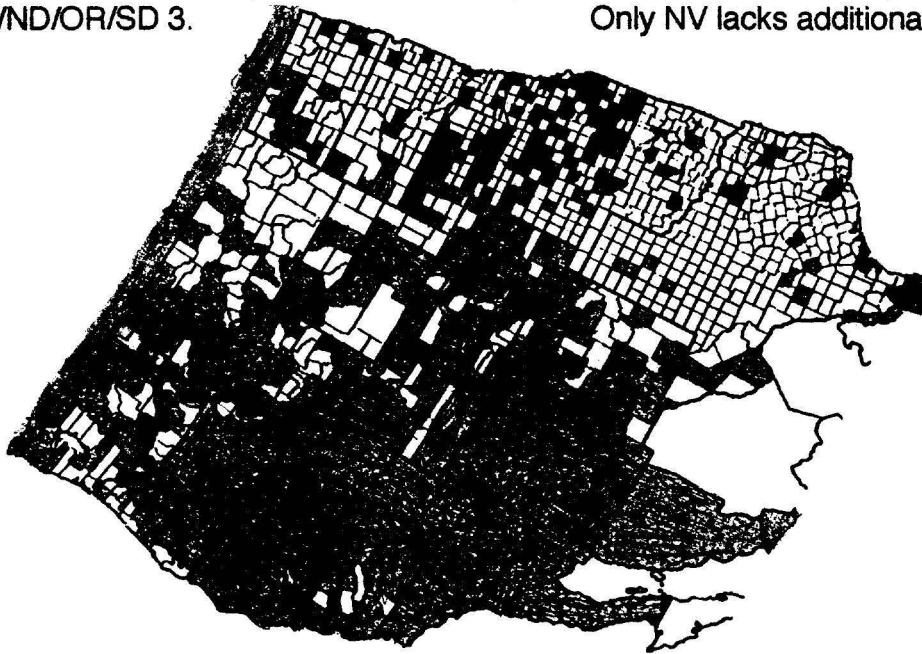


SUPPLEMENT to Western USA/Canada/Mexico BUTTERFLY ATLAS
24 February 1999 Updated Version
Ray E. Stanford and Paul A. Opler

CONTENTS: This 28-page supplement lists all of the more than 10020 new records received since February 1993, including 554 STATE/PROVINCE records [mostly Mexico] and a few corrections/deletions. Thanks to Neil Dankert of Nebraska for putting us over 10,000 ! There are 54 additional species and 40 deletions, bringing the total to 1061.

FORMAT: Prepared on Macintosh, Clarisworks 5.0.

STATISTICS: The entire covered region stands at about 83% of projected numbers of species per county [state in Mexico; province in Canada], although several States are over 90% [NV 96.1%, CA 96.0%, AZ 95.4%, UT 93.1%, CO 92.9%, NM 91.3%, OR 90.8%]. The following map shows counties, provinces and Mexican states which are known at the 90% level or better. Clearly the most work is needed in the prairie states and Mexico east of Sonora and Sinaloa. States/provinces with the most additional species since February 1993: SIN 98, NL 67, DGO 49, CHIH 41, SON 37, COAH 34, TAM 32, TX 17, OK/SASK/AB 12, BC 10, CO/MT 9, ID/MAN/NE 8, AZ/NM 7, BCS/WY 6, UT 5, BCN/WA 4, CAKS/ND/OR/SD 3. Only NV lacks additional species since 1993.



COUNTY ABBREVIATIONS: We have tried to make these unambiguous for each state, but not necessarily among states [e.g. CC CA is Contra Costa, CC CO Clear Creek]. WashWY is Washakie, WashNV is Washoe, otherwise Wash is Washington. Here are a few which might be tough to identify: Chke=Cherokee, Colu=Columbia, Cmch=Comanche, Jksn=Jackson, Mtgu=Montague, Mtgy=Montgomery, Shdn=Sheridan, Shmn=Sherman.

FINAL COMMENTS: 1. By nature, good people desire to know. Leonardo da Vinci.
2. Know whom I have believed. 2 Timothy 1:12. [Know whom we have believed also!]
3. Those who cannot remember the past are condemned to repeat it. George Santayana.
4. To remain silent, when they know they should speak, makes cowards of men. A.Lincoln.

Butterfly County Records (for Stanford/Opler Atlas) obtained by RES from museums and private collections in Idaho and Utah, 16-22 March 1994. Abbreviations: RES = Ray E. Stanford; BYU = Monte Bean Museum of Natural History, Brigham Young University, Provo, UT; CAM = Clifford A. Miles; JMJ = Joel M. Johnson; KBT = Kenneth B. Tidwell; BSU = Dept of Biology, Boise State University, Boise, ID; SSM = Stephanie S. McKown; GMS = George M. Stephens; ACI = Albertson College of Idaho, Orma J. Smith Museum of Natural History, Caldwell, ID. All determinations are by RES except as noted; collector names are spelled out the first time cited only; STATE = state record; ! or !! means weird!

Pyrrhopyge araxes arizonae:

1. Iron Crk Cg, NM 152 just W of Emory Pass, GRANT Co, NM, 25 Aug 1985, Wells and Whiting; 1 male. BYU.

Epargyreus clarus clarus:

2. Kellys Cn, MADISON Co, ID, 25 Jun 1981, CAM, 1 fresh male. BYU.
3. Logan, CACHE Co, UT, 12 Jul 1968, R. Kirkland, 1 worn male. BYU.
4. Orofino, CLEARWATER Co, ID, 19 Jun 1986, KBT. KBT, det KBT.
5. Black Cn Dam, GEM Co, ID, 27 Jun 1976, R. W. Jue. BSU. 1 worn male.
6. 1 mi N of Adrian, MALHEUR Co (northern), OR, 26 May 1974, C. Brady, 1 male.

Thorybes bathyllus:

7. Osage Cg, 13 mi W of Bartlesville, OSAGE Co, OK, 22 Jul 1981, K. Burnham. BYU. 1 female.

Thorybes pylades:

8. Ogden Cn, WEBER Co, UT, 20 Jun 1932, Ashby D. Boyle. BYU. 1 male.
9. Waterville, DOUGLAS Co, WA, 13 Jun 1977, S. Halbert; 1 male. ACI.

Erynnis icelus:

10. near Boise, ADA Co, ID, Jul 1959, worn female. ACI.

Erynnis pacuvius pacuvius:

11. 3 mi NNW of Poncha Pass, San Isabel NF, CHAFFEE Co, CO, 26 Jun 1977, R. E. Howard, 1 worn male. BYU.

Erynnis persius fredericki:

12. S Fk Ogden Rvr, CACHE Co, UT, 9000', 1 Aug 1964, TJB (who?), 1 male examined with microscope. BYU.
13. Kyle Cn, Spring Rg, CLARK Co, NV, 3 Jun 1984, SSM. SSM, 1 male examined with microscope by SSM and RES.

Pyrgus centaureae loki:

14. Beaver Crk, DAGGETT Co, UT, 23 Jul 1933, ADB, 1 male. BYU.

Pyrgus ruralis ruralis:

15. near Boise, ADA Co, ID, Jul 1957, worn male. ACI.

Pyrgus scriptura:

16. Old Woman Plateau, SEVIER Co, UT, 12 Jun 1992, JMJ, 1 fresh female. JMJ.

Pyrgus communis:

17. 9 mi NE of Gooding, GOODING Co, ID, 10 Aug 1974, M. Burnum, 1 male. BSU.
18. Payette, PAYETTE Co, ID, 20 Jul 1958, Wayne Chatterton, 1 pair. BSU.
19. Mann Crk, WASHINGTON Co, ID, 28 May 1966, E. Yensen. ACI.

Heliopetes ericetorum:

20. Adrian, MALHEUR (NORTH) Co, OR, 1 Jul 1957, WC, 2 males. BSU.

Pholisora catullus:

21. 9 mi NE of Gooding, GOODING Co, ID, 10 Aug 1974, MB, 1 male. BSU.

Piruna pirus:

22. Dry Cn, JUAB Co, UT, 5 Aug 1904, Thomas U. Spalding, 1 worn male. BYU.

Hylephila phyleus:

23. Van Horn, CULBERSON Co, TX, 21 Nov 1971, Jack L. Harry, 1 worn female. BYU.

Hesperia juba:

24. 7 mi SW of Moore, BUTTE Co, ID, 3 Sep 1977, Mary H. Clark, 1 worn female. BSU.
25. Squaw Butte, Emmett, GEM Co, ID, 27 May 1933, H. M. Tucker. ACI.
26. Orchard, ADA Co, ID, 10 Jun 1975, Chris Hagan. ACI.
27. 8 mi ENE of Payette, PAYETTE Co, ID, 20 Jun 1956, WC. BSU.

Bf CRs ex ID/UT collections, p2

Hesperia juba (continued):

28. Mann Crk, WASHINGTON Co, ID, 28 May 1966, EY. ACI.
29. North Platte, LINCOLN Co, NEBRASKA, STATE!, EAST, 1 Aug 1985, Robert L. Chehey, 1 female. ACI, det RLC and RES together, NOT a dubious record!

Hesperia comma harpalus:

30. Middleton, CANYON Co, ID, 20 Jul 1958, WC, 1 fresh male. BSU.
31. Brownlee Summit, WASHINGTON Co, ID, 18 Jul 1964, RLC, 1 fresh male. ACI.

Polites sabuleti:

32. Mores Crk, 20 mi NE of Boise, BOISE Co, ID, 5 Sep 1974, M. Lucky. BSU.
33. 9 mi NE of Gooding, GOODING Co, ID, 10 Aug 1974, M. Burnum. BSU.
34. Macks Crk, ELMORE Co, ID, 9 Jul 1971, D. W. Kriz. BSU.
35. Black Cn Dam, GEM Co, ID, 27 Jun 1976, R. W. Jue. BSU.
36. Bountiful, DAVIS Co, UT, 8 Sep 1958, W. Levi Phillips. RES (gift of CAM).
37. Coalville, SUMMIT Co, UT, 13 Sep 1955, WLP. RES (gift of CAM).
38. Provo, UTAH Co, UT, 4 Sep 1978, WLP. RES (gift of CAM).
39. Heber City, WASATCH Co, UT, 15 Aug 1982, CAM. RES (gift of CAM).
40. N of Nephi, JUAB Co, UT, 12 Jun 1992, Joel M. Johnson, 1 fresh male. JMJ.

Polites draco:

41. Cordway Flats, DAGGETT Co, UT, 26 Jul 1990, Kenneth B. Tidwell. KBT.
42. Scout Mtn, BANNOCK Co, ID, 22 Jul 1972, RLC. ACI.
43. S Fk City Crk, 9 mi W of Junction, 8400', PIUTE Co, UT, 21 Jun 1987, S. M. Clark, 1 fresh male. BYU.

Polites themistocles:

44. Hobrook Crk, San Isabel NF, ALAMOSA Co, CO, 8 Aug 1977, R. E. Howard, 1 female. BYU.

Ochlodes sylvanoides:

45. Black Cn Dam, GEM Co, ID, 5 Aug 1976, RWJ. BSU.
46. Payette, PAYETTE Co, ID, 3 Sep 1953, WC. BSU.
47. Brownlee Summit, WASHINGTON Co, ID, 18 Jul 1964, RLC. ACI.
48. 7 mi ENE of Junctura, MALHEUR (northern) Co, OR, 13 Jul 1976, RWJ. BSU.

Paratrytone snowi:

49. Oak Crk, San Isabel NF, FREMONT Co, CO, 8 Aug 1977, REH, 1 worn male. BYU.

Amblyscirtes vialis:

50. Panchuela Cg, nr Cowles, SAN MIGUEL Co, NM, 2 Jul 1977, REH, 1 male. BYU.

Parnassius clodius:

51. Maple Cn at Box Cn, SANPETE Co, UT, 11 Jun 1987, SMC, 1 fresh male. BYU.
52. Knox Cn, 6000', POWER Co, ID, 29 Jun 1972, RLC. ACI.
53. Boise (Straughn St), ADA Co, ID, 28 Jul 1975, C. M. Sower, 1 worn male. BSU.

Parnassius phoebus:

54. Wasatch Plateau, Skyline Drive, SANPETE Co, UT, 11 Jun 1987, SMC, 1 fresh male. BYU.
55. Knox Cn, 6000', POWER Co, ID, 29 Jun 1972, RLC. ACI.

Papilio polyxenes asterius:

56. Osage Cg, 13 mi W of Bartlesville, OSAGE Co, OK, 30 Jul 1981, KB, 2 females. BYU.

Papilio zelicaon:

57. Caldwell, CANYON Co, ID, 2 May 1926, H. M. Tucker. ACI.
58. Charlie Crk, nr Emida, BENEWAH Co, ID, 2 Jun 1957, RLC. ACI.
59. Macks Crk, ELMORE Co, ID, 9 Jul 1971, DWK. BSU.

Papilio indra indra:

60. Pistol Crk, 1800', VALLEY Co, ID, 26 Jun 1962, RLC, 1 fresh male. ACI.

Papilio glaucus:

61. Osage Cg, 13 mi W of Bartlesville, OSAGE Co, OK, 30 Jul 1981, KB, worn male. BYU
62. TYLER Co, TX, JMJ. JMJ - write him if details are needed.

Papilio rutulus:

63. Mann Crk, WASHINGTON Co, ID, 28 May 1966, EY. ACI.

Bf CRs ex ID/UT collections, p3

Papilio rutulus (continued):

64. 6 mi E of Emmett, GEM Co, ID, 27 Jun 1976, RWJ. BSU.

Papilio eurymedon:

65. Raft Rvr Mtns, BOX ELDER Co, UT, 17 Jun 1928, Vasco M. Tanner, small worn female. BYU.

66. Brawley, IMPERIAL Co, CA, 26 Jun 1967, SSM, 1 very worn male (obviously a stray but readily identifiable). SSM.

Papilio multicaudatus:

67. Black Cn Dam, GEM Co, ID, 27 Jun 1976, RWJ, 1 fresh male. BSU.

Eurytides marcellus:

68. LIBERTY Co, TX, JMJ. JMJ - write him if details are needed.

Neophasia menapia:

69. 5 mi W of Meridian, ADA Co, ID, 15 Sep 1977, P. Brown, 1 worn female. BSU.

Pontia beckerii:

70. Gold Fk Crk, VALLEY Co, ID, 21 Aug 1993, A. M. Lippincott, 1 fresh male. GMS.

71. Black Cn Dam, GEM Co, ID, 18 Apr 1953, RLC. ACI.

72. Payette, PAYETTE Co, ID, 25 Mar 1956, WC, 1 fresh female. BSU.

Pontia sisymbrii:

73. Boise, ADA Co, 12 Jun 1956, RLC. ACI.

74. Ft. Boise, nr Parma, CANYON Co, ID, 17 May 1970. ACI.

Pontia protodice:

75. Jerome, JEROME Co, ID, 11 Aug 1988, KBT. KBT.

76. 7 mi ENE of Junctura, MALHEUR (northern) Co, OR, 13 Jul 1976, RWJ, 1 fresh male. BSU.

77. Black Cn Dam, GEM Co, ID, 27 Jun 1976, RWJ. BSU.

78. 9 mi NE of Gooding, GOODING Co, ID, 10 Aug 1974, MB. BSU.

79. Payette, PAYETTE Co, ID, 20 Jul 1958, WC. BSU.

80. Brownlee Summit, WASHINGTON Co, ID, 18 Jul 1964, RLC. ACI.

Pontia occidentalis:

81. Black Cn Dam, GEM Co, ID, 27 Jun 1976, RWJ. BSU.

82. Mann Crk, WASHINGTON Co, ID, 28 May 1966, EY. ACI.

Pieris napi:

83. Raft River Mtns, BOX ELDER Co, UT, 28 Jun 1983, Jolene Merica, 1 fresh male. BYU.

Pieris rapae:

84. Idaho Falls, BONNEVILLE Co, ID, 20 Aug 1973, Scott Pruitt, 1 male. BSU.

85. Black Cn Dam, GEM Co, ID, 27 Jun 1976, RWJ. BSU.

86. Payette, PAYETTE Co, ID, 20 Jul 1958, WC. BSU.

87. Brownlee Summit, WASHINGTON Co, ID, 18 Jul 1964, RLC. ACI.

Euchloe ausonides:

88. Black Cn Dam, GEM Co, ID, 18 Apr 1953, WC, 1 fresh male. BSU.

89. Mann Crk, WASHINGTON Co, ID, 28 May 1966, EY. ACI.

Euchloe hyantis lotta:

90. Old Woman Plateau, SEVIER Co, UT, 5 Jun 1992, JMJ, 1 worn male. JMJ.

Anthocharis sara COMPLEX:

91. Black Cn Dam, GEM Co, ID, 18 Apr 1953, WC, 1 fresh male. ACI.

Colias philodice:

92. Benewah, BENEWAH Co, ID, 20 Aug 1973, C. Kiows, 1 worn female. BSU.

93. American Falls, POWER Co, ID, 25 Jul 1975, W. A. Balch, 1 male. BSU.

94. Black Cn Dam, GEM Co, ID, 27 Jun 1976, RWJ. BSU.

95. 9 mi NE of Gooding, GOODING Co, ID, 10 Aug 1974, MB. BSU.

96. Payette, PAYETTE Co, ID, 20 Jul 1958, WC. BSU.

97. Brownlee Summit, WASHINGTON Co, ID, 18 Jul 1964, RLC. ACI.

Colias eurytheme:

98. Black Cn Dam, GEM Co, ID, 27 Jun 1976, RWJ. BSU.

99. 9 mi NE of Gooding, GOODING Co, ID, 10 Aug 1974, MB. BSU.

Bf CRs ex ID/UT collections, p4

Colias eurytheme (continued):

100. Payette, PAYETTE Co, ID, 20 Jul 1958, WC. BSU.
101. Brownlee Summit, WASHINGTON Co, ID, 18 Jul 1964, RLC. ACI.

Colias occidentalis (intermediate toward columbiensis):

102. 7 mi ENE of Junctura, MALHEUR (northern) Co, OR, 13 Jul 1976, RWJ. BSU.

Colias alexandra (intermediate toward columbiensis):

103. Brownlee Summit, WASHINGTON Co, ID, 4100', 18 Jul 1964, RLC. ACI.
104. McCall, VALLEY Co, ID, 5020', 9 Aug 1964, RLC. ACI.
105. 2 mi S of Fossil Butte NM, LINCOLN Co, WY, 15 Jun 1988, CAM. CAM (This individual, a fresh male, is typical alexandra, NOT intermediate).

Colias meadii:

106. Elkhorn Lk, 10600', WASATCH Co, UT, 27 Jul 1935, F. Martin Brown, 1 fresh male. BYU.

Eurema mexicana:

107. Amarillo, POTTER Co, TX, 12 Aug 1977, REH. BYU.

Nathalis iole:

108. Middleton, CANYON Co, ID, 20 Jul 1958, WC, 1 fresh male. BSU.
109. Roosevelt, 5100', city park, DUCHESNE Co, UT, 19 Aug 1972, Carol Evans, 1 fresh male. BYU.

Lycaena cuprea artemisia:

110. Smiths Ferry, VALLEY Co, ID, 8 Jul 1983, KBT. KBT, det KBT.

Lycaena cuprea nr snowi: ~~SALT LAKE~~ ^{WASATCH}

111. Granddaddy Mtn, ~~SALT LAKE~~ Co, UT, 16 Jul 1933, ADB. BYU (There is some doubt as to where this locality is; it may be in the Uinta Mtns, so NOT in Salt Lake Co or anywhere along the Wasatch Front).

Lycaena editha:

112. McKee Draw, DAGGETT Co, UT, 31 Jul 1982, KBT. KBT, det KBT.
113. Deep Crk, OWYHEE Co, ID, 21 Jul 1993, GMS. GMS, det C. D. Ferris (CDF).
114. Brownlee Summit, 4100', WASHINGTON Co, ID, 18 Jul 1964, RLC. ACI.

Lycaena rubida:

115. Dry Cn, JUAB Co, UT, 20 Jul 1904, TUS; also Nephi, JUAB Co, UT, 13 Jul 1929, ADB, several specimens. BYU.
116. Maple Grove Cg, 6400', Fishlake NF, Pavant Rg, MILLARD Co, UT, 6 Jul 1987, SMC. BYU.

Lycaena heteronea:

117. Brownlee Summit, 4100', WASHINGTON Co, ID, 18 Jul 1964, RLC. ACI.

Lycaena helloides:

118. Emmett, GEM Co, ID, 7 Oct 1961, RLC. ACI.
119. Brownlee Summit, 4100', WASHINGTON Co, ID, 18 Jul 1964, RLC. ACI.
120. Confluence Grimes/Moores Crks, PAYETTE Co, ID, 13 Jul 1972, J. W. Tillman. BSU.

Lycaena nivalis:

121. Silver City [sic], OWYHEE Co, ID, 26 Jul 1964, RLC. ACI.

Lycaena mariposa:

122. nr Fields Spg SP, ASOTIN Co, WA, 30 Jun 1986, KBT. KBT, det KBT.

Satyrium titus:

123. Rock Crk, FREMONT Co, ID, 15 Jul 1971, RLC. ACI.
124. Brownlee Summit, 4100', WASHINGTON Co, ID, 18 Jul 1964, RLC. ACI.

Satyrium behrii:

125. Inman Cn, BANNOCK Co, ID, 26 Jul 1971, RLC. ACI.
126. ?Mile High Summit, T4NR6ES22, BOISE Co, ID, 27 Jul 1975, Gary Shook. ACI.

Satyrium fuliginosum:

127. Brownlee Summit, 4100', WASHINGTON Co, ID, 18 Jul 1964, RLC. ACI.

Satyrium sylvinum: (none of these are acadicum or "coolinense")

128. Duck Crk, T6SR5WS24, OWYHEE Co, ID, 1 Aug 1993, GMS. GMS.
129. Mink Crk, 5500', BANNOCK Co, ID, 14 Jul 1971, RLC. ACI.
130. Pebble Crk, CARIBOU Co, ID, 17 Jul 1971, RLC. ACI.

Bf CRs ex ID/UT collections, p5

Satyrium sylvinum (continued):

131. Black Cn Dam, GEM Co, ID, 5 Aug 1976, RWJ. BSU.

Satyrium saepium:

132. Inman Cn, 6000', BANNOCK Co, ID, 25 Jul 1971, RLC. ACI.

Callophrys sheridanii ssp:

133. Bogus Basin Rd, BOISE Co, ID, 16 Apr 1985, RLC, 1 large fresh male. ACI.

Mitoura spinetorum:

134. Old Woman Plateau, SEVIER Co, UT, 12 Jun 1992, JMJ, 1 fresh female. JMJ.

Incisalia augustinus annettae:

135. Midway, WASHINGTON Co, UT, STATE!, 26 Apr 1980, John L. Richards, 1 fresh male. BYU. WASATCH

Incisalia augustinus iroides:

136. Stone, ONEIDA Co, ID, 20 Aug(!) 1972, 1 fresh male. ACI.

Incisalia eryphon:

137. Payette, PAYETTE Co, ID, 25 Mar 1956, WC, 1 fresh pair. BSU.

138. Mann Crk, WASHINGTON Co, ID, 28 May 1966, EY, 1 fresh male. ACI.

Strymon melinus:

139. Shafer Butte, BOISE Co, ID, 6 Jul 1972, R. N. Nakatani, 1 male. BSU.

140. Black Cn Dam, GEM Co, ID, 5 Aug 1976, RWJ. BSU.

141. Payette, PAYETTE Co, ID, 20 Jul 1958, WC, 1 worn female. BSU.

142. Brownlee Summit, WASHINGTON Co, ID, 18 Jul 1964, RLC. ACI.

Brephidium exile:

143. Price Cn RA, CARBON Co, UT, 12 Sep 1991, J. Zenger, 1 fresh female. BYU.

144. along Snake Rvr, ELMORE Co, ID, several summers now, RLC. ACI, det RLC.

Hemiargus isola:

145. Grassy Trail Crk, CARBON Co, UT, 7 Jun 1978, KBT. KBT, dets KBT.

Everes amyntula:

146. Kellys Cn, MADISON Co, ID, 18 May 1979, CAM, 1 fresh male. BYU.

Celastrina argiolus (=ladon):

147. Emida, BENEWAH Co, ID, 10 Jun 1957, RLC. ACI.

148. Soldier Cn, 7100', US 40, WASATCH Co, UT, 13 Jun 1991, RES, 1 worn female.

Glaucopsyche lygdamus:

149. Mann Crk, WASHINGTON Co, ID, 28 May 1966, EY. ACI.

150. Caldwell, CANYON Co, ID, 27 Apr 1930. ACI.

Plebejus idas annetta:

151. Provo Cn, UTAH Co, UT, 21 Jul 1962, TJB (who?), fresh series. BYU.

Plebejus idas atropraetextus:

152. Brownlee Summit, 4100', WASHINGTON Co, ID, 18 Jul 1964, RLC, 1 pair. ACI.

Plebejus melissa melissa:

153. Brownlee Summit, 4100', WASHINGTON Co, ID, 18 Jul 1964, RLC, several pairs.

ACI. RLC and RES made these dets together, but it is the only instance where I have seen both idas and melissa together. Consultations, please!

Plebejus lupini ssp nov:

154. Mores Mtn, BOISE Co, IDAHO, STATE!, 3 Aug 1992, GMS/AML, 2 females on loan to RES, now spread, pending confirmation by PAO et al.

Plebejus acmon texanus:

155. Amarillo, POTTER Co, TX, 12 Aug 1977, REH, long series. BYU.

Plebejus acmon lutzi:

156. Brownlee Summit, 4100', WASHINGTON Co, ID, 18 Jul 1964. ACI.

157. Price Cn RA, CARBON Co, UT, 18 Jun 1991, J. Zenger, 1 fresh male. BYU.

Plebejus saepiolus:

158. Provo Cn, UTAH Co, UT, 21 Jul 1962, TJB (who?); also KBT records 1973. BYU.

159. Scout Mtn, 6300', BANNOCK Co, ID, 22 Jul 1972, RLC. ACI.

160. Hoh Rvr, Olympic Mtns, JEFFERSON Co, WA, 22 Jun 1959, RLC. ACI.

161. Price Cn RA, CARBON Co, UT, 18 Jun 1991, J. Zenger, 1 fresh male. BYU.

Plebejus glandon rusticus:

162. Provo Cn, UTAH Co, UT, 21 Jul 1962, TJB (who?). BYU.

Bf CRs ex ID/UT collections, p6

Plebejus icarioides:

163. Ft. Boise, Parma, CANYON Co, ID, 17 May 1970, RLC. ACI.

164. Mann Crk, WASHINGTON Co, ID, 28 May 1966, EY. ACI.

Apodemia mormo mejicanus:

165. Panchuela Cg, nr Cowles, SAN MIGUEL Co, NM, 2 Jul 1977, REH, 1 female. BYU.

Apodemia mormo nr mormo:

166. Deep Crk, OWYHEE Co, ID, 27 Aug 1992, GMS/AML, 2 fresh males. GMS.

167. Grimes Crk, BOISE Co, ID, 15 Sep 1981, Karl D. Cannon. ACI.

168. ONEIDA Co, ID, data pending, RLC. ACI.

169. Decker Flats, CUSTER Co, ID, 27 Aug 1975, Chris Hagen, 2 fresh males. ACI.

Dione vanillae incarnata:

170. Osage Cg, 13 mi W of Bartlesville, OSAGE Co, OK, 22 Jul 1981, 2 fresh females, KB. BYU.

Euptoieta claudia:

171. Osage Cg, 13 mi W of Bartlesville, OSAGE Co, OK, 24 Jul 1981, KB. BYU.

172. Mueller Park, DAVIS Co, UT, 8 Jun 1930, ADB, 1 fresh male; also Bountiful, DAVIS Co, UT, 24 Jun 1978, E. R. Wilson, 1 worn male. Both BYU.

Euptoieta hegesia:

173. 8 mi N of Ketchum, BLAINE Co, IDAHO, STATE!, NORTH!, 16 Jul 1966, Erik Yensen (EY), 1 nearly fresh male. ACI. The record is certainly correct, but is probably an accidental occurrence of this Neotropical species.

Speyeria cybele cybele:

174. Osage Cg, 13 mi W of Bartlesville, OSAGE Co, OK, 21 Jul 1980, 1 large fresh female, KB. BYU.

Speyeria cybele leto:

175. Lapwai Crk, NEZ PERCE Co, ID, 7 Jul 1983, KBT. KBT, det KBT.

176. South Hills, TWIN FALLS Co, ID, 9 Oct(!) 1975, MK (who?). ACI.

177. Gibson-Jack Crk, R34ET6S, BANNOCK Co, ID, 18 Jul 1971, RLC. ACI.

Speyeria coronis snyderi:

178. Brownlee Summit, WASHINGTON Co, ID, 18 Jul 1964, RLC, 1 female. ACI.

Speyeria zerene nr garretti:

179. Arbon Vy, POWER Co, ID, 4 Sep 1971, 1 female, RLC. ACI.

180. Brownlee Summit, WASHINGTON Co, ID, 18 Jul 1964, RLC. ACI.

Speyeria hydaspe sakuntala:

181. Clear Crk Camp, BOX ELDER Co, UT, 19 Jul 1984, P. Peterson, 1 fresh male. BYU.

182. Inman Cn, BANNOCK Co, ID, 25 Jul 1971, RLC. ACI.

183. Knox Cn, 6000', POWER Co, ID, 29 Jun 1972, RLC. ACI.

Speyeria callippe nr gallatini:

184. Knox Cn, 6000', POWER Co, ID, 29 Jun 1972, RLC. ACI.

Speyeria egleis linda:

185. Kellys Cn, MADISON Co, ID, 25 Jul 1981, CAM, 1 fresh male. BYU.

186. Knox Cn, 6000', POWER Co, ID, 29 Jun 1972, RLC, 1 large fresh male with partial silvering of VHW spots submarginally. ACI.

Speyeria atlantis (populations with unsilvered VHW spots):

187. WASATCH Co, UT, ssp wasatchia. CAM.

188. SEVIER Co, UT, ssp wasatchia. CAM. (Not chitone in this series).

189. Scout Mtn, 6300', BANNOCK Co, ID, 22 Jul 1972, RLC. ACI (ssp tetonia).

190. Rock Crk, FREMONT Co, ID, 14 Aug 1971, RLC. ACI (ssp tetonia).

Speyeria mormonia eurynome:

191. Scout Mtn, 6300', BANNOCK Co, ID, 22 Jul 1972, RLC. ACI.

192. Benewah, BENEWAH Co, ID, 20 Aug 1973, C. Kiows, 1 fresh female. BSU.

Boloria titania helena:

193. Hobbrook Crk, San Isabel NF, ALAMOSA Co, CO, 8 Aug 1977, REH. BYU.

194. Granddaddy Mtn, ~~SALT LAKE~~ Co, UT, 8 Jul 1934, ADB. BYU (see entry #111).

Thessalia leanira alma:

195. 1 mi SW of Horse Cn Mine, EMERY Co, UT, 27 May 1982, KBT, fresh series of both sexes. BYU.

Bf CRs ex ID/UT collections, p7

Chlosyne californica:

196. Palm Cn, nr Kofa NWR, YUMA Co, AZ, 31 Aug 1986, Erin McKown, 1 fresh male. SSM.

Chlosyne palla calydon:

197. Boise (Brumback Street), ADA Co, ID, 28 Jul 1971, DWK, 1 worn male. BSU.

Chlosyne acastus acastus:

198. Pataha, GARFIELD Co, WA, 19 Jun 1986, KBT. KBT, det KBT.
199. Bruno Dunes SP, OWYHEE Co, ID, 11 May 1977, Gary Shook, series of very pale individuals. ACI.

Phyciodes selenis (tharos type B):

200. Ferncroft, VALLEY Co, ID, 3800', 24 Jun 1962, RLC. ACI.

Phyciodes campestris:

201. Ft. Boise, Parma, CANYON Co, ID, 17 May 1970, RLC. ACI.
202. Black Cn Dam, GEM Co, ID, 27 Jun 1976, RWJ. BSU.
203. 8 mi ENE of Payette, PAYETTE Co, ID, 20 Jun 1956, WC. BSU.
204. Mann Crk, WASHINGTON Co, ID, 28 May 1966, EY. ACI.

Phyciodes mylitta:

205. Black Cn Dam, GEM Co, ID, 27 Jun 1976, RWJ. BSU.
206. Mann Crk, WASHINGTON Co, ID, 28 May 1966, EY. ACI.
207. Ammon, BONNEVILLE Co, ID, 1 Jul 1981, L. Doney, 1 worn male. BYU.
208. 2 mi W of Kearney, BUFFALO Co, NEBRASKA!, STATE!, EAST!, 28 Sep 1987, Douglas Beazer. BYU (a believable record, since it is turning up in E Colorado).

Euphydryas colon:

209. Brownlee Summit, WASHINGTON Co, ID, 18 Jul 1964, RLC. ACI.

Euphydryas anicia ssp:

210. Mink Crk, BANNOCK Co, ID, 20 Jul 1975, Gary Shook. ACI. (nr maria)
211. Caldwell, CANYON Co, ID, 27 Sep(!) 1977, Melody Gregorson. ACI.

Euphydryas editha nr hutchinsi:

212. Aspen Grove, UTAH Co, UT, 13 Jun 1979, CAM. BYU, 1 worn female.
213. Pocatello Crk, BANNOCK Co, ID, 1 Jul 1979, B. Sargent. BYU, 1 worn female.
214. Farmington Cn, DAVIS Co, UT, 6200', 20 Jun 1987, Jack L. Harry, 1 fresh male. BYU. (Genitalia should be examined to confirm #s 212-214).

Polygona interrogationis:

215. Osage Cg, 13 mi W of Bartlesville, OSAGE Co, OK, 21 Jul 1980, 1 worn male form "umbrosa", KB. BYU.

Polygona satyrus:

216. Ammon, BONNEVILLE Co, ID, 25 Aug 1981, L. Doney, 1 male. BYU.
217. Payette, PAYETTE Co, ID, 10 Apr 1962, J. C. Hogg. ACI.
218. Hagerman, GOODING Co, ID, March 1955, RLC. ACI.
219. Black Cn Dam, GEM Co, ID, 18 Apr 1953, collector not noted. ACI.
220. Brownlee Summit, WASHINGTON Co, ID, 18 Jul 1964, RLC. ACI.

Polygona faunus:

221. Shingle Crk Cn, SEVIER Co, UT, 14 Aug 1954, W. Levi Phillips. CAM.

Polygona gracilis zephyrus:

222. Pocatello Crk, BANNOCK Co, ID, 2 Oct 1978, B. Sargent, 1 female. BYU.
223. Sinkers Crk, OWYHEE Co, ID, 21 Mar 1987, K. Glenn. ACI.
224. Cottonwood Loop, CLARK Co, ID, 5 Sep 1977, M. H. Clark, 1 fresh female. BSU.
225. Macks Crk, ELMORE Co, ID, 9 Jul 1971, D. W. Kriz, 1 male. BSU.
226. Mann Crk, WASHINGTON Co, ID, 28 May 1966, EY. ACI.

Nymphalis antiopa:

227. Payette, PAYETTE Co, ID, 25 Mar 1956, WC. BSU.
228. Mann Crk, WASHINGTON Co, ID, 28 May 1966, EY. ACI.
229. Lapwai Crk, LEWIS Co, ID, 7 Jul 1983, KBT. KBT.

Nymphalis vau-album:

230. Diamond Fk, Spanish Fk Cn, UTAH Co, UT, 11 Apr 1985, JMJ. JMJ.
231. Pocatello Crk, BANNOCK Co, ID, 24 Aug 1983, Jolene Merica, 1 fresh male. BYU.

Bf CRs ex ID/UT collections, p8

Nymphalis californica:

232. Brownlee Summit, WASHINGTON Co, ID, 18 Jul 1964, RLC. ACI.
233. Victor Lk, Wind Rvr Mts, SUBLETTE Co, WY, 22 Aug 1945, John Hayward, 2 worn males. BYU.
234. Boise Front, ADA Co, ID, 27 Apr 1985, RLC. ACI.
235. Payette, PAYETTE Co, ID, 10 May 1962, J. C. Hogg. ACI.

Nymphalis milberti:

236. Squaw Butte, Emmett, GEM Co, ID, 27 May 1933, H. M. Tucker. BSU.
237. Payette, PAYETTE Co, ID, 10 May 1962, J. C. Hogg. ACI.
238. Mann Crk, WASHINGTON Co, ID, 28 May 1966, EY. ACI.
239. Grainfield, GOVE Co, KS, 2nd STATE!, 4 Aug 1968, J. R. Bee, 1 female. BYU.

Vanessa atalanta:

240. Squaw Butte, Emmett, GEM Co, ID, 27 May 1933, H. M. Tucker. BSU.
241. Payette, PAYETTE Co, ID, 10 May 1962, J. C. Hogg. ACI.
242. Mann Crk, WASHINGTON Co, ID, 28 May 1966, EY. ACI.
243. Lapwai Crk, LEWIS Co, ID, 7 Jul 1983, KBT. KBT.

Vanessa virginiensis:

244. Mt. Nebo, JUAB Co, UT, 1 captured summer 1983, Clyde F. Gillette. JMJ.
245. above Cascade, VALLEY Co, ID, 24 Aug 1985, Karl D. Cannon. ACI.

Vanessa cardui:

246. Black Cn Dam, GEM Co, ID, 27 Jun 1976, RWJ. BSU.
247. 9 mi NE of Gooding, GOODING Co, ID, 10 Aug 1974, MB. BSU.
248. Mann Crk, WASHINGTON Co, ID, 28 May 1966, EY. ACI.
249. Benewah, BENEWAH Co, ID, 20 Aug 1973, C. Kiows. BSU.

Vanessa annabella:

250. Black Cn Dam, GEM Co, ID, 5 Aug 1976, RWJ. BSU.
251. Brownlee Summit, WASHINGTON Co, ID, 18 Jul 1964, RLC. ACI.

Junonia coenia:

252. Philmont BSA Rch, COLFAX Co, NM, 3 Jul 1987, R. C. Mower, 1 worn female. BYU.
253. 5 mi W of Murphy, OWYHEE Co, ID, 2nd STATE!, 17 Nov 1991, GMS, 1 female. GMS.

Basilarchia astyanax:

254. TYLER Co, TX, JMJ. JMJ - write him if details are needed.

Basilarchia archippus:

255. 10 mi S of Fritch, HUTCHINSON Co, TX, 6 Apr 1977, W. Langham, 1 worn female(!). BYU.
256. Clearfield, DAVIS Co, UT, Jun 1926, 1 worn female. BYU.
257. Wasatch Mtn SP, WASATCH Co, UT, 15 Aug 1982, CAM, 1 fresh male. BYU.
258. Canadian Rvr, Dumas, MOORE Co, TX, 1 Oct 1977, J. Schwab, 1 worn female. BYU.
259. 10 mi S of Fritch, HUTCHINSON Co, TX, 1 Oct 1977, J. Schwab, 1 male. BYU.
260. BINGHAM Co, ID, Jul 1962, B. Carlson, 1 fresh male. BYU.
261. Macks Crk, ELMORE Co, ID, 9 Jul 1971, DWK, 1 worn male. BSU.
262. nr Paducah, COTTLE Co, TX, 6 Jun 1973, SSM. SSM.
263. S Willow Crk, Stansbury Mts, TOOELE Co, UT, 10 Jul 1973, L. Paul Grey, 1 worn female. RES collection (ssp lahontani).

Adelpha bredowii eulalia:

264. Amarillo, POTTER Co, TX, 30 Aug 1977, W. Langham, 1 worn male. BYU.

Coenonympha tullia ochracea:

265. S Willow Crk, TOOELE Co, UT, 12 Jul 1984, CAM. CAM, series of males.
266. Eureka, JUAB Co, UT, 18 May 1982, JMJ, 1 fresh male. JMJ.
267. Clear Crk Cg, Raft Rvr Mts, BOX ELDER Co, UT, 22 Jun 1983, C. R. Nelson, long series with all intermediates and typical ochracea and ampelos. BYU.
268. BURLEIGH Co, ND, series (NOT inornata!), JMJ. Find out more!

Coenonympha tullia ampelos:

269. Black Cn Dam, GEM Co, ID, 27 Jun 1976, RWJ. BSU.

Bf CRs ex ID/UT collections, p9

Coenonympha tullia ampelos (continued):

270. Mann Crk, WASHINGTON Co, ID, 28 May 1966, EY. ACI.

Cercyonis pegala:

271. WASHINGTON Co, ID, 3 Jul 1986, KBT. KBT - write him if details are needed.

272. Black Cn Dam, GEM Co, ID, 18 Apr[sic!] 1953, WC, 1 worn female. BSU.

273. Cedar Mtn, SW of Green Rvr, SWEETWATER Co [sic] WY, Jul 1965, GMS, 1 fresh female. GMS.

Cercyonis oetus:

274. Black Cn Dam, GEM Co, ID, 5 Aug 1976, RWJ. BSU.

275. Brownlee Summit, WASHINGTON Co, ID, 18 Jul 1964, RLC. ACI.

Cercyonis sthenele masoni:

276. Morgan, MORGAN Co, UT, 18 Jul 1963, 5000', TJB (who?), 1 fresh male with a slight suggestion of a red flush around the largest DFW spot. BYU.

277. Ogden Cn, WEBER Co, UT, 14 Aug 1933, ADB, 1 male, no red flush. BYU.

Cercyonis meadii ssp:

278. Idlewild, RIVERSIDE Co, CA, STATE!, BIZARRE!, 28 Jun(!) 1985, SSM. SSM - I do not doubt this record, a fresh female, but it must have been reared and accidentally released by someone (Emmels live only yards away). The nearest population is in the Hualapai Mtns of AZ, where it flies in Aug. Satyrids basically do not stray of their own volition, so this one must have had help somehow. Like Calycopis cecrops in CO, Euptoieta hegesia in ID, Anartia jatrophae in UT, and Eurema proterpia in OR. These records must not be ignored, but are accidentals and should be treated with **s.

Coenonympha haydeni:

279. Provo Cn, UTAH Co, UT, 24 Jul 1962, TJB (who?), 1 fresh male. BYU - this specimen is almost obviously mislabeled, so I do not accept it. This sp could possibly be found in extreme northern UT, where it would be a STATE record, but, again, satyrids do not stray, so UTAH Co is not likely.

Erebia epipsodea:

280. Provo Cn, UTAH Co, UT, 12 Jul 1973, VMT, 1 worn male. BYU - another nearly impossible record, so not accepted. The big question is why doesn't this species occur widely in the UT mountains? Quien sabe, amigos.

281. Cedar Mtn, SW of Green Rvr, SWEETWATER [sic] Co, WY, Jul 1965, GMS, 1 fresh female. GMS.

Neominois ridingsii:

282. Crab Crk, T12SR4ES18, OWYHEE Co, ID, 5 Jul 1993, GMS, fresh males. GMS.

283. Seely Crk, SANPETE Co, UT, 12 Jul 1979, KBT, fresh males. KBT.

Oeneis chryxus:

284. Cedar Mtn, SW of Green Rvr, SWEETWATER [sic] Co, WY, Jul 1965, GMS, 1 fresh pair. GMS.

Oeneis jutta reducta:

285. McKee Draw, DAGGETT Co, UT (confirmatory), 31 Jul 1982, KBT. KBT.

Danaus plexippus:

286. Cuprum, ADAMS Co, ID, 19 Jul 1958, WC. BSU.

287. Payette, PAYETTE Co, ID, 3 Sep 1953, WC. BSU.

288. Sweet, GEM Co, ID, 5 Sep 1975, C. M. Sower. BSU.

289. Amarillo, POTTER Co, TX, 12 Aug 1977, REH. BYU.

Danaus gilippus strigosus:

290. San Rafael Cg, EMERY Co, UT, 30 Jun 1992, B. O. Huntsman, 1 fresh male. BYU.

291. Amarillo, POTTER Co, TX, 12 Aug 1977, REH. BYU.

292. Osage Cg, 13 mi W of Bartlesville, OSAGE Co, OK, 24 Jul 1981, KB. BYU.

293. Ogden Cn, WEBER Co, UT, 14 Aug 1933, ADB, 1 worn male. BYU.

Summary is on the next page.

Bf CRs ex ID/UT collections, pl0

The following matrix is a summary of the data listed in the previous 9 pages, deleting the 8 records that are considered unlikely/impossible.

<u>STATE</u>	<u>RES</u>	<u>BYU</u>	<u>CAM</u>	<u>JMJ</u>	<u>KBT</u>	<u>BSU</u>	<u>SSM</u>	<u>GMS</u>	<u>ACI</u>	<u>TOTALS</u>
AZ							2			2
CA							2			2
CO		5								5
ID		6	3		7	68		7	91	182
KS		1								1
NE		1							1	2
NV							1			1
NM		4								4
OK		8								8
OR						5				5
TX		8		3						11
UT	1	35	8	5	3					52
WA					2				2	4
WY		1	1	1				3		6
MT										0
ND										0
SD										0
MEX										0
CAN										0
TOTALS:	1	69	12	9	12	73	5	10	94	285

I wish to thank the many people who made this busy week such a successful one, including the following in somewhat random order: Kit Stanford, Linda Stanford, Braxton Lathrop, Judy Tate, Fred Nijhout, Steve Wood, Richard Baumann, Cliff Miles, Natalie Miles, Nicole Miles, Vanessa Miles, Bethany Miles, Joel Johnson, Jane Johnson, Steve Sommerfeld and his family, Ken Tidwell and his family, George Stephens, Gaile Lippincott, Bill Clark and his family, Bob and Eleanor Chehey, Nancy Morris, Karl Cannon, Charles Baker, Stephanie McKown, Ron McKown, Erin McKown, Shannon McKown, and Johann Sebastian Bach. And, of course, the many early naturalists who provided the stimulation for this study, including Linnaeus, Fabricius, Bates, Abbot, Franklin, Darwin, Abbot, Abert, Agassiz (not a tennis player), Baird, Brewer, Bell, Bullock, Clinton (long ago), Cassin, Comstock, Dall, Douglas, Drummond, Evans, Engelmann, Grey, Torrey, Forster, Fendler, Gambel, Gunnison, Harris (not my grandfather), Muhlenberg, Palmer, Rudbeck, Rudkin, Say, Steller, Audubon, Burbank, Muir, Townsend, Thoreau, Uhler, Wislizenus, Watson, Yarrow, Annette Braun, F. Martin Brown, MacGlashan, Herlan, Harjes, Opler, Hughes and Scott. Thanks to these and all.

Omnibus, Amen!

* * * * *


March 1984

AWUSAB Additions, Deletions and Corrections. 30 October 1993. RES/PA0. (-=delet; *=SR).

Additions = new records & omissions. Deletions = misdets, mislabels & withdrawals. pp #s:

001 E. scylla	*TAM MX	040 E. pacuvius	Cas MT	043 P. communis CPX	Coc TX
004 E. clarus	Li CO		Col WA		Rus TX
	Gar NE	041 E. funeralis	Sol CA		Tar TX
	Per NE		Ha NM		Ups TX
	Lg OK		Ang TX	P. communis	Ch AZ
	Chk TX		Ara TX		Gm AZ
	Rus TX		CallTX		CC CO
	Ups TX		Chk TX		Gi CO
	-Fr WA		Cln TX		Wi MT
005 C. albofasciatus	Kle TX		Cor TX		Ca NM
005 C. zilpa	JD TX		Du TX		Gr NM
007 P. octomaculata	*SIN MX		Ec TX		Li NM
008 Z. dorus	Lu NM		Gre TX		Ot NM
	SJ NM		Ham TX		So NM
009 U. proteus	Cor TX		How TX		Cad OK
	Kle TX		Jkn TX		Grv OK
012 U. doryssus	Dim TX		Ir TX		Chk TX
A. fulgerator	Uv TX		Men TX		Rus TX
	Zap TX		Rus TX		Tar TX
015 A. lyciades	Rus TX		Ups TX		Ups TX
	Ups TX		Vi TX	044 P. albescens	*LP CO
016 A. toxeus	Kle TX		War TX		*COA MX
	Zap TX		Wha TX	P. philetas	Ec TX
017 T. pylades	CC CO		Zap TX	H. domicella	*Lu NM
	Hu CO	E. baptisiae	Frt NE	045 H. lavianus	Kle TX
	G1 MT		LF OK	046 C. nessus	Un NM
	LA NM		Mur OK		Cad OK
	Ta NM		Jfn TX		Jo OK
	Ups TX	042 E. afranius	Kim NE	047 P. catullus	Ct MT
021 C. outis	Ok1 OK		Co NM		LA NM
	Wag OK		Ha NM		Mo NM
025 N. stator	*TAM MX		LA NM		RA NM
W. windi	*Ch AZ		So NM		SJ NM
027 S. ceos	Ca NM		Go WY		Va NM
	Zap TX		La WY		Ad ND
028 S. hayhurstii	Frt NE		Pl WY		Tr ND
	Rus TX	E. persius	El CO		Can OK
	Ups TX		Ct MT		Grv OK
034 S. zampa	Si NM		Li NM		Gre OK
035 A. thraso	Kle TX		Mc NM		Ec TX
T. ruptifasciatus	Kle TX		Ot NM		-Th WA
036 T. trifasciatus	*TAM MX	P. ruralis	SM NM	048 C. palaemon	Bs ID
038 E. icelus	Ct MT		Se UT		-Cln WA
	Em UT	043 P. xanthus	-Ch AZ	P. pirus	Cf CO
	Skg WA		El CO	056 N. lherminier	Ups TX
E. brizo	Hu CO	P. scriptura	SCn AZ	N. julia	SBdECA
	Cim OK		Mg CO		RealTX
E. juvenalis	Cad OK		Co NM	N. neamathla	Smh TX
039 E. meridianus	Men TX		Ha NM	058 V. inca	*SIN MX
040 E. horatius	Hu CO		BE UT	060 L. accius	Grv OK
	Li NM		Dv UT		Ara TX
	Chk TX		Ka UT		Chk TX
	Rus TX		Mg UT		Rus TX
E. tristis	Uv TX		We UT		Smh TX
E. martialis	Gi CO		La WY	V. fantasos	*Hid TX
	Sew NE	ADD P. adepta	*EP TX	065 A. numitor	Dak NE
E. pacuvius	CC CO		Hid TX		Ups TX
	Gr CO	P. communis	Cad OK	O. garita	Ya AZ
	Hu CO	CPX	Grv OK		01 ND
	Su CO		Chk TX		

(next page)

065	<i>O. garita</i>	Cm WY	072	<i>H. meskei</i>	Tyl TX	077	<i>A. logan</i>	Uv TX
		Go WY		<i>H. nevada</i>	Cs CO			La WY
066	<i>C. aurantiacus</i>	Ha NM			Dg CO		<i>P. byssus</i>	Ups TX
		Le NM			Te MT	078	<i>O. sylvanoides</i>	Fr CO
067	<i>H. phyleus</i>	Cu NM			LA NM			Gi CO
		DB NM	073	<i>A. campestris</i>	Deu NE		<i>P. snowi</i>	Al CO
		BrwnTX			Chk TX			CC CO
		Chk TX			Coc TX			Gi CO
		Ec TX			Rus TX			Si NM
		Gre TX		<i>P. peckius</i>	Ups TX	079	<i>P. hobomok</i>	Hu CO
		Kle TX			Ph CO			LA CO
		Nac TX			Se CO		<i>P. zabulon</i>	Can OK
		Rus TX			McP KS	080	<i>P. taxiles</i>	Go WY
		Ups TX			Chs NE		<i>P. viator</i>	Or TX
<i>Y. rhesus</i>		Ad CO		<i>P. sabuleti</i>	Deu NE			Rus TX
		Bo CO			Cn CO			Jfn TX
		Me CO	074	<i>P. draco</i>	-Kin WA	082	<i>E. dion</i>	Bo CO
		*Ct MT			Dg CO	083	<i>E. bimacula</i>	Bo CO
		Ca NM		<i>P. themistocles</i>	Be UT		<i>E. vestris</i>	Ph CO
		SF NM			CC CO			BH MT
		Ad ND			Ph CO			Per NE
		Per SD			Se CO			Ha NM
		Co WY			Fa MT			MtguTX
		La WY			Chs NE			Rus TX
068	<i>Y. carus</i>	Un NM			Deu NE			Ups TX
	<i>S. morrisoni</i>	So NM			Per NE			Le WA
	<i>H. uncas</i>	Ph CO			Ed NM			Pi WA
		01 ND			Grv OK			Cb WY
		HS WY			Gre OK			Go WY
		Pa WY			Li OK	084	<i>A. hianna</i>	Yu CO
		Wa WY			Rus TX			*Ct MT
		Gi CO			Smh TX		<i>A. vierecki</i>	Tu OK
069	<i>H. juba</i>	Ro CO		<i>P. origenes</i>	Ups TX			Be NM
		RA NM			Dn CO			Co NM
		SJ NM			LF OK	085	<i>A. cestus</i>	-Bre TX
		PO WA		<i>P. mystic</i>	Ups TX			-JD TX
	<i>H. comma</i>	01 ND			EP CO	087	<i>A. aenus</i>	LA NM
	<i>H. woodgatei</i>	Ed NM			KC CO		<i>A. oslari</i>	CC CO
		SM NM			Lo CO			Cr CO
		SF NM			Pa CO			Li CO
	<i>H. ottoe</i>	Ad CO			Ph CO			Wa CO
		Sar NE			Wa CO			Co NM
		Cy CO			BH MT			Ot NM
070	<i>H. leonardus</i>	Fr CO			Chs NE			Qu NM
		Ki CO	075	<i>P. sonora</i>	Per NE			Va NM
		Cs MT		<i>P. vibex</i>	Ala CA	088	<i>A. texanae</i>	Lu NM
		BB NE			Kle TX	089	<i>A. aesculapius</i>	Rus TX
		Chs NE		<i>W. otho</i>	Ups TX		<i>A. nereus</i>	Lu NM
		Mor NE			Lg OK		<i>A. nysa</i>	Den TX
		Per NE			Rus TX			VV TX
		01 ND			Ups TX		<i>A. eos</i>	Ec TX
		Hnd SD		<i>W. egeremet</i>	La NE	090	<i>A. elissa</i>	Ch AZ
	<i>H. pahaska</i>	Hu CO			Lg OK		<i>A. vialis</i>	*Cn AZ
		Li CO			Rus TX			Gi CO
		Chy NE			Ups TX			Hu CO
071	<i>H. metea</i>	Clv OK	076	<i>P. verna</i>	Ups TX			Se CO
	<i>H. viridis</i>	Wa CO		<i>A. arogos</i>	Mur OK			Ct MT
		MtguTX	077	<i>A. logan</i>	Ph CO			Un NM
	<i>H. attalus</i>	Cad OK			Se CO			Rus TX
072	<i>H. meskei</i>	*Frs TX			BH MT			Ups TX
		Leo TX			Chs NE		<i>A. celia</i>	Pl WY
		Lim TX			Ha NM		(next page)	FB TX

091 A. belli	Cad OK	105 P. polyxenes	La WY	115 P. beckerii	Co NM
	Den TX	P. p. c. (blk)	Wa UT		Jo WY
A. alternata	Ok1 OK	P. bairdii (all)	EP CO		Na WY
092 A. phylace	Va NM		Li CO	P. sisymbrii	Ban ID
L. eufala	Com OK		-DA NM		Ct MT
	Grv OK		-Li NM		Cu MT
	Kio OK		-Ot NM		GV MT
	Lg OK		Mu OR		PR MT
	Nob OK		BE UT		Rb MT
	Chk TX		Pi WA		Un NM
093 C. ethlius	CalhTX		Cm WY	116 P. protodice	Fa MT
	HarsTX		Ni WY		Chk TX
	Kle TX	106 P. b. (black)	SC AB		Coc TX
101 M. yuccae	Lr CO		-DA NM		Rus TX
	Li CO		-Li NM		Ups TX
	Va NM		-Ot NM		Col WA
	Cad OK	P. b. (yellow)	Cn CO		-Ok WA
	Can OK		EP CO	P. occidentalis	Ph CO
	Li OK		Li CO		Se CO
	Lg OK		Mu OR		Yu CO
	Ok1 OK		BE, Wa UT		Gu NM
	Pay OK		Pi WA		Wa UT
	Pi OK		Cm WY		Ni WY
	Pot OK		Ni WY	P. napi	Al CO
	Sem OK	P. zelicaon blk	*LA CA		PR MT
	Tyl TX		Ap CO	P. rapae	Ch NM
M. streckeri	Ot CO		Ro CO		DB NM
	Va NM		*BCN MX		Che OK
	Ok1 OK		Chy NE		Li OK
	Se UT	107 P. z. (yellow)	LP CO		Lg OK
102 P. phoebus	Mz CO		BH MT		Je MT
	SM CO		Ct MT		GV ND
	Frk ID		Mu MT		Po OR
	*Mor ND		PR MT		Chk TX
	Mea SD		Tr MT		Coc TX
104 B. philenor	We CO		Dsn NE		Crk TX
	Cu NM		Grf WA		Ec TX
	BrwnTX		Skrg WA		Ker TX
	CallTX		Cm WY		Kim TX
	Dls TX	P. crespontes	CnS AZ		Rus TX
	Ham TX		Yu CO		Smh TX
	How TX		Gar TX		Ups TX
	ReagTX		Mls TX		Cm WY
	Sch TX		Ups TX	118 A. monuste	*Brn SD
	War TX	109 P. glaucus	Li CO	119 E. ausonides	RG CO
	Kdy TX		CamnTX		Ct MT
B. polydamas	Kle TX	P. canadensis	Ol ND		Cu MT
	Wcy TX	P. rutulus	Al CO		Mu MT
	Ki CO		PR MT		PR MT
	Ph CO	P. eurymedon	Mi CO		Tr MT
	Kim NE		De OR	120 E. hyantis	Ban ID
	Pi NE		La WY		Al WY
	Un SD	110 P. multicaudatus	Cn CO		Be CO
	CallTX		BH MT	E. olympia	CC CO
	Clm TX		Per NE		Gi CO
	Ec TX		Crk TX		PR MT
	Ham TX		Cm WY		Rb MT
	Mls TX		Go WY		Ad ND
	Rus TX	P. palamedes	Rus TX		GV ND
	Sch TX	113 E. philolaus	Hid TX		Can OK
	Win TX	115 A. drusilla	*Ok1 OK		

(next page)

120 E. olympia	Jo OK	125 C. pelidne	Bs ID	134 L. hyllus	Deu NE
	Ka OK	C. interior	Col WA		Per NE
	Li OK		-Klt WA		Brl ND
	Lg OK		-Yak WA		Ol ND
	Mur OK	126 Z. cesonia	McP KS		Cad OK
	Pot OK		Chs NE		Can OK
	Sem OK		Gu NM		Li OK
	Per SD		LA NM	L. rubida	ED CA
	Rus TX		Cad OK	135 L. heteronea	Sw WY
121 A. sara	SBdECA		Un SD	L. helloides	Al CO
	Ba CO		Coc TX		Cy CO
A. midea	BH MT	127 P. sennae	Wa CO		Cn CO
	Lg OK		Se NE		Ou CO
	Mur OK		Ch NM		RG CO
	Tri TX		Un NM		SM CO
A. lanceolata	SBdECA		Li OK	L. dorcas CDF	HS WY
122 C. philodice	Ad ND		Al WY	136 L. nivalis	Wh OR
	GV ND		Cb WY	L. mariposa	Je MT
	Grv OK	P. philea	La WY	H. crysalus	*DGO MX
	Coc TX	P. agarithe	*TAM MX	138 A. halesus	NaS AZ
	Ec TX		Ap CO		Men CA
	Nac TX		EP CO		Ok1 OK
	Clm WA		Ha NM		EP TX
	Jef WA		Un NM		Li NM
C. eurytheme	Je MT	128 K. lyside	Cad OK	139 P. alcestis	Cad OK
	Clk SD		Dg CO		St NE
	Coc TX	129 E. boisduvaliana	Ok1 OK	140 S. titus	St NV
	Rus TX	E. mexicana	Hi NM	S. fuliginosum	Grf WA
	Ups TX		Ba CO		Chs NE
123 C. occidentalis	-Skg WA		Wa CO	S. acadicum	Per NE
	-Th WA		Chs NE		Fr WY
	-Wha WA		Hi NM		HS WY
C. alexandra	Ad CO		Grv OK	141 S. californicum	Ws UT
	Ap CO		Pi OK	S. sylvinum	-Grt WA
	Dn CO	130 E. lisa	HS WY		Skg WA
	Dg CO		St NE		Wht WA
	Li CO		Qu NM	142 S. calanus	Cad OK
	Wa CO		Coc TX	S. kingi	*Hrd TX
	Fr ID		Rus TX		Jsp TX
	Id ID	131 E. nicippe	Ups TX		Sab TX
	Lem ID		Ot CO		Tyl TX
	Pn MT		Chk TX	144 M. azia	RealTX
	Wh MT		Coc TX	147 A. pion	*TAM MX
	Cr WY		Rus TX	C. cecrops	Grv OK
	Go WY		Ups TX		Mur OK
	HS WY	N. iole	Al WY		Rus TX
	Su WY		Grv OK		Tar TX
	Te WY		Chk TX		Ups TX
	We WY		Coc TX		Rus TX
	YNP WY		Rus TX	C. isobeaon	Ups TX
C. christina CPX	Be MT		Ups TX		Ups TX
	Fl MT		Ws UT	148 C. dumetorum CPX	Cr CO
	G1 MT	132 F. tarquinius	Cha TX		Hu CO
	Lk MT		Gre TX		Li CO
	Pw MT		BH WY		Wa CO
	Te MT	133 L. phlaeas	Su WY		Chy NE
	Ye MT		Go WY		Ga WA
	Ju UT	L. x. dione	*Un NM		-Kin WA
	Te WY		La WY	C. perplexa	-Kin WA
124 C. meadii	Al WY		Na WY	149 C. affinis	Ch WA
	Cb WY		Wa WY		Do WA
	Li WY		Chs NE	(next page)	Ga WA
C. scudderii	Ws UT	134 L. hyllus			

149 C. affinis	Ktt WA	162 S. melinus	Su CO	172 E. bernardino	Mi NV
	Kl WA		*COA MX	173 E. enoptes (spr)	Lan OR
	Ok WA		Deu NE	E. rita	Mof CO
	Ya WA		Per NE		Go WY
C. apama	Cr CO		Gre OK	174 G. piasus	Cs CO
	Hu CO		Cos OR	G. lygdamus	Mi CO
	Li CO		Chk TX		Ct MT
	Wa CO		Coc TX		PR MT
	Chy NE		Rus TX		Ad ND
	Em UT		Ups TX		GV ND
C. sheridanii CPX	El CO		Pi WA		Per SD
C. sheridanii	El CO		Pa WY		WW WA
	Wy UT		Sh WY	175 L. nr. idas	SL UT
150 C. lemberti	In CA		Wa WY	176 L. melissa	Cu NM
152 M. spinetorum	Dg CO	163 S. rufofuscus	Sta TX		Le NM
	As WA	164 S. bazochii	*NL MX		Ad ND
	-Kin WA	ADD S. megarus CPX	*SIN MX		GV ND
153 M. nelsoni CPX	Ida ID	169 B. exile	Sk CA	P. saepiolus	GV MT
	Owy ID		Gr CO		PR MT
	Wh OR		SM CO		Rb MT
	As WA		Coc TX		Tr MT
M. nelsoni	Was OR	170 L. marina	Mad CA	P. icarioides	GV MT
	Wh OR		Ph CO		Mu MT
154 M. barryi	Owy ID		Wa CO		Rb MT
	As WA		Grl KS		Tr MT
M. siva	Ad CO		Per NE		LA NM
	Ct MT		*Jef OR	P. shasta	Je CO
	GV MT		Smh TX	177 P. acmon	Hu CO
	Mu MT		Ups TX		RB CO
	PR MT	Z. cyna	Lu NM		Per SD
	Be NM		Crs TX		HS WY
	Bow ND		Kim TX		Sw WY
	La WY	H. ceraunus	*TAM MX	A. glandon	HS WY
156 M. grynea	Che OK		Be UT	184 E. zela	Ca NM
	Chk TX	H. isola	Bl ID	186 A. mormo	Bo CO
	Ups TX		Se NE	187 A. palmerii	Be NM
I. augustinus	Ac CO		Grv OK	190 L. carinenta CPX	Yu AZ
	Lc OR		Li OK		Ad CO
157 I. mossii	El CO		Coc TX		Be CO
	Ch WA		Ups TX		Cr CO
	-Th WA	171 E. comyntas	DA NM		El CO
I. irus	Grv OK		Ed NM		KC CO
	Tri TX		Gre OK		Lo CO
158 I. henrici	Mur OK		Rus TX		Ph CO
	Sab TX		Ups TX		Wa CO
I. niphon	Tri TX	E. amyntula	Cn CO		Chs NE
I. eryphon	Cn CO		Mi CO		Deu NE
	Hu CO		Lu NM		DB NM
	Mi CO		Pa WA		Ha NM
	Bnv ID	C. argiolus	Hu CO		SM NM
	Ct MT		Mi CO		Cad OK
	Fa MT		RG CO		Chk TX
	PR MT		Ct MT		Hst TX
	Kim NE		Cu MT		Rus TX
	Grf WA		Mu MT		Smh TX
	Grt WA		PR MT		Ups TX
	Pi WA		Rus TX		Go WY
160 P. m-album	Mur OK	172 C. negl-major	EP CO		Pl WY
	Uv TX	E. battoides	Co NM	H. charitonius	Lr CO
161 F. polingi	*CHH MX		-Ya OR		Pu CO
162 S. melinus	SM CO		Ws UT		

(next page)

192 D. juno	*TAM MX	202 T. fulvia	Be CO	211 P. tharos	Ad ND
D. vanillae	El CO		KC CO		GV ND
	McP KS		Li CO		Tr ND
	*NL MX		Se CO		Cor SD
	Un NM		Wa CO		Coc TX
	Grv OK		Be NM		Rus TX
	Lg OK		Li NM		Ups TX
193 E. claudia	Al CO		Va NM		Go WY
	RG CO		Ec TX	P. selenis	Cn CO
	Chk TX	203 C. californica	War TX		RG CO
	Coc TX	C. definita	Gi AZ		SM NM
	Ups TX		Ro NM	P. sp. (C)	Mi UT
	Be UT		Tr1 TX		*BH WY
	Ws UT	C. janais	Kle TX	P. batesii	Go WY
E. hegesia	BrksTX	205 C. gorgone	Bs ID	212 P. campestris	KC CO
	Du TX		GV MT		Kim NE
	JW TX		Pe MT		Ha NM
	Kdy TX		LA NM		Skm WA
	Kle TX		Ad ND	P. orseis	Clv CA
S. cybele	Sal NE		GV ND	P. pictus	LA NM
S. cybele leto	Clv CA		Per SD		Mc NM
S. aphrodite	Go WY		Jo WY		SF NM
194 S. idalia	El CO		Na WY		Ec TX
	Hnd SD		Pa WY		War TX
S. diana	LF OK		Wa WY	P. pallidus	El CO
S. nokomis	-Ga CO	C. nycteis	Tr ND		BH MT
	Mz CO		Li OK		-Ch WA
S. edwardsii	Pr CO		Chk TX		-Ga WA
195 S. coronis	Cm WY	206 C. acastus	Ups TX	213 P. mylitta	Ba CO
S. zerene	Cos OR		Gr CO		Cu CO
S. hydasphe	Wa WY		Ct MT		LA CO
S. callippe	Do WA		PR MT		Ban ID
	Le WA		Rb MT		Co NM
196 S. egleis	Ban ID		Tr MT		Un NM
	HS WY		Ja SD		Te WY
S. atlantis CPX	Al CO	207 D. dymas	Tay TX	214 E. phaeton	Lvn KS
S. hesperis CPX	Al CO	208 P. texana	LP AZ	215 E. anicia	Gi AZ
	CC CO	210 P. vesta	CC CO		CC CO
	Gi CO	P. phaon	DB NM		Gi CO
	*BL ID		Un NM		SM CO
	B1 ID	P. tharos CPX	Pr MT		Bnv ID
	Bs ID		Cu NM		Ct MT
	Lm ID		Ad ND		Fa MT
	*Be MT		GV ND		Mu MT
	*Du UT		Per NE		PR MT
	Ju UT		Cor SD		Tr MT
	To UT		Rus TX		Ye MT
	Ui UT		Ups TX		-Sp WA
	Ut UT	211 P. tharos	Be CO	216 E. editha	Ne CA
	Su WY		Cy CO		Cow WA
	Te WY		Hu CO		-PO WA
	Wa WY		KC CO		Th WA
197 S. mormonia	Al CO		Me CO	P. interrogationis	Pe NE
	St WA		Mr CO		Pi NE
B. selene	Bs ID		Ot CO		Chk TX
200 B. titania	Me MT		Ph CO		Rus TX
	Wa WY		Pr CO		Ups TX
P. minuta CPX	*NL MX		Co NM	P. comma	Ad CO
P. minuta	*NL MX		Cu NM		Chy NE
201 T. theona	Kim TX		SM NM	P. satyrus	Clv CA
202 T. fulvia	Grn AZ		Per NE		RG CO
				(next page)	Go WY

217	<i>P. faunus</i>	Jo WY	220	<i>J. coenia</i>	Cad OK	238	<i>A. celtis</i>	Ups TX
	<i>P. f. silvius</i>	Na CA			Grv OK		<i>A. clyton</i>	Chk TX
	<i>P. gracilis</i>	Al CO			Kio OK			Rus TX
		RG CO			Coc TX	241	<i>S. eurydice</i>	Ph CO
		-Rb MT		<i>J. nigrosuffusa</i>	Cn AZ			Yu CO
218	<i>P. oreas</i>	LP CO			Gi AZ			Pe NE
		Wa WY			Gn AZ			*Go WY
	<i>N. antiopa</i>	Wi MT			Na AZ			La WY
		Hay NE			Yu AZ			Pl WY
		GV ND			Mz CO	246	<i>C. pertepida</i>	Pn AZ
		Chk TX			Ed NM	247	<i>C. gemma</i>	Tar TX
219	<i>N. californica</i>	Po OR			Gu NM			Ups TX
	<i>N. milberti</i>	Clv CA			SM NM		<i>H. sosybius</i>	Can OK
		Li CO			Va NM			Car OK
		LP CO	222	<i>B. arthemis CPX</i>	Si NM			Grv OK
		Mi CO			Chk TX			Mur OK
		Ada ID			Rus TX			Pi OK
		Owy ID			Ups TX			Chk TX
	<i>V. atalanta</i>	Cu MT	223	<i>B. astyanax</i>	Si NM			Ups TX
		GV ND			Brl ND	248	<i>M. cymela</i>	Ph CO
		Li OK			Chk TX			Chs NE
		Ups TX			Rus TX			Pe NE
		Le WA			Ups TX			Se NE
	<i>V. virginiensis</i>	Ac CO		<i>B. archippus</i>	Ba CO			Cad OK
		Lk CO			Ph CO			Rus TX
		Ot CO			Gre KS			Ups TX
		Pi CO			Pe NE			*La WY
		Cus NE			SM NM		<i>M. rubricata</i>	So NM
		Grf NE			Un NM			Un NM
		Lou NE			Lg OK			B1 OK
		Pe NE			Ups TX	249	<i>C. tullia CPX</i>	NaS AZ
		St NE			HS WY			Ct MT
		Va NM		<i>B. weidemeyerii</i>	HS WY			LA NM
		Cad OK	224	<i>A. bredowii</i>	LA NM			Ad ND
		Chk TX			Sch TX			Tr ND
		Hst TX			Pi WA			HS WY
		Rus TX	227	<i>M. cyananthe</i>	*Ot NM			Pl WY
		-GH WA	228	<i>D. agaea</i>	Uv TX		<i>C. inornata</i>	BH MT
		Ktt WA	230	<i>M. amymone</i>	Ch NM			Ct MT
		Ad ND		<i>B. hyperia</i>	Uv TX			Ad ND
220	<i>V. cardui</i>	GV ND	231	<i>H. februa</i>	LS TX			Tr ND
		Li OK		<i>H. guatemalena</i>	Sta TX	250	<i>C. ochracea</i>	NaS AZ
		Coc TX	234	<i>M. petreus</i>	Du TX			CC CO
		Rus TX	235	<i>A. andria</i>	Lg OK			Gi CO
		Ups TX			Ang TX			LA NM
	<i>V. annabella</i>	Gi CO			How TX			HS WY
		B1 ID			Ir TX			Pl WY
		Ch NM			Jkn TX		<i>C. pegala</i>	VI BC
		DB NM			Men TX			?Clv CA
		Gu NM			Mit TX			*NL MX
		Brl ND			ReagTX			Lg OK
		Pi WA			Rus TX			Sul SD
		Sw WY			Sch TX			Arm TX
	<i>J. coenia</i>	Mz CO			Tay TX			Chk TX
		We CO			Ups TX			Smh TX
		Ham KS			Upt TX			Su TX
		DB NM	238	<i>A. celtis</i>	Co NM			Ups TX
		Gu NM			Mo NM			Fr WY
		Ha NM			Chk TX			Na WY
		SM NM			Rus TX	251	<i>C. oetus</i>	Ni WY
		Va NM			Smh TX		(next page)	

		TOTALS, now and previously (all in 1993)		
		Date	Entries (mostly adds)	Taxa (mostly spp)
251 C. sthenele	Dol CO			
	-Do WA			
	Cb WY			
	Fr WY	20 Apr	340	188
	HS WY	10 May	641	256
	Na WY			
	Pa WY	20 Jul	1007	317
spell silvestris		30 Oct	1338	344
C. meadii	Fr CO			
	SF NM			
	Bow ND			
	?Cc UT			
252 E. magdalena	Ro CO			
253 E. epipsodea	Mf CO			
	BH MT			
	HS WY			
254 N. ridingsii	KC CO			
	Gu NM			
0. chryxus	CC CO			
	Gi CO			
	Bnv ID			
	Te ID			
	BH MT			
	SJ UT			
	La WY			
	Wa WY			
0. nevadensis	-Fe WA			
255 0. macounii	SC MAN			
0. uhleri	El CO			
	BH MT			
	Ct MT			
	PR MT			
	Rb MT			
	Tr MT			
	Ad ND			
	Per SD			
	Cb WY			
0. alberta	NaS AZ			
0. jutta	Wa WY			
256 0. taygete	RG CO			
0. melissa	Ro CO			
0. polixenes	Hi CO			
257 D. plexippus	Ban ID			
	B1 OK			
	Gre OK			
	Li OK			
	Jo WY			
	Ni WY			
D. gilippus	Al CO			
	Cr CO			
	El CO			
	Li CO			
	Mz CO			
	Pa CO			
	Chs NE			
	Pe NE			
	Un NM			
	Coc TX			
273 spell silvestris				
(NOT sylvestris)				

ADDENDA:

MONTANA Butterfly Species. 9th revision. R.E.Stanford/S.J.Kohler. 10 November 1997.

County	Known 87	Known 97	Projected	% Known	For 90%	For 95%	County	Known 87	Known 97	Projected	% Known	For 90%	For 95%
Beaverhead	105	121	125	97%	0	0	McCone	31	35	52	67%	many	many
Big Horn	70	93	113	82%	many	many	Meagher	81	87	108	81%	many	many
Blaine	57	63	86	73%	many	many	Mineral	82	91	101	90%	0	5
Broadwater	72	96	114	84%	7	many	Missoula	122	126	129	98%	0	0
Carbon	134	147	151	97%	0	0	Musselshell	33	51	66	77%	many	many
Carter	40	67	80	84%	5	many	Park	85	95	128	74%	many	many
Cascade	103	116	123	94%	0	1	Petroleum	29	54	62	87%	2	5
Chouteau	79	87	106	82%	9	many	Phillips	71	81	87	93%	0	2
Custer	67	76	85	89%	1	5	Pondera	84	89	115	77%	many	many
Daniels	32	34	52	65%	many	many	Powder River	37	65	81	80%	8	many
Dawson	47	55	65	85%	4	7	Powell	95	115	125	92%	0	4
Deer Lodge	77	93	112	83%	8	many	Prairie	31	48	61	79%	7	many
Fallon	37	51	61	84%	4	7	Ravalli	101	112	118	95%	0	0
Fergus	92	97	105	92%	0	3	Richland	31	36	52	69%	many	many
Flathead	121	136	140	97%	0	0	Roosevelt	34	36	52	69%	many	many
Gallatin	127	135	139	97%	0	0	Rosebud	50	63	86	73%	many	many
Garfield	19	42	54	78%	many	many	Sanders	93	103	107	96%	0	0
Glacier	106	118	130	91%	0	6	Sheridan	34	37	52	71%	many	many
Goldn Valley	62	79	84	94%	0	1	Silver Bow	78	95	113	84%	7	many
Granite	92	112	122	92%	0	4	Stillwater	92	109	127	86%	5	many
Hill	75	95	102	93%	0	2	SweetGrass	108	110	123	89%	1	7
Jefferson	69	102	117	87%	3	many	Teton	58	80	113	71%	many	many
JudithBasin	69	87	107	81%	many	many	Toole	70	80	91	88%	2	7
Lake	99	111	119	93%	0	2	Treasure	45	60	73	82%	6	many
Lewis&Clark	101	122	132	92%	0	4	Valley	32	35	53	66%	many	many
Liberty	45	60	74	81%	many	many	Wheatland	56	65	74	88%	2	5
Lincoln	79	92	100	92%	0	3	Wibaux	34	38	52	73%	many	many
Madison	104	117	128	91%	0	5	Yellowstone	69	83	91	91%	0	4
SUBTOT:	2180	2604	2926	89.0%	many	many	SUBTOT:	1766	2079	2492	83.4%	many	many

TOTALS:	Known87:	3946	Avg/co:	70.46	Cf. WY 81.2, ID 70.5, ND 17.2, SD 24.9.				WA ???	UT 88.5.	Thanks: SJK, CEH, RLH, NGK, KR,		
	Known97:	4683	Avg/co:	83.62	Cf. WY 104.1, ID 64.8, ND 35.5, SD 42.3, WA 68.0, UT 111.0, CO 117.0.						BV, BW ...		
	Projected:	5418	Avg/co:	96.75	Kn/Proj:	86.43%	Cf. WY 88.3% ID 85.0%, ND 57.5%, CO 92.5%, UT 92.6%, OR 90.6%, WA 89.9%.						

MONTANA Butterfly Species County Hitlists. RES/SJK. 10 Nov 1997. [continued on reverse]

BVRHEAD	saepium	sara CPX	protodice	frigga	gracilis	eurymedon	CUSTER	vialis	multicaudat	amyntula	weidemeyer	polixenes	anicia
clarus	neglecta	christina	olympia	pallidus	virginiensis	menapia	rhesus	machaon	alexandra	battoides	17	10	weidemeyer
juba	enoptes	alexandra	gigantea	mylitta	annabella	sisymbrii	uncas	canadensis	eryphon	claudia	FERGUS	GALLATIN	inomata
themistocles	shasta	liparops	interior	gillettii	archippus	christina	pahaska	protodice	icarioides	aphrodite	catullus	centaureae	oetus
indra	acmon	siva	syvlinum	jutta	weidemeye	alexandra	origenes	hyllus	momo	titania	uncas	hyantis	20
syvlinum	glandon	augustinus	saepium	8	cymela*	hyllus	arogos	titus	arthemis	colon	juba	C.occident	GLACIER
saepium	kriemhild	polios	affinis	CARTER	ochracea	rubida	simius	siva	alberta	atalanta	leonardus	nivalis	clarus
battoides	titania	eryphon	spinetorum	juvenalis*	22	mariposa	vialis	melinus	16	inomata	pahaska	mossii	uncas
7	palla	ladon	augustinus	afranius	CASCADE	affinis	multicaudat	shasta	DEER LOD	sthenele	oslari	shasta	peckius
BIG HORN	acastus	acmon	enoptes	uncas	icelus	sheridanii	alexandra	acmon	clarus	uhleri	sisymbrii	callias	themistocle:
pylades	cocyta	hydaspe	shasta	ottoe	nevada	spinetorum	hyllus	edwardsii	centaureae	29	protodice	7	vialis
persius	batesii	selene	aphrodite	logan	menapia	siva	titus	acastus	mystic	FALLON	liparops	GARFIELD	machaon
ruralis	editha	batesii	coronis	hobomok*	interior	augustinus	liparops	batesii	clodius	clarus	sheridanii	catullus	sisymbrii
catullus	ridingsii	pallidus	egleis	taxiles*	hyllus	melinus	momo	archippus	machaon	libya	acastus	garita	editha
uncas	jutta	gracilis	titania	simius	affinis	enoptes	zerene	oetus	eurymedon	garita	annabella	uncas	rubida
oslari	33	progne	gorgone	oslari	augustinus	piasus	ridingsii	multicaudat	rhesus	meadii	leonardus	syvlinum	
vialis	BLAINE	arthemis	mylitta	machaon	enoptes	shasta	15	plexippus	beckerii	juba	13	rhesus	liparops
streckeri	icelus	archippus	anicia	multicauda	bellona	acmon	DANIELS	27	sisymbrii	ottoe	FLATHEAD	zelicaon	mossii
machaon	garita	weidemeye	weidemeye	menapia	pallidus	epithore	clarus	DAWSON	alexandra	pahaska	creusa*	menapia	melinus
indra	leonardus	alberta	inomata	dione	mylitta	titania	icelus	garita	meadii	mystic	hyantis	sisymbrii	claudia
alexandra	nevada	31	sthenele	rubida	ridingsii	gorgone	afranius	ottoe	phlaeas	logan	affinis	ausonides	tharos
pelidne	vialis	BROADWTR	chryxus	acadicum	12	acastus	catullus	origenes	cuprea	vestris	bymeii	dione	batesii
cuprea	canadensis	clarus	jutta	liparops	CHOUTEA	annabella	garita	arogos	"dorcas"	canadensis	mossii	liparops	ridingsii
hyllus	multicaudat	catullus	29	isola*	icelus	arthemis	ottoe	syvanoide	nivalis	multicaudat	eunomia	eryphon	polixenes
rubida	menapia	palaemon	CARBON	comyntas*	palaemon	chryxus	leonardus	vestris	affinis	dione	frigga	icarioides	plexippus
"dorcas"	sisymbrii	nevada	pylades	amyntula	pahaska	jutta	themistocle	oslari	spinetorum	liparops	freiija	cybele	19
nivalis	protodice	machaon	uncas	idalia	nevada	plexippus	logan	vialis	augustinus	cybele	discoidalis	coronis	Sum: 347
mariposa	napi CPX	multicauda	neglecta	zerene	machaon	32	oslari	polyxenes	mossii	idalia	melissa	gorgone	[over]

1997 SUPPLEMENT to Western Butterfly Atlas. R. E. Stanford and P. A. Opler. Feb 1997.

All additions, deletions [-], and corrections since Feb 1993 are included here. **Boldface = STATE record.** Page 1

Pg#	Species	Additions, deletions [-], etc.	Pg#	Species	Additions, deletions [-], etc.
1	<i>P. araxes</i>	Grant NM JD TX	17	<i>T. pylades</i> [cont'd]	Upsh TX WashTX BE UT Sanpt UT WeberUT
	<i>E. scylla</i>	TAM MX Pg.2: spell <i>M. amystis</i>			DougWA JohnsWY PlatteWY West WY
NEW	<i>M. amra</i>	SIN MX		<i>T. diversus</i>	ShastCA Jksn OR
3	<i>P. palemon</i>	NL MX Starr TX	18	<i>T. mexicanus</i>	Nav S AZ ColusCA Teha CA COA MX SIN MX
4	<i>E. clarus</i>	Fres CA Bent CO Dolor CO Hins CO KC CO			EsmerNV
		Linc CO MontzCO TellerCO Clearw ID Gem ID		<i>T. confusis</i>	Doug KS Fayet TX GreggTX Hend TX JasperTX
		Madis ID Minid ID Chyn KS CHH MX Dsn MT			MedinTX Rusk TX IarrantTX Tyler TX
		Grant MT LibertyMT Miner MT PR MT Stillw MT		<i>C. potrillo</i>	SC AZ Starr TX
		Treas MT Garfld NE Nance NE PerkinNE Oliver ND	19	<i>C. fritzgaertneri</i>	zip
		Alfal OK Beck OK DeweyOK HarperOK LoganOK		<i>C. similis/stola</i>	SIN MX
		Okla OK Doug OR HR OR Mal N OR MarshSD	20	<i>S. clonius</i>	SIN MX Starr TX
		Chk TX Fann TX Gregg TX HardinTX Hend TX			
		JasperTX Jeffn TX LavacTX MooreTX RR TX	21	<i>C. outis</i>	Okla OK Wag OK LamarTX V V TX
		Rusk TX TrinityTX UpshrTX WalkrTX CacheUT		<i>C. caicus</i>	SIN MX - Linc NM
		Toool UT - Frk WA LewisWA ThursWA LaramWY		<i>C. calchas</i>	Starr TX
		NatronWY WashWY	22	<i>P. polyctor</i>	- SON MX [delete from region]
NEW	<i>E. windi</i>	SIN MX SON MX		<i>P. cleta</i>	SIN MX SON MX
NEW	<i>E. aspina</i>	SIN MX	23	<i>P. enops</i>	NL MX
5	<i>P. leo</i>	Ccn S AZ GrahmAZ CatronNM Starr TX		<i>N. ephora</i>	TAM MX
	<i>C. catillus</i>	DGO MX EP TX Kdy TX Klebg TX	24	<i>P. arina</i>	NL MX
	<i>C. zilpa</i>	JD TX Kdy TX Starr TX Uvald TX		<i>N. bipuncta</i>	SIN MX
6	<i>A. asander</i>	SON MX Starr TX	25	<i>N. stator</i>	TAM MX
	<i>A. metophis</i>	Starr TX		<i>W. windi</i>	Coch AZ SIN MX
7	<i>P. octomaculata</i>	SCr AZ SIN MX		<i>B. brennus</i>	TAM MX
8	<i>Z. dorus</i>	Nav S AZ LA CO SJ NM Kane UT		<i>B. clytius</i>	Pima AZ
	<i>Z. elwesi</i>	TAM MX	26	<i>B. orsines</i>	SON MX
	<i>C. alcaeus</i>	NL MX		<i>B. eusebius</i>	SIN MX
	<i>C. arizonensis</i>	EP TX		<i>S. iguala</i>	SIN MX
	<i>C. melon</i>	SON MX	27	<i>B. pullata</i>	NL MX
NEW	<i>C. uvydixa</i>	SIN MX SON MX		<i>S. ceos</i>	Maric AZ CatronNM EP TX Zap TX
9	<i>"C" hyster</i>	SIN MX		<i>S. mazans</i>	WashTX
	<i>U. proteus</i>	CoryelTX Jeffn TX Klebg TX IarrantTX Tyler TX		<i>S. tierra</i>	CHH MX
	<i>U. viterboana</i>	CamnTX	28	<i>S. hayhurstii</i>	Front NE Sew NE Thayr NE Jksn OK Murry OK
NEW	<i>U. esta</i>	SIN MX			Now OK SeminOK Cald TX Delta TX Fann TX
10	<i>U. belli</i>	SIN MX			GreggTX NacogTX Rusk TX Upsh TX VZ TX
	<i>U. dorantes</i>	COA MX DGO MX Jeffn TX		<i>S. azteca</i>	BrewsTX
11	<i>U. procne</i>	Coch AZ		<i>S. vulgata</i>	CHH MX
12	<i>U. doryssus</i>	Dim TX	29	<i>G. begga/pyralina</i>	SON MX Starr TX
	<i>A. fulgerator</i>	Uvald TX Zap TX		<i>Q. lugubris</i>	SIN MX
13	<i>A. alardus</i>	CamnTX	30	<i>A. sallei</i>	NL MX SIN MX [pg 31: zip]
	<i>A. anaphus</i>	NL MX		<i>M. lassia</i>	SIN MX
14	<i>A. pseudocellus</i>	DGO MX	32	<i>A. emorsus</i>	Coch AZ HidaI NM
	<i>A. cinctus</i>	CHH MX DGO MX TAM MX	33	<i>A. erosus</i>	COA MX
15	<i>A. lyciades</i>	Murry OK GreggTX HardinTX Hend TX JasperTX		<i>S. pulverulenta</i>	Ot NM Frio TX
		LamarTX OrangTX Rusk TX Tyler TX Upsh TX	34	<i>S. zampa</i>	Nav S AZ Imper CA CHH MX Sierra NM
16	<i>A. albociliatus</i>	Uvald TX	35	<i>E. tamenund</i>	SON MX Fann TX Klebg TX IarrantTX Tyler TX
	<i>A. toxeus</i>	Klebg TX WashTX Zap TX Zav TX		[="A. thraso"]	Webb TX
	<i>A. jalapus</i>	SIN MX Uvald TX		<i>A. selva</i>	SIN MX
17	<i>T. bathyllus</i>	OsageOK Push OK AngelTX CookeTX Fann TX	36	<i>G. stigmaticus</i>	Coch AZ
		Fayet TX FreesTX GreggTX HardinTX Hend TX		<i>T. ruptifasciatus</i>	COA MX Klebg TX
		JasperTX Jeffn TX Mtgu TX OrangTX Rusk TX		<i>T. trifasciatus</i>	TAM MX
		IarrantTX Tyler TX	37	<i>E. anacreon</i>	SON MX
	<i>T. pylades</i>	CC CO Cost CO Dolor CO ElbertCO Huerf CO		<i>C. asychis</i>	DuvaI TX
		Glacr MT L&C MT LibertyMT PrairieMT TreasMT		<i>C. mithrax</i>	SIN MX
		Dsn NE GreelyNE Wash NE LA NM Taos NM	38	<i>G. gesta/invisus</i>	SON MX CamnTX Kinn TX
		Bensn ND BillingND Burke ND Murry OK CrookOR		<i>E. icelus</i>	Mesa CO Ada ID TF ID Broad MT Carter MT
		DeschOR Linc SD Cald TX CookeTX Culb TX			DL MT Gran't MT L & C MT Burke ND ClatspOR
		GreggTX HardinTX Hend TX JasperTX Jeffn TX			Doug OR TillmkOR WashOR EmeryUT Skag WA
		Leon TX OrangTX Rusk TX TrinityTX Tyler TX			GoshWY Sublt WY

Pg#	Species	Additions, deletions [-], etc.	Pg#	Species	Additions, deletions [-], etc.	Page 2
38	E. brizo	Nav S AZ SBb CA SBdECA SCr CA Denvr CO	43	P. communis CPX	Hins CO SJ CO Goodg ID Payet ID Wash ID	
		Huerf CO Cim OK Cald TX GreggTX Rusk TX			Grant MT Prair MT Rav MT Grant NE McPh NE	
	E. juvenalis	Bensn ND McK ND Cass NE Nema NE Sarpy NE			Sarg ND Beck OK Cadd OK Can OK Craig OK	
		Wash NE Cadd OK - Mars SD Robts SD GreggTX			Garf OK Garv OK Jksn OK McCl OK Okf OK	
		HardinTX Hend TX JasperTX Jeffn TX LavacTX			Gill OR Mal S OR Wall OR Cors SD Dew SD	
		OrangTX Rusk TX VZ TX Cam WY			Edm SD Hans SD Sully SD Zieb SD Andw TX	
39	E. telemachus	Arap CO Baca CO Cost CO Denvr CO GrandCO			Calh TX Chk TX Coch TX Fann TX FreesTX	
	E. propertius	Polk OR			GreggTX Hansf TX HardinTX Hend TX JasperTX	
	E. meridianus	Ap S AZ Colfx NM Valen NM Men TX			Jeffn TX Lamp TX Lips TX MartinTX OrangTX	
	E. scudder	GrahamAZ CHH MX COA MX NL MX			Polk TX Rusk TX SS TX Tarr TX Trin TX	
40	E. horatius	Arap CO Huerf CO PhilipsCO Buff NE Lanc NE			Ups TX	
		Sioux NE - ChavNM - GuadNM - Soc NM Linc NM		P. c. communis	Coch AZ Gila AZ Grah AZ CC CO Gilp CO	
		CarterOK HarperOK Love OK Wdwd OK Yank SD			Hins CO SJ CO Goodg ID Payet ID Wash ID	
		Calh TX Chk TX CookeTX Fann TX Fayet TX			CHH MX SON MX Grant MT Prair MT Rav MT	
		GreggTX HardinTX JasperTX Kimb TX OrangTX			Wib MT Grant NE McPh NE Catr NM Chav NM	
		Rusk TX TrinityTX YoungTX			DA NM Eddy NM Grant NM Hid NM Linc NM	
	E. tristis	Sisk CA EP TX UvaldTX			Luna NM Otero NM Sierra NM Socor NM Sarg ND	
	E. martialis	EP CO GilpinCO Brown NE Sew NE Colfx NM			Beck OK Cadd OK Can OK Craig OK Garf OK	
		Ander TX GreggTX Hays TX Lamp TX Rusk TX			Garv OK Jksn OK McCl OK Okf OK Gill OR	
	E. pacuvius	Inyo CA LassnCA TrinityCA CC CO Chaf CO			Mal S OR Wall OR CM SD Cors SD DeweySD	
		EP CO GrandCO Huerf CO Sum CO CarbnMT			Edm SD Hans SD Sully SD Zieb SD Andw TX	
		Casc MT Sierra NM Baker OR Linn OR Umat OR			Chk TX Coch TX Culb TX EP TX Fann TX	
		- Uni OR Wall OR SIN MX ColmWA Stev WA			FreesTX GreggTX HansfTX HardinTX Hend TX	
41	E. zarucco	larrantTX			Houst TX JasperTX Jeffn TX Lamp TX LimesTX	
	E. funeralis	Fresn CA Sacra CA SBdECA Solan CA Tuol CA			Lips TX MartinTX NacogTX OrangTX Polk TX	
		HardinNM Quay NM RM OK AngelTX AransTX			Rusk TX SS TX Tarr TX Trin TX Tyler TX	
		Calh TX Call TX Chk TX Cole TX Coryl TX			Ups TX	
		DuvalTX EctorTX GreggTX Ham TX HardinTX	44	P. albescens	LP CO COA MX Eddy NM [others pending]	
		Hend TX How TX Irion TX Jksn TX JasperTX		P. oileus	CHH MX DGO MX AngelTX Calh TX HardinTX	
		Jeffn TX Men TX OrangTX Rusk TX SJ TX			Jksn TX JasperTX Jeffn TX Tyler TX	
		SmithTX TG TX Tyler TX Upsh TX Victor TX		P. philetas	Green AZ DuvalTX Ector TX JH TX UvaldTX	
		Walkr TX Ward TX Whart TX Zap TX Zav TX		H. domicella	NL MX Hid NM Luna NM EP TX	
			45	H. ericetorum	Imp CA SBdECA Desc OR Grant OR Mal N OR	
	E. baptisiae	Dsn NE Doug NE Front NE Lanc NE Sioux NE			Mal S OR Garf UT Sev UT Garf WA	
		KiowaOK LeFl OK LoganOK Murry OK Okla OK				
		FayetTX GreggTX HardinTX Hend TX JasperTX			H. macaira	Calh TX UvaldTX
		Jeffn TX LavacTX OrangTX Rusk TX SJ TX			H. lavianus	CHH MX AransTX Calh TX Kleb TX Nuec TX
		SmithTX			UvaldTX Zav TX	
42	E. afranius	KC CO LoganCO SM CO Carbn MT McC MT	46	H. arsalte	zip	
		Muss MT PR MT PrairieMT Chyn NE Kimbl NE		C. nessus	SBdECA UnionNM Cadd OK John OK Mur OK	
		Colfx NM HardinNM LA NM Socor NM GoshWY			Coke TX MasonTX Zav TX	
		HS WY Lar WY PlatteWY	47	C. limpia	zip	
	E. persius	- CochAZ Gila AZ Nav S AZ AlpineCA FresnCA		P. catullus	Col CA Imp CA Nev CA Sisk CA Cost CO	
		Merced CA Mono CA SJ CA ElbertCO Hins CO			Goodg ID Cartr MT Flath MT Lake MT Dakot NE	
		OurayCO RB CO Bound ID Clearw ID NP ID			Jeff NE NanceNE Wash NE Mora NM Adms ND	
		Shosh ID BlaineMT BroadMT CarterMT Dsn MT			Traill ND Alfal OK Can OK Garv OK Greer OK	
		Fall MT Flath MT GarfldMT GV MT Jeffn MT			Hugh OK Jeff OK HR OR Lake OR UnionOR	
		JB MT LibertyMT Linc MT MadisMT Petrol MT			Butte SD Cors SD Edm SD Lym SD Sully SD	
		PR MT PrairieMT Stillw MT TetonMT Toole MT			Wall SD Zieb SD Coke TX Cook TX Ector TX	
		TreasMT WheatMT Yell MT Clark NV - EddyNM			Fann TX LavacTX Fra WA - ThuWA Frem WY	
		Linc NM McK NM Otero NM SM NM Sierra NM			Natr WY WshkWY	
		ColumOR BE UT CacheUT HS WY PlatteWY				
		WashWY		P. mejicanus	TAM MX	
	P. centaureae	Dolor CO MadisMT Dagg UT WasatUT		H. libya	ED CA Lass CA Sanp UT UintaWY	
	P. ruralis	Ada ID CurryOR Juab UT SevierUT	48	H. alpheus	Gila AZ Yav AZ - Imp CA Lass CA LA CO	
43	P. xanthus	- CochAZ ElbertCO Chav NM			- Riv CA COA MX Huds TX EmeryUT	
	P. scriptura	Ccn S AZ ColusCA Fresn CA Stans CA Crow CO				
		Huerf CO LoganCO MorgnCO Colfx NM HardinNM			H. graciela	Maric AZ Moj S AZ Pinal AZ
		Linc NM Mora NM BE UT Davis UT Kane UT			C. palaemon	GlennCA Boise ID Jeff MT Lib MT SB MT
		Morgn UT SevierUT WeberUT Lar WY			Teton MT	
NEW	P. adepta	EP TX Hid TX		white space		[pg: T38, R463]

Pg#	Species	Additions, deletions [-], etc.	Pg#	Species	Additions, deletions [-], etc.	Page 3		
48	P. pirus	Chaf CO Eagle CO Hins CO MontzCO Morg CO Park CO RB CO SJ CO SM CO Sum CO TellerCO JD TX Juab UT Sanp UT	67	H. phyleus [cont'd]	Chk TX CmchTX Cook TX Culb TX Duval TX Ector TX EP TX Fann TX Fayet TX Gregg TX Hend TX Jeffn TX HoustTX Kinn TX Kleb TX MorrisTX NacogTX Rusk TX Ups TX			
49	P. polingii	NL MX -Bern NM		P. rhesus	Nav S AZ Adms CO Arch CO Bould CO Chyn CO Crow CO KC CO Linc CO LoganCO Mesa CO TellerCO WashCO CarterMT Hill MT Chyn NE Kimb NE Catm NM Chav NM SF NM Sierra NM Socor NM Adms ND McK ND Cim OK Cors SD Perk SD Conv WY Lar WY			
NEW	P. roeveri	COA MX [TL]		68	P. carus	Ccn S AZ Maric AZ Baca CO Colf NM Linc NM Sierra NM Union NM Cim OK Arch TX		
51	D. dardaris	SIN MX			P. subreticulata	Hid NM [tentative determination]		
	D. faula	SIN MX			P. eunus	SBdWCA [delete SBdECA]		
52	Synapte spp	zip [pp 52-54: zip]			S. morrisoni	Alam CO Socor NM		
55	M. ina	SIN MX			H. uncas	Gila AZ Pima AZ LoganCO Phil CO RB CO Routt CO Sum CO Russ KS BlaineMT Broad MT Jeff MT Lib MT PR MT SG MT TetonMT BannerNE Gardn NE Morrill NE Oliver ND Stuts ND Dew SD Zieb SD Sanp UT Wash UT Carb WY HS WY Park WY SweetWY Wash WY		
	M. tyrtaeus	Starr TX			69	H. juba	Nav N AZ ColusCA HumbCA Imp CA Lake CA Vent CA Adms CO EP CO Gilp CO LP CO Routt CO Ada ID Butte ID Gem ID Payet ID Wash ID Carb MT DL MT Flat MT Grant MT Jeff MT L & C MT Linc MT Miner MT Petrol MT PowellMT PR MT Sand MT SB MT TetonMT Linc NE RA NM SJ NM Mal S OR Butte SD Bent WA PO WA Stev WA Natr WY	
56	N. lherminier	Hugh OK Fayet TX GreggTX JasperTX Rusk TX IarrantTX TravisTX Tyler TX Upshr TX			H. comma	Adms CO Sedg CO BL ID Cany ID Wash ID Bens ND Burke ND Oliver ND Mal S OR Butte SD Jksn SD BE UT Grand UT Sanp UT		
	N. neamathla	Cald TX Fayet TX Jeffn TX Navar TX SmithTX Tyler TX Whar TX			H. woodgatei	Nav S AZ LA CO COA MX Eddy NM Mora NM RA NM SM NM SF NM Taos NM		
	N. julia	Moj S AZ SBdECA SIN MX SON MX Duval TX Real TX			H. ottoe	Adms CO Shdn MT Rock NE Sarpy NE Thay NE CM SD Day SD Dew SD		
57	C. odilia	SON MX Arans TX Starr TX			70	H. dacotae	Town ND MoodySD	
58	V. inca	SIN MX			H. leonardus	Chyn CO CC CO Frem CO Huerf CO KiowaCO Chyn KS Casc MT Arth NE BB NE ChaseNE Cust NE Grant NE Morrill NE Perk NE Rock NE Burke ND MortonND Oliver ND Stuts ND Edm SD Hand SD Jksn SD Union SD Alb WY		
NEW	M. chrysophrus	SON MX				H. pahaska	Bent CO GrandCO Huerf CO KC CO Linc CO LoganCO Miner CO Otero CO Wash CO YumaCO - SIN MX CarterMT - GlacMT Chyn NE Kimb NE Natr WY	
59	M. stroma	SIN MX				H. columbia	HumbCA - Linn OR	
60	L. accius	Garv OK Arans TX BurnetTX ChamTX Chk TX FreesTX GreggTX Hend TX JasperTX Llano TX Rusk TX SS TX Smith TX			71	H. metea	Clev OK	
	L. liris	Starr TX				H. viridis	Arap CO KC CO LoganCO WashCO YumaCO ChaseNE LA NM Luna NM Mtgu TX Nuec TX	
	V. fantasos	Hid TX [pg. 61: zip]				white space		
62	P. philetes	SON MX Starr TX						
63	Q. cannae	SON MX						
64	D. percosius	Nuec TX						
65	A. numitor	Coch AZ Bent CO KC CO Otero CO Phil CO BlaineNE ChaseNE CusterNE DakotaNE Deuel NE Dixon NE Hall NE Keith NE Loup NE NanceNE Perk NE Sew NE Thurs NE Wash NE Bens ND PierceND Sarg ND Stuts ND Beav OK CimarOK Lat OK TexasOK CM SD Clay SD Greg SD Ham SD Union SD Fann TX GreggTX Hend TX Nuec TX Rusk TX Trin TX Ups TX						
	A. arene	Luna NM						
	O. powesheik	Sarg ND McPh SD						
	O. garita	Yav AZ Denv CO Linc CO BH MT BroadMT Jeff MT Lib MT Stillw MT Teton MT TreasMT Yell MT Sierra NM Bens ND Emm ND OliverND SheridND Stuts ND Town ND Rich UT Sanp UT Whit WA CampWY Gosh WY HS WY Swee WY Uinta WY WshkWY						
66	O. edwardsii	Green AZ Nav S AZ Huerf CO SIN MX CatronNM Culb TX						
	O. era	CHH MX						
	C. aurantiacus	Hard NM Lea NM Harm OK Cald TX Fann TX Frees TX Jksn TX Lamp TX SS TX Steph TX Sterl TX						
	C. minimus	GreggTX Hend TX JasperTX Lamp TX Rusk TX SS TX						
	T. lineola	MoffatCO Routt CO HS WY						
	H. phyleus	Apa S AZ Green AZ ColusCA DN CA Humb CA Shas CA Baca CO KC CO Pueb CO Chyn KS CHH MX Thay NE Curry NM DB NM AlfalfaOK Coal OK Dew OK Grant OK Major OK OkmulOK Clay SD Ander TX AustinTX BrownTX Calh TX						

Pg#	Species	Additions, deletions [-], etc.	Pg#	Species	Additions, deletions [-], etc.	Page 4
71	H. attalus	CanadOK BrownTX	74	P. origenes	Denvr CO CarterMT FallonMT Frontr NE FurnasNE	
72	H. meskei	Angel TX Bastr TX Camp TX Frees TX GreggTX Leon TX Limes TX Rusk TX Sabin TX Tarr TX Tyler TX			GreelyNE Hall NE Oliver ND CarterOK LeFl OK Murry OK Okfus OK Camp SD Todd SD Zieb SD Angel TX GreggTX Rusk TX Tyler TX Upshr TX PlatteWY	
	H. lindseyi	Yuma AZ Lass CA River CA Sacra CA SBdECA Doug OR		P. mystic	EP CO KC CO LoganCO Park CO PhilpsCO WashCO Beav MT BH MT BroadMT CarterMT Gran't MT Jeffn MT Lake MT Madis MT Raval MT BlaineNE ChaseNE Deuel NE Dundy NE Perkin NE Caval ND McL ND Pierce ND Sarg ND Shdn ND Wells ND BeadleSD Camp SD Edm SD Lake SD MoodySD Stanly SD Union SD Linc WA PlatteWY	
	H. miriamae	Alp CA				
	H. nevada	Cost CO Doug CO Routt CO Flat MT - Garf MT Linc MT Teton MT LA NM Sum UT Bent WA CampWY Lar WY WashWY West WY				
73	A. campestris	Ccn N AZ Gila AZ Green AZ LP AZ Nav S AZ Sierra CA Trin CA Vent CA Arth NE Deuel NE Frank NE Grant NE McPh NE Sew NE York NE Catm NM Atoka OK Beck OK Can OK Ellis OK Jksn OK Love OK Linn OR Morr OR Umat OR Wash OR Yam OR SIN MX McPh SD Band TX Calh TX Chk TX Coch TX CmchTX Cook TX Donly TX Frees TX Gray TX GreggTX Hansf TX Hemp TX Hend TX Lipsch TX Ochil TX Rusk TX Steph TX Ups TX Kane UT Bent WA FrankWA Gosh WY Niob WY PlatteWY	75	P. sonora	AlamCA RB CO BL ID BroadMT Jeffn MT L & C MT Madis MT Pow MT Raval MT JosepOR Union OR Duch UT	
				P. vibex	ArcherTX DuvalTX GreggTX Hend TX Kleb TX OrangTX Rusk TX Upshr TX	
				W. otho	DGO MX CarterOK Garfld OK Latim OK LoganOK Murry OK Okfus OK Pawn OK ChamTX Fann TX GreggTX Jeffn TX Rusk TX Tyler TX Upshr TX Walkr TX	
				W. egeremet	Lanc NE Thay NE Latim OK LoganOK Sem OK Jeffn TX OrangTX Rusk TX larrantTX Tyler TX Upshr TX	
	P. peckius	Phil CO Sedg CO McPh KS Jeff MT L & C MT ChaseNE Chyn NE Deuel NE DundyNE Greel NE Keith NE Mad NE McPh NE Sew NE Bens ND Caval ND PierceND Sarg ND Baker OR - Uni OR Butte SD Camp SD Edm SD Lar WY Niob WY West WY	76	P. pompeius	Jeffn NE Rich NE Sew NE Yank SD HardinTX Jeffn TX OrangTX TrinityTX Tyler TX Upshr TX	
				P. verna	Jeffn NE Rich NE Sew NE Yank SD HardinTX Jeffn TX OrangTX TrinityTX Tyler TX Upshr TX	
				A. arogos	Chyn KS Geary KS CarterMT FallonMT Hall NE CarterOK Cieve OK Ellis OK HarperOK Murry OK OkfusOK OsageOK WallerTX PlatteWY	
	P. sabuleti	Apa S AZ ColusCA SBdECA BouldCO ConejCO Jeff CO Boise ID Elmore ID Gem ID Goodg ID Flat MT Lake MT Sand MT Cach UT Davis UT Jaub UT Sum UT Utah UT Wsch UT - KingWA Linc WA Whit WA	77	A. logan	Apa S AZ Nav S AZ KC CO PhilpsCO Prow CO Sedg CO BH MT Hill MT ChaseNE Dakot NE Deuel NE DundyNE NanceNE PerkinNE RW NE Rich NE Colfx NM HardinNM Bensn ND Sarg ND Stuts ND CarterOK Cim OK Hugh OK Love OK McInt OK Pawn OK Benn SD DeweySD HansnSD Kings SD Stanly SD Todd SD Angel TX ComalTX Culb TX Navar TX Uvald TX WallerTX YoungTX Frem WY LaramWY	
	P. mardon	Sisk CA				
74	P. draco	Nav S AZ Delta CO Doug CO Bann ID Casc MT Miss MT Teton MT Beav UT Dagg UT Piute UT Utah UT Wash UT HS WY				
				P. byssus	Upshr TX	
	P. themistocles	GrahmAZ Nav S AZ Alam CO CC CO ConejCO Dolor CO Linc CO PhilpsCO RB CO Sedg CO WashCO Broad MT FallonMT Gran't MT Jeffn MT Lake MT Linc MT PR MT PowellMT Raval MT Arthur NE ChaseNE Deuel NE GreelyNE Logan NE McP NE Perkin NE Thurs NE Bensn ND Oliver ND Sarg ND Stuts ND Atoka OK CanadOK Carter OK GarvinOK Greer OK Linc OK Love OK Nowat OK Bent OR Brule SD CM SD Codin SD DeweySD Edm SD Hansn SD MoodySD Todd SD Zieb SD Fann TX GreggTX Lamp TX Rusk TX SJ TX Smith TX TrinityTX Upshr TX Rich UT Gosh WY Niobr WY	78	O. sylvanoides	Stan CA ElbertCO Frem CO GilpinCO Hins CO Gem ID Payet ID Wash ID Beav MT CarterMT CusterMT DL MT FallonMT MadisMT Jeffn MT PR MT SB MT TreasMT McCK ND Mal N OR Mal S OR SW Sask WayneUT CampWY	
				O. agricola	CalavCA DN CA ModocCA SJ CA Jksn OR	
				O. yuma	Nav N AZ Lake CA MontzCO SM CO SJ NM Shmn OR Juab UT HS WY WashWY	
				P. snowi	Alam CO CC CO Frem CO GilpinCO SierraNM Torr NM	
	white space		NEW	P. kemneri	CHH MX	
			NEW	O. brocki [mss]	SIN MX SON MX	
				white space	Temporary END !	

TEXAS Butterfly Species, known/projected. 2nd revision. R. E. Stanford. 22 Feb 1997.

County	Kn 94	Kn 97	Proj	County	Kn 94	Kn 97	Proj	County	Kn 94	Kn 97	Proj	County	Kn 94	Kn 97	Proj
Anderson	22	26	95	Donley	19	22	52	Kaufman	25	25	97	Real	49	50	110
Andrews	2	11	50	Duval	51	51	110	Kendall	74	74	130	Red River	14	16	90
Angelina	53	58	97	Eastland	15	24	64	Kenedy	67	67	130	Reeves	36	36	110
Aransas	64	67	105	Ector	36	36	50	Kent	28	28	50	Refugio	42	42	110
Archer	4	9	64	Edwards	44	44	110	Kerr	142	142	143	Roberts	3	3	50
Armstrong	45	45	53	Ellis	10	10	95	Kimble	60	63	85	Robertson	20	21	97
Atascosa	43	43	110	El Paso	76	101	110	King	3	3	50	Rockwall	3	3	90
Austin	32	33	97	Erath	11	12	73	Kinney	73	73	110	Runnels	20	20	65
Bailey	9	9	50	Falls	11	11	97	Kleberg	53	53	120	Rusk	52	86	95
Bandera	77	77	120	Fannin	60	60	90	Knox	0	0	50	Sabine	12	13	95
Bastrop	101	102	105	Fayette	73	74	105	Lamar	13	22	90	SanAugustine	12	13	95
Baylor	26	26	52	Fisher	14	14	52	Lamb	9	9	50	San Jacinto	57	59	100
Bee	69	69	105	Floyd	32	32	50	Lampasas	14	32	100	San Patricio	104	105	115
Bell	58	58	97	Foard	6	6	50	La Salle	19	19	110	San Saba	15	36	100
Bexar	171	172	173	Fort Bend	56	56	105	LaVaca	37	37	105	Schleicher	12	12	90
Blanco	73	80	130	Franklin	2	2	90	Lee	22	23	97	Scurry	20	20	52
Borden	16	18	50	Freestone	50	51	95	Leon	33	36	97	Shackelford	21	21	56
Bosque	28	30	95	Frio	55	55	110	Liberty	48	48	102	Shelby	17	17	95
Bowie	71	71	95	Gaines	5	5	50	Limestone	44	44	95	Sherman	11	17	50
Brazoria	78	78	102	Galveston	66	66	102	Lipscomb	7	14	50	Smith	84	90	97
Brazos	33	33	97	Garza	32	39	50	Live Oak	84	85	105	Somervell	25	25	85
Brewster	161	163	164	Gillespie	49	49	90	Llano	57	60	90	Starr	131	146	180
Briscoe	47	50	52	Glasscock	23	23	50	Loving	1	1	50	Stephens	3	10	64
Brooks	34	34	110	Goliad	36	36	105	Lubbock	88	88	89	Sterling	22	37	50
Brown	38	38	75	Gonzales	66	67	105	Lynn	1	2	50	Stonewall	20	21	50
Burleson	22	22	97	Gray	6	15	50	Madison	12	12	97	Sutton	38	39	90
Burnet	46	57	120	Grayson	39	39	85	Marion	31	32	95	Swisher	5	5	50
Caldwell	58	59	105	Gregg	6	92	93	Martin	1	9	50	Tarrant	125	125	126
Calhoun	10	39	105	Grimes	29	29	97	Mason	37	37	85	Taylor	24	25	56
Callahan	16	17	62	Guadalupe	57	58	110	Matagorda	44	44	105	Terrell	67	68	110
Cameron	197	200	210	Hale	12	12	50	Maverick	57	57	110	Terry	0	0	50
Camp	4	5	90	Hall	13	15	50	McCulloch	45	45	90	Throckmorton	0	0	53
Carson	17	18	50	Hamilton	27	33	90	McLennan	65	65	95	Titus	18	18	90
Cass	61	61	95	Hansford	0	15	50	McMullen	21	21	105	Tom Green	66	68	85
Castro	4	4	50	Hardeman	11	11	60	Medina	80	80	110	Travis	162	162	163
Chambers	44	45	102	Hardin	38	79	102	Menard	18	18	85	Trinity	24	25	97
Cherokee	46	47	95	Harris	118	118	120	Midland	2	2	50	Tyler	53	91	102
Childress	12	12	50	Harrison	47	48	95	Milam	24	24	97	Upshur	54	54	93
Clay	5	5	80	Hartley	19	19	50	Mills	6	10	90	Upton	23	23	60
Cochran	18	18	50	Haskell	1	2	50	Mitchell	19	19	52	Uvalde	109	109	110
Coke	14	20	50	Hays	48	54	130	Montague	17	17	80	Val Verde	74	74	110
Coleman	53	53	75	Hemphill	15	16	50	Montgomery	71	71	102	Van Zandt	9	10	97
Collin	30	30	85	Henderson	5	53	95	Moore	21	21	50	Victoria	64	64	105
Collingsworth	10	10	50	Hidalgo	249	250	251	Morris	24	24	90	Walker	56	60	97
Colorado	59	59	105	Hill	30	30	95	Motley	18	18	50	Waller	47	50	97
Comal	133	134	135	Hockley	0	0	50	Nacogdoches	34	40	95	Ward	17	17	60
Comanche	12	24	70	Hood	7	7	85	Navarro	17	17	95	Washington	29	29	97
Concho	32	32	85	Hopkins	2	2	92	Newton	43	44	102	Webb	60	61	120
Cooke	17	38	80	Houston	23	24	97	Nolan	29	29	52	Wharton	36	36	105
Coryell	32	32	95	Howard	32	38	52	Nueces	105	111	116	Wheeler	31	31	50
Cottle	7	9	50	Hudspeth	63	65	110	Ochiltree	0	12	50	Wichita	20	20	70
Crane	12	12	60	Hunt	0	0	90	Oldham	22	22	50	Wilbarger	15	15	70
Crockett	33	33	97	Hutchinson	10	20	50	Orange	27	69	102	Willacy	35	36	130
Crosby	36	36	52	Irion	19	19	70	Palo Pinto	45	46	76	Williamson	46	46	120
Culberson	100	115	120	Jack	14	14	70	Panola	18	18	95	Wilson	45	45	105
Dallam	19	19	50	Jackson	49	53	105	Parker	17	17	93	Winkler	4	4	50
Dallas	122	123	126	Jasper	24	67	102	Parmer	7	7	50	Wise	14	14	80
Dawson	5	5	50	Jeff Davis	147	147	150	Pecos	53	53	110	Wood	5	6	93
Deaf Smith	12	13	50	Jefferson	37	90	102	Polk	66	66	102	Yoakum	1	1	50
Delta	0	1	90	Jim Hogg	27	33	110	Potter	49	50	53	Young	3	3	64
Denton	77	77	85	Jim Wells	39	39	110	Presidio	114	114	150	Zapata	78	78	130
DeWitt	21	22	105	Johnson	14	15	95	Rains	1	2	90	Zavala	38	47	110
Dickens	31	31	50	Jones	16	17	52	Randall	70	70	71	Zzyzx	0	0	0
Dimmitt	61	61	110	Karnes	23	23	105	Reagan	29	29	70	[254 counties, NOT 255 !!!]			

SUB-Ts:	2843	2998	5629		2214	2607	5530		2361	2490	5555		2300	2478	5536
Kn/Proj:			0.53	Kn/Proj:			0.47	Kn/Proj:			0.45	Kn/Proj:			0.45
TOTALS:	Kn '94: 9718			Avg/co '94 38.25				Bold = 90% or more known.				Total spp: 426			
	Kn '97: 10573			Avg/co '97 41.62				Cf: OK 43.9, KS 62.9, NM 114.4.				% Known: 47.5%			
	Proj: 22250			Proj avg/co 87.59				Cf: OK 73.7, KS 70.8, NM 126.1.				% increase: 8.7%		Comments:	

WYOMING Butterfly species, known/projected. 19th revision. R. E. Stanford. 10 Feb 1997.

County	Known 86	Known 97	Projected	% Known	For 90%	For 95%	County	Known 86	Known 97	Projected	% Known	For 90%	For 95%
Albany	139	148	150	99%	0	0	Natrona	52	110	120	92%	0	4
Big Horn	74	98	115	85%	6	11	Niobrara	56	72	89	81%	8	13
Campbell	39	67	81	83%	6	10	Park	102	121	132	92%	0	5
Carbon	115	122	134	91%	0	5	Platte	68	105	121	87%	4	10
Converse	130	135	140	96%	0	0	Sheridan	96	109	121	90%	0	6
Crook	86	100	112	89%	1	7	Sublette	92	113	128	88%	2	9
Fremont	110	138	144	96%	0	0	Sweetwtr	45	61	79	77%	10	14
Goshen	38	75	96	78%	12	16	Teton	122	132	136	97%	0	0
Hot Springs	44	80	107	75%	16	22	Uinta	59	80	101	79%	11	16
Johnson	93	110	122	90%	0	6	Washakie	42	83	106	78%	13	18
Laramie	76	111	135	82%	11	17	Weston	66	91	104	88%	3	8
Lincoln	102	110	126	87%	4	10	Yell'stn NP	102	120	128	94%	0	2
SUBTOTAL:	1046	1294	1462	88.5%	56	104	SUBTOTAL:	902	1197	1365	87.7%	51	105

TOTALS:	Known 86:	1948	Avg/co:	81.17	Cf:MT70.5, ID 53.6, UT 88.5, CO 97.9, NM 97.3, NV 96.8, CA 98.4.		Thanx to CDF, PAO,					
	Known 97:	2491	Avg/co:	103.79	Cf:MT82.4, ID 64.8, UT 110.9, CO 116.7, NM 114.4, NV 107.2, CA 107.02.		BFC, JPB, JAS, ADW,					
	Projected:	2827	Avg/co:	117.79	Kn/Proj = 88.11% Cf: MT 85.7, ID 84.9, UT 92.6, CO 93.2, NM 90.7, NV 96.9, CA 95.6%.		RLH, RCR.					

WYOMING Butterfly County Hitlists. 6th edition. R. E. Stanford. 10 February 1997.

ALBANY	polyxenes	vialis	hianna	sara	napi	interrogatio	hyllus	peckius	acastus	bellona	uncas	icelus	hobomok
campestris	rutilus	streckeri	oslari	meadii	sisymbrii	comma	behrii	themistocle	satyrus	acastus	siva	afranius	arogos
vialis	beckerii	momo	streckeri	pelidne	hyllus	satyrus	fuliginosum	mystic	virginiensis	pallidus	archippus	centaureae	logan
liparops	sisymbrii	8	phoebus	gigantea	saepium	faunus	saepium	fuliginosum	chryxus	mylitta	6	ruralis	polyxenes
annabella	rubida	CROOK	machaon	occidentali	liparops	andria	sylvinum	saepium	26	satyrus	UINTA	themistocle	titus
3	titus	rhesus	polyxenes	phlaeas	acadicum	gilippus	spinetorum	affinis	SHERIDAN	oreas	pacuvius	sonora	liparops
BIG HORN	acadicum	campestris	glaucus	cuprea	sheridanii	39	enoptes	sheridanii	pylades	annabella	afranius	vestris	acadicum
pylades	isola	simius	menapia	editha	idas	LINCOLN	momo	ladon	icelus	sthenele	catullus	vialis	augustinus
icelus	amyntula	oslari	sisymbrii	nivalis	jutta	pylades	arachne	momo	afranius	24	pirus	clodius	ladon
garita	zerene	streckeri	ausonides	mariposa	20	mexicanus	faunus	napaea	ruralis	SWTWTR	sabuleti	polyxenes	piasus
uncas	atlantis	polyxenes	titus	titus	LARAMIE	afranius	17	damoetas	catullus	afranius	machaon	zelicaon	cybele
themistocles	pulchella	indra	behrii	fuliginosum	pylades	catullus	NIOBRARA	acastus	uncas	persius	eurymedon	indra	zerene
sonora	pallidus	napi	liparops	sylvinum	icelus	libya	scriptura	oreas	pahaska	catullus	menapia	eurymedon	selene
vialis	satyrus	rubida	acadicum	saepium	juba	uncas	rhesus	vau-album	themistocle	nevada	sisymbrii	napi	arachne
canadensis	archippus	heteronea	apama	affinis	viridis	nevada	juba	californica	logan	draco	hyantis	sisymbrii	acastus
eurymedon	weidemeye	acadicum	mossii	spinetorum	sabuleti	sabuleti	sylvanoides	annabella	vestris	themistocle	arota	meadii	satyrus
napi	23	piasus	comyntas	eryphon	hobomok	machaon	hobomok	18	indra	yuma	cuprea	gigantea	progne
sisymbrii	CARBON	glandon	enoptes	isola	hianna	polyxenes	taxiles	PLATTE	phlaeas	phoebus	titus	C. occiden	ridingsii
gigantea	afranius	cybele	piasus	enoptes	simius	hyantis	simius	icelus	liparops	rutulus	behrii	phlaeas	22
titus	uncas	zerene	shasta	idas	vialis	C. occiden	streckeri	viridis	amyntula	multicaudat	saepium	hyllus	YELL. NP
saepium	sabuleti	acastus	cybele	shasta	yuccae *	gigantea	polyxenes	nevada	zerene	nivalis	sylvinum	nivalis	clarus
sheridanii	indra	pallidus	callippe	hydaspes	streckeri	arota	glaucus	peckius	eunomia	titus	augustinus	saepium	juba
affinis	multicaudat	annabella	anicia	selene	indra	augustinus	menapia	sabuleti	selene	behrii	melinus	sheridanii	H. nevada
melinus	menapia	ridingsii	arachne	titania	glaucus	edwardsii	rubida	mystic	damoetas	fuliginosum	ladon	affinis	siva
ladon	hyantis	19	fulvia *	palla	sisymbrii	frigga	titus	sonora	faunus	affinis	enoptes	spinetorum	melinus
enoptes	cuprea	FREMONT	interrogat	satyrus	sara	freija	liparops	snowi	magdalena	sheridanii	piasus	eryphon	damoetas
momo	siva	pylades	andria	faunus	cesonia	editha	acadicum	phoebus	20	melinus	momo	enoptes	mylitta
acastus	melinus	icelus	meadii	annabella	mexicana	faunus	isola	machaon	SUBLETTE	exile	cybele	idas	oreas
oreas	piasus	libya	oetus	magdalena	saepium	oreas	comyntas	polyxenes	pylades	amyntula	edwardsii	shasta	vau-album
californica	momo	C. occy	35	ridingsii	liparops	archippus	ladon	zelicaon	catullus	enoptes	coronis	momo	archippus
sthenele	aphrodite	saepium	HOT SPGS	chryxus	spinetorum	sthenele	zerene	menapia	libya	piasus	atlantis	aphrodite	sthenele
ridingsii	acastus	sylvinum	pylades	44	augustinus	callias	callippe	behrii	uncas	glandon	egleis	selene	polixenes
melissa	californica	ladon	icelus	JOHNSON	polios	theano	pulchella	sheridanii	sylvanoides	nokomis *	titania	editha	taygete
polixenes	virginiensis	gorgone	afranius	icelus	exile	jutta	satyrus	apama	beckerii	edwardsii	palla	acastus	13
taygete	archippus	virginiensis	centaureae	ruralis	marina	uhleri	gracilis	augustinus	hyantis	anicia	acastus	satyrus	TOTALS:
28	pegala	oreas	ruralis	catullus	comyntas	27	progne	polios	californica	pallidus	cocyta	faunus	552
CAMPBELL	jutta	10	themistocle	rhesus	piasus	NATRONA	virginiensis	mossii	sylvinum	mylitta	pallidus	oreas	AVG/CO:
clarus	19	GOSHEN	sonora	uncas	carinenta	icelus	annabella	ladon	sheridanii	satyrus	mylitta	annabella	23
afranius	CONVERS	persius	sylvanoides	leonardus	cybele	libya	andria	piasus	siva	archippus	chryxus	39	More
persius	mexicanus	scriptura	vialis	logan	editha	rhesus	meadii	shasta	augustinus	29	jutta	WESTON	thanks:
leonardus	pirus	numitor *	phoebus	vialis	fulvia *	sabuleti	28	glandon	melinus	TETON	35	icelus	LDB, NSC,
themistocles	leonardus	viridis	eurymedon	polyxenes	acastus	vialis	PARK	atlantis	ladon	clarus	WASHAKIE	juba	CFG, KR,
vestris	sabuleti	mystic	napi	indra	nycteis	machaon	pylades	mormonia	momo	pylades	clarus	ottoe	RLI, ML,
oslari	hianna	bimacula *	sisymbrii	eurymedon	pallidus	hyantis	catullus	palla	eunomia	juba	pylades	campestris	JSN,KAS.

ARIZONA				NEVADA				CALIFORNIA					
APACHE	libya	icelus	tharos	CARS.CY.	MINERAL	perplexa	FRESNO	eurymedon	leanira	atlantis	S. DIEGO	eurydice	lindseyi
	caicus	uncas	taxiles		libya	johnsoni	brizo	sisymbrii	ridingsii	6	lindseyi	xanthoides	gorgon
	tristis	comma	rutulus	18	alpheus	pacuvius	siva	lindseyi	harfordii	23	MONT'Y	1	rubida
	mystic	rhesus	menapia	ST. CRUZ	halesus	catullus	satyrus	columbia	eurydice	MARIN	scriptura	momo	comyntas
	pittacus	carus	ausonides	scriptura	atlantis	miriamae	faunus	agricola	iole	juba	comma	S. FRANCI	nokomis
	python	simius	philodice	libya	4	zelicaon	archippus	yuma	arota	vestris	muiri	marina	oreas
	ilavia	phylace	arota	woodgatei	CHURCHIL	editha	pegala	melane	xanthoides	2	3	1	chryxus
	comstocki	yuccae	helooides	snowi	persius	nivalis	sthenele	napi	auretorum	MARIPOS	NAPA	S.JOAQUIN	10
	ceraunus	sisymbrii	behrii	apama	catullus	saepium	14	sennae	tetra	catullus	icelus	juba	SISKIYOU
	palmerii	philodice	sylvinum	chalconon	nivalis	satyrus	AMADOR	iole	saepium	lindseyi	enoptes	multicaudat	ericetorum
	dymas	alcestis	spaldingi	6	fuliginosum	9	eurydice	mariposa	perplexa	xanthoides	milberti	arota	1
	10	xami	piasus	YAVAPAI	S. californic	NYE	arota	marina	muiri/siva	coronis	3	gorgon	SOLANO
COCHISE	comyntas	coronis	tristis	tullia X	alliae	xanthoides	isola	augustinus	4	NEVADA	californic	juba	YOLO
	mysie	rita	atlantis	ridingsii	nivalis	gorgon	amyntula	isola	MENDOCIN	palaemon	auretorum	lindseyi	juba
	cestus	zela	tharos	edwardsii	7	fuliginosum	tetra	sonorensis	ladon	juba	acastus	tetra	muiri
	phaon	tharos	cocyta	sabuleti	CLARK 0	mojave	marina	melissa	bernardino	vialis	nevadensis	saepium	eryphon
	3	gracilis	pallidus	lunus	DOUGLAS	4	comyntas	atlantis	lygdamus	philenor	3	spinetorum	4
COCONIN	meadii	gracilis	streckeri	eunus	PERSHING	orsei	leanira	ericetorum	emigdionis	heteronea	ORANGE	muiri	SONOMA
	caicus	23	milberti	beckerii	epithore	persius	satyrus	ridingsii	icarioides	spinetorum	brizo	marina	comma
	zampa	LA PAZ	ochracea	philodice	hoffmanni	catullus	9	gilippus	lupini	johnsoni	pacuvius	ladon	clodius
	logan	leo	oetus	grunus	3	uncas	BUTTE	19	callippe	comyntas	scriptura	enoptes	johnsoni
	eufala	ceos	22	comstocki	ELKO	nivalis	heteronea	GLENN	leanira	coronis	catullus	icarioides	momo
	eurymedon	scriptura	NAVAJO	mojave	clarus	rita	perplexa	mexicanus	gabii	orsei	spinetorum	momo	hydaspe
	hyantis	catullus	tristis	11	fotis	tullia X	melissa	icelus	chalconon	9	phaon	callippe	epithore
	sheridani	yuccae	xanthus	YUMA	leanira	ridingsii	oreas	ericetorum	satyrus	MERCED	6	leanira	6
	comstocki	sisymbrii	morrisoni	catullus	3	7	milberti	vialis	lorquini	funeralis	PLACER	palla	STANISLA
	mojave	rapae	yuccae	yuccae	ESMERALD	STOREY	nevadensis	indra	bredowii	juba	alexandra	sthenele	persius
	vanillae	hyantis	vierecki	sisymbrii	catullus	pacuvius	6	arota	sthenele	lindseyi	siva	19	juba
	theona	philodice	python	rapae	eunus	persius	CALAVERA	halesus	36	columbia	acastus	S.LUIS OBI	multicaudat
	dymas	mojave	simius	hyantis	nevada	libya	icelus	lupini	LAKE	melane	oreas	juba	pulchella
	elada	speciosa	cassus	acmon	sylvanoide:	alpheus	brizo	coronis	catullus	eurymedon	pegala	iole	4
	andria	acmon	oslari	vanillae	machaon	uncas	phyleus	leanira	idas	multicaudat	ridingsii	isola	SUTTER
	chryxus	vanillae	eos	7	multicaudat	nivalis	campestris	oreas	atlantis	sisymbrii	nevadensis	3	juba
	15	neumoeger	phylace	TOTALS:	menapia	isola	philenor	pegala	orsei	sara	7	S.MATEO	lindseyi
GILA	xanthus	dymas	15	hyantis	ausonides	rita	P. occident	12	faunus	gorgon	PLUMAS	brizo	melane
	scriptura	MARICOP	helooides	AVG/CO:	halesus	piasus	eurydice	HUMBOLD	nevadensis	californicun	ericetorum	vestris	tetra
	philetas	dorus	crysalus	14.5	spinetorum	shasta	xanthoides	sabuleti	6	auretorum	catullus	sisymbrii	saepium
	libya	hippalus	ilavia		zerene	nokomis	gorgon	orsei	LASSEN	tetra	phyleus	eurydice	marina
	edwardsii	caicus	quadema	12	callippe	11	sylvinum	2	xanthoides	saepium	lindseyi	sthenele	ladon
	morrisoni	brizo	palmerii	EUREKA	12	WASHOE	tetra	IMPERIAL	gorgon	perplexa	campestris	5	icarioides
	viridis	tristis	nais	indra	halesus	atlantis	comyntas	rutulus	melinus	spinetorum	melane	S.BARBAR	sthenele
	rhesus	pacuvius	celtis	nivalis	epithore	3	melissa	sisymbrii	mormonia	augustinus	halesus	libya	TEHAMA
	cestus	philetas	rubricata	fotis	3	coronis	helooides	faunus	marina	exile	juba	icelus	callippe
	edwardsi	alpheus	meadii	rita	WHITE PN	14	nigrosuffus:	6	ladon	shasta	comma	palaemon	leanira
	simius	arene	ridingsii	4	catullus	COLUSA	5	LOS ANGE	bernardino	acastus	spinetorum	columbia	editha
	exotera	edwardsii	22	HUMBOLD	fuliginosum	icelus	INYO	scriptura	enoptes	9	enoptes	agricola	pegala
	aenus	taxiles	PIMA	catullus	2	catullus	eurymedon	cresphonte:	lygdamus	RIVERSIDE	piasus	vestris	17
	oslari	deva	comma	machaon	TOTALS:	89	vialis	multicaudat	Ch. califorr	icarioides	eunus	melissa	TOTALS:
	eos	vierecki	melane	eryphon	4	AVG/CO:	marina	harfordii	3	lupini	multicaudat	emigdionis	ausonides
	phylace	pittacus	simius	isola	LANDER	5.2	isola	4	eurydice	momo	speciosa	coronis	eurydice
	proterpia	python	philodice	4	alpheus	5.2	CONTR C	tetra	brizo	callippe	milberti	10	fuliginosum
	augustinus	aenus	phaon	6	fuliginosum	rita	DEL NORT	hoffmanni	lindseyi	chalconon	icarioides	marina	faunus
	rita	eos	pertepida	6	speciosa	4	icelus	satyrus	columbia	sthenele	faunus	oreas	13
	tharos	alcestis	6	LINCOLN	clarus	4	pacuvius	lindseyi	KERN	agricola	32	S.BENITO	S. CRUZ
	archippus	ilavia	PINAL	clarus	ALAMEDA	vestris	lindseyi	columbia	clarus	philenor	MODOC	scriptura	halesus
	21	spinetorum	clarus	persius	ALAMEDA	vestris	lindseyi	columbia	clarus	philenor	MODOC	scriptura	halesus
GRAHAM	columella	pylades	pylades	gracielae	persius	vialis	alameda	vestris	afrafrani	P. occident	persius	lindseyi	eryphon
	scriptura	quadema	pacuvius	ausonides	spinetorum	arota	arache	gorgon	arache	eurydice	perplexa	campestris	2
	garita	comyntas	scriptura	mojave	enoptes	californicun	4	behrii	comyntas	johnsoni	perplexa	multicaudat	SHASTA
	morrisoni	rita	edwardsii	mylitta	momo	comyntas	KINGS	perplexa	glandon	comyntas	glandon	marina	alexandra
	vierecki	hegesia	morrisoni	6	4	enoptes	propertius	lemberti	acastus	6	titus	rubida	phlaeas
	simius	atlantis	uncas	LYON	ALPINE	ericetorum	faunus	funeralis	johnsoni	6	S.BERNAR	muiri	emigdionis
	oslari	theona	taxiles	eurymedon	ericetorum	uncas	oreas	libya	sonorensis	MONO	melissa	oetus	claudia
	eos	pictus	deva	augustinus	bahrii	12	lindseyi	speciosa	phyleus	callippe	5	oetus	6
	7	satyrus	vierecki	zerene	eurydice	EL DORAD	sylvanoide:	melissa	nelsoni	lacinia	SIERRA	oetus	6
GREENLE	andria	cestus	oslari	palla	phlaeas	xanthoides	agricola	momo	augustinus	dymas	ericetorum	brizo	OR
	dorus	pertepida	oslari	orsei	6	grunus	1	melane	mojave	tharos	lindseyi	catullus	UT
	hippalus	rubricata	philodice	6	grunus	1	melane	coronis	coronis	5	nevada	phyleus	WA
	caicus	32	grunus	6	grunus	1	melane	coronis	coronis	5	nevada	phyleus	WY
	brizo	MOHAVE	crysalus	6	grunus	1	melane	coronis	coronis	5	nevada	phyleus	23.1
	juvenalis	ceos	columella	6	grunus	1	melane	coronis	coronis	5	nevada	phyleus	[over]

ARIZONA/CALIFORNIA/NEVADA Butterfly Species. 23rd revision. R. E. Stanford. 10 Feb 1997.

County	Kn 86	Kn 97	Projected	%Known	For 90%	For 95%	County	Kn 86	Kn 97	Projected	%Known	For 90%	For 95%
Apache AZ	135	166	172	97%	0	0	CarsonCy NV	106	117	120	98	0	0
Cochise	198	237	239	99%	0	0	Churchill	76	84	89	94	0	1
Coconino	162	175	185	95%	0	0	Clark	121	131	132	99	0	0
Gila	122	144	153	94%	0	2	Douglas	110	121	123	98	0	0
Graham	145	166	171	97%	0	0	Elko	111	117	119	98	0	0
Greenlee	129	146	161	91%	0	7	Esmeralda	80	92	101	91	0	4
La Paz	45	62	72	86%	3	7	Eureka	85	95	98	97	0	0
Maricopa	78	108	129	84%	8	15	Humboldt	83	96	98	98	0	0
Mohave	96	129	142	91%	0	6	Lander	96	100	103	97	0	0
Navajo	90	141	154	92%	0	5	Lincoln	110	129	133	97	0	0
Pima	187	207	211	98%	0	0	Lyon	93	105	109	96	0	0
Pinal	108	122	134	91%	0	5	Mineral	90	98	103	95	0	0
Santa Cruz	195	211	215	98%	0	0	Nye	116	123	126	98	0	0
Yavapai	132	146	153	95%	0	0	Pershing	74	85	89	96	0	0
Yuma	52	70	75	93%	0	2	Storey	73	84	89	94	0	1
AZ TOTALS:	1874	2230	2366	n/a	11	49	Washoe	117	129	131	98	0	0
Avg/county:	124.93	148.66	157.7	94.3%	0.7	3.3	White Pine	105	116	118	98	0	0

AZ,CA,NV Acknowledgments: I thank many for help, especially:

GTA,RAB,JPB,KD,JFE,CDF,RLL,SOM,JRM,KR,PJS,JAS,AMS.

NV TOTALS:	1646	1822	1881	n/a	0	6
Avg/county:	96.8	107.2	110.6	96.9%	0.0	0.4

Alameda CA	83	90	93	97%	0	0	Orange CA	98	103	107	96%	0	0
Alpine	97	111	120	92%	0	3	Placer	130	135	140	96%	0	0
Amador	109	115	121	95%	0	0	Plumas	119	127	133	95%	0	0
Butte	106	113	117	97%	0	0	Riverside	136	144	147	98%	0	0
Calaveras	91	103	111	93%	0	3	Sacramento	70	72	73	99%	0	0
Colusa	85	105	108	97%	0	0	S. Benito	69	72	76	95%	0	0
Contra Costa	88	92	93	99%	0	0	S. Bernardino	144	153	156	98%	0	0
Del Norte	72	94	101	93%	0	2	S. Diego	144	147	148	99%	0	0
El Dorado	135	141	142	99%	0	0	S. Francisco	64	68	69	99%	0	0
Fresno	106	122	133	92%	0	4	S. Joaquin	52	55	68	81%	6	10
Glenn	89	98	105	93%	0	2	S. Luis Obpo	93	101	103	98%	0	0
Humbug	86	111	112	99%	0	0	S. Mateo	76	84	87	97%	0	0
Imperial	65	86	89	97%	0	0	Sta. Barbara	92	94	100	94%	0	1
Inyo	143	151	156	97%	0	0	Sta. Clara	91	94	96	98%	0	0
Kern	134	139	142	98%	0	0	Sta. Cruz	80	86	87	99%	0	0
Kings	40	46	67	69%	14	18	Shasta	122	134	137	98%	0	0
Lake	96	105	109	96%	0	0	Sierra	118	126	132	95%	0	0
Lassen	112	123	127	97%	0	0	Siskiyou	131	137	138	99%	0	0
Los Angeles	132	135	137	99%	0	0	Solano	82	90	93	97%	0	0
Madera	80	116	130	89%	1	8	Sonoma	103	111	115	97%	0	0
Marin	78	92	94	98%	0	0	Stanislaus	78	80	83	96%	0	0
Mariposa	126	131	134	98%	0	0	Sutter	54	54	60	90%	0	3
Mendocino	100	103	109	94%	0	1	Tehama	93	113	121	93%	0	3
Merced	40	47	67	70%	13	17	Trinity	110	122	123	99%	0	0
Modoc	106	116	120	97%	0	0	Tulare	142	151	155	97%	0	0
Mono	128	137	141	97%	0	0	Tuolumne	129	134	139	96%	0	0
Monterey	89	92	94	98%	0	0	Ventura	101	109	111	98%	0	0
Napa	93	99	101	98%	0	0	Yolo	76	80	90	89%	1	6
Nevada	127	139	141	99%	0	0	Yuba	75	79	90	88%	2	7
SUBTOTALS:	2836	3152	3314	95.1%	28	58	SUBTOTALS:	2872	3055	3177	96.2%	9	30

CA TOTALS: Known 6207 107.02 avg/co. Cf: AZ 148.7, CO 116.7, NV 107.2, NM 114.4, OR 79.8, UT 110.9, WA 68.0, WY 103.8 avg spp/co.

Proj: 6491 111.91 avg/co. Kn/Proj: 95.62% Cf: AZ 94.3%, CO 92.4%, NV 96.9%, NM 90.8%, OR 90.6%, UT 92.6%, WA 89.9%, WY 88.1%.

Highest county total spp: Cch AZ 237, SC AZ 211, Pm AZ 207, Cmn TX 201, EP CO 199, Ccn AZ 175, Ap/Gm AZ 166, SBd CA 153, etc.

Lowest county total spp: Kgs CA 46, Mrd CA 47, Su CA 54, SJ CA 55, LP AZ 62, SF CA 68, Yu AZ 70, Sac/SBt CA 72, St/Yu CA 79.

STATE total species: AZ 330, CA 243, CO 268, HI 15, KS 184, MT 187, NE 201, NV 207, NM 312, OK 168, OR 161, UT 215, WY 214.

Boldface denotes poorly-known counties [less than 95% of projection].

HI now 16 spp [add P. sabuleti fide RLL].

[OVER]

COLORADO Butterfly County Record Hitlist. 13th revision. R. E. Stanford. 10 February 1997.

ADAMS	BENT	progne	viridis	sara	nais	saepium	libya	tullia	comstocki	catullus	meadii	piasus	vierecki	enoptes	
pahaska	alpheus	theano	meadii	cuprea	HINSD 39	liparops	edwardsii	uhleri	eryphon	origenes	arota	idas	yuccae	callippe	
viridis	rhesus	CONEJ 23	apama	crysalus	pylades	sheridanii	morrisoni	MESA 7	momo	simius	behrii	cybele	machaon	nycteis	
vestris	logan	pacuvius	spinetorum	polios	brizo	augustinus	nevada	themistocl	nais	aenus	spinetorum	zerene	sara	californica	
machaon	vierecki	centaurea	melinus	augustinus	telemachus	polios	aenus	meadii	tharos	olympia	augustinus	frigga	saepium	annabella	
zelicaon	yuccae	scriptura	battoides	melinus	xanthus	melinus	liparops	titus	virginiensi	crysalus	eryphon	nycteis	comstocki	23	
	5	streckeri	catullus	nais	battoides	catullus	ladon	sheridanii	apama	ridingsii	sylvinum	marina	editha	spinetorum	WASHING
ALAMOS	glaucus	rhesus	batesii	shasta	uncas	cybele	enoptes	rita	chryxus	mossii	ladon	ssthenele	fotis	peckius	
mexicanus	sisymbrii	morrisoni	mylitta	nais	juba	eunomia	rita	idas		18	battoides	battoides	S.JUAN 54	augustinus	yuccae
persius	acidicum	viridis	DENVER 3	coronis	pahaska	freiija	idas	nais	MONTR 4	pertepida	rita	pylades	eryphon	machaon	
xanthus	milberti	yuma	viridis	egleis	sonora	gorgone	freiija	MINR'L 32	streckeri	PHILLIP 11	morlmo	brizo	rita	lygdamus	
catullus	ridingsii	simius	sabuleti	hydaspes	taxiles	nycteis	whitneyi	pylades	fotis	viridis	coronis	persius	momo	idalia	
alpheus	11	vialis	zelicaon	whitneyi	vialis	pallidus	batesii	brizo	batesii	yuccae	gorgone	uncas	nokomis	satyrus	
simius	BLDR 9	yuccae	DOLRS 40	batesii	eurymedon	oreas	pictus	pacuvius	virginiensi	machaon	arachne	viridis	zerene	andria	
yuccae	morrisoni	zelicaon	pacuvius	californica	sisymbrii	oreas	virginiensi	pirus	MORG 14	liparops	tharos	themistocl	callippe	celtis	
ausonides	hianna	menapia	scriptura	pertepida	hyantis	californica	pertepida	morrisoni	numitor	exile	batesii	sylvanoide	leanira		8
cuprea	simius	sheridanii	libya	uhleri	sara	virginiensi	callias	viridis	ottoe	ladon	mylitta	vestris	acastus	WELD	
spinetorum	yuccae	rita	alpheus	melissa	arota	albarta	uhleri	nevada	pahaska	lygdamus	chryxus	vialis	mylitta	ottoe	
polios	L. editha	shasta	pirus	taygete	saepium	polixenes	LARIMR 6	themistocl	viridis	cybele	RIO GR 25	machaon	faunus	viridis	
amyntula	rita	aphrodite	uncas	ELBRT 8	sheridanii	JEFF 2	phylace	vestris	peckius	idalia	icelus	multicauda	oreas	origenes	
piasus	bellona	acastus	pahaska	icelus	spama	bimacula	hyantis	vialis	oslari	edwardsii	pacuvius	eurymedon	virginiensi	sylvanoide	
shasta	pictus	virginiens	viridis	juba	spinetorum	rita	exile	machaon	yuccae	pulchella	xanthus	menapia	pertepida	bimacula	
aphrodite	polixenes	pegala	nevada	arota	siva	KIOWA 13	hydaspes	zelicaon	streckeri	PITKIN 16	scriptura	sisymbrii	ridingsii	yuccae	
whitneyi	CHAF 32	callias	sabuleti	behrii	melinus	clarus	pictus	sisymbrii	machaon	clarus	alpheus	sara	plexippus	machaon	
faunus	pylades	uhleri	yuma	acidicum	ladon	viridis	theano	alexandra	alexandra	pacuvius	morrisoni	arota	33	glaucus	
virginiensi	brizo	melissa	vierecki	momo	battoides	rhesus	LAS AN 20	apama	apama	afраниus	rhesus	heteronea	SEDGWICK	menapia	
annabella	19	afраниus	brizo	indra	celtis	spaldingi	yuccae	martialis	sheridanii	lygdamus	pahaska	themistocl	nivalis	baptisiae	sisymbrii
ARAPAHOE	catullus	pacuvius	sara	ELPASO5	piasus	hyllus	numitor	siva	aphrodite	icarioides	sonora	viridis	crysalus	ottoe	heteronea
sylvinum	mejicanus	pirus	nivalis	saepium	acmon	comyntas	leonardus	augustinus	OTERO 14	arota	zelicaon	behrii	yuccae	mossii	sheridanii
P. comma	edwardsii	rhesus	saepium	enoptes	momo	rita	sabuleti	spaldingi	scriptura	spinetorum	menapia	saepium	titus	eryphon	
	2	peckius	morrisoni	sheridanii	shasta	nais	fulvia	hianna	piasus	leonardus	polios	sisymbrii	calanus	liparops	neglecta
ARCHULETA	sylvanoide	viridis	comstocki	mylitta	arachne	pulchella	cassus *	idas	rhesus	eryphon	melinus	polios	sylvinum	lygdamus	rusticus
centaureae	hobomok	simius	fotis	californica	gorgone	milberti	vialis	momo	sabuleti	eryphon	melinus	polios	sheridanii	aphrodite	idalia
scriptura	hianna	vialis	augustinus	FREMT 6	palla	celtis	zelicaon	nais	logan	momo	eryphon	apama	eurydice	selene	
morrisoni	vierecki	yuccae	melinus	xanthus	acastus	ridingsii	eurymedon	freiija	vierecki	californica	amyntula	spinetorum	ridingsii	pictus	
snowi	aenus	streckeri	ladon	eos	cocyta	KIT C 13	sara	improba	yuccae	pertepida	spaldingi	siva	10	P. comma	
streckeri	vialis	polyxenes	rita	scudderii	satyrus	scriptura	cuprea	gorgone	sisymbrii	pegala	piasus	augustinus	SUMMIT	20	
polyxenes	yuccae	multicauda	piasus	selene	oreas	ottoe	whitneyi	dione	whitneyi	ssthenele	nokomis	eryphon	ruralis	YUMA	
indra	polyxenes	nais	momo	freiija	ridingsii	peckius	liparops	meadii	acidicum	PROW 7	selene	melinus	vialis	afраниus	
occidental	olympia	fulvia	nais	mylitta	plexippus	arogos	piasus	ridingsii	apama	numitor	freiija	amyntula	sisymbrii	phyleus	
meadii	californicu	acastus	nokomis	GRFLD 7	HUERF 20	hobomok	shasta	melissa	lygdamus	aurantiacu	fulvia	battoides	L. editha	oslari	
scudderii	liparops	satyrus	callippe	themistocl	afраниus	vialis	coronis	maygete	interrogati	rhesus	acastus	enoptes	sheridanii	yuccae	
cuprea	sheridanii	archippus	arachne	yuma	edwardsii	yuccae	freiija	MOFF 18	pertepida	vierecki	annabella	spaldingi	polios	machaon	
halesus	augustinus	polixenes	gorgone	marina	origenes	rubida	magdalena	icelus	OURAY 22	streckeri	ROUTT 14	piasus	augustinus	alexandra	
spinetorum	polios	CROW 8	batesii	tharos	logan	titus	polixenes	pacuvius	clarus	acidicum	clarus	melissa	piasus	rubida	
rita	mossii	alpheus	mylitta	virginiensi	hianna	ladon	LINC 2	centaureae	horatius	ridingsii	pahaska	icarioides	cybele	ladon	
shasta	marina	leonardus	satyrus	theano	vierecki	lygdamus	peckius	ruralis	pacuvius	PUEB 11	yuma	acmon	aphrodite	rita	
freiija	callippe	yuccae	faunus	melissa	yuccae	cybele	tullia	draco	afраниus	xanthus	taxiles	momo	gorgone	aphrodite	
titania	selene	dione	atalanta	GILPIN 4	cuprea	aphrodite	LOGAN 25	themistocl	uncas	morrisoni	menapia	nais	satyrus	annabella	
whitneyi	fulvia	interrogati	virginiens	catullus	dione	LAKE 19	garita	taxiles	pahaska	draco	arota	aphrodite	oreas	ridingsii	
batesii	gorgone	milberti	archippus	rhesus	hyllus	xanthus	comma	vialis	machaon	logan	phlaeas*	arachne	uhleri	12	
coenia	nycteis	celtis	pertepida	tharos A	acidicum	communis	ottoe	menapia	indra	machaon	cuprea	gorgone	alberta		
magdalena	tharos	ridingsii	ridingsii	polixenes	spinetorum	pirus	peckius	meadii	eurymedon	zelicaon	spinetorum	nycteis		15	TOTALS:
chryxus	faunus	CUST 15	DOUG 9	GRAND 12	augustinus	rhesus	hobomok	cuprea	sisymbrii	scudderii	polios	palla	TELLER	994	
melissa	archippus	clarus	sabuleti	clarus	selene	themistocl	bimacula	spinetorum	hyantis	heteronea	momo	satyrus	pylades	martialis	AVG/CO:
	23	CHEY 9	alpheus	arogos	pylades	whitneyi	snowi	simius	augustinus	halesus	mylitta	frigga	gracilis	pacuvius	15.8
BACA	clarus	sonora	indra	brizo	cocyta	sisymbrii	oslari	melinus	saepium	meadii	freiija	oreas	pacuvius		
alpheus	viridis	vierecki	napi CPX	taxiles	interrogati	californicu	yuccae	ladon	sheridanii	uhleri	whitneyi	atalanta	catullus		
aurantiacu	glaucus	phylace	beckerii	sisymbrii	bredowii	augustinus	streckeri	batesii	spinetorum	RIO BL 31	uhleri	virginiensi	juba	Compare:	
arogos	occidental	machaon	selene	hyantis	celtis	melinus	sisymbrii	faunus	battoides	clarus	SAG 20	meadii	origenes	AZ 14.6	
vestris	hyllus	dione	fulvia	calanus	alberta	amyntula	titus	oreas	spaldingi	icelus	pylades	ridingsii	logan	CA 7.7	
dione	fulvia	acidicum	P. comma	sylvinum	JACKN 28	ladon	liparops	MONTEZUM	nais	pacuvius	pacuvius	plexippus	simius	HI zip!!	
hyllus	pulchella	mossii	andria	momo	ruralis	piasus	apama	icelus	batesii	centaureae	catullus	S.MIG 33	aenus	ID no clue	
hellouides	milberti	marina	EAGL 27	coronis	pirus	callippe	exile	centaureae	oreas	ruralis	viridis	pacuvius	oslari	MT 20.1	
behrii	celtis	freiija	clarus	hydaspes	pahaska	bellona	comyntas	xanthus	pertepida	alpheus	vestris	xanthus	vialis	NV 5.2	
mcfarlandi	CL.CRK 8	tharos	pacuvius	californica	vialis	satyrus	rita	scriptura	uhleri	sabuleti	vialis	scriptura	yuccae	NM 19.6	
edwardsii	catullus	archippus	afраниus	GUNN 6	multicauda	faunus	icarioides	libya	PARK 15	taxiles	eurymedon	alpheus	sylvinum	OR 13.4	
minuta	rhesus	andria	ruralis	pacuvius	menapia	annabella	fulvia	morrisoni	horatius	vialis	hyantis	juba	saepium	UT 14.1	
pulchella	origenes	meadii	juba	machaon	beckerii	plexippus	pulchella	pahaska	pacuvius	yuccae	liparops	uncas	liparops	WA 16.5	
rubricata	sara	DELTA 11	viridis	indra	sisymbrii	jutta	satyrus	vialis	martialis	menapia	sheridanii	pahaska	mossii	WY 23.1	
ridingsii	cesonia	pacuvius	sabuleti	melinus	hyantis	LA PLATA 19	annabella	scudderii	afраниus	sisymbrii	enoptes	sabuleti	augustinus	****	
	14	selene	scriptura	yuccae	battoides	crysalus	centaureae	cymela	saepium	scriptura	sara	spaldingi	themistocl	battoides	

COLORADO Butterfly Species, known/projected. 41st revision. REStanford. 10 February 1997.

County	Known 86	Known 97	Projected	%Known	For 90%	For 95%	County	Known 86	Known 97	Projected	%Known	For 90%	For 95%
Adams	68	96	99	97%	0	0	Lake	81	92	103	89%	1	6
Alamosa	59	94	105	90%	0	6	La Plata	136	148	159	93%	0	3
Arapahoe	90	121	123	98%	0	0	Larimer	178	194	198	98%	0	0
Archuleta	130	135	149	91%	0	7	Las Animas	132	158	170	93%	0	4
Baca	60	80	88	91%	0	4	Lincoln	46	84	86	98%	0	0
Bent	31	63	70	90%	0	4	Logan	56	77	92	84%	6	10
Boulder	181	190	195	97%	0	0	Mesa	134	144	148	97%	0	0
Chaffee	127	134	153	88%	4	11	Mineral	65	91	110	83%	8	14
Cheyenne	26	49	54	91%	0	3	Moffat	106	121	132	92%	0	4
Clear Creek	120	143	148	97%	0	0	Montezuma	123	143	154	93%	0	4
Conejos	80	93	107	87%	3	9	Montrose	133	155	158	98%	0	0
Costilla	94	111	122	91%	0	5	Morgan	54	73	81	90%	0	4
Crowley	30	57	62	92%	0	2	Otero	38	68	76	89%	1	4
Custer	150	156	165	95%	0	1	Ouray	115	124	137	91%	0	6
Delta	134	138	145	95%	0	0	Park	133	146	155	94%	0	1
Denver	89	114	116	98%	0	0	Phillips	38	62	69	90%	0	4
Dolores	84	110	134	82%	11	17	Pitkin	114	122	132	92%	0	4
Douglas	147	163	168	97%	0	0	Prowers	73	83	87	95%	0	0
Eagle	112	119	135	88%	3	9	Pueblo	149	157	164	96%	0	0
Elbert	87	132	137	96%	0	0	Rio Blanco	91	114	133	86%	6	13
El Paso	180	199	202	99%	0	0	Rio Grande	70	92	107	86%	4	10
Fremont	166	170	174	98%	0	0	Routt	113	128	136	94%	0	1
Garfield	126	155	159	97%	0	0	Saguache	125	129	141	91%	0	5
Gilpin	144	154	157	98%	0	0	San Juan	60	67	100	67%	23	28
Grand	108	131	138	95%	0	0	San Miguel	90	113	133	85%	7	13
Gunnison	148	154	158	97%	0	0	Sedgwick	66	74	80	92%	0	2
Hinsdale	62	85	108	79%	12	18	Summit	84	104	113	92%	0	3
Huerfano	109	145	157	92%	0	4	Teller	107	134	148	91%	0	7
Jackson	87	100	117	85%	5	11	Washington	41	74	79	94%	0	1
Jefferson	166	183	185	99%	0	0	Weld	86	107	119	90%	0	6
Kiowa	30	45	53	85%	3	5	Yuma	69	82	89	92%	0	3
Kit Carson	35	75	83	90%	0	4							
SUBTOTALS:	3260	3894	4166	93.5%	41	120	SUBTOTALS:	2906	3460	3789	91.3%	56	160

TOTALS	Known 86:	6166	Avg/co:	97.87	Cf: NM 97.3, UT 88.5, AZ 124.9, NV 96.8, CA 98.4, WY 81.2, MT 70.5.
	Known 97:	7354	Avg/co:	116.73	Cf: NM 114.2, UT 110.9, AZ 148.7, NV 107.2, CA107.02, WY103.8, MT 82.4.
	Projected:	7955	Avg/co:	126.27	Cf: NM 126.1, UT 119.8, AZ 157.7, NV 110.7, CA 111.9, WY117.8, MT 96.1.
	Known/Projected [% Known]:		92.45%	Cf: NM 90.8%, UT 92.6%, AZ 94.3%, NV 96.9%, CA 95.6%, WY88.1%, MT 85.7%	
	Percent increase in 11 years:		19.27%	Cf: NM 18%, UT 25%, AZ 19%, NV 11%, CA 8.7%, WY 28%, MT 17%.	
	STATE species total:		268	Cf: NM 315, UT 215, AZ 330, NV 207, CA 243, WY 214, MT 187.	

The 20 prairie counties alone are now 1615/1742, or 92.71% of projection.

They are now better-known than the mountain counties !!!

Thanks to many, especially FMB, JDE, SLE, MEE, CDF, MSF, PAO, DEP, MGP, RMP, JAS, KAS, ADW,

Bold face type denotes poorly-known counties [surprised by a few of them?!].

Ray E. Stanford, Denver, Colorado [phone 303-377-1332].

ASCENDE OMNEM MONTEM!!

[over]

WUSA Butterfly Statistics.				45th revision.				R. E. Stanford.				1 April 1998.			
ST	Co's	Spp#	CRs	Avg/co	pCRs	pAv/co	% Kn	Min Co	Max Co	Co's < 40 spp	All Co's	Spp nr	all Co's		
AZ	15	333	2296	153.07	2406	160.40	95.4%	LP	65	Chs	242	None [2 < 100]	37	7a17b19c15d9e	
CA	58	243	6225	107.33	6495	111.98	95.8%	Kin	46	SBd	153	None [4 < 60]	12	9a 7b 2c 2d 3e	
CO	63	268	7381	117.16	7973	126.55	92.6%	Kio	45	EP	200	None [3 < 60]	9	2a 3b 1c 2d 3e	
ID	44	167	3015	68.52	3441	78.20	87.6%	Jer	10	Lem	113	Down to 7	1	0a 0b 0c 3d 2e	
KS	105	184	6609	62.94	7438	70.84	88.9%	Kea	31	Sco	110	Still 5	16	4a 0b 0c 1d 0e	
MT	56	188	4691	83.77	5424	96.86	86.5%	Dan	34	Cbn	147	Still 7	10	3a 1b 0c 0d 3e	
NE	93	202	4671	50.23	6207	66.74	75.3%	Whe	12	Sio	124	Down to 40	1	1a 0b 1c 1d 2e	
NV	17	207	1828	107.53	1894	111.41	96.5%	Chu	84	Clk	131	None [7 < 100]	46	14a10b 5c 3d 4e	
NM	33	314	3822	115.82	4194	127.09	91.1%	Lea	50	Hid	173	None [3 < 60]	19	2a 3b 6c 4d 5e	
ND	53	144	1910	36.04	3275	61.79	58.3%	Fos	0	Slo	102	Down to 37	0	none even close	
OK	77	169	3527	45.81	5679	73.75	62.1%	Jac	21	Pi/Tu	93	Down to 36	1	0a 0b 1c 0d 0e	
OR	36	161	2894	80.39	3195	88.75	90.6%	Till	39	Kla	127	Down to 1 !	10	8a 6b 2c 5d 3e	
SD	66	173	2801	42.44	4124	62.48	67.9%	BonH	14	Pen	124	Down to 33	2	3a 0b 0c 2d 2e	
TX	254	424	11968	47.12	22721	89.45	52.7%	4 co's	0	Hid	251	Down to 128 !	0	none even close	
UT	29	215	3221	111.07	3478	119.93	92.6%	Mor	86	Wsn	147	None [5 < 100]	44	7a 0b 3c 7d 3e	
WA	39	144	2672	68.51	3030	77.69	88.2%	Isl	27	Oka	118	Same old 6	7	3a 4b 2c 3d 3e	
WY	24	214	2502	104.25	2832	118.00	88.3%	Swe	63	Alb	148	None [9 < 100]	20	10a 3b 7c 7d 2e	
# Species totals have been recounted based on recent, more lumped, taxonomy.															
TOT	1062	774	72033	1402.0	93806	1641.9	1410%	n/a	627	n/a	2503	325	235	Co's < 40 spp: TX: 141	
AVG	62.4	220	4237	67.83	5518	88.33	76.8%		36		147	19.12	13.8	All others:186	
			82.47			96.58	83.0%	[averages by state rather than by county]							

Small letter key: a=all but 1 county; b=all but 2; c=all but 3; d=all but 4; e=all but 5.

Species lists: All Counties list, followed by lists a,b,c,d,e, and comments if any:

AZ: funeralis, communis CPX, aurantiacus, phyleus, campestris, philenor, polyxenes, protodice, sara, eurytheme, cesonia, sennae, mexicana, nicippe, iole, halesus, leda, melinus, exile, marina, isola, ladon, mormo CPX, carinenta CPX, claudia, lacinia, chalcedona CPX, antiopa, atalanta, virginienensis, cardui, annabella, coenia, nigrosuffusa, bredowii, plexippus, gilippus, 37. a: catullus LP, multicaudatus Yu, sisymbrii Yu, ceraunus Ap, fulvia Yu, chalcedona CPX SC, astyanax Yu. b: zampa Ap Cn, brizo LP Yu, meridianus LP Yu, ericetorum SC Yu, nesus LP Yu, pahaska LP Yu, eufala Ap Cn, cressphontes Ap Na, rapae LP Yu, cethura Ap Na, siva LP Yu, acmon CPX LP Yu, nemesis Ap Na, palmerii Ap Na, arachne LP Yu, acastus CPX LP SC, mylitta LP Yu. c: clarus, leo, dorus, pylades, alpheus, aryna CPX, hyantis, spinetorum, augustinus, battoides CPX, vanillae, theona, texana, pictus, satyrus, archippus, celtis, pertepida, patrobas. d: pacuvius, scriptura, libya, deva, lunus, aenus, yuccae, philodice, crysalus, quaderna, amyntula, rita CPX, zela, dymas, elada. e: taxiles, vierecki, pittacus, python, simaethis, dumetorum CPX, N californica, leilia, rubricata. NOTE: about 70 of these 102 spp should be found in all counties; most missing only LP+Yu or Ap+Na will not be found easily in all AZ counties [RAB, KR].

CA: communis CPX, protodice, rapae, eurytheme, acmon, antiopa, atalanta, virginienensis, cardui, annabella, coenia, plexippus, 12. a: zelicaon Im, rutulus Im, sara Mer, helloides Im, melinus La, mylitta Im, N californica Mer, bredowii Ki, tullia CPX Im. b: propertius Im Ki, sabuleti DN Hu, sylvanoides Im Ki, augustinus Ki Mer, lygdamus Ki Mer, chalcedona Ki Mer, lorquini Im Ki. c: eurymedon, sylvinum. d: californicum, saepium. e: A. campestris, halesus, ladon. NOTE: about half of these 38 spp will not be found in Im [DKF, RLL, KR, RES], so only about 20 spp will ever be found in all counties. Several other states have an "Achilles heel" county [Is WA, Kio CO, Yu AZ, Le NM].

CO: protodice, rapae, philodice, eurytheme, iole, isola, claudia, antiopa, cardui, 9. a: communis Lk, P melissa SJ. b: P occidentalis Ac Cy, acmon CPX Hi SJ, atalanta DI SJ. c: multicaudatus. d: milberti, plexippus. e: uncas, pulchella=pratensis, annabella. NOTE: only these 20, and perhaps 3 other spp, are possible for all counties because of the high continental divide barrier.

ID: eurytheme only. d: rutulus, philodice, cardui. e: helloides, tullia CPX. There are about 20 species which should be found in every county.

KS: communis, catullus, campestris, protodice, rapae, philodice, eurytheme, iole, melinus, comyntas, claudia, tharos, interrogationis, atalanta, cardui, plexippus, 16. a: polyxenes Hodg, gorgone Craw, virginienensis Lane, archippus Wich. d: pegala. NOTE: About 25 spp should be found in all counties, as is true also for the other prairie states. [over]

MT: *P. occidentalis*, *rapae*, *philodice*, *eurytheme*, *helooides*, *lygdamus*, *melissa*, *antiopa*, *cardui*, *pegala*, 10. a: *communis* Li, *saepiolus* Sh, *tullia* CPX Gf. b: *milberti* Mc Ri. e: *comma*, *sylvanoides*, *atalanta*. NOTE: About 20 spp should be found in all counties, like CA/CO, so few because of the huge diversity of habitats, and for CO and MT, the high continental divide.

NE: *eurytheme* only. a: *rapae* Wh. c: *comyntas*. d: *atalanta*. e: *philodice*, *plexippus*. NOTE: About 25 spp are likely to be found in all 93 counties.

NV: *communis* CPX, *ericetorum*, *juba*, *comma*, *sabuleti*, *rutulus*, *beckerii*, *sisymbrii*, *protodice*, *rapae*, *hyantis*, *sara*, *philodice*, *eurytheme*, *alexandra*, *iole*, *helooides*, *behrii*, *siva*, *melinus*, *exile*, *marina*, *amyntula*, *ladon*, *battoides* CPX, *enoptes* CPX, *lygdamus*, *melissa*, *icarioides*, *acmon* CPX, *mormo* CPX, *acastus* CPX, *mylitta*, *chalcedona* CPX, *gracilis*, *antiopa*, *californica*, *milberti*, *atalanta*, *cardui*, *virginiensis*, *annabella*, *coenia*, *sthenele* CPX, *plexippus*, *gilippus*, 46. a: *multicaudatus* Es, *P. occidentalis* Cl, *arota* Cl, *rubida* Cl, *heteronea* Cl, *sylvinum* Cl, *sheridanii* CPX WP, *piasus* Cl, *lupini* Li, *shasta* St, *zerene* Ly, *leanira* El, *pulchella=pratensis* Cl, *satyrus* Mi, *oetus* Cl. b: *libya* Ca St, *sylvanoides* Cl Es, *zelicaon* Cl Mi, *indra* Eu St, *menapia* Es Pe, *californicum* Ch Cl, *eryphon* Hu Pe, *isola* Hu St, *zerene* Es Ly, *callippe* Cl Es. c: *uncas*, *ausonides*, *spinetorum*, *saepiolus*, *tullia* CPX. d: *yuma*, *coronis*, *pegala*. e: *cesonia*, *rita* CPX, *weidemeyerii*, *ridingsii*. NOTE: Of these 82 spp, only about 60 are expected in all counties; Clark Co is very well known [GTA].

NM: *brizo*, *communis* CPX, *polyxenes*, *protodice*, *rapae*, *philodice*, *eurytheme*, *nicippe*, *iole*, *melinus*, *marina*, *isola*, *acmon* CPX, *claudia*, *antiopa*, *atalanta*, *virginiensis*, *cardui*, *plexippus*, 19. a: *cesonia* LA, *siva* Le. b: *multicaudatus* Cu Le, *fulvia* DB LA, *gilippus* LA Va. c: *pahaska*, *viridis*, *mexicana*, *exile*, *melissa*, *carinenta* CPX. d: *funeralis*, *catullus*, *uncas*, *coenia*. e: *vierecki*, *pictus*, *mylitta*, *annabella*, *pertepida*. NOTE: About 42 spp should be found in all counties; 60 or more in all excluding Lea County!

ND: Best county numbers [1996]: *philodice* 44, *pegala* 41, *eurytheme* 39, *rapae* 36, *melissa* 36, *claudia* 35, *aphrodite* 34, *tharos* 34. *tullia* CPX 34, *cardui* 33, *communis* 30, *plexippus* 30, *protodice* 29, *cybele* 29, *mystic* 28, *logan* 28, *hyllus* 28, *atalanta* 28, *garita* 27, *archippus* 27, *antiopa* 26. At least 20 species should be found in all counties, perhaps as many as 30. Please give RAR some help!!

OK: *eurytheme* only. c: *tharos*. e: *pegala*. NOTE: See KS,NE,SD. About 24 species should be found easily in all counties.

OR: *sylvanoides*, *zelicaon*, *rutulus*, *rapae*, *eurytheme*, *lygdamus*, *mylitta*, *antiopa*, *atalanta*, *cardui*, 10. a: *sara* Lc, *helooides* Cs, *hydaspe* Sh, *milberti* Cs, *annabella* Gi, *lorquini* Sh, *tullia* CPX Ti, *pegala* Ti. b: *eurymedon* Gi Sh, *ladon* Mal Mo, *zerene* Col Wash, *satyrus* Cs HR, *californica* Gi Sh, *plexippus* Col Lc. c: *juba*, *menapia*. d: *melinus*, *icarioides*, *acmon* CPX, *cybele*, *chalcedona* CPX. e: *napi* CPX. NOTE: Not all of these 32 spp will be found everywhere, but about 20-25 are likely in all counties. The limiting factor here and in WA is the fogbound coastal counties with a monoculture of Douglas Fir forests and nearly zero sunlight.

SD: *eurytheme*, *cardui*. a: *rapae* Per, *philodice* BH, *pegala* Mnr. d: *melissa* [blue], *tharos*. e: *idalia*, *atalanta*. NOTE: About 25 spp should be found in all counties [see KS note].

TX: This and ND are the worst-known western states, but unlike ND the TX county totals run from 0 to 251 spp [the latter more than any STATES except AZ 333, NM 314, and CO 268]. The bf known from the most TX counties is *C. eurytheme*, 213/254, and only 16 other spp are known from over half of the counties. Want a thousand CRs in a single season? Try the "panhandle" !!!!!

UT: *communis*, *comma*, *sylvanoides*, *zelicaon*, *rutulus*, *multicaudatus*, *beckerii*, *sisymbrii*, *protodice*, *occidentalis*, *napi* CPX, *rapae*, *ausonides*, *sara*, *philodice*, *eurytheme*, *alexandra*, *helooides*, *crysalus*, *behrii*, *sylvinum*, *siva*, *ladon* CPX, *amyntula*, *lygdamus*, *melissa*, *icarioides*, *atlantis* CPX, *mormonia*, *acastus* CPX, *tharos* CPX, *pulchella=pratensis*, *chalcedona* CPX, *satyrus*, *gracilis*, *antiopa*, *milberti*, *atalanta*, *cardui*, *annabella*, *weidemeyerii*, *tullia* CPX, *oetus*, *plexippus*, 44. a: *juba* Wy, *sabuleti* Ka, *heteronea* Wash, *piasus* Sa, *saepiolus* Dv, *cocyta=selenis* Wy, *pallidus* Gr. b: none. c: *machaon=bairdii*, *coronis*, *sthenele* CPX. d: *T. mexicanus*, *telemachus*, *indra*, *eryphon*, *mormo* CPX, *mylitta*, *chryxus*. e: *iole*, *arota*, *acmon*. NOTE: Most of these 62 spp should be found in all counties. A few of them will not be found in Washington Co, but a few others [like *melinus*] will be recorded everywhere, probably within 20 years.

WA: *sylvanoides*, *rutulus*, *rapae*, *helooides*, *mylitta*, *cardui*, *lorquini*, 7. a: *zelicaon* Cw, *satyrus* Fr, *antiopa* Je. b: *sara* Fr Pa., *ladon* Ad Fr, *lygdamus* Pa Wah, *milberti* Cow GH. c: *eurymedon*, *pegala*. d: *melinus*, *atalanta*, *tullia* CPX. e: *augustinus*, *N. californica*, *annabella*. NOTE: As in Oregon and Idaho, about 20-25 species will probably be recorded from all counties.

WY: *communis*, *comma*, *protodice*, *occidentalis*, *rapae*, *philodice*, *eurytheme*, *helooides*, *lygdamus*, *melissa*, *icarioides*, *acmon* CPX, *claudia*, [tharos CPX], *antiopa*, *milberti*, *atalanta*, *cardui*, *tullia* CPX, *plexippus*, 19. a: *garita* BH, *zelicaon* Wa, *ausonides* Go, *alexandra* BH, *coronis* Ui, *chalcedona* CPX Go, *gracilis* Ni, *weidemeyerii* Cm, *pegala* Cbn, *oetus* Go. b: *multicaudatus* Cbn Sw, *saepiolus* Go Ni, *callippe* Go Ni. c: *persius*, *phoebus=smintheus*, *rubida*, *heteronea*, *eryphon*, *Sp. edwardsii*, *pulchella=pratensis*. d: *sylvanoides*, *siva*, *amyntula*, *shasta*, *mormonia*, *ridingsii*, *uhleri*. e: *glandon* CPX, *zerene*. NOTE: These 48 and several other spp should be found in all Wyoming counties, because the continental divide breaks down between MT and CO, allowing both eastward and westward streaming of biota. I predict that OVER 60 species will be found in all 24 counties, surpassing all other western states except AZ, NV and UT. Currently, those all-county species totals are WY 20, AZ 37, UT 44, NV 46 [NM has 19].

FINAL COMMENTS: No species are yet known from all western counties, even if TX is excluded. The best-known is *Colias eurytheme*, known from all but 63 counties. It is also known from all western states, provinces, and northern Mexican states; the ONLY other 3 species sharing that distinction are *Pontia protodice*, *Strymon melinus*, and *Celastrina ladon*. There should be over 20 such species! We have far to go and much to learn, amigos. RES, 1 April 1998.

ARIZONA/CALIFORNIA/NEVADA Butterfly Species. 31st revision. R. E. Stanford. 1 April 1998.

County	Kn 86	Kn 98	Projected	%Known	For 90%	For 95%	County	Kn 86	Kn 98	Projected	%Known	For 90%	For 95%
Apache AZ	135	167	173	97%	0	0	CarsonCy NV	106	117	120	98%	0	0
Cochise	198	242	245	99%	0	0	Churchill	76	84	89	94%	0	1
Coconino	162	178	187	95%	0	0	Clark	121	131	132	99%	0	0
Gila	122	153	162	94%	0	1	Douglas	110	122	125	98%	0	0
Graham	145	174	178	98%	0	0	Elko	111	117	120	98%	0	0
Greenlee	129	152	165	92%	0	5	Esmeralda	80	92	100	92%	0	3
La Paz	45	65	72	90%	0	4	Eureka	85	95	98	97%	0	0
Maricopa	78	122	129	95%	0	1	Humboldt	83	96	98	98%	0	0
Mohave	96	130	144	90%	0	7	Lander	96	101	104	97%	0	0
Navajo	90	146	158	92%	0	4	Lincoln	110	130	135	96%	0	0
Pima	187	208	212	98%	0	0	Lyon	93	107	112	96%	0	0
Pinal	108	127	135	94%	0	1	Mineral	90	97	104	93%	0	2
Santa Cruz	195	215	218	99%	0	0	Nye	116	124	127	98%	0	0
Yavapai	132	146	153	95%	0	0	Pershing	74	85	90	94%	0	1
Yuma	52	71	75	95%	0	1	Storey	73	85	91	93%	0	2
AZ TOTALS:	1874	2296	2406	n/a	0	24	Washoe	117	129	131	98%	0	0
Avg/county:	124.9	153.1	160.4	95.4%	0.0	1.6	White Pine	105	116	118	98%	0	0

AZ,CA,NV Acknowledgments: I thank many for help, especially:
 GTA, RAB, JPB, KD, JFE, CDF, RLL, SOM, JRM, PAO, KR, PJS, JAS, AMS, REW.

NV TOTALS:	1646	1828	1894	n/a	0	9
Avg/county:	96.8	107.5	111.4	96.5%	0.0	0.5

Alameda CA	83	90	93	97%	0	0	Orange CA	98	104	107	97%	0	0
Alpine	97	112	118	95%	0	0	Placer	130	135	138	98%	0	0
Amador	109	115	121	95%	0	0	Plumas	119	129	135	96%	0	0
Butte	106	113	116	97%	0	0	Riverside	136	144	147	98%	0	0
Calaveras	91	105	113	93%	0	3	Sacramento	70	72	73	99%	0	0
Colusa	85	106	108	98%	0	0	S. Benito	69	72	76	95%	0	0
Contra Costa	88	92	93	99%	0	0	S. Bernardino	144	153	156	98%	0	0
Del Norte	72	94	101	93%	0	2	S. Diego	144	147	148	99%	0	0
El Dorado	135	141	142	99%	0	0	S. Francisco	64	69	70	99%	0	0
Fresno	106	123	137	90%	1	7	S. Joaquin	52	55	66	83%	5	8
Glenn	89	99	107	93%	0	3	S. Luis Obpo	93	101	104	97%	0	0
Humbug	86	111	112	99%	0	0	S. Mateo	76	84	87	97%	0	0
Imperial	65	87	90	97%	0	0	Sta.Barbara	92	94	100	94%	0	1
Inyo	143	151	156	97%	0	0	Sta. Clara	91	94	96	98%	0	0
Kern	134	140	143	98%	0	0	Sta. Cruz	80	86	87	99%	0	0
Kings	40	46	67	69%	14	18	Shasta	122	134	137	98%	0	0
Lake	96	105	109	96%	0	0	Sierra	118	127	133	95%	0	0
Lassen	112	124	128	97%	0	0	Siskiyou	131	137	138	99%	0	0
Los Angeles	132	136	138	99%	0	0	Solano	82	90	92	98%	0	0
Madera	80	116	131	89%	2	9	Sonoma	103	111	115	97%	0	0
Marin	78	92	94	98%	0	0	Stanislaus	78	79	83	95%	0	0
Mariposa	126	131	134	98%	0	0	Sutter	54	54	59	92%	0	2
Mendocino	100	103	109	94%	0	1	Tehama	93	113	121	93%	0	3
Merced	40	47	66	71%	13	16	Trinity	110	122	123	99%	0	0
Modoc	106	116	120	97%	0	0	Tulare	142	152	156	97%	0	0
Mono	128	138	141	98%	0	0	Tuolumne	129	134	139	96%	0	0
Monterey	89	92	94	98%	0	0	Ventura	101	109	111	98%	0	0
Napa	93	99	101	98%	0	0	Yolo	76	80	86	93%	0	2
Nevada	127	141	143	99%	0	0	Yuba	75	79	87	91%	0	4
SUBTOTALS:	2836	3165	3325	95.2%	30	59	SUBTOTALS:	2872	3060	3170	96.5%	5	20

CA TOTALS:	Known	6225	107.33 avg/co.	Cf:AZ 152.9,	CO 117.2	NV 107.6	OR 80.4	UT 111.1	WY 104.2.
	Proj:	6495	111.98 avg/co.	KnProj: 95.8% Cf: AZ 95.4%	NV 96.5%	OR 90.6%	UT 92.6%	WY 88.3%	CO 92.6%

Highest county total spp:	Cch AZ 242	SC AZ 215	Pim AZ 208	Cmn TX 201	EP CO 200	Ccn AZ 178	Grn AZ 174
Lowest county total spp:	Kgs CA 46	Mrcd CA 47	Sut CA 54	SJ CA 55	LP AZ 65	SF CA 69	Yuma AZ 71

STATE total species:	AZ 333	CA 243	CO 268	HI 16	KS 184	MT 188	NE 202	NV 207	NM 314	OK 169	OR 161	UT 215	WY 214
-----------------------------	---------------	---------------	---------------	--------------	---------------	---------------	---------------	---------------	---------------	---------------	---------------	---------------	---------------

Boldface denotes poorly-known counties [less than 95% of projection]. HI now 16 spp [add P. sabuleti fide RLL]. [OVER]

COLORADO Butterfly Species, known/projected.							46th revision. REStanford. 5 March 1998.						
County	Known86	Known98	Projected	%Known	For 90%	For 95%	County	Known86	Known98	Projected	%Known	For 90%	For 95%
Adams [p]	68	96	99	97%	0	0	Lake	81	92	103	89%	1	6
Alamosa	59	95	106	90%	0	6	La Plata	136	149	160	93%	0	3
Arapahoe [p]	90	121	123	98%	0	0	Larimer	178	194	198	98%	0	0
Archuleta	130	135	149	91%	0	7	Las Animas	132	158	170	93%	0	4
Baca [p]	60	81	89	91%	0	4	Lincoln [p]	46	84	86	98%	0	0
Bent [p]	31	63	70	90%	0	4	Logan [p]	56	77	92	84%	6	10
Boulder	181	191	196	97%	0	0	Mesa	134	144	148	97%	0	0
Chaffee	127	134	153	88%	4	11	Mineral	65	91	110	83%	8	14
Cheyenne [p]	26	49	54	91%	0	3	Moffat	106	121	132	92%	0	4
Clear Creek	120	143	148	97%	0	0	Montezuma	123	144	154	94%	0	3
Conejos	80	93	107	87%	3	9	Montrose	133	155	158	98%	0	0
Costilla	94	115	125	92%	0	4	Morgan [p]	54	73	81	90%	0	4
Crowley [p]	30	57	62	92%	0	2	Otero [p]	38	68	76	89%	1	4
Custer	150	156	165	95%	0	1	Ouray	115	124	137	91%	0	6
Delta	134	138	145	95%	0	0	Park	133	148	156	95%	0	0
Denver [p]	89	116	118	98%	0	0	Phillips [p]	38	62	69	90%	0	4
Dolores	84	110	134	82%	11	17	Pitkin	114	122	132	92%	0	4
Douglas	147	164	169	97%	0	0	Prowers [p]	73	83	87	95%	0	0
Eagle	112	119	135	88%	3	9	Pueblo	149	157	164	96%	0	0
Elbert [p]	87	132	137	96%	0	0	Rio Blanco	91	115	133	86%	5	11
El Paso	180	200	203	99%	0	0	Rio Grande	70	92	107	86%	4	10
Fremont	166	170	174	98%	0	0	Routt	113	128	136	94%	0	1
Garfield	126	155	159	97%	0	0	Saguache	125	129	141	91%	0	5
Gilpin	144	156	159	98%	0	0	San Juan	60	67	100	67%	23	28
Grand	108	131	138	95%	0	0	San Miguel	90	116	134	87%	7	11
Gunnison	148	154	158	97%	0	0	Sedgwick [p]	66	74	80	92%	0	2
Hinsdale	62	85	108	79%	12	18	Summit	84	104	113	92%	0	3
Huerfano	109	146	158	92%	0	4	Teller	107	136	149	91%	0	6
Jackson	87	102	118	86%	4	10	Washington [p]	41	74	79	94%	0	1
Jefferson	166	183	185	99%	0	0	Weld [p]	86	108	119	91%	0	5
Kiowa [p]	30	45	53	85%	3	5	Yuma [p]	69	82	89	92%	0	3
KitCarson [p]	35	75	83	90%	0	4							
SUBTOTALS:	3260	3910	4180	93.5%	40	118	SUBTOTALS:	2906	3471	3793	91.5%	55	152

TOTALS	Known 86:	6166	Avg/co:	97.87	Cf: NM 97.3, UT 88.5, AZ 124.9, NV 96.8, CA 98.4, WY 81.2, MT 70.5.
	Known 97:	7381	Avg/co:	117.16	Cf: NM 115.7, UT 111.1, AZ 152.9, NV 107.6, CA 107.3, WY 104.2, MT 83.8.
	Projected:	7973	Avg/co:	126.56	Cf: NM 127.1, UT 119.9, AZ 160.3, NV 111.5, CA 111.9, WY 117.9, MT 96.9.
	Known/Projected [% Known]:		92.57%	Cf: NM 91.1, UT 92.6%, AZ 95.4% NV 96.5%, CA 95.8% WY 88.3% MT 86.5%	
	Percent increase in 11 years:		19.51%	Cf: NM 20%, UT 25%, AZ 21%, NV 11%, CA 8.7%, WY 28%, MT 18%	
	STATE species total:		268	Cf: NM 314, UT 215, AZ 333, NV 207, CA 243, WY 214, MT 188.	

The 20 prairie counties [p] alone are now 1619/1746, or 92.7% of projection.

They are now better-known than the mountain counties !!!

Thanks to many, especially FMB, JDE, SLE, MEE, CDF, MSF, PAO, DEP, MGP, RMP, JAS, KAS, ADW,

[print # 6]

Boldface type denotes counties less than 90% of projection [surprised by a few of them]? !!!

Ray E. Stanford, Denver, Colorado [phone 303-377-1332].

ASCENDE OMNEM MONTEM!!

[over]

COLORADO Butterfly County Record Hitlist. 18th revision R. E. Stanford. 5 March 1998.

ADAMS	BENT	progne	viridis	sara	nals	liparops	libya	tulla	eryphon	origenes	sara	liparops	alpheus	battoides	
pahaska	alpheus	theano	meadii	cuprea	HINSD 39	augustinus	edwardsii	uhleri	momo	simius	meadii	sheridanii	juba	enoptes	
viridis	rhesus	CONEJ23	apama	crysalus	pylades	polios	morrisoni	MESA 7	nals	aenus	arota	enoptes	uncas	callippe	
vestris	logan	pacuvius	spinetorum	polios	brizo	mellinus	nevada	themistocli	tharos	crysalus	behrl	spaldingi	pahaska	nycteis	
machaon	vierecki	centaurea	melinus	augustinus	telemachus	ladon	aenus	meadii	virginiensi	sylinum	spinetorum	piasus	sabuleti	californica	
zelcaon	yuccae	scriptura	battoides	mellinus	xanthus	cybele	liparops	titus	ridingsii	mossil	augustinus	idas	themistocli	annabella	
	5 streckeri	catullus	nals	battoides	catullus	eunomia	sheridanii	apama	chryxus	battoides	eryphon	cybele	machaon	21	
ALAMOSA	glaucus	rhesus	batesil	shasta	uncas	frejja	rita	rita		17	pertepida	marina	zerene	sara	WASHING
mexicanus	sisymbrii	morrisoni	myllita	nals	juba	gorgone	idas	idas	MONTRO	13	ladon	frigga	saepium	peckius	
persius	acadicum	viridis	DENVER	coronis	pahaska	nycteis	frejja	nals	streckeri	PHILLIPS	battoides	nycteis	comstocki	yuccae	
xanthus	milberti	yuma	viridis	egleis	sonora	pallidus	whitneyi	MINFR 32	folis	viridis	rita	editha	spinetorum	machaon	
catullus	ridingsii	similus	sabuleti	hydaspe	taxiles	oreas	batesil	pylades	batesil	yuccae	morlmo	sthenele	folis	lygdamus	
alpheus	11	vialis	2	whitneyi	vialis	oreas	pictus	brizo	virginiensi	machaon	coronis	20	augustinus	ldalla	
simius	BOULDER	yuccae	DOLRS 40	batesil	eurymedon	californica	virginiensi	pacuvius		4	liparops	gorgone	S. JUAN	eryphon	satyrus
yuccae	hianna	zelcaon	pacuvius	californica	sisymbrii	virginiensi	pertepida	pirus	MORG 14	exlie	arachne	pylades	ritu	andria	
cuprea	similus	menapia	scriptura	pertepida	hyantis	alberta	callias	morrisoni	numitor	ladon	tharos	brizo	momo	celtis	
spinetorum	yuccae	sheridanii	libya	uhleri	sara	pollixenes	uhleri	viridis	ottoe	lygdamus	batesil	persius	nokomis	8	
polios	L. editha	rita	alpheus	melissa	arota	26	18	nevada	pahaska	cybele	myllita	uncas	zerene	WELD	
amyntula	rita	shasta	pirus	taygete	saepium	JEFFERS	LARIMR 6	themistocli	viridis	ldalla	chryxus	viridis	callippe	ottoe	
piasus	bellona	aphrodite	uncas	ELBRT 8	sheridanii	bimacula	phylace	vestris	peckius	edwardsii	30	themistocli	leanira	viridis	
shasta	pictus	acastus	pahaska	lcelus	spama	rita	hyantis	vialis	vialis	pulchella	RIO GRAN	sylvanoides	acastus	origenes	
aphrodite	pollixenes	virginiensi	viridis	juba	spinetorum	2	exlie	machaon	yuccae	11	lcelus	vestris	myllita	sylvanoides	
whitneyi	8	pegala	nevada	arota	siva	KIOWA 13	hydaspe	zelcaon	streckeri	PITKIN 16	pacuvius	vialis	oreas	bimacula	
faunus	CHAF 32	callias	sabuleti	behrl	mellinus	clarus	pictus	sisymbrii	machaon	clarus	xanthus	machaon	virginiensi	yuccae	
virginiensi	pylades	uhleri	yuma	acadicum	ladon	viridis	theano	alexandra	alexandra	pacuvius	scriptura	multicauda	pertepida	machaon	
annabella	brizo	melissa	vierecki	momo	battoides	rhesus	LAS AN 20	apama	apama	afrauius	alpheus	eurymedon	ridingsii	glaucus	
	18	martialis	COSTILL	vialis	P. comma	enoptes	yuccae	sheridanii	lygdamus	pahaska	morrisoni	menapia	plexippus	menapia	
		afrauius	brizo	indra	celtis	spaldingi	glaucus	pacuvius	spinetorum	icarioides	viridis	rhesus	sisymbrii	30	sisymbrii
ARAPAHOE	catullus	pacuvius	sara	EL PASO	piasus	hyllus	numitor	siva	aphrodite	sisymbrii	themistocli	sara	SEDGWICK	heteronea	
sylvinum	mejcanus	pirus	nivalls	saepium	acmon	comyntas	leonardus	augustinus	OTERO 14	arota	sonora	arota	baptislae	sheridanii	
P. comma	edwardsii	rhesus	saepium	enoptes	momo	rita	sabuleti	spaldingi	scriptura	spinetorum	vestris	heteronea	ottoe	mossil	
	2	peckius	morrisoni	sheridanii	myllita	nals	fulvia	hianna	piasus	leonardus	polios	zelcaon	nivalis	rhesus	neglecta
ARCHULETA	sylvanoides	viridis	comstocki	californica	arachne	pulchella	cassus *	idas	rhesus	eryphon	menapia	crysalus	yuccae	rusticus	
centaureae	hobomok	similus	folis	4	gorgone	milberti	vialis	momo	sabuleti	melinus	sisymbrii	titus	titus	ldalla	
scriptura	hianna	vialis	augustinus	FREMT 6	palla	celtis	zelcaon	nals	logan	momo	sheridanii	behrl	liparops	selene	
morrisoni	vierecki	yuccae	mellinus	xanthus	acastus	ridingsii	eurymedon	frejja	vierecki	californica	polios	saepium	lygdamus	pictus	
snowi	aenus	streckeri	ladon	eos	cocyta	KIT C 13	sara	improba	yuccae	pertepida	eryphon	calanus	aphrodite	P. comma	
streckeri	vialis	nals	rita	scudderii	satyrus	scriptura	scudderii	gorgone	sisymbrii	pegala	amyntula	sylvinum	eurydice	20	
polyxenes	yuccae	fulvia	piasus	selene	oreas	ottoe	cuprea	whitneyi	dione	sthenele	spaldingi	sheridanii	ridingsii	YUMA	
indra	polyxenes	acastus	momo	frejja	ridingsii	peckius	liparops	meadii	acadicum	PROWER	piasus	apama	10	afrauius	
occidental	olympia	satyrus	nals	myllita	plexippus	arogos	piasus	ridingsii	apama	numitor	nokomis	spinetorum	SUMMIT	phyleus	
meadii	californica	archippus	nokomis	GRFLD 7	HUERF 20	hobomok	shasta	mellisa	lygdamus	aurantiacu	selene	siva	ruralls	oslari	
scudderii	liparops	polixenes	callippe	themistocli	afrauius	vialis	coronis	taygete	interrogati	rhesus	frejja	augustinus	vialis	yuccae	
cuprea	sheridanii	16	arachne	yuma	edwardsii	yuccae	frejja	MOFF 18	pertepida	vierecki	fulvia	eryphon	sisymbrii	machaon	
halesus	augustinus	CROWLE	gorgone	marina	origenes	rubida	magdalena	lcelus	OURAY 22	streckeri	acastus	melinus	L. editha	alexandra	
spinetorum	polios	alpheus	batesil	tharos	logan	titus	pollixenes	pacuvius	clarus	acadicum	annabella	amyntula	sheridanii	rubida	
rita	mossil	leonardus	myllita	virginiensi	hianna	ladon	LINC 2	centaureae	horatius	ridingsii	25	battoides	polios	ladon	
shasta	marina	yuccae	satyrus	theano	vierecki	lygdamus	peckius	ruralls	pacuvius	7	ROUTT	enoptes	augustinus	rita	
frejja	callippe	dione	faunus	melissa	yuccae	cybele	tulla	draco	afrauius	PUEBLO	clarus	spaldingi	piasus	aphrodite	
tilania	selene	interrogati	atalanta	GILPIN 4	cuprea	aphrodite	LOGAN 25	themistocli	uncas	xanthus	pahaska	piasus	cybele	annabella	
whitneyi	fulvia	milberti	virginiensi	catullus	dione	LAKE 19	garita	taxiles	pahaska	morrisoni	yuma	melissa	aphrodite	ridingsii	
batesil	gorgone	celtis	archippus	rhesus	hyllus	xanthus	comma	vialis	machaon	draco	taxiles	icarioides	gorgone	12	
coenia	nycteis	ridingsii	pertepida	tharos A	acadicum	communis	ottoe	menapia	indra	logan	menapia	acmon	satyrus		
magdalena	tharos	8	ridingsii	pollixenes	spinetorum	pirus	peckius	meadii	eurymedon	machaon	arota	momo	oreas	TOTALS:	
chryxus	faunus	CUST 15	DOUGLAS	GRAND 12	augustinus	rhesus	hobomok	cuprea	sisymbrii	zelcaon	phlaeas*	nals	uhleri	974	
melissa	archippus	clarus	sabuleti	clarus	selene	themistocli	bimacula	spinetorum	hyantis	scudderii	cuprea	aphrodite	alberta		
	23	CHEY 9	alpheus	arogos	pylades	whitneyi	snowi	similus	halesus	heteronea	spinetorum	arachne	15	AVG/CO:	
BACA	clarus	sonora	napi CPX	brizo	cocyta	sisymbrii	oslari	mellinus	saepium	myllita	polios	gorgone	TELLER	15.5	
alpheus	viridis	vierecki	beckerii	taxiles	interrogati	californica	yuccae	ladon	sheridanii	meadii	momo	nycteis	pylades		
aurantiacu	glaucus	phylace	selene	sisymbrii	bredowii	augustinus	streckeri	batesil	spinetorum	uhleri	11	frigga	martialis	Compare:	
arogos	occidental	machaon	fulvia	hyantis	celtis	mellinus	sisymbrii	faunus	battoides			frejja	catullus	AZ 12.1	
vestris	hyllus	dione	P. comma	calanus	alberta	amyntula	titus	oreas	spaldingi	RIO BLAN	whitneyi	gracilis	juba	CA 7.2	
dione	fulvia	acadicum	andria	sylvinum	JACKSON	ladon	liparops	MONTEZUM	nals	lcelus	uhleri	oreas	origenes	HI zip!!	
hyllus	pulchella	mossil	8	momo	ruralls	piasus	apama	lcelus	batesil	pacuvius	15	atalanta	logan	ID 16.1	
helloides	milberti	marina	EAGL 27	coronis	pirus	callippe	exlie	centaureae	oreas	centaureae	SAGUACI	virginiensi	simius	MT 20.4	
behrl	celtis	frejja	clarus	hydaspe	pahaska	bellona	comyntas	xanthus	pertepida	ruralls	pylades	meadii	aenus	NV 5.9	
mcfarlandi	CL.CRK 8	tharos	pacuvius	californica	vialis	satyrus	rita	scriptura	uhleri	alpheus	pacuvius	ridingsii	oslari	NM 18.9	
edwardsii	catullus	archippus	afrauius	GUNN 6	multicauda	faunus	icarioides	libya	PARK	sabuleti	catullus	plexippus	vialis	OR 13.6	
minuta	rhesus	andria	ruralls	pacuvius	menapia	annabella	fulvia	morrisoni	horatius	taxiles	viridis	54	yuccae	UT 14.1	
pulchella	origenes	meadii	juba	machaon	beckerii	plexippus	pulchella	pahaska	martialis	vialis	vestris	S.MIGUEL	sylvinum	WA 15.0	
rubricata	sara	DELTA 11	viridis	indra	hyantis	jutta	satyrus	scudderii	afrauius	yuccae	vialis	pacuvius	saepium	WY 22.6	
ridingsii	cesonia	pacuvius	sabuleti	mellinus	crysalus	annabella	LA PLATA	saepium	scriptura	menapia	eurymedon	xanthus	liparops		
	14	selene	scriptura	yuccae	battoides	saepium	centaureae	cymela	comstocki	catullus	sisymbrii	hyantis	scriptura	mossil	* * *

IDAHO Butterfly Species.

9th revision.

R. E. Stanford.

5 March 1998.

County	Known 86	Known 98	Projected	% Known	Comment	County	Known 86	Known 98	Projected	% Known	Comment
Ada	70	91	93	98%		Gem	12	42	44	95%	
Adams	83	100	101	99%		Gooding	4	21	36	58%	
Bannock	56	75	90	83%		Idaho	89	102	103	99%	
Bear Lake	85	96	98	98%		Jefferson	11	11	60	18%	
Benewah	23	41	78	53%		Jerome	3	10	36	28%	
Bingham	41	47	65	72%		Kootenai	78	83	85	98%	
Blaine	87	94	98	96%		Latah	91	98	100	98%	
Boise	98	107	108	99%		Lemhi	102	113	114	99%	
Bonner	63	80	85	94%		Lewis	24	43	60	72%	
Bonneville	54	68	73	93%		Lincoln	8	11	36	31%	
Boundary	56	63	85	74%		Madison	1	61	65	94%	
Butte	67	71	75	95%		Minidoka	17	22	36	61%	
Camas	50	52	85	61%		Nez Perce	80	103	104	99%	
Canyon	38	50	55	91%		Oneida	37	47	65	72%	
Caribou	35	97	99	98%		Owyhee	56	80	85	94%	
Cassia	78	83	85	98%		Payette	12	32	40	80%	
Clark	54	67	75	89%		Power	10	18	40	45%	
Clearwater	62	74	87	85%		Shoshone	85	88	90	98%	
Custer	93	96	101	95%		Teton	53	69	71	97%	
Elmore	86	102	103	99%		Twin Falls	49	70	80	88%	
Franklin	86	101	102	99%		Valley	71	89	90	99%	
Fremont	83	90	92	98%		Washington	16	57	68	84%	
SUBTOTALS:	1448	1745	1933	90.3%		SUBTOTALS:	909	1270	1508	84.2%	

TOTALS: Known 86: 2357 Avg/co: 53.57 Cf: WA 59.5, OR 67.5, MT 70.5, UT 88.5, WY 81.2, KS 52.6.
 Known 98: 3015 Avg/co: 68.52 Cf: WA 68.5, OR 80.4, MT 83.8, UT 111.1, WY 104.2, KS 62.9.
 Projected: 3441 Avg/co: 78.20 Cf: WA 77.7, OR 88.8, MT 96.9, UT 119.9, WY 117.9, KS 70.8.
 Known/projected [= % Known]: 87.82% Cf: WA 88.2%, OR 90.6%, MT 86.5%, UT 92.6%, WY 88.3%, KS 88.9%.
 Percent increase in 11 years: 27.80% Cf: WA 28%, OR 21%, MT 19%, NV 11%, UT 25%, WY 28%, KS 20%.
 STATE species total: 165 Cf: WA 144, OR 161, MT 188, NV 207, BC 172, WY 214, UT 215, OK 169, NE 202.
 Highest/lowest counties: 113, 107, 103, 102, 102, 101, 100, 98, 97, 96, 96, 94, 91, 90; 10, 11, 11, 18, 22, 32; others 40-88.
 Counties in bold type are 90% known or better (26/44).

Acknowledgments: For data and other help: Bob Chehey, Nelson Curtis, Don Eff, David Eiler, Scott Ellis, Clifford Ferris, Gary Gier, John Lane, Jim Manning, Stephanie McKown, Clifford Miles, Bob and Thea Pyle, George Stephens, Wayne Wehling.

County Hitlists: These are in the early stages of development. For the "little farm counties" east of Boise, nearly ANY SPECIES would be a county record !!

Ada	[Blank county lists are in preparation.]	Gem	
Adams		Gooding	
Bannock		Idaho	
Bear Lake		Jefferson	
Benewah		Jerome	
Bingham		Kootenai	
Blaine		Latah	afranius, machaon, cuprea, nivalis, titus, gillettii, epipsodea.
Boise		Lemhi	
Bonner		Lewis	
Bonneville		Lincoln	
Boundary		Madison	
Butte		Minidoka	
Camas		Nez Perce	icelus, pacuvius, sabulei, mystic, protodice, rubida, mossi, calippe, egleis, chryxus.
Canyon		Oneida	
Caribou		Owyhee	
Cassia		Payette	
Clark		Power	
Clearwater	eicetorum, packius, machaon, inda, beckeri, protodice, occidentalis, hyemis, cuprea, rubida, heteronea, titus, affinis, sherdani, spinetorum, mossi, polios, eryphon, melinus, piusis, icaroides, morio, calippe, coxyle, gillettii, epipsodea, chryxus.	Shoshone	calillus, machaon, inda, protodice, cuprea, affinis, sherdani, spinetorum, mossi, piusis, egleis, plexippus.
Custer		Teton	
Elmore		Twin Falls	
Franklin		Valley	
Fremont		Washington	

Mar 98

IDAHO Butterfly Species.

9th 8th revision.

R. E. Stanford.

10 January 1998.

County	Known 86	Known 97	Projected	% Known	Comment	County	Known 86	Known 97	Projected	% Known	Comment
Ada 91	70	89 + 11	91 + 2	98%		Gem	12	40 + 11	41 + 2	98%	+ 1
Adams 100	83	85 + 11 + 11 + 11	87 + 14	98%		Gooding 21	4	21	36	58%	
Bannock	56	74 + 1	90	82%		Idaho 102	89	94 + 11 + 11 + 11	95 + 8	99%	
Bear Lake 96	85	94 + 11	98	96%		Jefferson 11	11	11	60	18%	
Benevah	23	28 + 11 + 11 + 11	78	36%		Jerome 10	3	10	36	28%	
Bingham	41	45 + 11	65	69%		Kootenai 83	78	79 + 11 + 11 + 11 + 11	82 + 2	96%	+ 1
Blaine 94	87	93 + 1	98	95%		Latah 98	91	93 + 11 + 11 + 11	94 + 6	99%	
Boise 107	98	107	108	99%		Lemhi 113	102	112 + 1	113 + 1	99%	
Bonner 80	63	74 + 11 + 11	85	87%		Lewis	24	35 + 11 + 11 + 11 + 11	68 - 8	51%	
Bonneville	54	63 + 11 + 11 + 11	73	86%		Lincoln 11	8	9 + 11	36	25%	lowest
Boundary	56	61 + 11	85	72%		Madison	1	61	63 + 2	97%	
Butte	67	69 + 11	75	92%		Minidoka 22	17	21 + 1	36	58%	
Camas	50	51 + 1	87 - 2	59%		Nez Perce 103	80	89 + 11 + 11 + 11 + 11 + 11	90 + 10	99%	+ 5
Canyon	38	50	55	91%		Oneida	37	43 + 11 + 11 + 11 + 11	65	66%	
Caribou 97	35	97	99	98%		Owyhee 80	56	79 + 1	90 - 5	88%	
Cassia 83	78	80 + 11 + 11	82 + 3	98%		Payette 32	12	31 + 1	40	78%	
Clark	54	58 + 11 + 11 + 11 + 11	65 + 10	89%		Power 18	10	16 + 11	40	40%	
Clearwater	62	66 + 11 + 11 + 11 + 11	85 + 2	78%		Shoshone 88	85	85 + 11 + 11 + 11 + 11	86 + 3	99%	+ 1
Custer 96	93	96	98 + 3	98%		Teton	53	64 + 11 + 11 + 11 + 11	67 + 4	96%	
Elmore 102	86	97 + 11 + 11 + 11	99 + 4	98%		Twin Falls	49	70	77 + 3	91%	
Franklin 101	86	97 + 11 + 11 + 11	99 + 3	98%		Valley 89	71	82 + 11 + 11 + 11 + 11 + 11	84 + 6	98%	
Fremont 90	83	85 + 11 + 11 + 11	87 + 5	98%		Washington	16	57	68 +	84%	
SUBTOTALS:	1448	1659	1889	87.8%	90.1%	SUBTOTALS:	909	1202	1467	81.9%	84.2%

TOTALS:

Known 86:	2357	Avg/co:	53.57	Cf: WA 59.5,	OR 67.5,	MT 70.5,	UT 88.5,	WY 81.2,	KS 52.6.				
Known 97:	3012 + 151	Avg/co:	65.02	68.45	Cf: WA 68.0,	OR 78.9,	MT 83.8,	UT 111.1,	WY 104.2,	KS 62.9.			
Projected:	3442 + 78	Avg/co:	76.27	78.23	Cf: WA 75.7,	OR 88.1,	MT 96.1,	UT 119.9,	WY 117.6,	KS 70.8.			
Known/projected [= % Known]:			86.25%	87.51%	Cf: WA 89.9%,	OR 90.6%,	MT 86.5%,	UT 92.6%,	WY 88.2%,	KS 88.5%.			
Percent increase in 11 years:			21.00%	27.8%	Cf: WA 14%,	OR 18%,	MT 17%,	NV 11%,	UT 25%,	WY 28%,	KS 20%.		
STATE species total:			103	+ 11	Cf: WA 144,	OR 161,	MT 187,	NV 207,	BC 172,	WY 214,	UT 215,	OK 168,	NE 207.
Highest/lowest county	112, 107, 10, 11, 16, 21, 21, 21, 26, 47, 43, 48, others (50-97)												
Counties in bold type are 90% known or better (24/44).													

Acknowledgments: For data and other help: Bob Chehey, Nelson Curtis, Don Eff, David Eiler, Scott Ellis, Clifford Ferris, Gary Gier, John Lane, Jim Manning, Stephanie McKown, Clifford Miles, Bob and Thea Pyle, George Stephens, Wayne Wehling.

County Hitlists: These are in the early stages of development. For the "little farm counties" east of Boise, nearly ANY SPECIES would be a county record !! To Gary Gier: Can you get Caribou County over 100 species? !!! Then ... 6 more counties over 100???? Say YES!!

- ALL 4: pylades, [confirm a franus], libya, lineata!, unca, nevada, draco, themistodes, sonora, yuma, westris, iole, phlaeas, diene, myllus, fuliginos, glandor, claudia, aphrodite, edwardsii, bellona, batesii
- Latah: pacuvius, a franus, sabuleti, machaon, cisyntii, hyantis, cuprea, nivalis, titus, affinis, gillettii, ~~stenele~~, epipsodea, chryxus 7(4)
- Nez Perce: icelus, pacuvius, garita, sabuleti, mystic, menapia, protodice, rubida, mariposa, titus, saepium, mossii, polios, eryphon, ~~comis~~, gerene, callippe, egleis, selene, ~~van-album~~, ~~calippe~~, betus, chryxus, 10(6)
- Shoshone: vericetorum, catullus, sabuleti, clodius, machaon, indra, cisyntii, protodice, hyantis, cuprea, rubida, affinis, sheidanii, spinetorum, mossii, piusus, ~~mormo~~, ~~comis~~, egleis, ~~stenele~~, plexippus. 12(7)
- Clearwater: vivalis, ericetorum, catullus, peckius, machaon, indra, beckerii, protodice, occidentalis, hyantis, cuprea, rubida heteroxa, titus, californicum, saepium, affinis, sheidanii, spinetorum, mossii, polios, eryphon, melinus, piusus, icaroides, acmon, mormo, ~~comis~~, callippe, cocyta, gillettii, virginensis, ~~stenele~~, epipsodea, chryxus, plexippus. 27(16)

re-check totals
143

clarify all colias
" S. "acidicum
" M. gryneus CPX
" E. comyntas
" Euphilotes
" Ycaelides
" P. lupini

NEBRASKA Butterfly Species. 11th revision. R. E. Stanford. 1 April 1998.

County	Known 86	Known 98	Projected	% Known	Comment	County	Known 86	Known 98	Projected	% Known	Comment
Adams	42	44	55	80%		Jefferson	26	60	63	95%	
Antelope	4	38	56	68%		Johnson	16	32	69	46%	
Arthur	14	36	55	65%		Kearney	23	36	63	57%	
Banner	47	74	76	97%		Keith	42	67	71	94%	
Blaine	12	40	56	71%		Keya Paha	47	82	84	98%	
Boone	1	19	56	34%		Kimball	17	55	70	79%	
Box Butte	32	44	68	65%		Knox	19	56	61	92%	
Boyd	14	42	61	69%		Lancaster	79	88	89	99%	
Brown	57	79	83	95%		Lincoln	37	73	75	97%	
Buffalo	59	79	81	98%		Logan	12	30	61	49%	
Burt	1	30	60	50%		Loup	0	38	56	68%	
Butler	14	16	57	28%		Madison	7	26	56	46%	
Cass	28	52	63	83%		McPherson	0	34	56	61%	
Cedar	15	38	61	62%		Merrick	1	26	56	46%	
Chase	24	60	65	92%		Morrill	30	64	74	86%	
Cherry	75	88	95	93%		Nance	4	34	55	62%	
Cheyenne	19	72	83	87%		Nemaha	61	74	76	97%	
Clay	9	20	55	36%		Nuckolls	11	31	60	52%	
Colfax	2	35	60	58%		Otoe	27	30	60	50%	
Cuming	38	39	55	71%		Pawnee	20	37	71	52%	
Custer	24	53	60	88%		Perkins	21	48	59	81%	
Dakota	8	48	55	87%		Phelps	24	41	56	73%	
Dawes	102	108	111	97%		Pierce	3	22	55	40%	
Dawson	42	71	74	96%		Platte	76	77	81	95%	
Deuel	32	48	61	79%		Polk	2	24	55	44%	
Dixon	20	36	56	64%		Red Willow	21	37	62	60%	
Dodge	67	69	75	92%		Richardson	41	67	72	93%	
Douglas	86	108	109	99%		Rock	30	37	78	47%	
Dundy	13	48	62	77%		Saline	17	30	60	50%	
Fillmore	14	25	55	45%		Sarpy	49	81	83	98%	
Franklin	4	45	67	67%		Saunders	60	65	78	83%	
Frontier	15	47	62	76%		Scotts Bluff	53	76	78	97%	
Furnas	15	98	99	99%		Seward	11	47	73	64%	
Gage	46	53	76	70%		Sheridan	71	82	88	93%	
Garden	43	73	82	89%		Sherman	5	49	56	88%	
Garfield	1	30	56	54%		Sioux	114	124	125	99%	
Gosper	10	37	56	66%		Stanton	14	43	55	78%	
Grant	29	42	56	75%		Thayer	26	68	70	97%	
Greeley	1	23	56	41%		Thomas	39	57	62	92%	
Hall	11	62	64	97%		Thurston	1	33	57	58%	
Hamilton	5	39	56	70%		Valley	12	30	56	54%	
Harlan	14	52	67	78%		Washington	22	68	71	96%	
Hayes	5	34	61	56%		Wayne	9	15	56	27%	
Hitchcock	3	49	62	79%		Webster	22	39	60	65%	
Holt	24	34	65	52%		Wheeler	0	12	55	22%	lowest
Hooker	4	36	56	64%		York	6	61	63	97%	
Howard	5	43	56	77%							
SUBTOTALS:	1150	2356	3116	75.6%		SUBTOTALS:	1228	2306	3090	74.6%	

[Boldface counties = 90% or more of projection, 31/93].

TOTALS:	Known 86:	2378	Avg/co:	25.57	Cf: SD 24.9,	KS 52.6,	OK 31.3,	TX 31.3,	CO 97.9,	WY 81.2.
	Known 98:	4662	Avg/co:	50.13	Cf: SD 42.4,	KS 62.9,	OK 45.8,	TX 47.1,	CO 117.2	WY 104.3.
	Projected:	6206	Avg/co:	66.73	Cf: SD 62.5,	KS 70.8,	OK 73.8,	TX 89.5,	CO 126.6	WY 118.0
	Known/projected [= % Known]:		75.12%		Cf: SD 67.9%,	KS 88.9%,	OK 62.1%,	TX 52.7%,	CO 92.6%,	WY 88.3%
	Percent increase in 12 years:		96.05%	good !	STATE spp total:	202				

Acknowledgments: NED,PAO,JMR,RCR,JAS,SMS,KAS . Best/worst counties: 124, 108, 108; 12, 15, 16, 19; others 20-99 species.

NEW MEXICO Butterfly Species. 29th revision. R. E. Stanford. 1 April 1998.

County	Known 86	Known 98	Projected	% Known	For 90%	For 95%	County	Known 86	Known 98	Projected	% Known	For 90%	For 95%
Bernalillo	116	123	130	95%	0	0	McKinley	110	114	121	94%	0	1
Catron	132	157	165	95%	0	0	Mora	81	137	151	91%	0	7
Chaves	50	89	102	87%	3	8	Otero	144	143	150	95%	0	0
Cibola	101	104	112	93%	0	2	Quay	44	75	85	88%	2	6
Colfax	120	155	166	93%	0	3	Rio Arriba	143	150	159	94%	0	1
Curry	43	61	70	87%	2	6	Roosevelt	56	67	74	91%	0	3
De Baca	45	57	71	80%	7	11	Sandoval	152	154	159	97%	0	0
Dona Ana	109	119	128	93%	0	4	San Juan	109	117	125	94%	0	2
Eddy	108	126	131	96%	0	0	San Miguel	139	157	162	97%	0	0
Grant	151	161	169	95%	0	0	Santa Fe	120	132	150	88%	3	11
Guadalupe	44	78	90	87%	3	8	Sierra	86	125	139	90%	0	7
Harding	43	78	93	84%	6	10	Socorro	118	125	133	94%	0	1
Hidalgo	137	172	184	93%	0	3	Taos	126	143	155	92%	0	4
Lea	43	50	58	86%	2	5	Torrance	107	112	127	88%	2	9
Lincoln	119	129	140	92%	0	4	Union	96	130	139	94%	0	2
Los Alamo	93	109	135	81%	13	19	Valencia	39	58	87	67%	21	26
Luna	86	115	134	86%	6	12	[Bold co's = less than 95% known].		[STATE total spp:315].				
SUB-T:	1540	1883	2078	90.6%	42	95	SUB-T:	1670	1939	2116	91.6%	28	80
TOTALS: Known 98:	3822	Avg/co:	115.82	Cf: CO 117.2, NV 107.5, CA 107.3, UT 111.1, OR 80.4, WY 104.3.				Thanks to SJC,CDF,GSF,RH,					
Projected:	4194	Avg/co:	127.09	Kn/Proj = 91.13% Cf: CO 92.6, UT 92.6, OR 90.6, AZ/CA/NV 95+.				PAO,KR,JAS,KAS,MET, et al.					

NEW MEXICO Butterfly County Hitlists. 10th edition. R. Stanford/S. Cary. 1 April 1998.

BERNALILL	archippus	ladon	CPX	clyton	interrogatio	arachne	streckeri	nysa	edwardsii	nokomis	meadii	ilavia	TORR	25	scriptura
morrisoni	pegala	carinenta	patrobas	bredowii	weidemeye	occidentali	ursus	interrogatio	aphrodite	uhleri	comyntas	mexicanus	catullus		
rhesus	22	gorgone	17	20	LEA	14	ausonides	proterpia	meadii	interrogatio	melissa	palmerii	tristis	mejicanus	
snowi	CIBOLA	texana	EDDY	HARDING	nessus	hyantis	alcestis	alberta	andria	polixenes	nais	nessus	alpheus		
machaon	clarus	vesta	dorus	clarus	viridis	cesonia	ilavia	uhleri	15	9	elada	alpheus	arene		
eryphon	dorus	mylitta	pittacus	mejicanus	carus	heteronea	comyntas	23	ROOSEVEL	SANTA FE	vesta	aurantiacus	campestris		
spaldingi	ericetorum	annabella	crystalus	alpheus	yuccae	titus	melissa	OTERO	funeralis	meridianus	chalcedona	rhesus	taxiles		
nais	pirus	15	battoides	pirus	multicaud	sylvinum	zela	pacuvius	nessus	xanthus	interrogatio	carus	vestris		
arachne	aurantiacus	DE BACA	rita	morrisoni	alcestis	mcfarlandi	vesta	afranius	carus	scriptura	milberti	woodgatei	vierecki		
cocyta	campestris	meridianus	palmerii	comyntas	augustinus	pulchella	carus	pahaska	alpheus	meadii	campestris	python			
californica	vestris	funeralis	minuta	origenes	theona	fotis	interrogatio	logan	aenus	morrisoni	oetus	simius	simius		
nigrosuffus	hyantis	pahaska	mylitta	taxiles	texana	battoides	archippus	neruus	olympia	comma	24	napi	aenus		
11	augustinus	rhesus	annabella	hianna	vesta	rita	weidemeye	eufala	sara	sylvanoide	SOCORRO	olympia	texanae		
CATRON	rita	vierecki	9	nysa	phaon	spaldingi	aidea	alcestis	ladon	cassus	ceos	calanus	phyllace		
alpheus	mormo	python	GRANT	phylace	interrogatio	piasus	meadii	rita	theona	eos	icelus	eryphon	streckeri		
carus	tharos	simius	leo	yuccae	annabella	mormo	McKINLEY	arachne	nigrosuffus	phylace	persius	rita	philenor		
draco	coenia	oslari	juvenalis	crystalus	rubricata	carinenta	clarus	archippus	elada	archippus	occidentali	polingii	palmerii	machaon	
lunus	meadii	yuccae	xanthus	titus	LINC	18	edwardsii	icelus	archippus	rubricata	hyantis	carus	minuta	rutilus	
eos	14	olympia	scriptura	behrii	zampa	arachne	pirus	11	12	meadii	simius	gorgone	arota		
streckeri	COLFAX	halesus	philetas	calanus	ceos	fulvia	juba	QUAY	SANDOV	8	heteronea	streckeri	tharos	crysalus	
alcestis	nessus	leda	themistocl	ladon	alpheus	lacinia	campestris	alpheus	aurantiacus	sylvinum	comyntas	pictus	leda		
ilavia	aurantiacus	comyntas	edwardsii	battoides	arene	acastus	vestris	numitor	ausonides	mcfarlandi	icarioides	coenia	eryphon		
fotis	eurymedon	ladon	rita	phyleus	tharos	rapae	simius	saepium	augustinus	nais	nigrosuffus	ceranus			
nemesis	sara	theona	napi	mormo	texanae	pictus	augustinus	dione	leda	polios	vanillae	celtis	comyntas		
aphrodite	cuprea	fulvia	rawsoni	vesta	nysa	ancia	nokomis	titus	spaldingi	spaldingi	elada	rubricata	battoides		
archippus	dione	vesta	zela	interrogatio	olympia	interrogatio	pictus	behrii	aphrodite	aphrodite	nigrosuffus	ridingsii	rita		
pegala	rubida	pulchella	leilia	annabella	behrii	coenia	californica	comyntas	nigrosuffus	gorgone	andria	UNION	spaldingi		
13	liparops	mylitta	tullia	weidemeye	eryphon	andria	milberti	ladon	ridingsii	acastus	14	alpheus	lygdamus		
CHAVES	sylvinum	andria	oetus	bredowii	rita	meadii	12	texana	S JUAN	13	tharos	TAOS	20	nysa	melissa
dorus	exile	pertepida	14	ridingsii	spaldingi	ridingsii	MORA	phaon	xanthus	ancia	xanthus	menapia	palmerii		
horatius	rita	rubricata	GUADALUI	25	gorgone	gilippus	meridianus	satyrus	catullus	celtis	scriptura	beckerii	vanillae		
carus	nokomis	pegala	pylades	HIDALG	19	acastus	LUNA	32	nessus	annabella	draco	magdalena	alpheus	occidentali	arachne
vestris	selene	23	telemachus	mexicanus	tharos	clarus	LUNA	32	alpheus	archippus	mystic*	ridingsii	campestris	sara	acastus
phylace	freija	DONA ANA	scriptura	pulverulent	ancia	leo	aurantiacus	bredowii	snowi	uhleri	simius	helloides	texana		
streckeri	mormonia	leo	mejicanus	telemachus	pegala	dorus	origenes	pertepida	aenus	melissa	cassus	spinetorum	pictus		
sisymbrii	magdalena	caicus	alpheus	polingii	meadii	cellus	hianna	ridingsii	oslari	29	streckeri	eryphon	satyrus		
sara	epipsodea	philetas	edwardsii	morrisoni	LOS AL	43	pacuvius	cassus	alexandra	SIERRA	eurymedon	exile	gracilis		
spinetorum	melissa	domicella	morrisoni	uncas	dorus	afranius	streckeri	RIOARRIB/	arota	mexicanus	behrii	comyntas	californica		
polingii	polixenes	uncas	rhesus	woodgatei	meridianus	alpheus	meadii	scriptura	titus	xanthus	augustinus	milberti	milberti		
comyntas	19	viridis	vestris	snowi	horatius	edwardsii	titus	catullus	comstocki	uncas	polios	nigrosuffus	weidemeyer		
ladon	CURRY	pittacus	oslari	taxiles	scriptura	woodgatei	sylvinum	campestris	carinenta	vestris	rita	bredowii	celtis		
mormo	funeralis	exotera	phylace	phylace	catullus	viridis	apama	yuma	nigrosuffus	pittacus	piasus	tullia	meadii		
minuta	nessus	neruus	yuccae	neumoegen	nessus	carus	augustinus	snowi	simius	shasta*	15	oetus			
theona	carus	crystalus	sisymbrii	alpheus	apama	juba	lunus	exile	scudderii	meridianus	napi	vanillae	clarus	49	
gorgone	nysa	alcestis	favonius	apama	juba	lunus	exile	scudderii	meridianus	napi	vanillae	clarus	49		
pulchella	eufala	rawsoni	titus	spinetorum	campestris	edwardsii	battoides	saepium	alpheus	apama	selene	pylades	TOTAL:		
mylitta	yuccae	weidemeye	behrii	xami	sabuleti	simius	rita	fotis	yuccae	mcfarlandi	damoetas*	meridianus	622		
satyrus	multicaud	aidea	ladon	ilavia	sylvanoide	exotera	mormo	rita	polios	augustinus	californica	funeralis	AVERAGE:		
nigrosuffus:	alcestis	leilia	battoides	amyntula	eos	oslari	nais	piasus	rita	eryphon	coenia	afranius	18.85		

OREGON Butterfly Species, known/proj. 15th revision. R.E.Stanford & J.Hinchliff. 5 March 1998.

County	Known86	Known98	Projected	% Known	For 90%	For 95%	County	Known86	Known98	Projected	% Known	For 90%	For 95%	
Baker	100	115	117	98%	0	0	Lake	95	111	114	97%	0	0	
Benton	65	66	68	97%	0	0	Lane	74	93	100	93%	0	2	
Clackamas	72	81	83	98%	0	0	Lincoln	25	43	50	86%	2	5	
Clatsop	40	48	52	92%	0	2	Linn	79	87	93	94%	0	2	
Columbia	35	40	49	82%	4	7	Malheur	55	81	88	92%	0	3	
Coos	25	45	61	74%	10	13	Marion	47	77	83	93%	0	2	
Crook	84	94	99	95%	0	0	Morrow	73	79	91	87%	3	8	
Curry	55	72	89	81%	8	13	Multnomah	50	58	69	84%	4	8	
Deschutes	81	96	108	89%	1	7	Polk	49	56	63	89%	1	4	
Douglas	90	100	110	91%	0	5	Sherman	41	53	69	77%	9	13	
Gilliam	45	56	74	76%	11	14	Tillamook	33	39	49	80%	5	8	
Grant	82	101	110	92%	0	4	Umatilla	86	101	107	94%	0	1	
Harney	90	95	102	93%	0	2	Union	57	83	103	81%	10	15	
Hood River	54	74	89	83%	6	11	Wallowa	88	99	110	90%	0	6	
Jackson	111	119	122	98%	0	0	Wasco	99	102	109	94%	0	2	
Jefferson	95	107	113	95%	0	0	Washingtn	38	48	54	89%	1	3	
Josephine	85	102	109	94%	0	2	Wheeler	68	86	94	91%	0	3	
Klamath	105	127	130	98%	0	0	Yamhill	59	60	64	94%	0	1	
SUBTOTAL:	1314	1538	1685	91.3%	40	80	SUBTOTAL:	1116	1356	1510	89.8%	35	86	
TOTALS: Known:	2894	Avg/co:	80.39	Cf: WA 68.5, ID 68.5, MT 83.8, CA 107.3, NV 107.6, AZ 152.9.				Thank to JH, EJD, CDF, PCH, SJ,						
Projected:	3195	Avg/co:	88.75	Kn/Proj = 90.58% Cf: WA 88.2%, ID 87.6%, MT 86.5%, NV 96.5%.				DVM, PAO, RMP, JAS, KAS, JHS.						

OREGON Butterfly County Hitlists. 7th revision. R. E. S. and J. Hinchliff. 5 March 1998.

County	Species	Count	County	Species	Count	County	Species	Count	County	Species	Count	County	Species	Count
BAKER	persius	1	DOUGLAS	coronis	1	polkenor	juba	1	atlantis	POLK	tillamook	C.occident	WASCO	YAMHILL
palaemon	communis	1	pylades	callippe	1	xanthoides	sara CPX	1	mormonia	persius	propertius	pellidne	ericetorum	icelus
protodice	comma	1	mexicanus	mormonia	1	amyntula	comyntas	10	palaemon	palaemon	phlaeas	palaemon	vialis	philodice
virginiensis	campestris	1	icelus	pallidus	1	multicaudat	pliasus	1	icaroides	MORROW	juba	juba	behrii	campestris
3	sonora	1	mariposa	editha	1	sisymbrii	melissa	1	clarus	philodice	vestris	fulliginosum	yuma	saepium
BENTON	ausonides	1	palaemon	californica	1	ausonides	momo	1	ruralis	C.occident	syvlinum	*californicu	protodice	moisii
*syvlinum	helleoides	1	sheridanii	annabella	1	hyantis	cybele	1	yuma	arota	eryphon	saepium	sheridanii	melinus
saepium	grunus	1	spinetorum	vestris	1	philodice	satyrus	11	clodius	xanthoides	molinus	sheridanii	comyntas	6
moisii	syvlinum	1	amyntula	* vialis	30	heteronea	11	LINN	indra	halesus	comyntas	* grynea	egleis	
eryphon	saepium	1	euptes	beckerii	GRANT	behrii	KLAMATH	beckerii	sisymbrii	syvlinum	saepiolus	augustinus	atlantis	Boldface=
3	grynea	1	idas	protodice	icelus	californicu	catullus	protodice	arota	augustinus	acmon	idas	mormonia	less than
moisii	icaroides	1	philodice	nevada	syvlinum	nevada	xanthoides	napi CPX	eryphon	cybele	momo	ancia	progne	90% knowr
CLACKAMAS	comyntas	1	momo	cuprea	pecklus	spinetorum	C.occident	editha	californicu	saepiolus	faunus	coronis	progne	
communis	saepiolus	1	coronis	xanthoides	mystic	grynea	dumetorum	halesus	saepium	12	bredowii	bellona	12	TOTAL:
johnsoni	icaroides	1	callippe	halesus	machaon	moisii	johnsoni	behrii	affinis	SHERMAN	tulla CPX	acastus	WASH'TN	489
bredowii	acmon	1	atlantis	*dumetorum	hyantis	callippe	5	californicu	grynea	persius	pegala	cocyta	sonora	AVERAGE
3	leanira	1	orsels	euptes	cuprea	atlantis	LAKE	*dumetorum	augustinus	ruralis	nevadensis	pallidus	vestris	13.6
CLATSOP	palla	1	editha	pliasus	sheridanii	satyrus	icelus	egleis	ladon CPX	ericetorum	16	ancia	menapia	
vestris	pratensis	1	faunus	melissa	euptes	virginiensis	ericetorum	sthenele	epithore	campestris	UMATILLA	vau-aibum	P.occident.	
syvlinum	satyrus	1	gracilis	momo	bellona	oetus	machaon	9	pallidus	sabuleti	palaemon	virginiensis	philodice	
grynea	progne	1	progne	17	acastus	epipsodea	indra	MALHEUR	ancia	eurymedon	mystic	archippus	melinus	
amyntula	milberti	28	GILLIAM	pallidus	25	*leanira	25	ruralis	editha	protodice	* rubida	sthenele	icaroides	
acmon	coenia	1	DESCHUTES	clarus	ancia	JACKSON	faunus	syvlinum	sthenele	hyantis	titus	33	progne	
faunus	sthenele	1	clarus	persius	virginiensis	cuprea	5	saepium	19	nivalis	fulliginosum	WALLOWA	virginiensis	COMPARE
6	nevadensis	1	icelus	ruralis	14	rubida	LANE	affinis	MULTNOMAH	titus	californicu	pylades	bredowii	AZ 12.1
COLUMBIA	27	catullus	ericetorum	behrii	mexicanus	eryphon	icelus	fulliginosum	grynea	ericetorum	10	CA	7.2	
icelus	CROOK	vialis	campestris	HARNEY	auretorum	pacuvius	amyntula	communis	californicu	pallidus	nevada	WHEELER	CO	15.5
palaemon	catullus	indra	sabuleti	persius	mormonia	* beckerii	ladon CPX	comma	syvlinum	ancia	sabuleti	ruralis	ID	16.1
campestris	vialis	protodice	yuma	ruralis	5	sisymbrii	* euptes	beckerii	saepium	sthenele	mystic	sabuleti	MT	20.4
sonora	machaon	ausonides	eurymedon	ericetorum	JEFFERSON	* philodice	rita [SR]	syvlinum	affinis	9	hyantis	clodius	NV	5.9
vialis	indra	C.occident	menapia	yuma	protodice	halesus	momo	saepium	* grynea	UNION	rubida	titus	NM	18.9
P. occident.	protodice	heteronea	sisymbrii	clodius	napi CPX	californicu	pallidus	dumetorum	moisii	clarus	behrii	behrii	OR	13.6
syvlinum	shasta	titus	protodice	mariposa	rubida	spinetorum	editha	spinetorum	eryphon	pylades	californicu	saepium	UT	14.1
dumetorum	pallidus	syvlinum	philodice	saepium	titus	polia	coenia	eryphon	amyntula	pacuvius	saepium	affinis	WA	15.0
grynea	archippus	sheridanii	editha	affinis	pliasus	11	battoides	callippe	ericetorum	sheridanii	euptes	pliasus	WY	22.6
melinus	8	johnsoni	rubida	atlantis	sheridanii	lupini	MARION	euptes	pratensis	palaemon	* grynea	pliasus	Total	
acmon	CURRY	comyntas	nivalis	cocyta	moisii	coronis	behrii	saepiolus	editha	garita	augustinus	* Idas	Species	
virginiensis	pylades	euptes	californicu	faunus	ancia	egleis	californicu	coronis	californica	nevada	euptes	selene	for OR:	
bredowii	pacuvius	ancia	syvlinum	archippus	epipsodea	11	dumetorum	zerene	virginiensis	pecklus	selene	ancia	161	
plexippus	palaemon	faunus	saepium	12	9	LINCOLN	spinetorum	mormonia	lorquini	vialis	acastus	editha	[SR = state	
14	columbia	progne	spinetorum	HOOD RIVER	JOSEPHINE	icelus	comyntas	hoffmanni	sthenele	machaon	pallidus	faunus	record]	
COOS	agricola	bredowii	amyntula	pylades	palaemon	propertius	battoides	pratensis	oetus	indra	virginiensis	13	See WASH	
clarus	vestris	epipsodea	saepiolus	pacuvius	mardon	communis	euptes	nevadensis	26	protodice	archippus	18	-END-	
pylades	indra	20	cybele	communis	vialis	palaemon	pliasus	18	hyantis	18				

TEXAS Butterfly Species, known/projected. 12th revision. R. E. Stanford. 1 April 1998.

County	Kn 94	Kn 98	Proj	County	Kn 94	Kn 98	Proj	County	Kn 94	Kn 98	Proj	County	Kn 94	Kn 98	Proj
Anderson	22	52	95	Donley	19	22	52	Kaufman	25	26	97	Real	49	50	110
Andrews	2	11	60	Duval	51	63	110	Kendall	74	74	130	Red River	14	49	90
Angelina	53	82	97	Eastland	15	25	65	Kenedy	67	70	130	Reeves	36	36	110
Aransas	64	76	105	Ector	36	36	75	Kent	28	28	55	Refugio	42	56	110
Archer	4	9	65	Edwards	44	44	110	Kerr	142	142	143	Roberts	3	3	50
Armstrong	45	47	53	Ellis	10	11	95	Kimble	60	74	85	Robertson	20	22	97
Atascosa	43	45	110	El Paso	76	104	110	King	3	3	53	Rockwall	3	22	90
Austin	32	55	97	Erath	11	12	75	Kinney	73	75	110	Runnels	20	20	75
Bailey	9	13	50	Falls	11	11	97	Kleberg	53	53	120	Rusk	52	93	96
Bandera	77	77	120	Fannin	60	60	90	Knox	0	0	53	Sabine	12	68	95
Bastrop	101	102	105	Fayette	73	75	105	Lamar	13	49	90	SanAugustine	12	74	95
Baylor	26	26	62	Fisher	14	14	54	Lamb	9	9	50	San Jacinto	57	76	100
Bee	69	69	105	Floyd	32	32	50	Lampasas	14	32	100	San Patricio	104	110	115
Bell	58	59	97	Foard	6	6	50	La Salle	19	19	110	San Saba	15	36	100
Bexar	171	172	173	Fort Bend	56	71	105	LaVaca	37	52	105	Schleicher	12	12	90
Blanco	73	80	130	Franklin	2	40	90	Lee	22	24	97	Scurry	20	20	53
Borden	16	18	53	Freestone	50	51	95	Leon	33	36	97	Shackelford	21	21	56
Bosque	28	30	95	Frio	55	58	110	Liberty	48	57	102	Shelby	17	57	95
Bowie	71	76	95	Gaines	5	5	53	Limestone	44	44	95	Sherman	11	17	50
Brazoria	78	78	102	Galveston	66	82	102	Lipscomb	7	14	50	Smith	84	91	97
Brazos	33	33	97	Garza	32	40	53	Live Oak	84	85	105	Somervell	25	66	85
Brewster	161	163	164	Gillespie	49	49	90	Llano	57	60	90	Starr	131	152	180
Briscoe	47	50	52	Glasscock	23	24	75	Loving	1	1	70	Stephens	3	10	65
Brooks	34	37	110	Goliad	36	42	105	Lubbock	88	88	89	Sterling	22	37	75
Brown	38	38	75	Gonzales	66	68	105	Lynn	1	2	53	Stonewall	20	21	55
Burleson	22	24	97	Gray	6	15	50	Madison	12	12	97	Sutton	38	39	90
Burnet	46	57	120	Grayson	39	39	90	Marion	31	59	95	Swisher	5	5	50
Caldwell	58	59	105	Gregg	6	95	96	Martin	1	9	60	Tarrant	125	127	130
Calhoun	10	39	105	Grimes	29	30	97	Mason	37	37	85	Taylor	24	25	65
Callahan	16	20	65	Guadalupe	57	59	110	Matagorda	44	46	105	Terrell	67	71	110
Cameron	197	200	210	Hale	12	12	50	Maverick	57	57	110	Terry	0	0	53
Camp	4	31	90	Hall	13	15	50	McCulloch	45	45	90	Throckmorton	0	0	62
Carson	17	22	50	Hamilton	27	33	90	McLennan	65	65	95	Titus	18	40	90
Cass	61	68	95	Hansford	0	15	50	McMullen	21	21	105	Tom Green	66	68	85
Castro	4	4	50	Hardeman	11	11	60	Medina	80	81	110	Travis	162	162	163
Chambers	44	64	102	Hardin	38	80	102	Menard	18	18	85	Trinity	24	55	97
Cherokee	46	67	95	Harris	118	121	123	Midland	2	72	75	Tyler	53	92	102
Childress	12	12	50	Harrison	47	63	95	Milam	24	27	97	Upshur	54	60	93
Clay	5	5	80	Hartley	19	19	50	Mills	6	11	90	Upton	23	23	75
Cochran	18	18	50	Haskell	1	2	55	Mitchell	19	19	65	Uvalde	109	109	110
Coke	14	20	75	Hays	48	54	130	Montague	17	17	85	Val Verde	74	74	110
Coleman	53	53	75	Hemphill	15	16	50	Montgomery	71	73	102	Van Zandt	9	45	97
Collin	30	53	90	Henderson	5	54	95	Moore	21	22	50	Victoria	64	64	105
Collingsworth	10	10	50	Hidalgo	249	251	253	Morris	24	56	90	Walker	56	77	97
Colorado	59	61	105	Hill	30	30	95	Motley	18	18	50	Waller	47	65	97
Comal	133	134	135	Hockley	0	0	50	Nacogdoches	34	86	95	Ward	17	18	75
Comanche	12	27	75	Hood	7	7	85	Navarro	17	17	95	Washington	29	33	97
Concho	32	32	85	Hopkins	2	36	92	Newton	43	66	102	Webb	60	63	120
Cooke	17	38	90	Houston	23	68	97	Nolan	29	29	65	Wharton	36	40	105
Coryell	32	33	95	Howard	32	38	65	Nueces	105	119	121	Wheeler	31	31	50
Cottle	7	9	50	Hudspeth	63	69	110	Ochiltree	0	12	50	Wichita	20	20	70
Crane	12	12	75	Hunt	0	5	90	Oldham	22	23	50	Wilbarger	15	15	70
Crockett	33	33	97	Hutchinson	10	22	50	Orange	27	69	102	Willacy	35	39	130
Crosby	36	36	52	Irion	19	19	75	Palo Pinto	45	46	76	Williamson	46	46	120
Culberson	100	115	120	Jack	14	14	70	Panola	18	50	95	Wilson	45	48	105
Dallam	19	21	50	Jackson	49	63	105	Parker	17	17	93	Winkler	4	8	70
Dallas	122	127	130	Jasper	24	82	102	Parmer	7	7	50	Wise	14	46	90
Dawson	5	5	53	Jeff Davis	147	148	150	Pecos	53	54	110	Wood	5	41	93
Deaf Smith	12	15	50	Jefferson	37	90	102	Polk	66	75	102	Yoakum	1	1	50
Delta	0	39	90	Jim Hogg	27	34	110	Potter	49	50	53	Young	3	3	65
Denton	77	89	120	Jim Wells	39	45	110	Presidio	114	114	150	Zapata	78	79	130
DeWitt	21	23	105	Johnson	14	15	95	Rains	1	35	90	Zavala	38	47	110
Dickens	31	31	53	Jones	16	17	55	Randall	70	70	71	[254 counties]			
Dimmitt	61	62	110	Karnes	23	23	105	Reagan	29	29	75				

SUB-Ts:	2843	3266	5761		2214	2854	5630		2361	2850	5665		2300	2998	5665
Kn/Proj:			0.57	Kn/Proj:			0.51	Kn/Proj:			0.50	Kn/Proj:			0.53

TOTALS:	Kn '94: 9718			Avg/co '94	38.25			Bold = 90% or more known [22 co's].				Total spp:	424	Comments:	
	Kn '97: 11968			Avg/co '97	47.11			Cf: OK 45.8, KS 62.9, NM 115.8.				% Known:	52.7%	[write plainly]	
	Proj: 22721			Proj avg/co	89.45			Cf: OK 73.8, KS 70.8, NM 127.1.				% increase:	22.7%		

UTAH Butterfly Species, known/projected.

29th revision.

R. E. Stanford.

1 April 1998.

County	Known 86	Known 98	Projected	% Known	For 90%	For 95%	County	Known 86	Known 98	Projected	% Known	For 90%	For 95%
Beaver	66	101	113	89%	1	7	Piute	66	99	112	88%	2	8
Box Elder	74	101	110	92%	0	4	Rich	77	97	108	90%	0	6
Cache	94	103	110	94%	0	2	Salt Lake	121	126	130	97%	0	0
Carbon	65	95	107	89%	1	7	San Juan	122	132	135	98%	0	0
Daggett	105	113	118	96%	0	0	Sanpete	64	100	118	85%	6	12
Davis	70	101	109	93%	0	3	Sevier	88	119	125	95%	0	0
Duchesne	81	115	124	93%	0	3	Summit	110	120	129	93%	0	3
Emery	78	112	121	93%	0	3	Tooele	108	118	120	98%	0	0
Garfield	102	114	121	94%	0	1	Uintah	120	125	130	96%	0	0
Grand	101	111	121	92%	0	4	Utah	114	134	138	97%	0	0
Iron	83	108	119	91%	0	5	Wasatch	86	104	119	87%	3	9
Juab	84	112	124	90%	0	6	Washington	124	148	150	99%	0	0
Kane	106	129	136	95%	0	0	Wayne	67	102	114	89%	1	6
Millard	71	102	113	90%	0	6	Weber	63	95	105	90%	0	5
Morgan	57	86	100	86%	4	9							
SUBTOTAL	1237	1603	1746	91.8%	6	60	SUBTOTAL	1330	1619	1733	93.4%	12	49

TOTALS: Known 86:	2567	Avg/co:	88.52	AZ 124.9	CA 98.4	CO 97.9	ID 53.6	NV 96.8	NM 97.3	WY 81.2.	Total spp:	215
Known 97:	3222	Avg/co:	111.10	AZ 152.9	CA 107.3	CO 117.2	ID 68.5	NV 107.5	NM 115.7	WY 104.3	% increase	25%
Projected:	3479	Avg/co:	119.97	KnProj =	92.61%	Cf: AZ 95.4%,	CA 95.8%,	CO 92.6%,	ID 87.6%,	NV 96.5%,	NM 91.1%,	WY 88.3%.

UTAH Butterfly County Hitlists. 5th edition. R. E. Stanford. 1 April 1998.

BEAVER	CACHE	pacuvius	virginiensis	eryphon	sonora	rita	themistocle:	sonora	californica	scriptura	Nym. calif.	sonora	Thanks to:
icelus	pylades	nevada	15	spaldingi	taxiles	shasta	yuma	Sat. calif.	virginiensis	sonora	sthenele	hyantis	GTA, KCB,
afраниus	icelus	sonora	EMERY	acmon	phoebus	glandon	taxiles	shasta	pertepida	yuccae	callias	fuliginosum	LDB, BBB,
xanthus	brizo	cybele	clarus	shasta	eurymedon	virginiensis	streckeri	glandon	pegala	eurymedon	ridingsii	californicum	JPB, FMB,
scriptura	telemachus	freija	brizo	coronis	arota	ridingsii	indra	5	29	Lyc. editha	jutta	acmon	JWB, JMB,
libya	ruralis	virginiensis	persius	titania	affinis	17	eurymedon	SAN JUAN	SEVIER	melinus	melissa	shasta	PLE, SLE,
uncas	uncas	8	catullus	pallidus	battoides	MORGAN	christina	pirus	pacuvius	mylitta	taygete	faunus	JFE, TCE,
nevada	nevada	DAVIS	libya	mylitta	kriemhild	clarus	arota	viridis *	pahaska	8	27	virginiensis	CDF, MSF,
yuma	themistocle	icelus	taxiles	15	faunus	pylades	fotis	acmon	yuma	UTAH	WASH'TN	14	CFG, LPG,
eurymedon	hyantis	garita	christina	IRON	californica	icelus	isola	Eup. editha	eurymedon	scriptura	apama		RFH, JLH,
menapia	fuliginosum	uncas	saepium	pylades	ridingsii	afраниus	acmon	ridingsii	nivalis	nevada	Eup. editha		KCH, JMJ,
rubida	editha	nevada	sheridanii	icelus	19	persius	shasta	5	fotis	themistocle	2	TOTAL:	SJK, PHK,
apama	oreas	draco	augustinus	afраниus	KANE	pirus	mormo	SANPETE	exile	sonora	WAYNE	406	JXL, RLL,
melinus	12	sonora	nokomis	xanthus	persius	uncas	cybele	icelus	archippus	shasta	mexicanus		RHL, CDM,
zerene	CARBON	hyantis	kriemhild	scriptura	libya	nevada	bredowii	pacuvius	pertepida	hydaspes	telemachus	AVG: 14.1	JHM, CAM,
virginiensis	mexicanus	christina	virginiensis	ericetorum	sabuleti	draco	21	afраниus	9	arachne	scriptura		RCM, SJM,
coenia	icelus	arota	pertepida	libya	vierecki	themistocle	RICH	persius	SUMMIT	7	catullus		PAO, WLP,
archippus	pacuvius	saepiolus	pegala	alpheus	polyxenes	sonora	clarus	ruralis	clarus	WASATCH	juba	COMPARE	JAP, FWP,
pertepida	persius	kriemhild	15	garita	cethura	phoebus	pylades	scriptura	uncas	clarus	pahaska	AZ 11.9	JDP, JLR,
pegala	scriptura	faunus	GARFIELD	yuccae	arota	hyantis	icelus	pahaska	phlaeas	pylades	yuma	CA 7.2	KMR, RXR,
19	pahaska	virginiensis	afраниus	streckeri	Chl. calif.	christina	brizo	taxiles	polios	icelus	yuccae	CO 15.5	KXR, PJS,
BOXELDER	nevada	13	catullus	indra	neumoeger	arota	telemachus	yuccae	melinus	pacuvius	streckeri	ID 16.1	JAS, AMS,
icelus	eurymedon	DUCHESN	libya	comstocki	archippus	titus	afраниus	indra	shasta	afраниus	eurymedon	MT 20.1	SMS, SWS,
pirus	hyantis	brizo	alpheus	exile	sthenele	enoptes	uncas	hyantis	frigga	persius	halesus	NV 5.9	TLS, KAS,
garita	christina	pacuvius	aurantiaca	acmon	11	mormo	nevada	christina	editha	uncas	isola	NM 18.9	LJS, SES,
uncas	sheridanii	afраниus	streckeri	virginiensis	MILLARD	kriemhild	hyantis	titus	oreas	themistocle	zerene	OR 13.6	KBT, JWT,
sonora	melinus	ruralis	halesus	archippus	icelus	faunus	saepium	californicum	virginiensis	sonora	leanira	WA 15.0	JBV, ADW,
christina	battoides	scriptura	archippus	ridingsii	afраниus	virginiensis	spinetorum	affinis	archippus	indra	mylitta	WY 22.6	et al.
arota	enoptes	pahaska	pertepida	18	persius	archippus	titania	sheridanii	pegala	fuliginosum	virginiensis		
editha	cybele	nevada	9	JUAB	ruralis	pegala	palla	melinus	sthenele	saepium	pertepida	17	Doodle space:
nivalis	coronis	eurymedon	GRAND	icelus	scriptura	23	faunus	battoides	ridingsii	affinis			[print clearly!]
spinetorum	faunus	titus	clarus	pacuvius	garita	PIUTE	oreas	rita	14	sheridanii	WEBER		Bold type
mormo	virginiensis	fuliginosum	horatius	scriptura	pahaska	icelus	archippus	spaldingi	TOOELE	spinetorum	icelus		means less than
kriemhild	archippus	saepium	pirus	garita	nevada	pacuvius	sthenele	mormo	icelus	polios	persius		95% known.
palla	19	melinus	pahaska	pahaska	eurymedon	afраниus	chryxus	nokomis	Eup. editha	hydaspes	ruralis		
virginiensis	DAGGETT	coronis	viridis	nevada	menapia	xanthus	18	arachne	2	selene	uncas		print # 7
14	brizo	palla	halesus	draco	sheridanii	scriptura	SALT LK	palla	UINTAH	freija	nevada		
	telemachus	spinetorum	themistocle	augustinus	pirus	nevada	faunus	brizo	mylitta	draco			

WASHINGTON B'fly species, known/proj. 4th revision.						R.E.Stanford & J.Hinchliff. 5 March 1998.							
County	Known86	Known98	Projected	% Known	For 90%	For 95%	County	Known86	Known98	Projected	% Known	For 90%	For 95%
Adams	19	49	56	88%	2	4	Lewis	53	65	75	87%	3	6
Asotin	70	93	104	89%	1	6	Lincoln	52	67	74	91%	0	4
Benton	50	60	67	90%	3	5	Mason	56	59	66	89%	1	4
Chelan	104	107	111	96%	0	0	Okanogan	118	118	121	98%	0	0
Clallam	53	57	61	93%	0	1	Pacific	23	39	48	81%	4	7
Clark	47	51	59	86%	2	5	Pend Oreille	83	88	101	87%	3	8
Columbia	94	101	105	96%	0	0	Pierce	65	74	81	91%	0	3
Cowlitz	32	38	54	70%	11	14	San Juan	33	37	47	79%	5	8
Douglas	53	71	76	93%	0	1	Skagit	36	44	63	70%	13	16
Ferry	78	85	95	89%	1	5	Skamania	50	75	94	80%	10	15
Franklin	43	47	57	82%	4	7	Snohomish	45	50	65	77%	9	12
Garfield	58	81	96	84%	6	10	Spokane	81	88	99	89%	1	6
Grant	62	70	74	95%	0	2	Stevens	77	87	97	90%	0	5
Grays Harbor	28	35	48	73%	8	11	Thurston	47	51	59	86%	2	5
Island	26	27	39	69%	8	11	Wahkiakum	29	43	48	90%	0	3
Jefferson	38	50	59	85%	3	6	Walla Walla	47	69	81	85%	4	8
King	67	69	73	95%	0	1	Whatcom	74	75	85	88%	2	6
Kitsap	34	37	50	74%	8	11	Whitman	76	83	99	84%	6	11
Kittitas	108	111	115	97%	0	0	Yakima	115	114	116	98%	0	0
Klickitat	97	107	112	96%	0	0	SUBTOTAL:	1160	1326	1519	87.3%	63	127
SUBTOTAL:	1161	1346	1511	89.1%	57	100	[KNOWN'86: 2321 Avg/co: 59.51 Kn/Proj: 76.6%]						
TOTALS:	Known: 2672	Avg/co: 68.51					Cf.OR90.6% ID 87.6%, MT 86.5%, NV 96.5%, WY 88.3%, UT 92.6%, CO 92.6%.						
	Projected: 3030	Avg/co: 77.69	Kn/Proj= 88.2%										

WASHINGTON B'fly County Hitlists. 2nd edition. R.E.S. and J. Hinchliff. 5 March 1998.														
ADAMS	enoptes	COWLITZ	mormoCPX	vau-album	gryn CPX	mariposa	LINCOLN	annabella	mossii	vialis	nevadensis	saepiolus	saepium	
catullus	coronis	propertius	atalanta	atalanta	mossii	mossii	ericetorum	15	lygdamus	clodius	24	pulchella	johnsoni	
alexandra	zerene	palaemon	mormonia	virginiensis	eryphon	icarioides	nivalls	PEND OR.	icarioides	indra	SPOKANE	progne	eryphon	
nivalls	callippe	sonora	selene	24	lygdamus	acmonCPX	titus	clarus	faunus	multicaudat	pacuvius	virginiensis	melinus	
syvium	pallidus	vialis	atalanta	icarioides	cybeleCPX	callifornicum	ruralls	pegala	menapia	ruralls	bredowii	zerene		
sheridanil	virginiensis	zelicaon	archippus	zerene	zerene	saepium	catullus	plexippus	napi CPX	palaemon	nevadensis	freija		
mormoCPX		menapia	sthenela	hydaspes	hydaspes	comyntas	draco	16	ausonides	lineola	13	palla		
coronis	11	P.occident	16	pulchella	pulchella	saepiolus	themistocle	SKAGIT	alexandra	pecklius	WAHKIAM	epipsodea		
zerene	CHELAN	C.occident	FRANKLIN	GRANT	faunus	chalc CPX	mormoCPX	canadensis	clarus	interior	sonora	persius	nevadensis	
pallidus	propertius	mariposa	clarus	nivalls	callifornica	editha	coronis	beckerli	persius	editha	hyantis	palaemon	17	
chalc CPX	nevada	syvium	sara CPX	fulliginosum	pegala	gracilis	bellona	sisymbrii	juba	heteronea	C.occident	vialis	WHITMAN	
callifornica	gryn CPX	saepium	heteronea	saepium	plexippus	progne	epithore	ausonides	comma	nivalls	interior	mossii	pacuvius	
sthenela	selene	dumetorum	nivalls	affinis	19	21	pulchella	hyantis	sonora	behrli	rubida	lygdamus	persius	
	12	pallidus	gryn CPX	titus	chalc CPX	JEFFRSN	KITTITAS	12	alexandra	vestris	fulliginosum	nivalls	icarioides	palaemon
		archippus	eryphon	syvium	gracilis	clarus	clarus	titus	vialis	callifornicum	titus	acmonCPX	lineola	
ASOTIN		melinus	affinis	antopa	sonora	mardon	MASON	callifornicum	phoebus	dumetorum	gryn CPX	cybeleCPX	pecklius	
pacuvius		6	amyntula	sheridanil	7	vestris	interior	phoebus	mossii	P.occident	gryn CPX	coronis	8	mystic
palaemon	CLALLAM	idas CPX	battoides	vialis	glandnCPX	P.occident	pollos	ausonides	mossii	callidus	WALLA W.	phoebus		
garita	clarus	icarioides	enoptes	GRAYS H.	P.occident	pallidus	idas CPX	aphrodit	C.occident	enoptes	editha	campestris	C.occident	
pecklius	vestris	acmonCPX	coronis	clarus	eurytheme	chryxus	saepiolus	egleis	nivalls	callippe	archippus	sonora	interior	
sonora	vialis	coronis	zerene	persius	syvium	6	acmonCPX	bellona	saepium	palla	sthenela	protodice	editha	
interior	eurytheme	pulchella	callippe	vialis	gryn CPX	KLICKITAT	glandnCPX	pallidus	spinetorum	virginiensis	18	rubida	rubida	
rubida	philon	faunus	pallidus	phlodice	augustinus	palaemon	zerene	editha	augustinus	oetus	STEVENS	heteronea	nivalls	
fulliginosum	tulla CPX	milberti	chalc CPX	eurytheme	mossii	sonora	chalc CPX	plexippus	mossii	plexippus	communis	titus	mariposa	
callifornicum	plexippus	virginiensis	satyrus	gryn CPX	eryphon	yuma	annabella	21	eryphon	32	ericetorum	affinis	spinetorum	
saepium	7	bredowii	oetus	eryphon	cybeleCPX	idas CPX	chryxus	PIERCE	melinus	SNOHO'SH	clodius	sheridanil	comyntas	
mormoCPX	CLARK	nevadensis	17	amyntula	annabella	glandnCPX	plexippus	pylades	saepiolus	propertius	canadensis	mormoCPX	idas CPX	
coronis	propertius	plexippus	GARFIELD	saepiolus	selene	11	icelus	acmonCPX	persius	nivalls	cybeleCPX	saepiolus		
callippe	vialis	27	pacuvius	acmonCPX	plexippus	titanla	OKANOGAN	mardon	glandnCPX	palaemon	syvium	coronis	coronis	
selene	phlodice	DOUGLAS	communis	cybeleCPX	15	progne	sabuleti	vialis	cybeleCPX	comma	sheridanil	callippe	hydaspes	
bellona	syvium	pacuvius	garita	titanla	KING	8	alexandra	syvium	hoffmanni	sonora	melinus	mormonia	egleis	
acastus	saepium	titus	pecklius	chalc CPX	propertius	LEWIS	phlaeas	saepium	pulchella	vestris	mormoCPX	epithore	atlantis	
vau-album	gryn CPX	callifornicum	sabuleti	editha	mossii	pylades	gryn CPX	dumetorum	editha	vialis	coronis	pallidus	mormonia	
virginiensis	mossii	saepium	sonora	faunus	pollos	icelus	4	spinetorum	vau-album	eurymedon	egleis	editha	selene	
annabella	eryphon	mormoCPX	vialis	callifornica	eryphon	propertius	PACIFIC	virginiensis	tulla CPX	phlodice	bellona	callifornica	editha	
	19	acmonCPX	atalanta	sisymbrii	milberti	acmonCPX	mardon	clarus	vidleri	chryxus	eurytheme	pallidus	virginiensis	vau-album
		zerene	annabella	hyantis	atalanta	glandnCPX	vialis	persius	plexippus	nevadensis	C.occident	editha	sthenela	epipsodea
		faunus	epipsodea	interior	annabella	titanla	machaon	palaemon	11	melissa	syvium	progne	epipsodea	26
		progne	8	mariposa	plexippus	7	C.occident	sonora	SAN JUAN	plexippus	dumetorum	archippus	20	
		plexippus	FERRY	titus	plexippus	KITSAP	spinetorum	vialis	clarus	31	spinetorum	sthenela	YAKIMA	
		13	communis	callifornicum	21	propertius	mossii	P.occident	persius	SKAMANIA	mossii	17	WHATCM	campestris
			ericetorum	saepium	ISLAND	persius	pollos	sara CPX	palaemon	persius	saepiolus	THURSTN	persius	gryn CPX
			pecklius	machaon	gryn CPX	clarus	palaemon	saepiolus	philodice	sonora	acmonCPX	pylades	palaemon	vidleri
BENTON	vialis	beckerli	melissa	persius	palaemon	juba	pulchella	eurytheme	vestris	communis	glandnCPX	vialis	nevada	3
heteronea	selene	alexandra	coronis	palaemon	sonora	virginiensis	gryn CPX	napi CPX	catullus	cybeleCPX	C.occident	vestris		
nivalls	acastus	titus	callippe	sonora	vestris	bredowii	mossii	phlodice	campestris	zerene	mariposa	vialis	TOTAL:	
titus	pallidus	saepium	mormonia	vestris	vialis	oetus	lygdamus	eurytheme	mardon	hoffmanni	syvium	C.occident	585	
syvium	virginiensis	sheridanil	selene	clodius	phlodice	plexippus	icarioides	mariposa	sonora	tulla CPX	johnsoni	nastes	AVERAGE	
gryn CPX	6	mossii	cocyta	mariposa	eurytheme	16	acmonCPX	gryn CPX	yuma	pegala	eryphon	syvium	15.0	

WYOMING Butterfly species, known/projected. 24th revision. R. E. Stanford. 1 April 1998.

County	Known 86	Known 98	Projected	% Known	For 90%	For 95%	County	Known 86	Known 98	Projected	% Known	For 90%	For 95%
Albany	139	148	150	99%	0	0	Natrona	52	110	120	92%	0	4
Big Horn	74	98	115	85%	6	11	Niobrara	56	75	91	82%	7	12
Campbell	39	67	81	83%	6	10	Park	102	121	132	92%	0	5
Carbon	115	123	134	92%	0	4	Platte	68	105	121	87%	4	10
Converse	130	135	140	96%	0	0	Sheridan	96	109	121	90%	0	6
Crook	86	100	112	89%	1	7	Sublette	92	113	128	88%	2	9
Fremont	110	139	145	96%	0	0	Sweetwtr	45	63	79	80%	9	13
Goshen	38	75	96	78%	12	16	Teton	122	132	136	97%	0	0
Hot Springs	44	80	107	75%	16	22	Uinta	59	84	103	82%	9	14
Johnson	93	110	122	90%	0	6	Washakie	42	83	106	78%	13	18
Laramie	76	111	135	82%	11	17	Weston	66	91	104	88%	3	8
Lincoln	102	110	126	87%	4	10	Yell'stn NP	102	120	128	94%	0	2
SUBTOTAL:	1046	1296	1463	88.6%	56	103	SUBTOTAL:	902	1206	1369	88.1%	47	101
TOTALS:	Known 86:	1948	Avg/co:	81.17	Cf.MT70.5, ID 53.6, UT 88.5, CO 97.9, NM 97.3, NV 96.8, CA 98.4,	Thank to CDF, PAO, BFC, JPB, JAS, ADW, RLH, RCR.							
	Known 98:	2502	Avg/co:	104.25	Cf.MT83.8, ID 68.5, UT 111.1 CO 117.2, NM 115.7, NV 107.5, CA 107.3.								
	Projected:	2832	Avg/co:	118.00	Kn/Proj = 88.35% Cf.MT86.5% ID 87.6%, UT 92.6% CO 92.6% NM 91.1%, NV 96.5%.								

WYOMING Butterfly County Hitlists. 7th edition. R. E. Stanford. 1 April 1998.

ALBANY	polyxenes	vialis	hianna	sara	napi	interrogatio	hyllus	peckius	acastus	bellona	uncas	sonora	liparops
campestris	rutulus	streckeri	oslari	meadli	sisymbrii	comma	behrii	themistocle	satyrus	acastus	siva	vestris	acidicum
vialis	beckerii	momo	streckeri	pellidne	hyllus	satyrus	fuliginosum	mystic	virginiensis	pallidus	archippus	vialis	augustinus
annabella	sisymbrii	8	phoebus	gigantea	saepium	faunus	saepium	fuliginosum	chryxus	mylitta	6	clodius	ladon
3	rubida	CROOK	machaon	occidentali	liparops	andria	syvlinum	saepium	26	satyrus	UINTA	polyxenes	piasus
	titus	rhesus	polyxenes	phlaeas	acidicum	gillippus	spinetorum	affinis	SHERIDAN	oreas	pacuvius	zelicaon	cybele
BIG HORN	acidicum	campestris	glaucus	cuprea	sheridanii	39	enoptes	sheridanii	pylades	annabella	afranlius	indra	zerene
pylades	isola	similus	menapia	editha	idas	LINCOLN	momo	ladon	icelus	sthenele	catullus	eurymedon	selene
icelus	amyntula	oslari	sisymbrii	nivalis	jutta	pylades	arachne	momo	afranlius	24	pirus	napi	arachne
garita	zerene	streckeri	ausonides	mariposa	20	mexicanus	faunus	napaea	ruralis	SWTWTR	sabuleti	sisymbrii	acastus
uncas	atlantis	polyxenes	titus	titus	LARAMIE	afranlius	17	damoetas	catullus	afranlius	machaon	meadli	satyrus
themistocles	puichella	indra	behrii	fuliginosum	pylades	catullus	NIOBRARA	acastus	uncas	persius	eurymedon	gigantea	progne
sonora	pallidus	napi	liparops	syvlinum	icelus	libya	scriptura	oreas	pahaska	catullus	menapia	C. occider	ridingsii
vialis	satyrus	rubida	acidicum	saepium	juba	uncas	juba	vau-album	themistocle	nevada	arota	phlaeas	22
canadensis	archippus	heteronea	apama	affinis	viridis	nevada	syvlinoides	californica	logan	draco	cuprea	hyllus	
eurymedon	weidemeye	acidicum	mossii	spinetorum	sabuleti	sabuleti	hobomok	annabella	vestris	themistocle	titus	nivalis	YELL. NP
napi	23	piasus	comyntas	eryphon	hobomok	machaon	taxiles	18	indra	yuma	behrii	saepium	clarus
sisymbrii	CARBON	glandon	enoptes	isola	hianna	polyxenes	similus	PLATTE	phlaeas	phoebus	saepium	sheridanii	juba
gigantea	afranlius	cybele	piasus	enoptes	similus	hyantis	streckeri	icelus	liparops	rutulus	syvlinum	affinis	H. nevada
titus	uncas	zerene	shasta	idas	vialis	C. occident	polyxenes	viridis	amyntula	nivalis	augustinus	spinetorum	siva
saepium	sabuleti	acastus	cybele	shasta	yuccae *	gigantea	glaucus	nevada	zerene	titus	melinus	eryphon	melinus
sheridanii	indra	pallidus	callippe	hydaspe	streckeri	arota	menapia	peckius	eunomia	behrii	ladon	enoptes	damoetas
affinis	multicaudat	annabella	ancia	selene	indra	augustinus	rubida	sabuleti	selene	fuliginosum	enoptes	idas	mylitta
melinus	menapia	ridingsii	arachne	titania	glaucus	edwardsii	titus	sonora	damoetas	affinis	piasus	shasta	oreas
ladon	hyantis	19	fulvia *	palla	sisymbrii	frigga	liparops	snowi	faunus	sheridanii	momo	momo	vau-album
enoptes	cuprea	FREMONT	interrogat	satyrus	sara	freiia	acidicum	machaon	magdalena	melinus	cybele	aphrodite	archippus
momo	siva	icelus	andria	faunus	cesonia	editha	isola	polyxenes	20	exille	edwardsii	selene	sthenele
acastus	melinus	libya	meadli	annabella	mexicana	faunus	comyntas	menapia	SUBLETTE	amyntula	coronis	editha	polixenes
oreas	piasus	C. occy	oetus	magdalena	saepium	oreas	ladon	behrii	pylades	enoptes	atlantis	acastus	taygete
californica	momo	saepium	35	ridingsii	liparops	archippus	zerene	sheridanii	catullus	piasus	egleis	satyrus	13
sthenele	aphrodite	syvlinum	HOT SPGS	chryxus	spinetorum	sthenele	callippe	augustinus	libya	glandon	titania	faunus	
ridingsii	californica	ladon	pylades	44	augustinus	callias	puichella	polios	uncas	nokomis *	palla	oreas	
melissa	virginiensis	gorgone	icelus	JOHNSON	polios	theoano	satyrus	mossii	syvlinoides	edwardsii	cocyta	annabella	
polixenes	archippus	virginiensis	afranlius	icelus	exille	jutta	progne	ladon	beckerii	ancia	mylitta	39	
taygete	pegala	oreas	centaureae	ruralis	marina	uhleri	virginiensis	piasus	hyantis	mylitta	chryxus	WESTON	TOTALS:
28	jutta	9	ruralis	catullus	comyntas	27	annabella	shasta	californicum	satyrus	jutta	icelus	542
CAMPBELL	clarus	18	themistocle	rhesus	piasus	NATRONA	andria	glandon	syvlinum	archippus	31	juba	AVG/CO:
			sonora	uncas	carinenta	icelus	meadli	atlantis	sheridanii	27	WASHAKIE	ottoe	22.6
afranlius	CONVERS	persius	syvlinoides	leonardus	cybele	libya	26	mormonia	siva		pylades	campestris	More
persius	mexicanus	scriptura	vialis	logan	editha	rhesus		palla	augustinus		icelus	hobomok	thanks:
leonardus	pirus	numitor *	phoebus	vialis	fulvia *	sabuleti			melinus	TETON	afranlius	arogos	LDB, NSC,
themistocles	leonardus	viridis	eurymedon	polyxenes	acastus	vialis	PARK		ladon	clarus	centaureae	logan	CFG, KR,
vestris	sabuleti	mystic	napi	indra	nycteis	machaon	pylades		momo	pylades	ruralis	polyxenes	RLL, ML,
oslari	hianna	bimacula *	sisymbrii	eurymedon	pallidus	hyantis	catullus		eunomia	juba	themistocle	titus	JSN,KAS.

~~RES~~
PAO
(many typos)
RES

RECOMMENDED TAXONOMIC STRUCTURE OF COLIAS RELEVANT TO IDAHO

- 1 **palaeno** (Linnaeus) 1761 Palaearctic (represented by *p. chippewa* in the New World)
 - A **p. pelidne** Boisduval and Leconte 1829
 - = *labradorensis* Scudder 1862
 - "moeschleri" Grun-Grschimailo 1894 (ab.)
 - "mira" Verity 1911 (ab.)
 - = *baffinensis* Ebner and Ferris 1977
 - B **p. interior** Scudder 1862
 - "nepi" (Barnes and Benjamin) 1926 (female form)
 - = *laurentina* (Scudder) 1876
 - = *vividior* Berger 1945
 - C **p. scudderi** Reakirt 1865
 - D **p. chippewa** W. H. Edwards 1862
 - = *helena* W. H. Edwards 1863 (name preoccupied)
 - "kohlsaati" (Gunder) 1931 (ab.)
 - E **p. minisni** Bean 1895
 - "isni" (Barnes and Benjamin) 1926 (female form)
 - F **p. skinneri** Barnes 1897
 - "neri" (Barnes and Benjamin) 1926 (female form)
- 2 **philodice** Godart 1819
 - A **p. philodice** Godart 1819 (northeastern U.S. & E. Canada)
 - = *dorippe* Godart, 1819
 - = *maria* W. H. Edwards, ~~1994~~ 1994
 - = *notatus*, A. & L. Clark, 1941
 - "anthyale" Hubner 1823
 - "nig" Strecker 1876 (female form, probably aberrant)
 - "virida" Strecker, 1876 (aberration)
 - "alba" Strecker, 1878 (female form, and name unavailable)
 - "miscidice" Scudder, 1889 (female form)
 - "pallidice" Scudder, 1889 (female form)
 - "nigridice" Scudder, 1889 (female form)
 - "lutetincta" Wolcott, 1893 (aberration)
 - "albinic" Skinner, 1898 (Female form)
 - "melanic" Skinner, 1898 (a female form)
 - "nigrina" Strecker, 1900 (a female form)
 - "alba" Rober, 1909 (female form and name preoccupied)
 - "nigrofasciata" Reiff, 1917 (aberration)
 - "rothkei" Reiff, 1917 (aberration)
 - "inversata" Nakahara, 1925 (aberration)
 - "plicaduta" Nakahara, 1925 (aberration)
 - "alba" F. Chermock, 1927 (female aberration)
 - "ehrmanni" F. Chermock, 1927 (aberration)
 - "minor" F. Chermock, 1927 (aberration)
 - "albida" F. Chermock, 1928 (female aberration)
 - "raritus" (Gunder) 1928 (aberration)
 - "aerrata" (F. Chermock) 1929 (female form)
 - "reducta" Dufrane, 1947 (aberration)

- B **p. eurytheme** Boisduval 1852 (completely across the southern U.S.)
 "amphidusa" Boisduval" 1852 (summer form)
 "ariadne" W. H. Edwards 1870 (spring form? - CHECK)
 = californiana Menetries 1855
 = keewaydin W. H. Edwards 1869
 = hybrida Strecker, 1878
 = alberta Bownan, 1942
- C **p. eriphyle** W. H. Edwards 1876 (Rocky Mountains and snd w Canada)
 = hageni W. H. Edwards, 1883
 "autumnalis" Cockerelle, 1888 (autumn form)
 "kootenai" Cockle, 1910 (altitudinal form or eriphyle)
 "nigricosta" (F. Chermock) 1929 (aberration of eriphyle)
 "laurae" (F. Chermock) 1929 (aberration of eriphyle)
 = flava Strecker, 1878
 = vitabunda Hovanitz, 1943
 "pallidissima" Bowman, 1942 (female form of vitabunda)
- 3 **occidentalis** Scudder, 1862
- A **o. occidentalis** Scudder 1862
 = columbiensis Ferris 1973
- B **o. gigantea** Strecker 1900
 = harroweri Klots 1940
 = mayi F. And R. Chermock 1940
- C **o. chrysomelas** Hy Edwards 1877
 = female f. "shastae" Barnes and Benjamin 1926
- D **o. harfordii** Hy Edwards 1877
 = barbara Hy Edwards 1877
 "weavereae" Gunder 1924 (aberration or possible hybrid)
 "martini" Gunder 1931 (ab.)
- E **o. alexandra** W. H. Edwards 1863
 "alba" Strecker 1978 (female form)
 "pallida" Cockrell 1889 (female form)
 = edwardsii W. H. Edwards 1870
 = emilia W. H. Edwards 1870
 "hauti" Barnes and Benjamin 1926 (female form)
 = apache Ferris 1988
- F **o. christina** W. H. Edwards 1863
 "pallida" Cockrell 1888 (female form)
 = astraea W. H. Edwards 1872
 = krauthii Klots 1935
 = pseudochristina Ferris 1989 = wasatchia Gillette 1989 (RES)
 = kluanensis Ferris 1981
 = yukonensis Berger 1986 (nomen nudum)
- 4 **meadii** W. H. Edwards, 1871
- A **m. meadii** W. H. Edwards, 1871
 "medi" (Gunder) 1934 (female form)
- B **m. elis** Strecker, 1885
 "lambillioni" Dufrane, 1947 (female form)
- C **m. lemhiensis** Curtis and Ferris, 1985
- D **m. johanseni** Troubridge and Philip, 1990

Nelson S. Curtis
 Feb. 1998