2002-3 Butterfly Survey

Heil Valley Ranch Open Space

For Boulder County Parks and Open Space

By Jan Chu

November 28, 2003

2003 Butterfly Survey Heil Valley Ranch Open Space

By Jan Chu November 28, 2003

The natural resources at Heil Valley Ranch Open Space are being studied and documented for the purpose of development of a Master Plan. Butterflies are an important part of this survey, small, beautiful and yet significant. Butterfly diversity and populations indicate the vitality of native plants and habitats. This spring I visited three areas of Heil Valley Ranch.

My mission was to continue the development of a baseline inventory of butterflies on Heil Valley Ranch and to help prepare public programs on butterflies. Ten exploratory visits were made to the Ranch in 2002, one visit in 2001. Twenty hours of volunteer time were accumulated in 2003.

Butterflies were identified and listed only in the early season in 2003 at Heil Valley Ranch by this observer. Three new species were observed because of the early season observations in May and June, which were silvery blue, Boisduval's blue and painted lady, all in Plumely Canyon. Summer observations did not occur as planned, because of a death in the family.

Original recorded observations occurred in July and August 1995, by Sara Simonson and Phyllis Pineda, as noted in their report, Field Survey of Boulder County Open Space Hall and Heil Ranches, 1995. The only butterfly records, which I could find in the report, were the rare species, notably Snow's Skipper, Ottoe Skipper and Arogos Skipper. I failed to locate any of these rare butterflies in 2002, for any number of reasons; this observer was not in their specific habitat, or not visiting at the time of emergence and limited flight time of the adults. It is not likely their colony habitats have been disturbed. The absence of these three species may be due to two summers of drought, which took a toll on the number of adults that flew this summer. In 2002, one uncommon Front Range resident, the Hops blue, was found at the mouth of Plumely Canyon, flying above its food plant, the native hops.

In Boulder County, with its wide range of elevations, 195 butterfly species have been identified and confirmed. In Heil Valley, 75 species have been observed and identified over the 3-year period by this observer. Within the open space property, 59 species were observed at the canyon mouth and in Plumely Canyon; 35 species at the Caretaker's residence and Geer Canyon; 21 species on the Lichen Trail, including the dirt roadway; and 20 species were noted on the Red Hill saddle.

A list of butterflies seen on five or more of the ten observation days include the black swallowtail, Western tiger swallowtail, lupine blue, Aphrodite fritillary, Edwards' fritillary, ochre ringlet and taxiles skipper. Chryxus Arctic will likely be seen in 2004, because it typically has a synchronized two-year life cycle and flies here in the even numbered years. There was a well-established colony of garita skipperlings in the saddle of Red Hill, "a short grass prairie knoll," which is its expected habitat, according to Paul Opler (1995). The Rocky Mountain parnassian, found only once, is typically more common at higher altitudes. The visitors, from distant areas, seen only once, were the short-tail black swallowtail, American lady, hackberry emperor, Mexican cloudywing, and orange-headed roadside skipper. These visitors do not

reproduce in this area, since their host plants are absent. The painted lady arrived in June, and it was a surprise to me that I had not seen it during other years.

The western states experienced a continued drought in 2003. An unexpected and heavy 10" snow fell on Heil March 18,19, 2003. On April 2, I found grasses still matted, the ground cold and extremely few flowers beginning to emerge east of the Heil prairie dog colony. One-quarter inch long metallic green beetles were found on that day, by the dozens, mating and depositing masses of yellow eggs on smooth dock, which was still only 4-inches tall and growing in the wet shallow ravine. (Even deeper snowfalls were recorded at the Cal-Wood Outdoor Center, Jamestown (5 ft.), and at Rollinsville (8 ½ ft.)

Recommendations:

- 1. Make additional days of observations of butterflies and other insects to help uncover the tremendous natural resources at Heil. Bi-weekly would be recommended.
- 2. Surveys should begin early in the season in April when there is still snow on the ground, and extend later.
- 3. Locate the rare species and verify the vitality of their habitats.
- Provide a permit for volunteer naturalists (and their associates) to observe and identify butterflies in succeeding years.
- 5. Allow a permit to include a single catch of any unidentifiable species to be removed, given to a professional for certain identification, and placed in the Colorado State University permanent collection, directed by Dr. Paul Opler. (In the heat of the collecting day, it is very difficult to keep a butterfly alive long enough to be "returned within 72 hours".)
- Look for species not yet recorded for Boulder County, i.e. "Amblyscirtes" simius- Simius
 Roadside-Skipper, Megathymus yuccae- Yucca Giant-Skipper, Euphilotes rita- Rita DottedBlue, and Phyciodes picta- Painted Crescent (a stray which lives on bindweed).

Thank you for providing this rewarding opportunity for me and for my associates. Kevin Grady with his enthusiasm assisted many times. My associates in 2003 included Susan K. Harris, Jean Morgan, Catherine and Donn Cook, Carol Cushman, and Larry Crowley. Ray Stanford and Paul Opler are my reliable sources in identifying the butterflies.

References:

Glassberg, Jeffrey. <u>Butterflies through Binoculars, the West</u>. Oxford University Press, 2001. Opler, Paul A. <u>Western Butterflies</u>, Peterson Field Guides. Houghton Mifflin. 1999. Opler, Paul A. and Andrew D. Warren. <u>Butterflies of North America</u>, <u>2.Scientific Names List for Butterfly Species of North America, North of Mexico</u>. November 5, 2002. C.P.Gillette Museum of Arthropod Diversity, Department of Bioagricultural Sciences and Pest Management, Colorado State University, Ft. Collins, CO, 80523

Brock, Jim P. and Ken Kaufman. <u>Butterflies of North America.</u> Houghton Mifflin, 2003. Simonson, Sara and Phyllis Pineda. <u>Field Survey of Boulder County Open Space Hall and Heil Ranches, 1995</u>.

| Butterflies | By Jan Chu | Alegy | 1333 | ALLEY | ALTER | ALT | ATT | ABY | ATT | 33 | | Albana | | A PERSONAL PROPERTY. | ATTEMP | ARLEY | AFFE | ALTER | ASST |
|---------------------------|---|---|--------------|----------|---------------|--------|-----------|----------|---------|----------|--------------|-------------------|-----------|--|-----------------|--------------|----------|------------|---------|
| A. S. A. Carlotte | Observations were made in Geer Canyon, | Observations were made in Geer Canyon, Plumely Canyon, Red Hill, Lichen Trail, Manager's Residence, | | | | | | | | | | | | | AFRICA | | AREST | Alegy | ADY |
| | E. Roadway Prairie Dog Colony and east. | ABY | | AM | 14.3 | AW | A | AW | AV | Ay | | Alle | | | ARM | | Alle | A | ABY |
| Heil Valley Ranch Open | n Space | Geer | r Plumely | Geer | Residence | Plume | ely Red 7 | Hil Red | HilLic | nen TPlu | mely Geer | Plumely | | | E. Roadway | Red Hill | Plumely | ABO | ABY |
| Boulder County, CO | Years: | 2000 | 00 2002 | ALEEN | | | AN | | | 2002 | 2 | 2003 | 2003 | 200 | 2003 (overcast) | | | A | |
| (2) 3 1 1 1 20 | Dates: | . 22-J | une 25-Apr T | 02 9-May | '02 23-May '0 | 2 30-M | Iay 13-J | Jun 20-J | Jun 21- | -Jun 1 2 | /-Jun 11-Jul | l '02 18-July '02 | | | 2-Apr | pr 9-Ma | May 9-Ju | Jun | ABY |
| Parnassius smintheus | Rocky Mtn. Parnassian | 11 | Aller | ATT | AREST | A | x | | ALT | A | | de la | 1 Parn | nassius smintheus | | 1-20 | APE | ALLY | ATTY |
| Papilio polyxenes | Black Swallowtail | | 1 = 1 | | ALBERT | x | x | x | x | x | | | 2 Papil | ilio polyxenes | | | x | A | |
| P. zelicaon | Anise Swallowtail | | 1 | A | - Fat | ALST | 4 2 | SVE | x | 1 IV | | 4 15 15 1 | 3 P. zeli | elicaon | | | HELE | AFRIE | |
| 4 P. indra | Short-tailed Black Swallowtail | | The same | 1 125 | Education | 411 | 1 | | AB | x | | Aleber | 4 P. ind | 2000 | 4 12 4 13 1 | THE STATE OF | ALEST | AT PERSON | A |
| 5 P. rutulus | W. Tiger Swallowtail | | | | 111 | x | ALT | x | x | x | x | Alterial | 5 P. ruti | | 4 10 11/41 | / FLA | x | AVEREN | A THY |
| 6 P. multicaudatus | Two-tailed Swallowtail | | | | | | | | - 40 | | x | x | | nulticaudatus | A BREEF | FER | TE TY | 7 / m/4 | AFEF |
| 7 P. eurymedon | Pale Swallowtail | x | | | | | 1 | 1 | 1 | x | AT LAT | | | urymedon | 150 | -Train | x | | ATT |
| swallowtail sp. | | 4 | | x | 4 | 4 | 4 | 4 | 4 | 4 | | | SW/ | wallowtail sp. | | | - | AFTE | 4 |
| 8 Pontia sisymbrii | Spring White | | | x | | x | | | 1 | 1 | | | 8 Pont | tia sisymbrii | | | | | |
| 9 P. protodice | Checkered White | | 1 5 | ALLY | | | x | x | х (| 0 | | x | 9 P. pro | | | | | | ATTE |
| 0 Pieris rapae | Cabbage White | | | x | x | | | 1 | 1 | x | x | x | 10 Pieris | | ALLEY | ALL X | | | |
| 1 Euchloe ausonides | Large Marble | | ATT | x | | x | 47 | 17 | | | | A | | hloe ausonides | ALTER | ARTY | x | ARREST | 4 19 |
| 2 E. olympia | Olympia Marble | | | | | x | x | 17 | | | | ALBERT ! | 12 E. oly | ympia | | 1 | | ALE III | |
| Anthocharis julia | So. Rocky Mtn. Orangetip | | | x | | | | | | AD | | die Egi | | hocharis julia | | | AL D | ALL | 4 101 |
| | white | | | | | | | | 4 | | | | | | A SHIRE V | x | A X YAR | | 11 - 17 |
| 4 Colias philodice | Clouded Sulphur | x | | | | | 457 | | | x | | | | as philodice | | | | A E II Y | AHV |
| 5 C. eurytheme | Orange Sulphur | x | A Page 17 | | | x | ALT. | | x | A | | | 15 C. eur | COLUMN TO THE PARTY OF THE PART | x/alb | A HE TO | x | BITTO | |
| | sulphur | 4 | | | | 4 | 114 | | | | | | | | | x | A EXTEN | 1 3 14.5-7 | A BU |
| 6 Lycaena heteronea | Blue Copper | ALLEY | | | The state of | | 100 | | | | E FUE | x | | aena heteronea | 4 114 44 | Alleny | Amer | AT THE | 4 |
| 7 Satrium titus | Coral Hairstreak | | | ALIE | | | 460 | 4 | 4 | 47 | 5 47 | x | 17 Satriu | COMPANIE OF THE PARTY. | | E ARE | A | A LATE | 4 |
| 8 S. behrii | Behr's Hairstreak | 1 | ALL HAV | ALLY | A FEFFER | 403 | P | | AMY | x | AHAMAL | | 18 S. beh | | The second | | ALLENY | ARIEN | |
| 9 Callophrys affinis | (W. Green)Bramble Hairstreak | | Alleran | A | A HELLEY | x | ATEN | x | A | x | 43 mg | Agent | - | ophrys affinis | A LETTER! | | 1114 | ALTER | |
| 20 C. eryphon | Western Pine Elfin | | 1 3 7 | x | A | x | | 1 | | F | | | 20 C. ery | | | A STORY | | A LEST | |

Heil Valley Ranch Open Space May 9 June 9 **Heil Valley Ranch Open Space** Plumely Red Hil Red Hil Lichen Plumely Geer Plumely Geer Plumely Geer Residence 21 Strymon melinus Gray Hairstreak 21 Strymon melinus 22 Everes comyntas 22 Everes comyntas E. Tailed-blue 23 E. amyntula 23 E. amyntula W. Tailed-blue 24 Celestrina humulus Hops Blue 24 Celestrina humulus 25 Glycopsyche lygdamus x O Silvery Blue 25 Glycopsyche lygdamus 26 Icaricia icarioides Boisduval's Blue 26 Icaricia icarioides 27 Euphilotes ancilla Rocky Mtn. Dotted-blue 27 Euphilotes ancilla 28 Glaucopsyche piasus 28 Glaucopsyche piasus Arrowhead Blue 29 G. lygdamus 29 G. lygdamus Silvery Blue 30 Lycaeides melissa Melissa Blue 30 Lycaeides melissa 31 Plebejus saepiolus 31 Plebejus saepiolus Greenish Blue 32 P. icarioides 32 P. icarioides Boisduval's Blue 33 P. (lupini) lutzi Lupine Blue 33 P. (lupini) lutzi 34 Euptoieta claudia 34 Euptoieta claudia Variegated Fritillary X Aphrodite Fritillary 35 Speyeria aphrodite 35 Speyeria aphrodite 36 S. edwardsii 36 S. edwardsii Edwards' Fritillary X x 37 S.callippe 37 S.callippe Callippe Fritillary 38 S. hesperis Northwestern Fritillary 38 S. hesperis 39 S. mormonia 39 S. mormonia Mormon Fritillary fritillary sp. fritillary sp. 40 Chlosyne gorgone Gorgone Checkerspot 40 Chlosyne gorgone 41 C. nycteis Silvery Checkerspot 41 C. nycteis 42 C. palla Northern Checkerspot 42 C. palla 43 Euphydryas chalcedona Variable Checkerspot 43 Euphydryas chalcedona Checkerspot X 44 Phyciodes tharos X 44 Phyciodes tharos Pearl Crescent 45 P. cocyta 45 P. cocyta Northern Crescent 46 P. pratensis 46 P. pratensis Field Crescent 47 Polygonia gracilis 47 Polygonia gracilis Hoary Comma Anglewing sp. Anglewing sp. 48 Nymphalis antiopa 48 Nymphalis antiopa Mourning Cloak 49 Vanessa virginiensis 49 Vanessa virginiensis American Lady 50 V. atalanta Red Admiral X 50 V. atalanta

| | eil Valley Ranch Open Space | | Geer | Plumely | Geer | Residence | Plume | ly Red H | il Red H | Ii Licher | Plumely | Geer | Plumely | Heil Valley Ranch O | | Red H:11 | Plumely | |
|-------|---------------------------------|--|-------|-----------|----------|-------------|-------|----------|----------|-----------|------------|------|------------------|-------------------------|-------------|---------------------|-----------------|--|
| | . cardui | Painted Lady | | | 100 | | | | | | 1000 | | | 51 V. cardui | Apr. 2 | | x) | |
| | menitis weidemeyerii | Weidemeyer's Admiral | x | | | Sec. | | x | x | X | x | | x | 52 Limenitis weidemeyer | ii | | × | |
| 53 A | sterocampa celtis | Hackberry Emperor | 1 | 234 75 | | | | 1.3 | | x (wor | n specimen |) | x | 53 Asterocampa celtis | No. | 1 | | |
| 54 C | oenonympha tullia ochracea | Ochre(Common) Ringlet | x | 1000 | 2-12- | x | x | x | х | x | x | | | 54 Coenonympha tullia o | chracea | E P. S. | | |
| 55 C | ercyonis pegala | Common Wood Nymph | | | | 7.4 | 1 | | 10 | 1 | 121 | x | x | 55 Cercyonis pegala | 16.3 | | | |
| 56 C | . oetus | Small Wood Nymph | | | 15.0 | Mark. | 124 | | 1 | | | x | x | 56 C. oetus | 100 | | W. Commercial | Torqueste. |
| 57 E | rebia epipsodea | Common Alpine | x | 1000 | | 147 | - | 700 | 100 | 13 | 12. | | | 57 Erebia epipsodea | 178.1 | | | |
| 58 O | eneis chryxus | Chryxus Arctic | | | x | | | | | 130 | Thou ! | | 0.5 | 58 Oeneis chryxus | 772 | 1000 | - 1181 | SCENE UNI |
| 59 O | . uhleri | Uhler's Arctic | | | | | x | | | | | | | 59 O. uhleri | (7) | | x | |
| | pargyreus clarus | Silver-spotted Skipper | x | | 19.50 | | | | | x | x | x | x | 60 Epargyreus clarus | | | | 5.7 |
| 61 T | horybes pylades | Northern Cloudywing | - | | x | | 14.7 | | | 1 | x | | | 61 Thorybes pylades | | | | |
| 62 T. | mexicana | Mexican Cloudywing | x | (a) | | | | | | | 100 | | | 62 T. mexicana | | | | |
| 63 E | rynnis icelus | Dreamy Duskywing | 100 | | | | x | | | | | | 1 | 63 Erynnis icelus | | | X | |
| 64 E. | persius | Persius Duskywing | | | x | | | | x | | | | | 64 E. persius | 12.113 | 15-5 | X | |
| 65 Py | rgus communis | Common Checkered-skipper | | | | | | | - | x | | | | 65 Pyrgus communis | | 1111 | 4 - | Call to the |
| 66 Pi | runa pirus | Russet Skipperling | | | | | | | | | x | | | 66 Piruna pirus | | 111111 | | Francisco de St |
| 67 O | arisma garita | Garita Skipperling | | | | | | x | x | x | x | | | 67 Oarisma garita | | | | |
| 68 H | esperia pahaska | Pahaska Skipper | | | | | | | x | x | | | | 68 Hesperia pahaska | | | | |
| 69 H | . viridis | Green Skipper | | | | The Total | | | | - | x | | THE STATE OF THE | 69 H. viridis | | | | |
| 70 Pc | olites themistocles | Tawny-edged Skipper | x | | | | | | x | | | | | 70 Polites themistocles | 11/11/11/11 | | | |
| 71 P. | mystic | Long Dash | x | | - | | | | | x | 1 - 1 | 1 | 1. 17 | 71 P. mystic | | 100 | | |
| 72 O | chlodes sylvanoides | Woodland Skipper | | 100 | | | | | | | | x | | 72 Ochlodes sylvanoides | EDATE | | The Late | |
| 73 Pc | panes taxiles | Taxiles Skipper | | | | | | | x | x | x : | x | x | 73 Poanes taxiles | 71 - 40 | | | per de la constante de la cons |
| 74 E | iphyes vestris | Dun Skipper | | | 10 | 10-17 | | | | | x | x | x | 74 Euphyes vestris | | | | |
| - | mblyscirtes phylace | Orange-headed Roadside Skipper | | 100 | 100 | 17/4 | | 10.0 | | 1 | | x | Lan I | 75 Amblyscirtes phylace | | | | |
| S | kipper species | The state of the s | | | 100 | | x | x | | | 18 - | | 1 | skipper species | | | | |
| 10 | | O=Ovipositing on Wild Alyssum | | | | | | | | | | | P.B. D | | | | O-ovipositing o | n a lupine bud (phot |
| | | W=West. Rattlesnake drinking - photo | | | 1 | | 1 1 | | | 12 | | | W. | | | | | |
| | 2.7 | D= Digger Bee colony - photo | 4.7 | | | | | | | | | | D. | | | May 9 no sightin | gs | |
| The o | rder of butterflies listed foll | ows the "Butterflies of North Am | erica | 2. Scient | tific Na | mes List fo | or Bu | tterfly | Spec | ies of | No. Am | ." | | 7, 2 | | | | 70 |

| ield notes: April 2, 2003 6 | 8 deg. F. Walked past prairie dog colony. Grasses were still packed down after the 10" of snow |
|-----------------------------|--|
| | which fell March 18-19, 2003. Only few flowers in bloom: tiny yellow mustard, Easter daisy, dandelion. |
| | Many Easter Daisies near bridge , facing SW on bike trail. |
| | Metallic green beetles mating depositing masses of yellow eggs on smooth doc. (Took photos) |
| May 9, 2003 47 deg. F. V | Valked Red Hill saddle and canyon. Frost last night. Rained out at 11:17 A.M. |
| | Sand lilies, bladderpod Physaria bellii, puccoon, Oxytrophis sp. locoweed, vetch, Alyssum parviflorum, buttercup |
| | salt&pepper parsley, wallflowers, spring beauty, filaree, Ipomopsis, paintbrush |
| June 9 60 - 73 deg. F. \ | Walked to the top of the old Plumely Road. Pulled knapweed and toadflax with Kevin Grady. |

| Butterflies | By Jan Chu |
|------------------------------|--------------------------------|
| | 2003 |
| Heil Valley Ranch Open Space | |
| Boulder County, CO | |
| | |
| Parnassius smintheus | Rocky Mtn. Parnassian |
| Papilio polyxenes | Black Swallowtail |
| P. zelicaon | Anise Swallowtail |
| P. indra | Short-tailed Black Swallowtail |
| P. rutulus | W. Tiger Swallowtail |
| P. multicaudatus | Two-tailed Swallowtail |
| P. eurymedon | Pale Swallowtail |
| | swallowtail sp. |
| Pontia sisymbrii | Spring White |
| P. protodice | Checkered White |
| Pieris rapae | Cabbage White |
| Euchloe ausonides | Large Marble |
| E. olympia | Olympia Marble |
| Anthocharis julia | So. Rocky Mtn. Orangetip |
| • | white sp. |
| Colias philodice | Clouded Sulphur |
| C. eurytheme | Orange Sulphur |
| • | sulphur sp. |
| Lycaena heteronea | Blue Copper |
| Satrium titus | Coral Hairstreak |
| S. behrii | Behr's Hairstreak |
| Callophrys affinis | (W. Green)Bramble Hairstreak |
| C. eryphon | Western Pine Elfin |
| Strymon melinus | Gray Hairstreak |
| Everes comyntas | E. Tailed-blue |
| E. amyntula | W. Tailed-blue |
| Celestrina humulus | Hops Blue |
| Glycopsyche lygdamus | Silvery Blue |
| Icaricia icarioides | Boisduval's Blue |
| Euphilotes ancilla | Rocky Mtn. Dotted-blue |
| Glaucopsyche piasus | Arrowhead Blue |
| G. lygdamus | Silvery Blue |
| Lycaeides melissa | Melissa Blue |
| Plebejus saepiolus | Greenish Blue |
| P. icarioides | Boisduval's Blue |
| P. (lupini) lutzi | Lupine Blue |
| Euptoieta claudia | Variegated Fritillary |
| Speyeria aphrodite | Aphrodite Fritillary |
| S. edwardsii | Edwards' Fritillary |

| S.callippe | Callippe Fritillary |
|-----------------------------|--------------------------------|
| S. hesperis | Northwestern Fritillary |
| S. mormonia | Mormon Fritillary |
| | fritillary sp. |
| Chlosyne gorgone | Gorgone Checkerspot |
| C. nycteis | Silvery Checkerspot |
| C. palla | Northern Checkerspot |
| Euphydryas chalcedona | Variable Checkerspot |
| | Checkerspot sp. |
| Phyciodes tharos | Pearl Crescent |
| P. cocyta | Northern Crescent |
| P. pratensis | Field Crescent |
| Polygonia gracilis | Hoary Comma |
| | Anglewing sp. |
| Nymphalis antiopa | Mourning Cloak |
| Vanessa virginiensis | American Lady |
| V. atalanta | Red Admiral |
| V. cardui | Painted Lady |
| Limenitis weidemeyerii | Weidemeyer's Admiral |
| Asterocampa celtis | Hackberry Emperor |
| Coenonympha tullia ochracea | Ochre(Common) Ringlet |
| Cercyonis pegala | Common Wood Nymph |
| C. oetus | Small Wood Nymph |
| Erebia epipsodea | Common Alpine |
| Oeneis chryxus | Chryxus Arctic |
| O. uhleri | Uhler's Arctic |
| Epargyreus clarus | Silver-spotted Skipper |
| Thorybes pylades | Northern Cloudywing |
| T. mexicana | Mexican Cloudywing |
| Erynnis icelus | Dreamy Duskywing |
| E. persius | Persius Duskywing |
| Pyrgus communis | Common Checkered-skipper |
| Piruna pirus | Russet Skipperling |
| Oarisma garita | Garita Skipperling |
| Hesperia pahaska | Pahaska Skipper |
| H. viridis | Green Skipper |
| Polites themistocles | Tawny-edged Skipper |
| P. mystic | Long Dash |
| Ochlodes sylvanoides | Woodland Skipper |
| Poanes taxiles | Taxiles Skipper |
| Euphyes vestris | Dun Skipper |
| Amblyscirtes phylace | Orange-headed Roadside Skipper |
| , , , | skipper species |