mycalopsis sirtius</i>	<i>Helichrysum rupicola</i> DC (Asteraceae) (nectar)	20km SE Cardwell	25.ix.1990	1 ♂ & 1 ♀ at 1504
"	<i>Melastoma affine</i> (Melastomataceae) (fruit)	9km SE Cardwell	15.ix.1991	1 ♂ at 1209-1212
<i>Ypthima arctous</i>	<i>Helichrysum rupicola</i> (nectar)	8km SE Cardwell	3.viii.1990	1 ♀ at 1600-1710
"	* <i>Bidens pilosa</i> (Asteraceae) (nectar)	10km NW Rollingsstone	17.iii.1992	2 ♂♂ & 2 ♀ ♀ at 1624-1634
"	"	Townsville	8.i.1991	1 ♀ at 1356-1358
"	* <i>Emilia sonchifolia</i> (L.) DC (Asteraceae) (nectar)	15km S Eton	5.iv.1992	1 ♂ at 1426

"	<i>Melastoma affine</i> D. Don (Melastomataceae) (nectar)	Cardwell	20.viii.1990	1 ♀
"	"	Kennedy	26.x.1990	1 ♀ at 1245
"	<i>Callistemon viminalis</i> (Gaertner) G. Don (Myrtaceae) (nectar)	70km N Duaringa	8.ix.1990	1 ♂ & 1 ♀ at 1310
"	<i>Melaleuca linariifolia</i> Smith (Myrtaceae) (nectar)	6km SE Petford	19.x.1990	♂♂ & ♀♀ at 1550
"	<i>Leptospermum polygalifolium sens. lat.</i> Salisb. (Myrtaceae) (nectar)	9km SE Cardwell	16.ix.1991	♂♂ & ♀♀ at 1020-1100, 1220-1300, 1515
"	<i>Stylosanthes</i> sp. (Fabaceae) (nectar)	20km SW Mareeba	19.x.1990	1 ♀ at 1155
"	"	Bluewater	14.v.1992	2 ♂♂ at 1157-1200
"	Fabaceae (nectar)	Blackdown Tblid. Nat. Park	7.ix.1990	2 ♀♀ at 1210
"	<i>Bursaria tenifolia</i> Bailey (Pittosporaceae) (nectar)	15km SE Cardwell	16.ix.1991	1 ♀ at 1215
"	* <i>Stachytarpheta jamaicensis</i> (L.) Vahl (Verbenaceae) (nectar)	9km SE Cardwell	7.iii.1992	1 ♀ at 1311-132
"	<i>Ceratanthus longicornis</i> (F. Muell.) G. Taylor (Lamiaceae) (nectar)		7.iii.1992	1 ♂ at 1435
"	Lamiaceae (nectar)	Cardwell	24.i.1991	1 ♀
"	<i>Hybanthus emneaspermus</i> (L.) F. Muell. (Violaceae) (nectar)	15km SE Cardwell	8.iii.1992	1 ♀ at 1026
"	"	"	28.v.1992	2 ♂♂ at 1157-1200
"	<i>Waltheria indica</i> L. (Sterculiaceae) (nectar)	Cape Upstart Nat. Park	23.iv.1992	1 ♂ at 1239
"	<i>Spermacoce latifolia</i> Aublet (Rubiaceae) (nectar)	Harvey Range, 42km WSW Townsville	19.v.1992	♀ ♀ at 1215-1220
"	"	15km SE Cardwell	5.vi.1992	1 ♂ at 1506
"	<i>Eriocaulon</i> sp. (Eriocaulaceae) (nectar)	9km SE Cardwell	17.x.1992	2 ♂♂ at 1505-1512
"	<i>Opilia armenitacea</i> Roxb. (Opiliaceae) (nectar)	Mt. Wite, Coen	1.x.1990	2 ♀♀ at 1540
"	<i>Leptospermum polygalifolium sens. lat.</i> (nectar)	35km NNW Torrens Creek	4.x.1991	1 ♂ at 0740

Hypocysta adianthe

"	<i>Melaleuca linariifolia</i> (nectar)	6km SE Petford	19.x.1990	♀♀ at 1550-1600
"	* <i>Stachytarpheta jamaicensis</i> (nectar)	8km SE Cardwell	10.i.1991	1♀ at 1515
"	<i>Rostellularia adscendens</i> (R.Br.) R. Barker (Acanthaceae) (nectar)	Cardwell	12.i.1991	1♂ & 1♀ at 1600
"	"	"	24.i.1991	1♂
"	"	15km S Eungella	8.iv.1992	2♂♂ at 1250
"	"	16km W Paluma	5.vi.1993	1♂ & 1♀ at 1259-1301
"	<i>Bursaria tenifolia</i> (nectar)	15km SE Cardwell	8.ix.1991	1♂ at 1114
"	"	17km SW Bluewater	27.iii.1993	1♂ at 1008-1010
"	"	Hidden Valley	17.iv.1993	4♂♂ at 1436-1444
"	<i>Spermatocoe latifolia</i> (nectar)	Innot Hot Springs	2.vi.1991	♀♀ at 1130-1135
"	<i>Canthium</i> sp. (Rubiaceae) (nectar)	15km SE Cardwell	16.x.1992	1♂ at 1202-1205
"	<i>Euphorbia</i> sp. (Euphorbiaceae) (nectar)	Marlborough	28.iii.1992	1♂ at 1345
"	* <i>Emilia sonchifolia</i> (Asteraceae) (nectar)	15km S Eton	5.iv.1992	1♂ at 1424
"	<i>Vernonia cinerea</i> Less. (Asteraceae) (nectar)	8km E Paluma	14.v.1992	1♀ at 1523-1526
"	Asteraceae (nectar)	6km W Grantleigh	6.ix.1990	4♀♀ at 0950
"	Fabaceae, Asteraceae (nectar)	Blackdown Tbl. Nat. Park	7.ix.1990	♀♀ at 1100-1200
<i>Hypocysta metirius</i>	* <i>Bidens pilosa</i> (nectar)	Atherton	21.x.1990	1♀ at 1655
"	* <i>Lantana camara</i> L. (Verbenaceae) (nectar)	Kirrima, Cardwell Range	4.vi.1991	1♀ at 1505
"	* <i>Rubus rosifolius</i> Smith (Rosaceae) (nectar)	Eungella	24.vi.1991	1♀ at 1105
"	<i>Acronychia laevis</i> Forster & G. Forster (Rutaceae) (nectar)	"	8.iv.1991	2♂♂ at 0837, 0917
"	<i>Maesa dependens</i> F. Muell. (Myrsinaceae) (nectar)	Seaview Range	10.x.1991	♂♂ & ♀♀ at 1510
<i>Hypocysta irius</i>	* <i>Bidens pilosa</i> (Asteraceae) (nectar)	Atherton	21.x.1990	1♀ at 1655
"	<i>Helichrysum rupicola</i> (nectar)	17km W Kennedy	4.vi.1991	5♀♀ at 1430-1445

<i>Hypocysta pseudiritis</i>	"	<i>Ageratum houstonianum</i> Miller, * <i>Conyza</i> sp. (Asteraceae); * <i>Stachytarpheta jamaicensis</i> ; <i>Spermacoce latifolia</i> (nectar)	4.vi.1991	1 ♀ at 1435-1445
"	"	Asteraceae (nectar)	6.ix.1990	1 ♂ at 0950
"	"	"	6.ix.1990	3 ♀♀ at 1155
<i>Tisiphone helena</i>	"	<i>Polyscias australiana</i> (F. Muell.) Philipson (Araliaceae) (nectar)	30.xi.1992	1 ♂ at 1005-1007

Appendix 4. Dominant plant species at sampling sites A-D, Cardwell.

SITE A

Overstorey

Canarium australianum F.Muell., *Xanthostemon chrysanthus* (F.Muell.) Benth., *Pongamia pinnata* (L.) Pierre, *Scolopia braunii* (Klotzsch) Sleumer, *Buckinghamia celsissima* F.Muell., *Planchonella* sp, *Paraserianthes toona* (Bailey) I.Nielsen, *Syzygium tierneyanum* (F.Muell.) T.Hartley & Perry, *Schefflera actinophylla* (Endl.) Harms, *Dillenia alata* (DC.) Martelli, *Deplanchea tetraphylla* (R.Br.) F.Muell., *Bursaria tenuifolia* Bailey, *Lophostemon suaveolens* (Gaetner) Peter G.Wilson & Waterhouse, *Eucalyptus tereticornis* Smith, *E. tessellaris* F.Muell., *E. drepanophylla* Benth., *E. clarksoniana* D.J. Carr & S.G.M. Carr, *E. platyphylla* F.Muell., *E. intermedia* R.Barker, *Acacia mangium* Willd., *A. aulacocarpa* Benth.

Understorey

Acacia flavescens Benth., *Guioa acutifolia* (F.Muell.) Radlk., *Mallotus polyadenos* F.Muell., *Chionanthis ramifloris* Roxb., *Pandanus* sp, *Alyxia spicata* R.Br., *Scolopia braunii*, *Planchonia careya* (F.Muell.) Knuth, *Dillenia alata*, *Glochidion ferdinandi* (Muell.Arg) Bailey, *Alphitonia excelsa* (Fenzl) Benth., *Lantana camara* L, *Jagera pseudorhus* (A.Rich.) Radlk., *Polyscias elegans* (C.Moore & F.Muell.) Harms, *Timonius timon* (Sprengel) Merr. *Cycas media* R.Br., *Alyxia spicata*, *Eustrephus latifolius* Ker Gawler, *Scleria sphacelata* F.Muell., *Lomandra longifolia* Labill.

SITE B

Overstorey

Eucalyptus platyphylla, *E. drepanophylla*, *E. clarksoniana*, *Lophostemon suaveolens* with some *E. acmenoides* Schauer.

Understorey

Acacia flavescens, *Melaleuca nervosa* (Lindley) Cheel, *Grevillea parallela* J.Knight and *Planchonia careya*.

SITE C

Overstorey

Melaleuca viridiflora Gaetner and *M. quinquenervia* (Cav.) S.T.Blake with some *Eucalyptus pellita* F.Muell., *Pandanus whitei* Martelli and *Deplanchea tetraphylla*.

Understorey

Grevillea pteridifolia J.Knight, *Pandanus whitei* with *Gahnia sieberiana* Kunth.

SITE D

Overstorey

Lophostemon suaveolens, *Eucalyptus platyphylla*, *E. intermedia* and *E. acmenoides*. *Melaleuca dealbata* S.T. Blake, *Eucalyptus leptophleba* F.Muell. and *E. tessellaris* form minor components.

Understorey

Planchonia careya, *Lophostemon suaveolens*, *Acacia flavescens*, *Canarium australasicum* (Bailey) Leenh., *Grevillea parallela*, *Helicteres semiglabra* Bailey; with some *Acacia crassicarpa* Benth., *Alphitonia excelsa*, *Melaleuca quinquinervia* and *Acacia leptocarpa*.