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**RAPID ASSESSMENT OF INVERTEBRATE FAUNA OF THE KONA FOREST UNIT
OF HAKALAU NATIONAL WILDLIFE REFUGE**

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I. EXECUTIVE SUMMARY

This report details a large, but preliminary, collection of insects from the Kona Forest Unit of the Hakalau National Wildlife Refuge. Visits to the Refuge were carried out by vehicle from July 1999 until October 2000 when the survey was interrupted by loss of road access to the Refuge. The purpose of this survey was to inventory endemic insect taxa likely to respond to future forest restoration efforts, including the removal of feral ungulates from the Refuge. Additionally, selected alien insect species were also collected. Before the inventory was undertaken, 296 historical species records were compiled for the South Kona region. Using this list and other summaries for the Island of Hawai'i, nine groups of endemic insects were targeted, including 4 genera of beetles; pomace flies; yellow-faced bees; 2 genera of moths; and Hawaiian damselflies. These target groups were chosen because species richness within these taxa increases the opportunity for documenting changes in native insect communities as a consequence of resource management activities. Many of these groups also contain Fish and Wildlife Species of Concern or Candidate Endangered Species. Survey work was initiated over 750 m long contour transects at 500 m intervals between 762 m and 1676 m elevation. A total of 1683 specimen lots comprising a total of 9330 individual specimens were collected and analyzed. Among alien invertebrates of concern that were detected, yellowjacket wasps were widely established in the Refuge and their populations underwent seasonal outbreaks typical of other mesic forest populations on the island. Three scientific publications so far have directly resulted from the analysis of native insect taxa from the Refuge and specimen data has also contributed to one comprehensive taxonomic monograph. One interesting finding is the occurrence of the 'ohe leafroller, *Omiodes asaphombra*, at light traps on the refuge. This endemic moth was once thought to be extinct and has only been found breeding on 'ohe, or *Joinvillea ascendens*. This indigenous plant is very rare on the island of Hawaii and has not been recorded from the refuge or anywhere on the west side of the island. The most significant finding of this project was the discovery of a population of the rare picture-wing pomace fly, *Drosophila heteroneura*. *Drosophila heteroneura* is a Candidate Endangered Species found only on the Island of Hawai'i. Images of the hammer-headed males of this pomace fly have frequently been used to illustrate the uniqueness of Hawai'i's insect fauna and *D. heteroneura* has been one of the most intensively researched native insects in the state. However, the fly now appears to be extirpated from all of its previously known historical range. The observations of *D. heteroneura* on the Refuge are the first observations of this species in the wild in approximately ten years. As of 1999, the Refuge supported the only known extant population of this unique Hawaiian picture-wing fly. It is recommended that management of the Kona Forest Unit to foster preservation of this and other rare Hawaiian insects should include suppression of alien yellowjacket wasps.

II. INTRODUCTION

A. Purpose of Rapid Assessment

It is widely recognized that invertebrates play a key role in ecosystem processes in Hawai'i and elsewhere. However, due to the huge diversity of invertebrates present in any particular area, unbounded surveys of all invertebrate taxa are, by nature, very labor intensive. Generally, when conducting these types of broad surveys, it is not feasible to identify all (or even most) of the specimens to the species level, making it difficult to separate diversity into native and alien components, or to assess the status of certain rare species. When broad collecting techniques are employed in an area, surveyors are typically faced with more specimens than they can identify or curate, resulting in a backlog of unidentified or unsorted specimens.

As an alternative to all-encompassing surveys, recent focus has been placed on rapid assessments of invertebrate fauna. A rapid assessment is an attempt to approximate the relative richness of invertebrate species in an area without directly counting the number of species present. Oliver and Beattie (1996) explored cost-effective survey methods for invertebrates, and mentioned five potential approaches to rapid assessment: (1) the use of target taxa in place of all taxa; (2) the use of restricted sampling in place of intensive sampling; (3) the use of morphospecies in place of true species; (4) the use of taxonomic ranks other than species (e.g. families or orders); and (5) extrapolation of species accumulation functions to estimate true species richness.

For the present survey, we utilized methods (1) and (5) above. Oliver and Beattie (1996) found that, although focusing on a single group of insects did not provide consistent richness estimates, using several taxa as surrogates was useful in comparing invertebrate diversity. Colwell and Coddington (1994) explored different methods of extrapolating species accumulation curves to estimate true species richness. We employed a combination of these techniques, targeting nine genera of endemic insects, to serve as "surrogate" taxa representing all native insects, and extrapolating species accumulation curves to estimate the completeness of our surveys and the relative species richness between sites on the Refuge. Because our efforts were focused on groups that contained species of concern, we were also able to assess the status of individual species that might be particularly threatened.

B. Target Genera

Nine groups of endemic insects were targeted: *Proterhinus* (Coleoptera: Aglycyderidae), *Plagithmysus* (Coleoptera: Cerambycidae), *Rhyncogonus* (Coleoptera: Curculionidae), *Eopenthes* (Coleoptera: Elateridae), *Drosophila* (Diptera: Drosophilidae), *Hylaeus* (Hymenoptera: Colletidae), *Omiodes* (Lepidoptera: Crambidae), *Scotorythra* (Lepidoptera: Geometridae), and *Megalagrion* (Odonata: Coenagrionidae). These target groups were chosen because species richness within these groups and abundances of species within these groups are likely to respond to forest recovery following the removal of feral ungulates. Many of these groups also contain species of concern (Table 1).

Table 1. Attributes of invertebrate target genera (based on Nishida, 1997). CE = USFWS Candidate Endangered Species; SOC = USFWS Species of Concern.

Order	Family	Genus	Species in Hawai'i	Species on Hawai'i Island	CE from Hawai'i Island	SOC from Hawai'i Island
Coleoptera	Aglycyderidae	<i>Proterhinus</i>	177	23	0	0
Coleoptera	Cerambycidae	<i>Plagithmysus</i>	140	39	0	12
Coleoptera	Curculionidae	<i>Rhyncogonus</i>	47	2	0	1
Coleoptera	Elateridae	<i>Eopenthes</i>	34	3	0	2
Diptera	Drosophilidae	<i>Drosophila</i>	389	141	5	0
Hymenoptera	Colletidae	<i>Hylaeus</i>	61	28	0	17
Lepidoptera	Crambidae	<i>Omiodes</i>	23	19	0	10
Lepidoptera	Geometridae	<i>Scotorythra</i>	38	20	0	0
Odonata	Coenagrionidae	<i>Megalagrion</i>	23	7	2	2

***Proterhinus* (Coleoptera: Aglycyderidae)**

Host plants: *Acacia koa*, *Aleurites moluccana*, *Antidesma* spp., *Bobea* spp., *Broussaisia arguta*, *Chamaesyce* spp., *Cibotium* spp., *Coprosma* spp., *Cyrtandra* spp., *Gossypium* spp., *Hedyotis* spp., *Hibiscadelphus* spp., *Lipochaeta* spp., *Metrosideros polymorpha*, *Myoporum sandwicense*, *Perotettia sandwicensis*, *Pipturus albidus*, *Psychotria* spp., *Sophora chrysophylla*, *Wikstroemia* spp.

Weevils from the genus *Proterhinus* are tiny, slow-moving beetles, most of which inhabit dead twigs and stems of woody plants. Larvae of this genus tend to be very host-specific, utilizing one or a few species of plants. It is not entirely clear how host-specific adult *Proterhinus* beetles are; they are more mobile than larvae, and may therefore be less restricted to specific host plants (Swezey, 1938). Therefore, collection of an adult beetle on a particular plant does not imply that the beetle was utilizing that plant as a host. The genus *Proterhinus* is found only in the Hawaiian Islands, and there is a high degree of island endemism in the group; most species are found on only one island (Nishida, 1997).

Taxonomically, *Proterhinus* is a very troublesome genus. Although tiny, these beetles exhibit a large amount of both interspecific and intraspecific morphological diversity, as well as sexual dimorphism, making species-level determinations very difficult (Perkins, 1900). Even sorting specimens into distinct morphotypes is not always straightforward. Although there have been over 170 species described, it is estimated that there are as many as 250 endemic species in the islands (Howarth and Mull, 1992). In this survey, “best guess” determinations have been made for all *Proterhinus* specimens collected, based on available keys, host plant records, and comparison with identified specimens at the Bishop Museum.

Due to the high degree of specificity of *Proterhinus* larvae, it is very likely that beetle species occurring on rare host plants will be rare themselves. Because of this specificity and diversity, *Proterhinus* weevils may potentially be used as indicators of success for habitat-based

conservation initiatives, in which their presence or absence may serve as a measure of the health and ecological function of host plant populations.

***Plagithmysus* (Coleoptera: Cerambycidae)**

Host plants: nearly all trees and large shrubs.

Long-horned beetles in the genus *Plagithmysus* are much larger than *Proterhinus* weevils, and are often very showy and active. Perhaps due in part to its diversity of size and color variations, this group has been fairly well studied, and there is a good deal of knowledge regarding host relationships (Gressitt and Davis, 1969).

Like the *Proterhinus* weevils, *Plagithmysus* beetles tend to be very specific in their larval host preference. Adults lay eggs in recently fallen (or in some cases, still living) branches. This results in a very narrow window of opportunity, as wood that is too old will not support the larvae. *Plagithmysus* larval development tends to be slow; some larvae take more than a year to develop into adults, depending on the size of the beetle and the nutrient content of its food source.

Because they often utilize only wood of a certain age and species, populations of *Plagithmysus* beetles must have access to sufficiently large populations of host plants. If a given beetle species breeds in recently fallen trees of a given plant species, there must be enough plants of that species to ensure a steady supply of dead or dying wood. Some species of *Plagithmysus* attack living trees, usually killing a portion of the tree in the process of feeding on it.

An unfortunate drawback of surveying for these beetles is that it relies heavily on rearing adults from host material. This requires that surveyors locate host plants in the proper state of decay, bring portions of these plants into the laboratory, and rear adults from the plant parts. Although the actual rearing of insects from wood samples is easily accomplished, the chances are slim of locating natural falls of many different host plants. One way to circumvent this problem would be to actively cut branches from plants, leave them exposed to the elements (and potential oviposition), and then bring them back to the laboratory for rearing. This would not be a feasible or advisable procedure when dealing with rare plant species.

***Rhyncogonus* (Coleoptera: Curculionidae)**

Host plants: *Acacia koa*, *Bidens* spp., *Broussaisia arguta*, *Chenopodium oahuense*, *Dodonaea viscosa*, *Nestegis sandwicensis*, and many others.

On Hawai'i Island, the genus *Rhyncogonus* is represented by only two described species, *R. giffardi* and *R. stellaris*. Little is known about either species, which have been collected from a few localities in Kona. The former is known from only two specimens collected at Pu'u Wa'awa'a in 1917 and 1937; its host is unknown. The latter has been collected from several localities in the area of Waikoloa and Pōhakuloa, most recently in 2002, on *Bidens* and *Chenopodium* (Samuelson, 2003).

Generally, *Rhyncogonus* are nocturnal leaf-feeders, likely burrowing into leaf litter or soil during the day. As such, surveying for these beetles is best conducted by examining foliage at night, with headlamps (Al Samuelson, pers. comm.).

***Eopenthes* (Coleoptera: Elateridae)**

Host plants: visits blossoms of native plants, including *Metrosideros polymorpha*.

The genus *Eopenthes*, endemic to the Hawaiian Islands, is a large genus of click beetles. They are generally restricted to mountain regions where native vegetation is dominant (Van Zwaluwenburg, 1959). The genus includes 33 species, three of which have been recorded from Hawai'i Island: *E. cognatus*, *E. kona*, and *E. tinctus*.

Van Zwaluwenburg (1959) summarized the natural history of these beetles. Larvae of *Eopenthes* are found in decaying wood, and probably feed on other invertebrates. Adults are diurnal, and are unusual in that they feed on nectar, swarming around flowers of native plants. *Eopenthes* are also seasonal insects, active almost exclusively during the summer months and best collected by sweep netting on native vegetation. According to Van Zwaluwenburg, most species in this genus are extremely rare.

***Drosophila* (Diptera: Drosophilidae)**

Host plants: *Acacia koa*, *Alectryon macrococcus*, *Aleurites moluccana*, bracket fungi, *Chamaesyce* spp., *Charpentiera* spp., *Cheirodendron* spp., *Cibotium* spp., *Clermontia* spp., *Cyanea* spp., *Delissea* spp., *Dubautia plantaginea*, *Freycinetia arborea*, *Hibiscus arnottianus*, *Ilex anomala*, *Lobelia* spp., *Marattia douglasii*, *Melicope* spp., *Myoporum sandwicense*, *Myrsine* spp., *Nestegis sandwicensis*, *Piper methysticum*, *Pipturus albidus*, *Pittosporum* spp., *Pisonia* spp., *Pleomele* spp., *Pouteria* spp., *Pritchardia* spp., *Pteralyxia macrocarpa*, *Reynoldsia sandwicensis*, *Sadleria* spp., *Sapindus* spp., *Solanum sodomeum*, *Sophora chrysophylla*, *Tetraplasandra* spp., *Touchardia latifolia*, *Urera* spp., *Wikstroemia* spp.

The Hawaiian representatives of the genus *Drosophila* are probably the most actively studied group of insects in Hawai'i. Over 330 species of *Drosophila* are currently described, and there are thought to be at least 250 additional species yet to be described. Most drosophilids breed in rotting bark, leaves, flowers, or fruit and are host specific, utilizing one or a few types of host plants for oviposition.

***Hylaeus* (Hymenoptera: Colletidae)**

Host plants: adults visit many native blossoms, especially *Cheirodendron trigynum*, *Dodonaea viscosa*, *Metrosideros polymorpha*, *Myoporum sandwicense*, *Sophora chrysophylla*, and *Styphelia tameiameia*.

Of the 61 species of Hawaiian yellow-faced bees (*Hylaeus* spp.), 34 species statewide and 18 species on Hawai'i Island are species of concern (formerly Category 2 candidate endangered species) (Daly and Magnacca, 2003; Bishop Museum, 2004). In many species of *Hylaeus*, male bees have distinct yellow markings on the fronts of their heads, giving them the common name "yellow-faced bees". These yellow markings are often used to distinguish between species of bees.

Yellow-faced bees visit blossoms of native plants for nectar, and are important pollinators in Hawaiian ecosystems. They are generally not host-specific. *Hylaeus* bees are best collected by sweep netting around flowering vegetation, although they are also commonly collected on yellow sticky traps.

***Omiodes* (Lepidoptera: Crambidae)**

Host plants: *Astelia menziesiana*, *Cocos nucifera*, *Dianella sandwicensis*, *Erythrina sandwicensis*, grasses, *Musa* spp., *Pritchardia* spp., sedges.

Hawaiian leaf-roller moths in the genus *Omiodes* primarily utilize monocots as host plants, but the degree of host specificity varies between species. Some species feed on many kinds of grasses, while most are tied to a single genus or species of plant. The larvae of these moths roll or fold leaves, or bind them together with silk to create a retreat. In addition to light trapping, larvae can be collected from their host plants and successfully reared in the laboratory.

Hawaiian *Omiodes* moths have a very interesting history, partly due to the fact that two species of this genus have been economic pests: *O. accepta* is the sugarcane leaf-roller, and *O. blackburni* is the coconut leaf-roller. Because of their economic importance, these species were targeted for biological control using parasitoid wasps and flies. Many of these parasitoids have since been implicated in the decline of numerous species of Hawaiian Lepidoptera. Zimmerman (1958b) reported that in some species of *Omiodes*, parasitism by foreign wasps and flies exceeded 90% in the field. The Hawai'i Biological Survey currently lists fourteen species that are thought to be extinct (Bishop Museum, 2002). Half of the 18 species recorded from Hawai'i Island are categorized as species of concern. Seven of the species from this island are island endemics.

***Scotorythra* (Lepidoptera: Geometridae)**

Host plants: *Acacia koa*, *Antidesma* spp., *Diospyros* spp., *Dodonaea viscosa*, *Dubautia* spp., ferns, *Hedyotis* spp., *Metrosideros polymorpha*, *Pipturus albidus*, *Pisonia* spp., *Psydrax odorata*, *Rubus hawaiiensis*, *Santalum* spp., *Sapindus* spp., *Tetraplasandra* spp., *Vaccinium* spp..

Of the Hawaiian moths, members of the genus *Scotorythra* are some of the most commonly encountered in forested regions. Larvae of *Scotorythra* are “loopers” or “measuring worms,” and are an important food source for native birds. Although the larvae of most species are nocturnal foliage feeders, and hide in moss or under bark during the daytime, many birds seek them out as prey and feed them to chicks (Zimmerman, 1958a).

As in the *Omiodes* moths, the degree of specificity and island endemism of *Scotorythra* species varies greatly; a few species are found on many plant species and on many islands, while some are only found on a single plant species on a single island. Of the twenty species present on Hawai'i Island, eight are island endemics.

There is a great deal of variation between individuals of most species of *Scotorythra*, making identification somewhat difficult. Amanda Heddle, PhD student at University of California at Berkeley, is currently revising this genus, and, as a product of her research, will provide recommendations to managers regarding the status of and threats to *Scotorythra* species.

***Megalagrion* (Odonata: Coenagrionidae)**

Host plants and habitat: aquatic habitats, *Astelia menziesiana*, *Freycinetia arborea*.

Hawaiian damselflies in the genus *Megalagrion* are among the most beautiful native insects, exhibiting striking color patterns from bright red, to blue, to bright yellow. Dr. Dan Polhemus

and the Hawai'i Biological Survey have recently conducted surveys, in an effort to determine the status and distributions of *Megalagrion* species throughout the islands (Polhemus, 1994).

The immatures of most damselflies are aquatic, living in streams, ponds, or seeps. The Hawaiian species vary greatly in their habitat requirements and have occupied most of the aquatic niches available in the islands; some prefer clean, rapidly flowing streams, while others prefer small pools, and still others prefer montane bogs (Polhemus and Asquith, 1996). Their specialized habitat requirements make *Megalagrion* species somewhat simpler to survey than other species, since if certain habitat is obviously not available, one can confidently assume that certain species are absent.

A few species in the genus *Megalagrion* are terrestrial. On Hawai'i Island, *M. koelense* lives in the leaf axils of pa'iniu (*Astelia menziesiana*), and occurs in native wet forest when this plant is sufficiently abundant and environmental conditions are adequate.

III. HISTORICAL COLLECTION RECORDS

For all target genera, historical collection records were compiled from many sources, most notably the online Candidate and Species of Concern Specimen Database (Bishop Museum, 2004). In addition to querying this database and searching through individual specimen records, specimen data was gathered from several monographs and ecological studies. Appendix 2 lists all species that were documented from Kona Forest Unit or elsewhere on the leeward side of Hawai'i Island, along with a summary of specimen data and sources of this data. The numbers of species of each genus recorded from Kona are as follows: *Eopenthes* (3), *Plagithmysus* (26), *Proterhinus* (15), *Rhyncogonus* (2), *Drosophila* (47), *Hylaeus* (17), *Omiodes* (4), *Scotorythra* (10), *Megalagrion* (7).

IV. SURVEY METHODS

A. Transect design

During their first visit to the Refuge in November 1999, surveyors established four transects at elevations of roughly 762, 1067, 1372, and 1676 m (2500, 3500, 4500, and 5500 ft) (Figure 1). Surveyors located these elevations along the south boundary road using an altimeter/barometer, and blazed transects at ten degrees azimuth true. Transects were marked with the following scheme using vinyl flagging. The beginnings of transects were marked by a single white flag with red polka dots. Transects were then marked using solid red flags, and 10m increments (measured using hip chain) were labeled using solid white vinyl flagging. Transects were extended during subsequent visits to the Refuge. See Table 2 for details and irregularities.

B. Monthly monitoring stations

Forty-nine stations were established along the south boundary road. Stations were placed approximately 160 m (0.1 mile as measured by a digital vehicle odometer) apart from each other on the north side of the road, and marked with solid blue flagging. Station one was located at the eastern end of the road, at an elevation of approximately 1830 m, and station forty-nine was located at the western end, at an elevation of approximately 579 m.

Table 2. Attributes of contour transects at the Kona Forest Unit of Hakalau National Wildlife Refuge. Transects were marked with red flags, with white flags at 10 m intervals and a white flag with red spots at the start.

Transect No.	Elevation (ft)	Elevation (m)	Length (m)	Azimuth (true)
1	2500	762	700	0-110m: 98° 110-500m: 15° 500-700m: 10°
2	3500	1067	2550	10°
3	4500	1372	2000	10°
4	5500	1676	2270	10°

C. Yellowjacket monitoring

Populations of western yellowjacket wasps (*Vespula pensylvanica*) were monitored using Seabright Laboratories (Emeryville, CA) plastic yellowjacket traps. Traps were hung from branches at the 49 stations along the south boundary road and were baited with heptyl butyrate, a chemical attractant. Microcentrifuge tubes (1.5 ml) were filled with heptyl butyrate, a wick made of rolled paper was inserted in the tubes, and tubes were placed inside the traps. On a monthly basis, wasps were collected, and traps were rebaited with heptyl butyrate. Numbers of worker and queen yellowjackets were recorded, as well as non-target invertebrates.

D. Yellow sticky traps

Yellow sticky traps manufactured by Seabright Laboratories (Emeryville, CA) were used for the purpose of monitoring populations of two-spotted leafhopper, *Sophonia rufofascia*. In addition, *Hylaeus* bees and elaterid beetles were regularly captured on sticky cards. Sticky traps were 10 cm wide, 16 cm tall, bright yellow, and coated on both sides with an adhesive. Traps were hung from branches near yellowjacket traps along the south boundary road, and were collected and replaced monthly at the same time as yellowjacket traps. After collection, traps were brought into the laboratory and numbers of two-spotted leafhoppers, *Hylaeus* bees, and elaterid beetles were counted and recorded. *Hylaeus* bees and elaterid beetles were removed from the cards using a citrus-based solvent, and preserved in 95% ethanol. Sticky traps were set up for the first time in November 1999 at the 49 monitoring stations along the south boundary road. In November, these traps were only exposed for a period of six days, but beginning in January 2000, they were checked on a monthly basis (every 4 weeks).

In February 2000, in addition to those along the south boundary road, sticky traps were set up along transects at elevations of 1067 m, 1372 m, and between 1463 m and 1524 m (the temporary *Drosophila* bait loop). These traps were left in place for seven days, and processed in the same way as other sticky traps.

E. Ant monitoring

Ant surveys were conducted in November 1999, February 2000, May 2000, and June 2000. Ant abundance and diversity was assessed using protein and carbohydrate baits along the south boundary road. Canned cat food was used as a protein bait, and guava jam was used as a carbohydrate bait. Two plastic specimen cup lids were placed in a shady area at each of the 49 monitoring stations. One tablespoon of protein bait was spooned onto one of the lids, and one tablespoon of carbohydrate bait on the other. In November, May and June, baits were left in place overnight and checked the following morning. In February, baits were applied in the

morning and checked in the afternoon. Surveyors counted numbers of ants on each bait and collected voucher specimens from each bait containing ants. In addition, surveyors recorded presence of non-target invertebrates. Ants and non-target invertebrates were preserved in ethanol and brought back to USGS Kilauea Field Station (KFS) for identification.

F. Daytime branch beating

Surveyors walked along each transect, searching for woody plant species within five meters on either side of the transect. When a plant species was observed to be particularly abundant (e.g. *Metrosideros polymorpha*), individuals with many dead twigs or blossoms were shaken or beaten to dislodge *Eopenthes*, *Proterhinus*, and *Rhyncogonus* beetles. Surveyors specifically targeted plant species which were more likely to provide habitat for the beetles, but selected no more than six individuals of a particular species per transect.

When a potential host plant was located, a white sheet was laid under an overhanging branch (or in the case of smaller shrubs, wrapped around the base of the whole plant). The branch (or entire plant) was then given seven firm shakes, with enough force to dislodge small dead twigs and dead leaves. Surveyors spent 5 minutes looking over the sheet for beetles or other target insects. Then, shaking twigs and other debris from the sheet as gently as possible, surveyors repositioned the sheet on the ground, and searched again for target insects. All target specimens were collected and recorded, along with host plant information and location, and placed in a vial with a unique, pre-printed label. Non-targets were not collected or recorded unless they were of particular interest. When finished looking over the sheet, surveyors forcefully shook off debris, and continued on to the next plant.

Daytime branch beating was completed on each transect as well as on potential host plants along the south boundary road and in the vicinity of the campsite. Lepidoptera larvae were kept alive and brought back to KFS, where surveyors attempted to rear them to adulthood under laboratory conditions.

Plant species targeted during daytime branch beating:

762 m:

Metrosideros polymorpha, *Antidesma platyphyllum*, *Psychotria hawaiiensis*, *Ilex anomala*, *Cibotium menziesii*, *Clermontia clermontioides*

1067 m:

Metrosideros polymorpha, *Cheirodendron trigynum*, *Broussaisia arguta*, *Cibotium glaucum*, *Myrsine* spp., *Hedyotis* sp., *Perotettia sandwicensis*, *Coprosma* sp., *Clermontia clermontioides*

1372 m:

Cheirodendron trigynum, *Myrsine* sp., *Ilex anomala*, *Broussaisia arguta*, *Cibotium glaucum*, *Metrosideros polymorpha*, *Perotettia sandwicensis*, *Vaccinium calycinum*, *Rubus hawaiiensis*, *Coprosma* sp., *Pipturus albidus*, *Clermontia clermontioides*, *Melicope* sp.

1676 m:

Metrosideros polymorpha, *Styphelia tameiameia*, *Acacia koa*, *Myoporum sandwicense*, *Clermontia clermontioides*, *Myrsine* spp., *Pittosporum hosmeri*, *Rubus hawaiiensis*, *Vaccinium calycinum*, *Coprosma* sp.

South boundary road:

Pipturus albidus, *Acacia koa*, *Ilex anomala*, *Metrosideros polymorpha*, *Broussaisia arguta*

Field camp:

Pipturus albidus, Ilex anomala, Myoporum sandwicense

G. Nighttime branch beating

Branch beating was also employed at night to target larvae of *Scotorythra* spp., and adult *Rhyncogonus* beetles, both of which are primarily nocturnal. Night surveys were conducted in a similar manner to daytime surveys, but due to safety precautions, surveyors did not venture more than 200m from the south boundary road. As a result, surveyors were not able to sample as many different plant species as they were during the daytime. Nocturnal branch beating was also conducted in the vicinity of the campsite. Lepidoptera larvae were kept alive and brought back to KFS, where surveyors attempted to rear them to adulthood under laboratory conditions.

Plant species targeted during nocturnal branch beating:

762 m:

Metrosideros polymorpha, Antidesma platyphyllum

1067 m:

Metrosideros polymorpha, Vaccinium calycinum, Myrsine spp.

1372 m:

Myrsine spp., *Cheirodendron trigynum, Perotettia sandwicensis, Melicope* sp., *Pipturus albidus, Rubus hawaiiensis, Hedyotis* sp., *Coprosma* sp., *Clermontia clermontioides, Broussaisia arguta*

1676 m:

Metrosideros polymorpha

Field camp:

Acacia koa, Ilex anomala, Pipturus albidus

H. Pitfall traps

In mid-November, ten pitfall traps were set within the first 300m of each of the four transects. Each trap consisted of a 16 oz. cup filled with 12 oz. of either soapy water or beer. Traps were sunken into the ground so that their rims were flush with the surrounding soil surface, and were sheltered from rain or litterfall by a plastic shield. Five of the traps at each transect were unbaited (soapy water), and five were baited (beer). Traps were left in place for one week, after which they were collected and sorted into taxonomic groups. All invertebrate specimens collected from pitfall traps were preserved in ethanol and archived using Biota software (Colwell, 1996).

I. Pan traps

In mid-November, ten pan traps were set at 10 m intervals along the first 150 m of each transect. Traps consisted of shallow green pans, 25cm in diameter and 3.5 cm deep, filled with 12 oz. of soapy water. Traps were set directly on the ground to the side of the transects and left in place for 24 hours.

During mid-February, pan traps were set between 500 m and 600 m on the transects at 1067 m and 1372 m, as well as on the temporary bait loop between 1463 m and 1524 m. Again, ten traps were set on each transect, at 10 m intervals, and traps were left in place for 24 hours.

Specimens collected from pan traps were preserved in ethanol and brought back to the laboratory, where they were sorted into taxonomic groups. As with those from pitfall samples, all specimens

from pan traps were identified to taxonomic levels of varying specificity, preserved, and archived using Biota (Colwell, 1996).

J. Light trapping

Lepidopteran targets were collected using two light trapping strategies: sheet traps and bucket traps. Both trap types utilized circular, 22W, fluorescent, UV bulbs attached to ballasts manufactured by BioQuip Products (Gardena, CA). Two 6V batteries were connected in series to provide power to the 12V systems. Trapping was conducted in relatively open areas to maximize visibility of the lights to flying insects.

Each sheet trap consisted of a white sheet hung horizontally on a rope between two branches or trees. Lights were hung from the middle of the rope, illuminating the sheet. Specimens were collected (killed using ethyl acetate) and brought to KFS to be pinned and identified. White sheet traps were more labor intensive as they required surveyors to be present at the trap, but proved to be a more selective and productive method than bucket trapping. Light trapping using sheets was conducted a total of eight times: four times at the field camp and one time on each of the four transects.

Bucket traps were manufactured by Bioquip Products and consisted of white, five-gallon buckets equipped with vanes and funnels designed to divert insects into the buckets. As a killing agent, sponges saturated with ethyl acetate were placed in the bottom of the buckets. This type of trap did not require surveyors to be present beyond setup, so traps could be set up, turned on, and allowed to run overnight. However, bucket traps collected invertebrates indiscriminately, resulting in greater captures of non-target insects. They also seemed to be less successful than sheet traps in attracting *Omiodes* and *Scotorythra* moths. Bucket traps were used a total of eight times – two nights at each of the four transects.

K. Baiting for *Drosophila* spp.

Picture-wing pomace flies (*Drosophila* spp.) were surveyed using sponges baited with fermented mushrooms and bananas. Mushroom bait was prepared by mixing chopped store-bought white mushrooms with water and yeast, and allowing this mixture to ferment for at least one week. This very fragrant liquid bait was then applied to sponges using spray bottles. Banana bait was prepared by mixing mashed bananas with yeast, and allowing the mixture to ferment and rise overnight. Red sponges (previously disinfected by boiling) were soaked in water and tacked to trees, at about eye-level, along transects. Mushroom bait was sprayed (ten sprays per sponge) onto all faces of each sponge and about a tablespoon of banana bait was spread on the lower half of the front face of each sponge. Sponges were left undisturbed for at least thirty minutes before they were revisited.

To check the sponges, surveyors approached them slowly, being careful not to breathe on the sponges or otherwise disturb perched flies. Picture wing *Drosophila* were sight-identified and counted. Unknown flies were collected alive in vials. Some voucher specimens of non-native and native, non-picture wing *Drosophila* were collected and preserved in alcohol.

Surveys for *Drosophila* spp. were conducted on the Refuge in November 1999 and February 2000. In November 1999, surveyors baited transects at elevations of 762 m, 1067 m, 1372 m, and 1676 m. In February 2000, surveyors baited transects at elevations of 1067 m and 1372 m, and a bait loop was set up at between elevations of between 1463 m and 1524 m, near the south boundary road.

L. Laboratory rearing of *Drosophila* spp.

Throughout the survey, surveyors collected samples from the host plants of targeted species of *Drosophila*. Samples were sealed in plastic bags, and kept cool until they could be brought back to the laboratory. At KFS, samples were weighed, then placed in 128 oz. plastic jars. The bottoms of jars were lined with clean, moist sand. Jars were examined carefully about three times weekly, and any emerging invertebrates were recorded, removed and preserved in alcohol.

Rotting branches of *Clermontia clermontioides* and *Cheirodendron trigynum*, documented hosts for *D. heteroneura* and/or *D. silvestris*, were targeted for collection. A total of 14 stems of *C. clermontioides* and two stems of *C. trigynum*, in addition to two samples of fungus, were collected from various locations on the Refuge.

M. Laboratory rearing of *Plagithmysus* spp.

Samples of dead branches and/or twigs were collected from *Acacia koa* (N=4), *Clermontia clermontioides* (N=2), *Metrosideros polymorpha* (N=1) and *Pittosporum hosmeri* (N=2). Larger samples were sealed in wooden boxes which had holes drilled in one side. Clear plastic vials were secured over these holes. As beetles emerged, they were attracted to light emanating through the holes and crawled into the vials. Small samples were placed in plastic containers lined with moist sand. Samples were checked about three times weekly, and any emerging invertebrates were recorded and preserved.

N. Surveys of *Astelia menziesiana* and other host plants of *Omiodes* spp. and *Megalagrion* spp.

Surveyors examined transects at elevations of 762 m, 1067 m, 1372 m and 1676 m for suitable host plants of *Omiodes* spp. and *Megalagrion* spp., and brought live specimens of these insects back to KFS to rear them to adulthood. Surveyors walked down transects, searching five meters on either side of the transect for *Astelia menziesiana*, *Dianella sandwicensis*, and *Carex* spp. When surveyors located one of these plants, they gently pulled back the leaves of the rosette and searched the leaf axils for naiads of *Megalagrion* spp. or larvae of *Omiodes* spp. Surveyors also searched other grasses and sedges for larvae *Omiodes* spp., but since these plants were often present in great numbers, only a select number were examined. When surveyors located an insect of interest, they collected it in a small vial with a small amount of material (about one leaf) from the host plant. Specimens were kept cool and brought back to KFS. Specimens were examined three times weekly, and were provided with fresh, locally collected plant material as needed. When insects metamorphosed into adults, they were pinned and identified.

O. General collecting

In addition to focused survey methods, surveyors searched for targeted insects whenever they came across potential host plants or habitat in the Refuge. Specimens were recorded, preserved and brought back to KFS for identification and curation.

P. Data Analysis

All specimens from target groups were identified to species. Other invertebrates of interest were identified to varying taxonomic levels, depending on availability of taxonomic literature and

human resources. All specimens were cataloged using Biota (Colwell, 1996) and assigned a unique specimen code.

EstimateS software (Version 6, Colwell, 1997) was used to calculate estimates of species richness, and to generate randomized species accumulation curves for surveys. To estimate the completeness of our surveys, we used the non-linear model function of Systat 9 (SPSS Inc., 1998) along with the richness estimators and accumulation curves created by EstimateS.

V. RESULTS

A. Native Target Species

Proterhinus spp. (Coleoptera: Aglycyderidae)

A total of 71 specimens of *Proterhinus* weevils were collected from the Refuge. These specimens have been identified to five species: *P. affinis*, *P. ferrugineus*, *P. hawaiiensis*, *P. similis*, and *P. subangularis*. Due to a lack of taxonomic clarity within this group and the lack of active expertise, our determinations should be treated as “best guess” determinations based on existing keys and systematic literature. Distributions of the five species are shown by Figures 2 and 3. See Appendix 4 for specimen-level information.

Six specimens of *P. ferrugineus* were collected from five plant species: *Broussasia arguta*, *Cibotium menziesii*, *Coprosma* sp., *Ilex anomala*, and *Metrosideros polymorpha*. *Proterhinus ferrugineus* was collected from contour transects at 762 m, 1067 m, and 1372 m. Swezey (1938) reports the host plants of this species to be tree ferns from the genera *Cibotium* and *Sadleria*. It is likely that our collections from other plants do not indicate new host records, as these specimens were not necessarily breeding or living in these plants. One specimen of *P. ferrugineus* was excavated from a dead stem of *Cibotium menziesii* at 762 m elevation, while the other five specimens were collected by shaking foliage onto sheets. Tree ferns (*Cibotium* spp.) were present near all localities where *P. ferrugineus* was collected.

Six specimens of *P. subangularis* were collected from *Antidesma platyphylla* and *Psychotria hawaiiensis* on the 762 m contour transect. Swezey (1938) considered this species to be specific to plants in the genus *Psychotria*. Trees of *Psychotria hawaiiensis* were present in close proximity to all collection sites for *P. subangularis*, so it is possible that specimens collected on *Antidesma platyphylla* had migrated from *Psychotria hawaiiensis*.

Proterhinus similis is regarded as the most abundant and widespread of the five species. Forty specimens identified as this were collected from all four contour transects, as well as at the field camp and along the southern boundary. It was collected from eight plant species: *Cibotium glaucum*, *Broussasia arguta*, *Coprosma* sp., *Ilex anomala*, *Metrosideros polymorpha*, *Myoporum sandwicense*, *Pipturus albidus*, and *Psychotria hawaiiensis*. Neither Perkins (1900) or Swezey (1938) list a host plant for *P. similis* so it is possible that this species may be more general in its host preference than other *Proterhinus* species. The majority of our specimens were collected from *Metrosideros polymorpha*.

Five specimens of *P. hawaiiensis* were collected from *Coprosma* sp. from contour transects at 1067 m and 1676 m, and eleven specimens of *P. affinis* were collected from *Myrsine* sp. from contour transects at 1076 m and 1372 m.

***Plagithmysus* spp. (Coleoptera: Cerambycidae)**

Four species of *Plagithmysus* longhorn beetles were collected on the Refuge: *P. bilineatus*, *P. debilis*, *P. nodifer*, and *P. new species A*.

Three specimens of *P. bilineatus* were collected in August 2000 from the 1676 m transect near a group of recently felled *Acacia koa* and *Metrosideros polymorpha*. *Metrosideros polymorpha* is the recorded host for this species of beetle (Gressitt and Davis, 1969), so it is likely that the specimens had gathered to oviposit in the felled trees. Although there is much variation in size within all *Plagithmysus* beetles species, *P. bilineatus* is generally characterized as a large beetle with striking coloration.

Plagithmysus debilis was reared from *Acacia koa* (recorded host) branches collected from the contour transect at 1676 m and near the field camp. *Plagithmysus debilis* is a generally small, brown, drab beetle (Gressitt and Davis, 1969).

Plagithmysus nodifer was reared from *Acacia koa* branches collected from the contour transect at 1676 m and near the field camp. *Plagithmysus nodifer* is a generally large, darkly colored beetle with striking yellow markings on its body.

Four specimens of *Plagithmysus* new species A were reared from two samples of dead or dying branches of *Pittosporum hosmeri*, which were collected from the contour transect at 1676 m. To our knowledge, no species of *Plagithmysus* from Hawai'i Island have been reported to use *Pittosporum* as a host. These specimens have been examined by Dr. Al Samuelson of the Bishop Museum, and represent a new species and a new host record for the island. They will be described and named by Dr. Samuelson.

***Rhyncogonus* spp. (Coleoptera: Curculionidae)**

Despite both nocturnal and diurnal branch beating on a wide variety of plants, no specimens of *Rhyncogonus* were collected on the Refuge.

***Eopenthes* spp. (Coleoptera: Elateridae)**

One specimen of *Eopenthes* was collected from blossoms of *Ilex anomala* along the southern boundary of the Refuge at an elevation of 900 m. Individuals were observed at several locations, swarming *Ilex* blossoms, but only one specimen was within reach of surveyors. Upon examination of our specimen, and comparison with types from the Bishop Museum, Dr. Samuelson determined it to be closest to *E. cognatus*, but was not completely confident in this determination. We are therefore calling it *Eopenthes* species near *cognatus*. *Eopenthes cognatus* was previously given the status of a "Category 2" species (Beattie, 1994). However, USFWS no longer recognizes Category 2 species, referred to now as "Species of Concern".

***Drosophila* spp. (Diptera: Drosophilidae)**

Six species of endemic picture-wing pomace flies were observed on the Refuge: *D. basisetae*, *D. conspicua*, *D. heteroneura*, *D. silvestris*, *D. sproati*, and *D. tanythrix* (the last is not a true picture-wing but is closely related and similarly large-sized). A grand total of 314 picture-wing flies were observed on contour transects at 762, 1067, and 1372 m, and on the bait loop between 1463 m and 1524 m. No picture-wing flies were observed on bait sponges at 1676 m, but *D.*

heteroneura was collected from host material on this transect. Distributions of *Drosophila* species are shown on Figures 4-6.

Of the eight *D. basisetae* individuals observed during the February 2000 survey, two were observed on the transect at 1067 m, and six were observed on the transect at 1372 m.

Four *D. conspicua* were observed during the November 1999 and February 2000 surveys. Two of these individuals were observed on the 1067 m transect and two on the 1372 m transect.

Thirteen *D. silvestris* individuals were observed during the November 1999 and February 2000 surveys, representing 4% of the picture-wings observed. The species was observed at the 1372 m transect and at the temporary bait loop.

A total of 80 individuals of *D. sproati* were observed during the November 1999 and February 2000 surveys, on the 1067 m and 1372 m transects and the temporary bait loop. *D. sproati* comprised 25% of the picture-wings observed during the span of the survey.

A total of 93 individuals of *D. tanythrix* were observed during the November 1999 and February 2000 surveys, on the 762 m, 1067 m, and 1372 m transects. This represents 30% of the picture-wing flies observed during the survey.

A total of 116 specimens of *Drosophila heteroneura* were observed on the Refuge during the November 1999 and February 2000 surveys. *D. heteroneura* was observed on transects at 1067 m and 1372 m, and on the temporary bait loop between 1463 m and 1524 m. *D. heteroneura* proved to be the most abundant picture-wing fly, comprising 37% of the total number of picture wings collected on the Refuge. An additional four specimens of *D. heteroneura* were reared from *Clermontia clermontiodes* branches collected from the transect at 1372 m and 1676 m.

These records for *Drosophila heteroneura* represent the first observations of this species in the wild in approximately 10 years, despite intensive searches of historical habitats. The population of *D. heteroneura* at the Kona Forest Unit is the only known extant population of this species (Foote, 1999).

***Hylaeus* spp. (Hymenoptera: Colletidae)**

Ten species of *Hylaeus* bees were collected on the Refuge: *H. coniceps*, *H. connectens*, *H. crabronoides*, *H. difficilis*, *H. dumetorum*, *H. filicum*, *H. pubescens*, *H. specularis*, *H. sphecodoides*, and *H. volcanicus*. Of these species, all except *H. filicum* and *H. pubescens* were collected from sticky traps along the southern boundary of the Refuge. Three species, *H. crabronoides*, *H. filicum*, and *H. specularis* are extremely rare and local, with one other recent collection site or none (*H. specularis*; unlike the other two this species is also found on other islands, but is rare everywhere). For distributions of *Hylaeus* species, see Figures 7-9. Karl Magnacca, PhD student at Cornell University, identified all specimens and the specimen data from the Refuge has been included in a recent monograph on yellow-faced bees from Hawai'i (Daly & Magnacca, 2003).

***Omiodes* spp. (Lepidoptera: Crambidae)**

Four species of *Omiodes* leafroller moths were collected on the Refuge: *O. accepta*, *O. asaphombra*, *O. localis* and *O. scotaea*. Distributions of *Omiodes* moths are shown by Figure 10.

Altogether, 49 specimens of *Omiodes* moths were collected at all four contour transects and at the field camp. *Omiodes iridias* and *O. scotaea* (possible synonyms) were collected along the transect at 1372m. During surveys for *Astelia menzeisiana* and other host plants along all four contour transects, *Omiodes* larvae were collected and successfully reared only from the 1372 m transect. *Astelia menzeisiana* was found to be present only on the transects at 1372 m and at 1676 m.

A total of 27 specimens of *O. accepta*, the sugarcane leafroller, were collected by light-trapping on the Refuge. These specimens were collected at 762 m, 1372 m, 1676 m, and at the field camp. This species of *Omiodes* is a generalist on grasses and sedges, and is one of the most common and widespread of the group (Zimmerman, 1958b). It is present on all of the main islands, and was once an economically important pest of sugarcane.

Four specimens of *O. asaphombra*, the ‘ohe leafroller, were collected from light traps located on the transect at 1372 m, and at field camp. This species was listed in 1994 as a “Category 2” species, and indicated as “possibly extinct” (Beattie, 1994). The Category 2 designation is no longer recognized by the Fish and Wildlife Service. The Hawai‘i Biological Survey presently includes this species on its list of extinct species. Zimmerman (1958b) reported this moth to be restricted to *Joinvillea ascendens*, an indigenous plant that is very rare on Hawai‘i Island. We assume that *O. asaphombra* is utilizing a different plant, since *Joinvillea* is not recorded from KFU and there are no records of the plant from the leeward side of the island (Haines, et al. 2003; appendix 3).

Eleven specimens of *O. localis* were collected from light traps at 762 m, 1067 m, 1372 m, 1676 m, and at the field camp. Like *O. accepta*, *O. localis* is a common and widespread species, present on all the main Hawaiian Islands. It is a generalist on grasses and sedges, feeding on both native and alien species.

Three specimens of *O. scotaea* and four *O. iridias* were collected and reared from *Astelia menzeisiana* plants on the 1372 m transect. Zimmerman (1958b) records *Astelia* as the only host plant for these species, which are very similar and may be a single species. *Omiodes scotaea* has previously been recorded from Kaua‘i, O‘ahu, Moloka‘i, and Hawai‘i, while *O. iridias* is only recorded from Hawai‘i.

***Scotorythra* spp. (Lepidoptera: Geometridae)**

Eight species of *Scotorythra* moths were collected from light traps on the Refuge: *S. apicalis*, *S. arboricolans*, *S. artemidora*, *S. euryphaea*, *S. paludicola*, *S. rara*, *S. new species 5*, and *S. new species 13*. A grand total of 168 specimens were collected from light traps at all four contour transects and at the field camp. University of California at Berkeley PhD candidate Amanda Heddle confirmed identifications of *Scotorythra* moths. Figures 11-13 show distributions of these species.

Scotorythra apicalis is a common species, endemic to Hawai‘i Island, but because it is rarely attracted to light traps, it is often recorded as rare (A. Heddle, pers. comm.). One adult specimen of *S. apicalis* was collected from a light trap at an elevation of 1372 m. Larvae suspected of belonging to this species were also collected near the field camp from leaves of *Ilex anomala*.

Scotorythra arboricolans was the most widely collected species on the Refuge, collected 33 times from light traps at the field camp and at all four transects. Zimmerman (1958a) reported the host of this species to be *Santalum* spp., but Heddle (pers. comm.) suspects that it is breeding on other

plant species as well, since it is often quite abundant in areas where *Santalum* is not present. *S. arboricolans* is fairly commonly collected and is known from most of the main Hawaiian Islands.

Scotorythra artemidora was also quite abundant on the Refuge; 32 specimens were collected from light traps at the field camp and at elevations of 1372 m and 1676 m. This is a common species (A. Heddle, pers. comm.), which is endemic to Hawai'i Island. The host plant for *S. artemidora* is unknown, but there are unconfirmed records of this species from 'ōhi'a.

Forty specimens of *S. euryphaea* were collected from light traps at the field camp and at elevations of 1372 m and 1676 m. This species was also reared from two larvae collected on *Metrosideros polymorpha* and *Ilex anomala* at an elevation of 1676 m. As well as being one of the largest species of *Scotorythra*, *S. euryphaea* is also one of the most common and widely distributed species in the islands. It is present on Kaua'i, O'ahu, Moloka'i, Maui, and Hawai'i. *Scotorythra euryphaea* is polyphagous, feeding on a diversity of plant species.

Six specimens of *S. paludicola*, the koa moth, were collected from light traps at the field camp and at an elevation of 1676 m. Larvae suspected of belonging to this species were also collected near the field camp from *Acacia koa*, its recorded host plant. Historically, this species has experienced population outbreaks, causing defoliation of koa trees on the islands of Maui and Hawai'i (Swezey, 1931; Davis, 1955; Mitchell and Davis, 1985).

Fifty-three specimens of *S. rara* were collected from light traps at the field camp and at elevations of 1067 m, 1372 m, and 1676 m. *Scotorythra rara* is an extremely polyphagous species, and has been reared from koa (*Acacia koa*), 'ōhi'a (*Metrosideros polymorpha*), 'ōhelo (*Vaccinium*), māmakī (*Pipturus*), and ferns (Swezey, 1954), as well as non-native plants (A. Heddle, pers. comm.).

Six specimens of *Scotorythra* new species #5 were collected from light traps the field camp and from 1372 m elevation. This species will be described and named by A. Heddle. Very little is known about the relative rarity and life history of this species.

Four specimens of *Scotorythra* new species #13 were collected from light traps at the field camp. This species will also be described and named by A. Heddle. While the host plant has been identified as 'ākala, *Rubus hawaiiensis*, little else is known about this rare species.

***Megalagrion* spp. (Odonata: Coenagrionidae)**

Two male specimens of *Megalagrion calliphya* were collected in May 2000 from a pool just west of the 579 m transect. Individuals were observed mating and ovipositing along the edge of the pool. Although this species prefers to breed in pools of slow moving streams, on this island it has adapted to breed in standing water. *M. calliphya* is one of the most common of the native damselflies (Polhemus and Asquith, 1996).

Surveys for *Astelia menzeisiana* (a host plant for *Megalagrion koelense*, a terrestrial species of damselfly) showed the plants to be present only along transects at 1372 m and 1676 m. Surveyors searched every *A. menzeisiana* plant located along each transect for the presence of *Megalagrion* naiads, but none were observed.

B. Other native invertebrates of particular interest

***Anchastus swezeyi* (Coleoptera: Elateridae)**

Anchastus swezeyi proved to be the most common click beetle on sticky traps along the south boundary road (62 specimens), outnumbering non-native click beetles at lower elevations. Although endemic, this beetle is not considered rare, and it is not surprising that this species is relatively abundant, while *Eopenthes* spp. are apparently quite rare on the reserve.

***Adelocera oblonga* (Coleoptera: Elateridae)**

One specimen of *A. oblonga* was collected from a sticky trap at the southwestern corner of the Refuge at an elevation of 579 m. This specimen represents both a new island record and a rediscovery (Johnson et al., 2002). This species was previously known from only the type specimen collected in the 1970's in Ewa, O'ahu, where it was presumed to be adventive. It was also recently discovered in collections from Kaloko-Honokōhau National Park from 1992. The species was originally described as *Brachylacon beardsleyi* and its origin was uncertain; it has since been found to be synonymous with *A. oblonga* from the Philippines (Johnson et al., in prep.).

***Ectemnius* spp. (Hymenoptera: Crabronidae)**

Several individuals of endemic crabronid wasps (*Ectemnius atripennis*) were observed and collected at the 762 m transect by D. Foote. Wasps were seen capturing calliphorid flies and carrying them back to their nests in the soil. This behavior is consistent with what has been reported for this species (Takumi, 1999). Several species in the genus *Ectemnius* are recognized as “species of concern”, but *E. atripennis* has no conservation status. A second species of *Ectemnius* was collected from the field camp, but has not been identified.

***Eupithecia* spp. (Lepidoptera: Geometridae)**

Three species of *Eupithecia* were collected from the Refuge. This genus is remarkable in that it includes several species whose larvae are ambush predators. Two species of predaceous caterpillar were collected by shaking foliage onto a sheet: *E. craterias* and *E. staurophragma*. In addition to the carnivorous caterpillars, a pollen-feeding species, *E. monticolens*, was collected at light traps.

***Hyles wilsoni* (Lepidoptera: Sphingidae)**

This large, endemic, colorful hawk moth was collected at light traps at the field camp and at all four transects. *Hyles wilsoni* feeds on plants in the family Rubiaceae, such as pilo (*Coprosma* spp.) and kōpiko (*Psychotria* spp.). This species is endemic to Hawai'i Island, and is fairly common in native mesic and wet forest.

***Theridion grillator* (Araneae: Theridiidae)**

Happy-face spiders (*Theridion grillator*) were collected from the lower reaches of the reserve along the south boundary road by shaking foliage onto a sheet. These charismatic and well-

known Hawaiian invertebrates are found on most of the main Hawaiian Islands, and are not considered particularly rare, but they are useful for teaching and engaging the public with native ecosystems.

C. Alien species

Western yellowjacket, *Vespula pensylvanica* (Hymenoptera: Vespidae)

As shown by Figure 14, relative abundances of yellowjackets (*Vespula pensylvanica*) along the southern boundary of the Refuge varied over time. Wasp abundances for each survey period are expressed as number of wasps in each trap per 28 days exposure time. Wasp numbers were consistently low or absent between stations 12 and 33, corresponding to elevations between about 1067 m and 1615 m.

At the upper reaches of the Refuge (about 1646-1844 m), wasp abundance peaked between August 1999 and February 2000. Throughout the rest of the survey period, wasp numbers were low or absent at these high elevation sites. At lower elevations, wasps were present throughout the survey period, and peaked during the autumn months of both 1999 and 2000.

Future monitoring will be needed to determine whether seasonal patterns are predictable, and whether wasp numbers are increasing or decreasing; in particular, whether wasp numbers will again peak at higher elevations, and remain low in the mid-reaches of the Refuge. Correlating *Vespula* population data with seasonal rainfall and temperature data, or with surveys of native and alien vegetation, may yield greater understanding of yellowjacket population biology.

Two-spotted leafhopper, *Sophonia rufofascia* (Homoptera: Cicadellidae)

Two-spotted leafhoppers (*Sophonia rufofascia*) were most abundant at lower reaches of the Refuge (Figure 15), present between elevations of 579 m and 1372 m. Note that leafhopper abundances are expressed simply as number of leafhoppers present on each card, regardless of exposure period. Leafhopper abundance is not expressed as a function of exposure time, because it is likely that sticky traps become saturated with insects (and hence less effective) a short while after application. Therefore, “per day” abundances for traps exposed for shorter periods (e.g. one week) are likely not comparable to those for traps exposed for longer periods (e.g. two months). The number of leafhoppers captured on a trap in a given area is probably not linearly proportional to the length of time for which the trap has been exposed. In the future, to better determine seasonal fluctuations in abundance at the Refuge, sticky-traps should be monitored on a rigid schedule (preferably every 28 days).

These data are valid for spatial changes in abundance on the Refuge. Throughout the survey period, abundances of leafhoppers have remained roughly bimodal, peaking at elevations of about 700m and 950m, and dipping at an elevation of about 800m. As with yellowjackets, it would be interesting to correlate relative abundances of leafhopper with changes in rainfall and/or temperature, and with differences in vegetation along the southern boundary of the Refuge.

Ants

Four species of ants (Hymenoptera: Formicidae) were collected from the Refuge: *Cardiocondyla wroughtoni*, *Paratrechina bourbonica*, *Solenopsis papuana*, and *Tetramorium bicarinatum*. Abundances are shown by Figure 16. Ants were observed only between elevations of 579 m and

930 m, and only these elevations are shown in Fig. 16. At these elevations, *P. bourbonica* and *S. papuana* appear to be the more dominant of the four species, with *C. wroughtoni* and *T. bicarinatum* being represented by only a few specimens. However, it is difficult to infer anything about abundance based solely on data from baits, since different species often have different bait preferences. At several of the stations, both *P. bourbonica* and *S. papuana* were observed, indicating that neither species completely represses nor out-competes the other.

D. Diversity comparisons between sites

In terms of numbers of target species collected, the transect at 1372 m yielded the greatest number of species, with 23 target species collected. In contrast, the transect at 762 m yielded the fewest number of target species, with only 8 species collected. Table 3 lists the number of target species collected at each transect.

Comparisons across transects using all groups may be misleading, as more time was spent collecting some taxa along transects at 1067 m and 1372 m than was spent at either of the other two transects. To get a better estimate of diversity between transects, comparisons were limited to those taxa which were collected in a standardized fashion, allowing for correction of the data based on search effort. Taxa which were collected using correctable methods were *Proterhinus*, *Omiodes*, *Scotorythra*, *Drosophila*, and *Hylaeus*. EstimateS (Colwell, 1997), a program designed for estimating biodiversity, was used to calculate the estimated number of species on each transect by plotting a species accumulation curve (number of species observed versus samples taken) for these taxa, and calculating the asymptote, the estimated limit as number of samples approaches infinity. Using this analysis, an estimate of completeness could also be calculated for each transect. EstimateS offers several different methods of estimating richness, and we utilized the Abundance-based Coverage, the Incidence-based Coverage, Chao 1, and Chao 2. Presented in Table 4 are the Michaelis Menten (MM) richness estimator and Incidence-based Coverage Estimator (ICE).

Although the estimated richness for each transect varied quite a bit depending on the estimator used, all estimates calculated by EstimateS (including all indices not presented here) predicted the same ranking of transects in terms of estimated species richness: 1372 m > 1067 m > 1676 m > 762 m. Surveys for the five selected taxa at each elevation were estimated to be fairly incomplete, ranging from 43.8%-89.7%, with an average estimated completeness of 69% among the various estimates for all transects. The low level of completeness of our surveys for these taxa suggests that it is likely that an extended search effort will discover additional species in these genera. Future surveys for these groups are therefore warranted.

It is important to recognize the limitations to the use of accumulation curves for estimating species richness and survey completeness. Most importantly, the predictions are constrained by the actual sampling methods used. The predicted asymptote is the maximum number of species expected *if we were to collect an infinite number of samples similar to those which we already collected*. In other words, if we observe 6 species of *Drosophila* on 200 sponges baited with banana bait, and the predicted asymptote is 7 species, we estimate that if we had placed an infinite number of sponges using the same protocol, it is likely that we would have collected one additional species of *Drosophila*. This estimate makes no predictions about the number of species we would expect if we were to bait 200 sponges with a bait other than banana, or conduct surveys at a different time of day. Some *Drosophila* species might never be attracted to bait sponges, or active at night. These species would be “invisible” to any predictions based on daytime baiting, and would have to be sampled by a different method. Therefore, the number of species predicted by accumulation curves is probably an underestimate of the actual number of

species on the Refuge, since not all species within a group are equally likely to be collected by the same methods.

Table 5 summarizes all specimens of target endemic insect taxa collected. Table 6 lists additional specimens of endemic insects encountered that were not targeted in this survey. Lastly, Table 7 lists all alien insect species collected. Specimen-level data are provided in Appendix 4.

Table 3. Number of species in target genera collected on transects at KFU. Data are simple overall totals, unadjusted for search effort or standardized sampling. For *Hylaesus*, sticky traps along southern boundary were grouped by elevation, designating the ten traps closest to a transect as belonging to that transect.

Site	<i>Proterhinus</i>	<i>Plagithmysus</i>	<i>Eopenthes</i>	<i>Rhyncogonus</i>	<i>Omiodes</i>	<i>Scotorythra</i>	<i>Drosophila</i>	<i>Megalagrion</i>	<i>Hylaesus</i>	All targets
TR-1	3	0	0	0	1	1	1	1	1	8
TR-2	4	0	0	0	2	2	5	0	3	16
TR-3	3	0	0	0	3	6	6	0	5	23
TR-4	3	4	0	0	2	5	1	0	5	20
Field camp	1	1	0	0	3	6	0	0	4	15
Total collected	5	4	1	0	4	8	6	1	9	38

Table 4. Number of species of *Proterhinus*, *Omiodes*, *Scotorythra*, *Drosophila*, and *Hylaesus* observed and estimated species richness on surveyed transects.

Elevation of transect	Number of samples	Number of species observed	Michaelis Menten estimated richness	ICE estimated richness	Michaelis Menten estimated completeness	ICE estimated completeness	Average estimate of completeness across all estimators
762 m	133	7	11.0	10.8	63.7%	64.8%	71.8%
1067 m	177	17	21.6	38.8	78.6	43.8	66.7
1372 m	188	24	30.5	42.1	78.6	57.0	70.4
1676 m	143	15	22.2	28.0	67.7	53.6	67.6

Table 5. Summary of collections of endemic target taxa. Endangered Species Act status abbreviations: CE=Candidate Endangered (previously Category 1 Candidate), SOC=Species of Concern (previously Category 2 Candidate), NS=No federal conservation status.

Order	Family	Genus	Species	Common name	ESA Status	Number observed	Collection method(s)	Collected from (host plants)	Localities
Coleoptera	Aglycyderidae	<i>Proterhinus</i>	<i>affinis</i>		NS	11	Branch beating (daytime)	<i>Myrsine</i> sp.	56, 57
Coleoptera	Aglycyderidae	<i>Proterhinus</i>	<i>ferrugineus</i>		NS	6	Branch beating (daytime)	<i>Cibotium menziesii</i> , <i>Broussasia arguta</i> , <i>Coprosma</i> sp., <i>Ilex anomala</i> , <i>Metrosideros polymorpha</i>	54, 55, 56, 57
Coleoptera	Aglycyderidae	<i>Proterhinus</i>	<i>hawaiiensis</i>		NS	5	Branch beating (daytime)	<i>Coprosma</i> sp.	55, 63
Coleoptera	Aglycyderidae	<i>Proterhinus</i>	<i>similis</i>		NS	43	Branch beating (daytime)	<i>Metrosideros polymorpha</i> , <i>Ilex anomala</i> , <i>Psychotria hawaiiensis</i> , <i>Cibotium glaucum</i> , <i>Coprosma</i> sp., <i>Myoporum sandwicense</i> , <i>Pipturus albidus</i> , <i>Broussasia arguta</i> , <i>Myoporum sandwicense</i>	41, 54, 56, 57, 60, 63, 64
Coleoptera	Aglycyderidae	<i>Proterhinus</i>	<i>subangularis</i>		NS	6	Branch beating (daytime)	<i>Psychotria hawaiiensis</i> , <i>Antidesma platyphylla</i>	54
Coleoptera	Cerambycidae	<i>Plagithmysus</i>	<i>bilineatus</i>	long-horned beetle	NS	3	General collecting	<i>Metrosideros polymorpha</i>	63
Coleoptera	Cerambycidae	<i>Plagithmysus</i>	<i>debilis</i>	long-horned beetle	NS		Rearing, general collecting	<i>Acacia koa</i>	61, 63
Coleoptera	Cerambycidae	<i>Plagithmysus</i>	<i>nodifer</i>	long-horned beetle	NS		Rearing, general collecting	<i>Acacia koa</i>	61, 64
Coleoptera	Cerambycidae	<i>Plagithmysus</i>	new species A	long-horned beetle	---	4	Rearing	<i>Pittosporum hosmeri</i>	63
Coleoptera	Elateridae	<i>Eopenthes</i>	near <i>cognatus</i>	click beetle	SOC(?)	1	General collecting	<i>Ilex anomala</i>	39
Diptera	Drosophilidae	<i>Drosophila</i>	<i>basisetae</i>	Hawaiian pomace fly	NS	8	Bait sponge		TR-1067 m, TR-1372 m
Diptera	Drosophilidae	<i>Drosophila</i>	<i>conspicua</i>	Hawaiian pomace fly	NS	4	Bait sponge		TR-1067 m, TR-1372 m
Diptera	Drosophilidae	<i>Drosophila</i>	<i>heteroneura</i>	Hawaiian pomace fly	CE	116	Bait sponge, rearing	<i>Clermontia clermontioides</i>	TR-1067 m, TR-1372 m, TR-1463 m, TR-1676 m
Diptera	Drosophilidae	<i>Drosophila</i>	<i>silvestris</i>	Hawaiian pomace fly	NS	13	Bait sponge		TR-1372 m, TR-1463 m
Diptera	Drosophilidae	<i>Drosophila</i>	<i>sproati</i>	Hawaiian pomace fly	NS	80	Bait sponge		TR-1067 m, TR-1372 m, TR-1463 m
Diptera	Drosophilidae	<i>Drosophila</i>	<i>tanythrix</i>	Hawaiian pomace fly	NS	93	Bait sponge		TR-762 m, TR-1067 m, TR-1372 m
Hymenoptera	Colletidae	<i>Hylaeus</i>	<i>coniceps</i>	yellow-faced bee	SOC	27	Yellow sticky traps, sweep netting	<i>Cheirodendron trigynum</i> , <i>Geranium cuneatum</i> , <i>Metrosideros polymorpha</i> , <i>Myoporum sandwicense</i>	2, 10, 12, 15, 16, 19, 60

Table 5 (continued).

Order	Family	Genus	Species	Common name	Status	Number observed	Collection method(s)	Collected from (hostplants)	Localities
Hymenoptera	Colletidae	<i>Hylaeus</i>	<i>connectens</i>	yellow-faced bee	SOC	2	Yellow sticky traps		4, 18
Hymenoptera	Colletidae	<i>Hylaeus</i>	<i>crabronoides</i>	yellow-faced bee	SOC	10	Yellow sticky traps, sweep netting	<i>Cheirodendron trigynum</i> , <i>Myoporum sandwicense</i>	2, 10, 15, 16
Hymenoptera	Colletidae	<i>Hylaeus</i>	<i>difficilis</i>	yellow-faced bee	SOC	69	Yellow sticky traps, sweep netting	<i>Cheirodendron trigynum</i> , <i>Myoporum sandwicense</i>	1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 19, 60
Hymenoptera	Colletidae	<i>Hylaeus</i>	<i>dumetorum</i>	yellow-faced bee	NS	12	Yellow sticky traps, sweep netting	<i>Cheirodendron trigynum</i> , <i>Myoporum sandwicense</i>	14, 22, 38, 44, 45
Hymenoptera	Colletidae	<i>Hylaeus</i>	<i>filicum</i>	yellow-faced bee	SOC	1	Sweep netting	<i>Cheirodendron trigynum</i>	60
Hymenoptera	Colletidae	<i>Hylaeus</i>	<i>pubescens</i>	yellow-faced bee	SOC	1	Sweep netting	<i>Cheirodendron trigynum</i>	60
Hymenoptera	Colletidae	<i>Hylaeus</i>	<i>specularis</i>	yellow-faced bee	NS	22	Yellow sticky traps, sweep netting	<i>Myoporum sandwicense</i>	9, 19, 38, 60
Hymenoptera	Colletidae	<i>Hylaeus</i>	<i>sphecodoides</i>	yellow-faced bee	SOC	11	Yellow sticky traps		2, 4, 5, 6, 14, 31
Hymenoptera	Colletidae	<i>Hylaeus</i>	<i>volcanicus</i>	yellow-faced bee	NS	2	Yellow sticky traps		2, 15
Lepidoptera	Crambidae	<i>Omiodes</i>	<i>accepta</i>	sugarcane leafroller	NS	27	Light traps		51, 52, 59
Lepidoptera	Crambidae	<i>Omiodes</i>	<i>asaphombra</i>		NS	4	Light traps		52, 59
Lepidoptera	Crambidae	<i>Omiodes</i>	<i>localis</i>		NS	11	Light traps		50, 51, 52, 59
Lepidoptera	Crambidae	<i>Omiodes</i>	<i>scotaea</i>		NS	8	<i>Astelia</i> surveys, light traps	<i>Astelia menziesiana</i>	52
Lepidoptera	Geometridae	<i>Scotorythra</i>	<i>apicalis</i>		NS	1	Light traps, branchbeating (nighttime)	<i>Ilex anomala</i>	52
Lepidoptera	Geometridae	<i>Scotorythra</i>	<i>arboricolans</i>		NS	33	Light traps		50, 51, 52, 59
Lepidoptera	Geometridae	<i>Scotorythra</i>	<i>artemidora</i>		NS	32	Light traps		52, 59
Lepidoptera	Geometridae	<i>Scotorythra</i>	<i>euryphaea</i>		NS	40	Light traps, branchbeating (nighttime)	<i>Metrosideros polymorpha</i> , <i>Ilex anomala</i>	52, 59
Lepidoptera	Geometridae	<i>Scotorythra</i>	<i>paludicola</i>	koa moth	NS	6	Light traps		59
Lepidoptera	Geometridae	<i>Scotorythra</i>	<i>rara</i>		NS	53	Light traps		51, 52, 59
Lepidoptera	Geometridae	<i>Scotorythra</i>	new species 5		NS	6	Light traps		52, 59
Lepidoptera	Geometridae	<i>Scotorythra</i>	new species 13		NS	4	Light traps		59
Odonata	Coenagrionidae	<i>Megalagrion</i>	<i>calliphya</i>		NS	2	General collecting		54

Table 6. Summary of specimens of additional (non-target) endemic taxa of interest. See Table 5 for status abbreviations.

Order	Family	Genus	Species	Common name	ESA Status	Number observed	Collection method(s)	Localities
Coleoptera	Elateridae	<i>Anchastus</i>	<i>swezeyi</i>	click beetle	NS	62	Yellow sticky traps	32, 43, 44, 45, 46, 47, 48, 49, 54
Hymenoptera	Sphecidae	<i>Ectemnius</i>	<i>atripennis</i>	square-headed wasp	NS	6	General collecting	54
Hymenoptera	Sphecidae	<i>Ectemnius</i>	sp. A	square-headed wasp	---	1	General collecting	60
Lepidoptera	Geometridae	<i>Eupithecia</i>	<i>craterias</i>	carnivorous caterpillar	NS	5	Branchbeating	
Lepidoptera	Geometridae	<i>Eupithecia</i>	<i>monticolans</i>	pollen-feeding caterpillar	NS	3	Light traps	
Lepidoptera	Geometridae	<i>Eupithecia</i>	<i>staurophragma</i>	carnivorous caterpillar	NS	2	Branchbeating (daytime), light traps	
Lepidoptera	Sphingidae	<i>Hyles</i>	<i>wilsoni</i>	Hawaiian hawk moth	NS	11	Light traps	50, 51, 52, 53, 59, 62
Araneae	Theridiidae	<i>Theridion</i>	<i>grallator</i>	happy-face spider	NS	2	Branchbeating (daytime)	49, 44

Table 7. Summary of specimens of alien invertebrates.

Order	Family	Genus	Species	Common name	Nativity Status	Number observed	Collection method(s)	Localities
Coleoptera	Elateridae	<i>Adelocera</i>	<i>oblonga</i>	click beetle	adventive	1	Yellow sticky trap	49
Coleoptera	Elateridae	<i>Conoderus</i>	<i>exsul</i>	click beetle	adventive	39	Yellow sticky traps	7, 8, 27, 31, 34, 38, 39, 40, 42, 43, 44, 49, 54, 56, 63
Homoptera	Cicadellidae	<i>Sophonia</i>	<i>rufofascia</i>	two-spotted leafhopper	adventive	6948	Yellow sticky traps	S. boundary between stations 27 and 49 (see chart)
Hymenoptera	Vespidae	<i>Vespula</i>	<i>pensylvanica</i>	yellowjacket wasp	adventive	933	Heptyl butyrate wasp traps	S. boundary between stations 1 and 49 (see chart)

VI. DISCUSSION

A. Trends in diversity

The Kona Forest Unit on all four contour transects is sufficiently intact to support populations of endemic insects. At all elevations, endemic insects were observed and/or collected along transects. However, diversity among native target genera was highest in the middle elevations of the reserve, on the transects at 1067 m and 1372 m. This is not particularly surprising, considering that the forest at these elevations appears to be the most intact forest on the Refuge.

The rough correlation between high diversity of native targets and low abundance of invasive insects is an interesting pattern that deserves further investigation. Ants were observed only in the lower reaches of the reserve, and were found no higher than 930 m. Yellowjackets (*Vespula pensylvanica*) were conspicuously absent or low in numbers between 1067 m and 1662 m. Two-spotted leafhopper (*Sophonia rufofascia*) were for the most part found only below 1190 m. There are at least three possible explanations for the apparent inverse relationship between invasive insects and diversity of native target species. 1) Invasive insects (especially ants and yellowjackets) could be negatively affecting native invertebrates through predation and competition. It is known that ants and yellowjackets will prey heavily on native insects, especially vulnerable life stages such as larvae and pupae. 2) Invasive insect species might be more successful at colonizing disturbed habitats present at low and high elevations on the Refuge than they are at colonizing intact native forest. It is certainly true that native insect diversity generally decreases as disturbance increases. It is also possible that the yellowjackets prefer the relatively open forest produced by foraging ungulates, or that strawberry guava or uluhe fern is a preferred host of the two-spotted leafhopper. 3) Another possibility is that this pattern is an artifact of incidental colonization, and that the pattern will not remain consistent over time. These hypotheses cannot be evaluated without further monitoring and observations of predator-prey interactions.

B. Management implications

Feral ungulates probably are a long-term threat to the health of invertebrate communities at the Kona Forest Unit of Hakalau NWR. Diversity of target insect groups was much lower in the areas most heavily occupied by cattle and pigs, although even the most disturbed habitat on the Refuge still supports native invertebrates. Forest quality in these areas is certainly marginal and if grazing by ungulates continues, what remains of native insect diversity in these areas will most likely be lost. As such, it is of great importance to minimize ungulate densities low in the relatively intact middle elevation forests.

Often tied to disturbance by ungulates is invasion by weeds. The invasion of lower elevations by weeds such as guava (*Psidium guajava*), strawberry guava (*P. cattleianum*), and Christmas berry (*Schinus terebinthifolius*), is no doubt partly to blame for the lower diversity of native invertebrates at these elevations. To prevent further loss of insect diversity, aggressive weeds such as these must be monitored and controlled. It is especially important that weeds be prevented from further displacing native vegetation at middle elevations, between 1000m and 1500m, since these areas seem to support the highest diversity of native insects.

Yellowjacket wasps are a very serious threat to native insect communities on the Refuge. Wasp populations should be suppressed to prevent outbreaks like those observed during our survey. Yellowjackets should be monitored for several years on a monthly basis, to establish whether the winter peak observed at high elevations was an anomaly or a recurring phenomenon. This pattern is puzzling and unexpected, since yellowjacket populations usually peak in late summer and die back during winter

months. Additional monitoring would be necessary to identify hotspots of yellowjacket activity beyond the southern boundary. Yellowjacket wasps not only have a large negative impact on native insects by direct predation and competition with native predators and pollinators, but they can have direct or indirect effects on native birds, either by lowering prey densities or by preying on nestlings.

Ants should also be monitored regularly (at least yearly). Monitoring stations should be established along the south boundary road and along other east-west transects, to monitor elevational changes in distribution over time. All of the ant species observed on the Refuge are confined to low elevations, so it is not expected that they will move into higher elevations. However, it is important to monitor ants regularly, to document incipient species, such as the little red fire ant (*Wasmannia auropunctata*) and initiate control efforts immediately, should ant species arrive that can tolerate higher elevations, including the Argentine ant (*Linepithema humile*). Ant control is difficult in dense forest, and would entail aerial application of a bait product, but it might be warranted if there is potential for ants to move into higher elevations.

Two-spotted leafhopper should also be monitored regularly. Traps should be set monthly for one or two years. After seasonal patterns have been sufficiently documented, monitoring can be reduced to once or twice yearly. There is no current management strategy for two-spotted leafhopper, but it has been implicated in the dieback of uluhe fern and possibly 'ōhi'a forest.

The discovery of endemic picture-wing pomace fly *Drosophila heteroneura* represents the first observation of this species in close to ten years and it is the only known population currently surviving in the wild (Foote, 1999). *Drosophila heteroneura* is currently the subject of a listing action under the Endangered Species Act by the U.S. Fish and Wildlife Service. This very unique species has been featured in numerous nature documentaries about Hawai'i and is truly a "poster child" for Hawaiian evolutionary biology. If possible, it should be a high priority to better determine the distribution and status of this species at the Refuge. Habitat restoration efforts should include host plants of this species (e.g. *Clermontia*), and suppression of yellowjacket wasps needs to be taken as soon as road access to the Refuge is reestablished.

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X. FIGURES

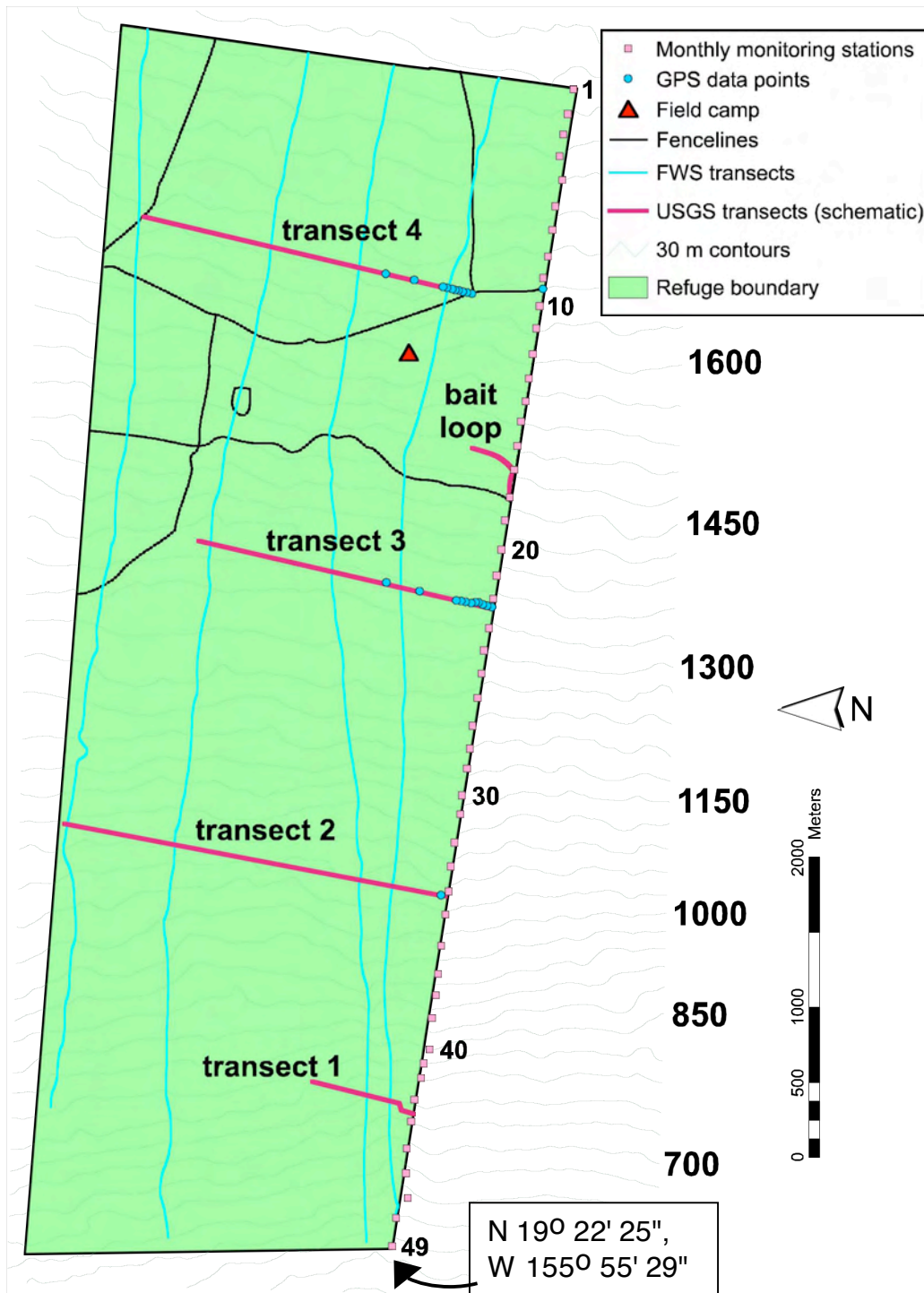


Figure 1. Transects and monitoring stations in the Kona Forest Unit of Hakalau National Wildlife Refuge. Transect lines are schematic. Transect point and monthly monitoring station data are based upon coordinates collected using a Garmin global positioning system.

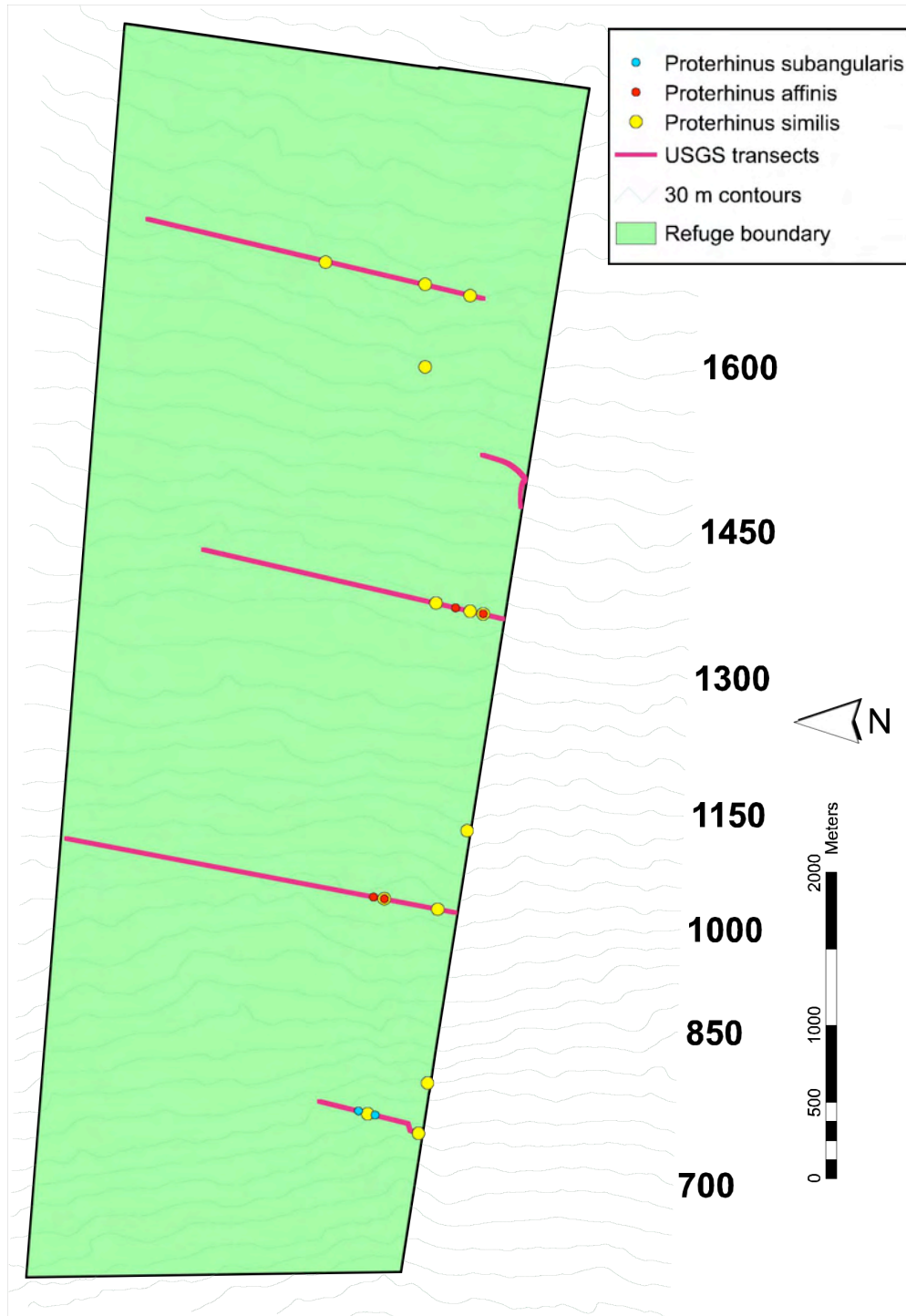


Figure 2. Distributions of *Proterhinus* beetles at the Kona Forest Unit of Hakalau National Wildlife Refuge (Part 1 of 2): *Proterhinus affinis*, *P. similis*, and *P. subangularis*. Beetles were collected by shaking foliage onto sheets along contour transects and at the field camp. Determinations were made by William Haines.

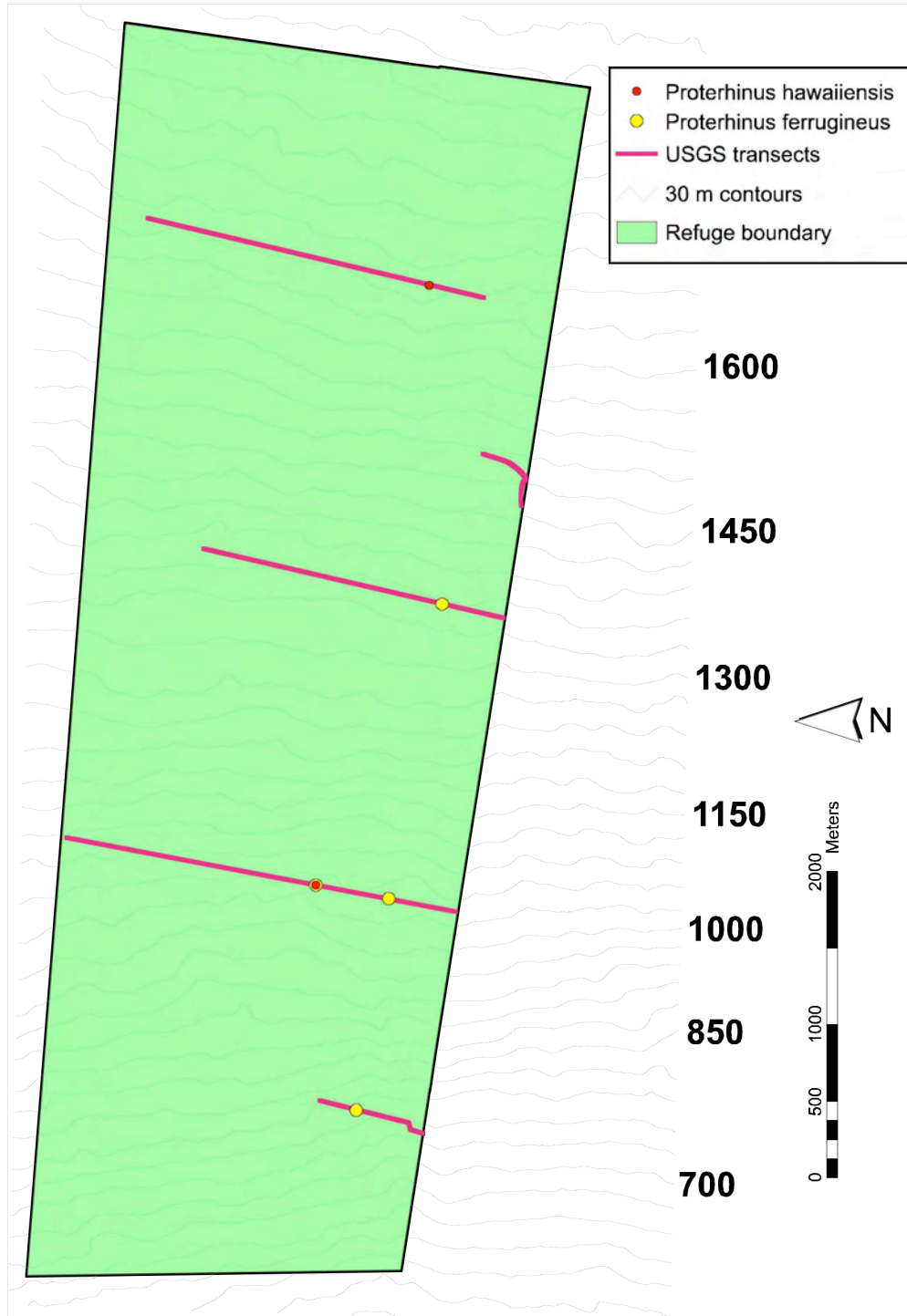


Figure 3. Distributions of *Proterhinus* beetles at the Kona Forest Unit of Hakalau National Wildlife Refuge (Part 2 of 2): *Proterhinus ferrugineus* and *P. hawaiiensis*. Beetles were collected by shaking foliage onto sheets along contour transects and at the field camp. Determinations were made by William Haines.

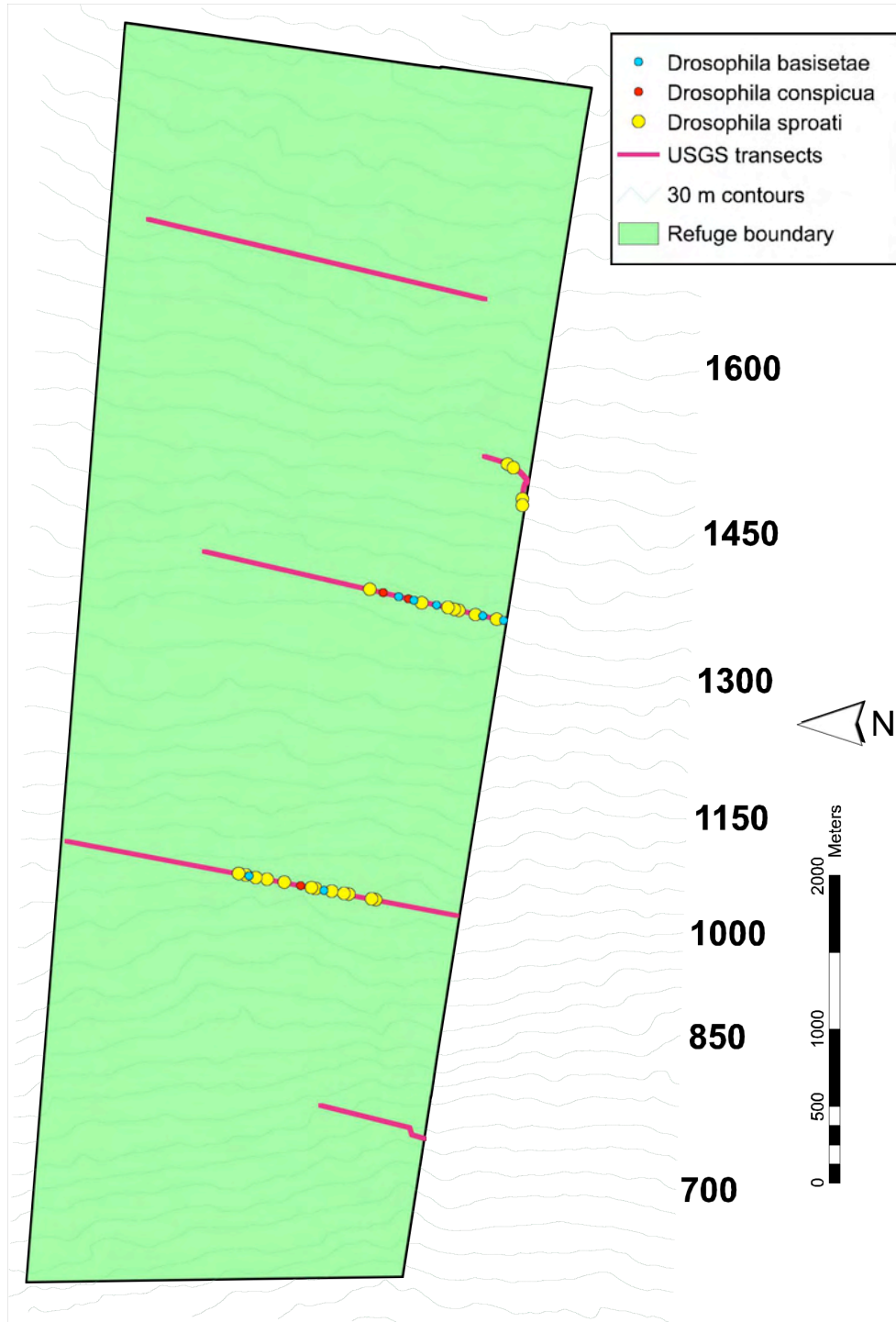


Figure 4. Distributions of endemic pomace flies at the Kona Forest Unit of Hakalau National Wildlife Refuge (Part 1 of 3): *Drosophila basissetae*, *D. conspicua*, and *D. sproati*. *Drosophila* were observed on or collected from baits of fermenting bananas and mushrooms placed along USGS transects. Determinations were made by David Foote.

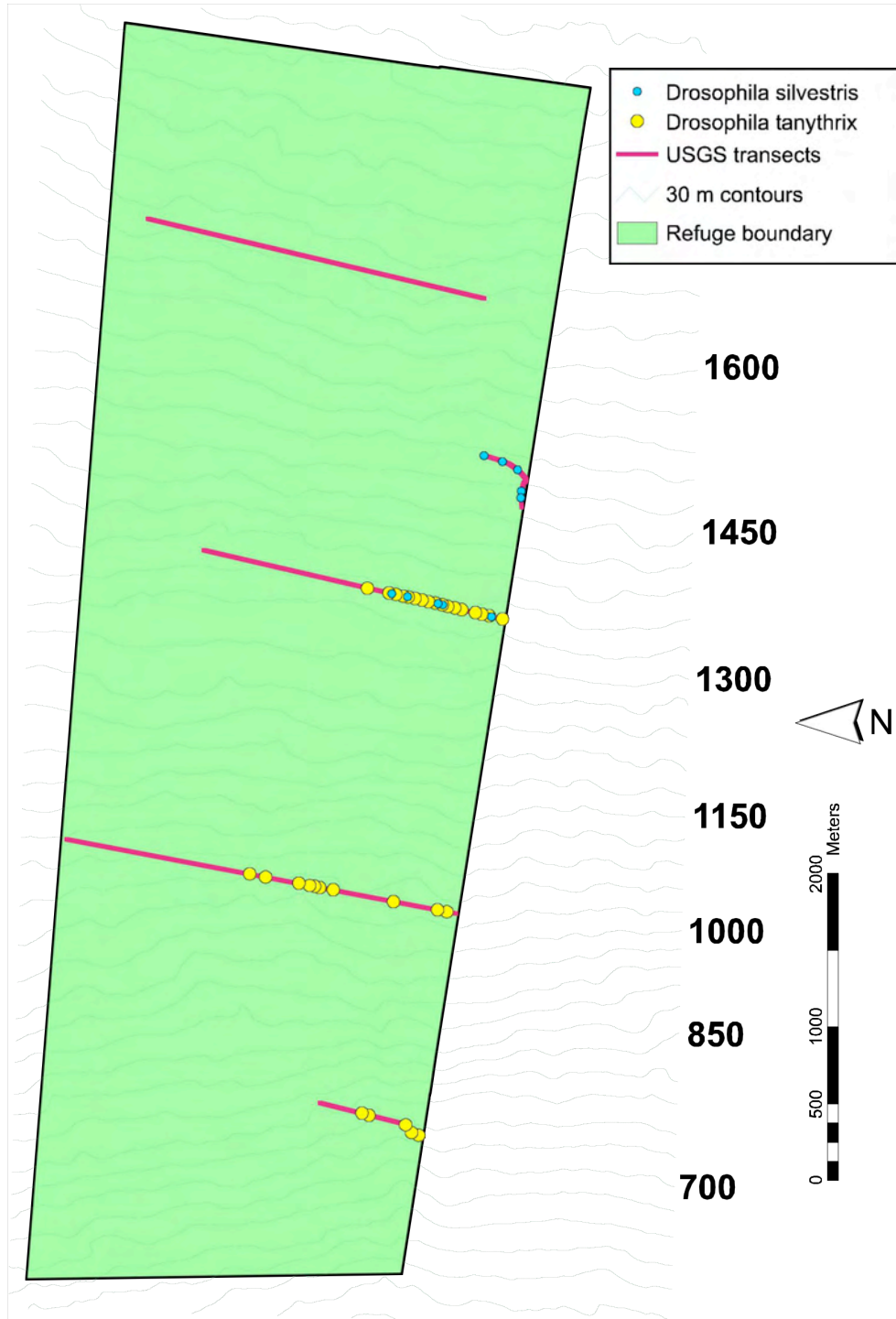


Figure 5. Distributions of endemic pomace flies at the Kona Forest Unit of Hakalau National Wildlife Refuge (Part 2 of 3): *Drosophila silvestris* and *D. tanythrix*. *Drosophila* were observed on or collected from baits of fermenting bananas and mushrooms place along USGS transects. Determinations were made by David Foote.

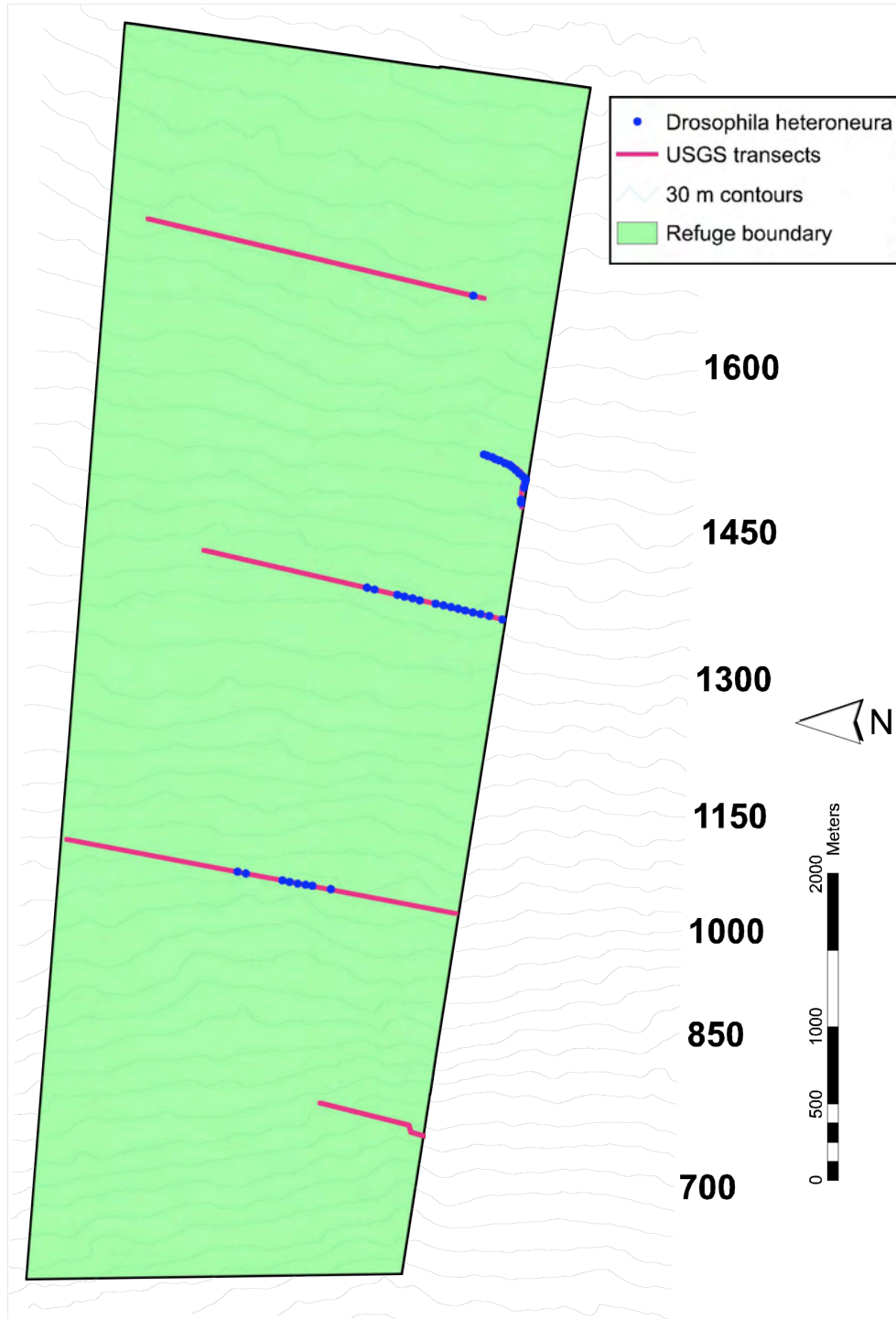


Figure 6. Distributions of endemic pomace flies at the Kona Forest Unit of Hakalau National Wildlife Refuge (Part 3 of 3): *Drosophila heteroneura*. *Drosophila* were observed on or collected from baits of fermenting bananas and mushrooms place along USGS transects. Determinations were made by David Foote.

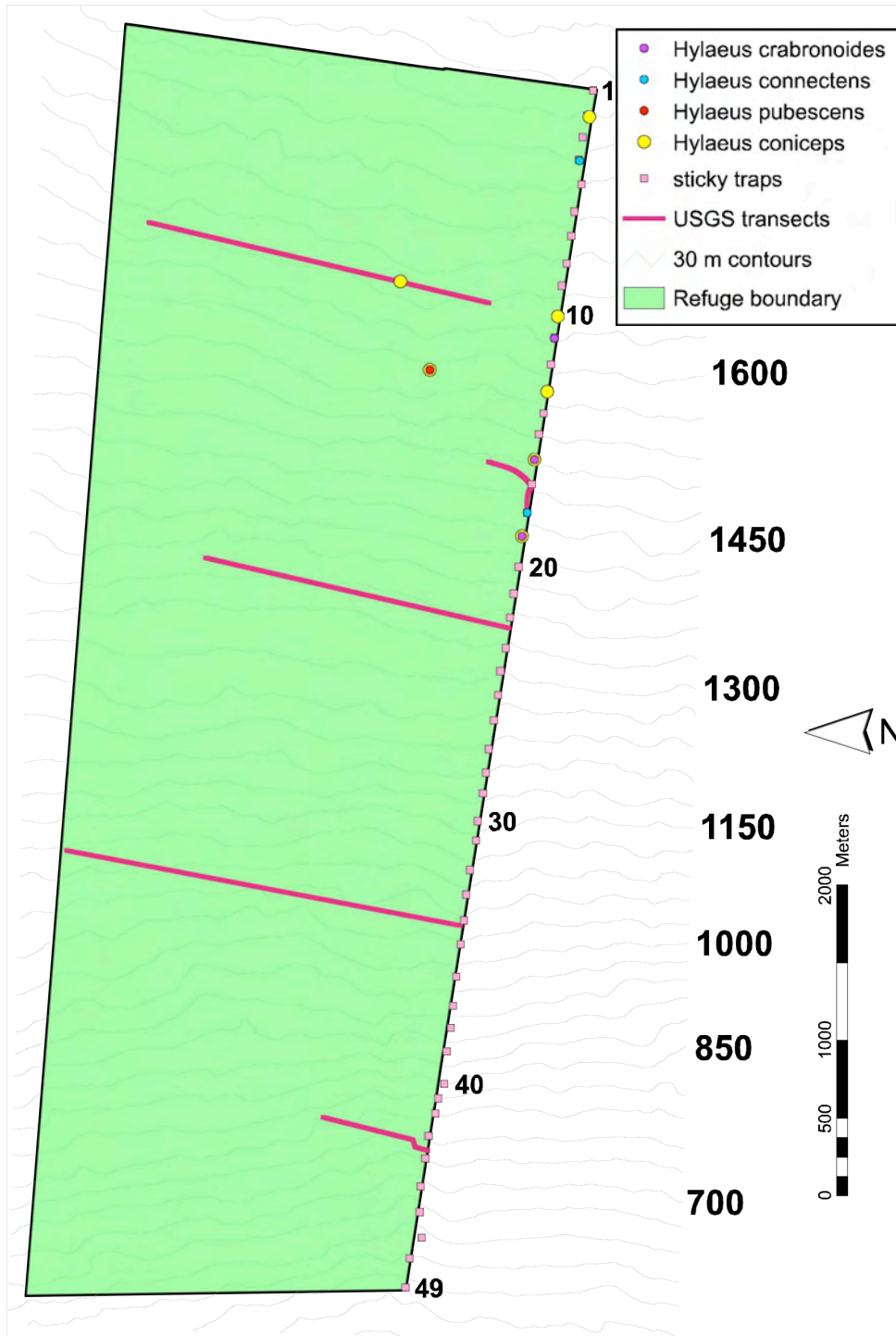


Figure 7. Distributions of yellow-faced bees at the Kona Forest Unit of Hakalau National Wildlife Refuge (Part 1 of 3): *Hylaeus coniceps*, *H. connectens*, *H. crabronoides*, and *H. pubescens*. *Hylaeus* bees were monitored primarily using yellow sticky cards along the southern boundary of the Refuge. In addition, some specimens were collected by sweep netting around flowering vegetation. Determinations were made by Karl Magnacca of Cornell University.

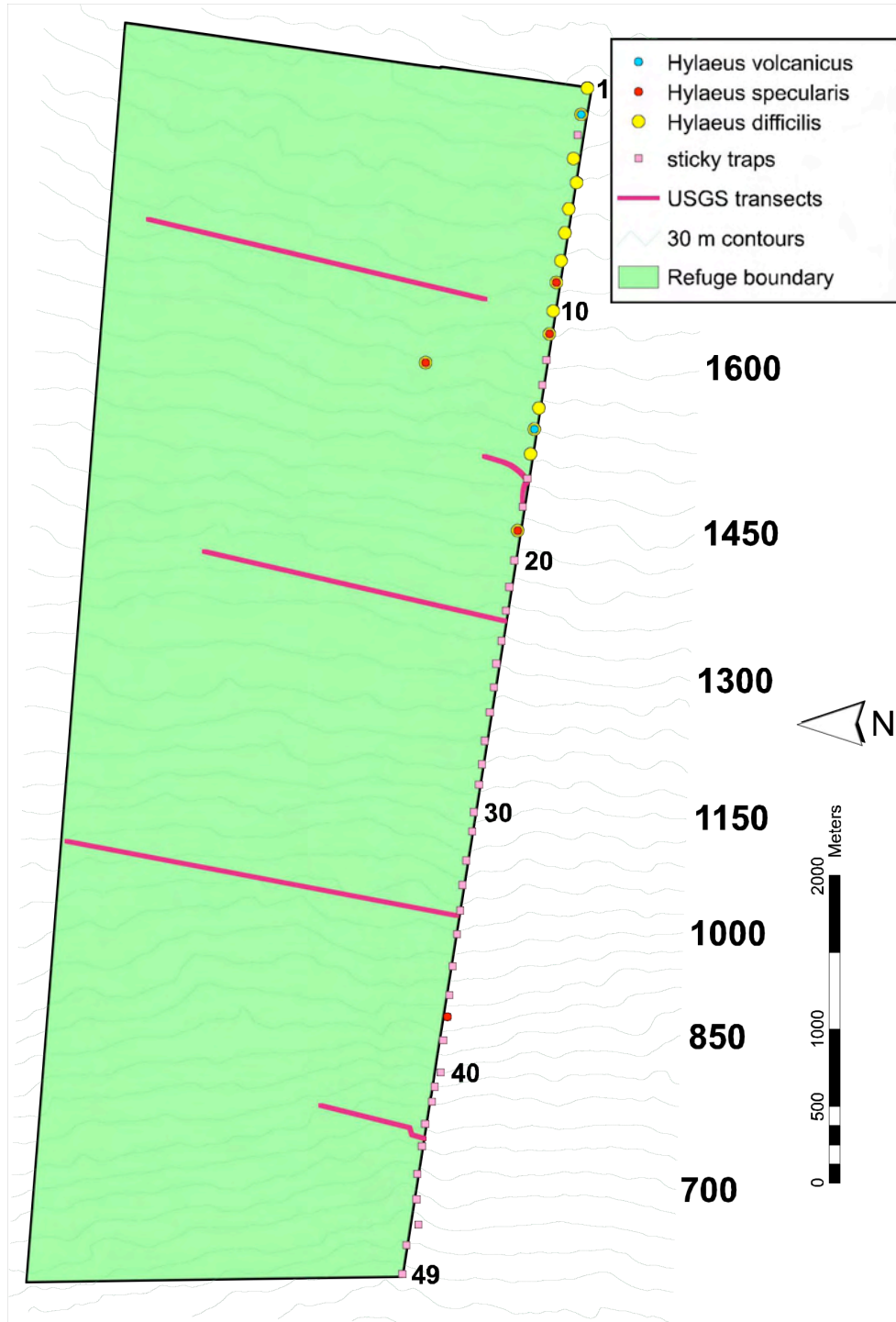


Figure 8. Distributions of yellow-faced bees at the Kona Forest Unit of Hakalau National Wildlife Refuge (Part 2 of 3): *Hylaëus difficilis*, *H. specularis*, and *H. volcanicus*. Hylaëus bees were monitored primarily using yellow sticky cards along the southern boundary of the Refuge. In addition, some specimens were collected by sweep netting around flowering vegetation. Determinations were made by Karl Magnacca of Cornell University.

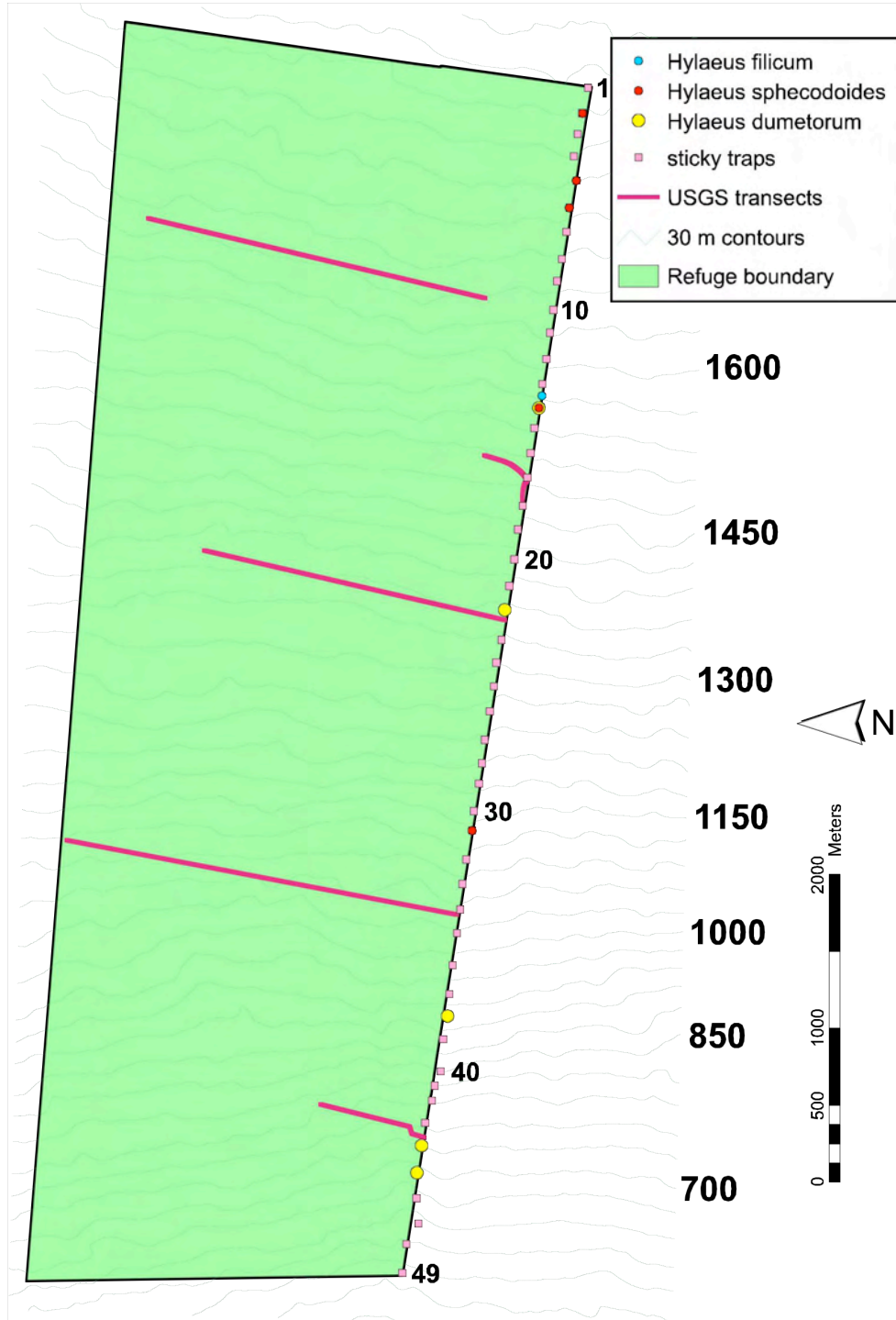


Figure 9. Distributions of yellow-faced bees at the Kona Forest Unit of Hakalau National Wildlife Refuge (Part 3 of 3): *Hylaesus dumetorum*, *H. filicum*, and *H. sphecodoides*. *Hylaesus* bees were monitored primarily using yellow sticky cards along the southern boundary of the Refuge. In addition, some specimens were collected by sweep netting around flowering vegetation. Determinations were made by Karl Magnacca of Cornell University.

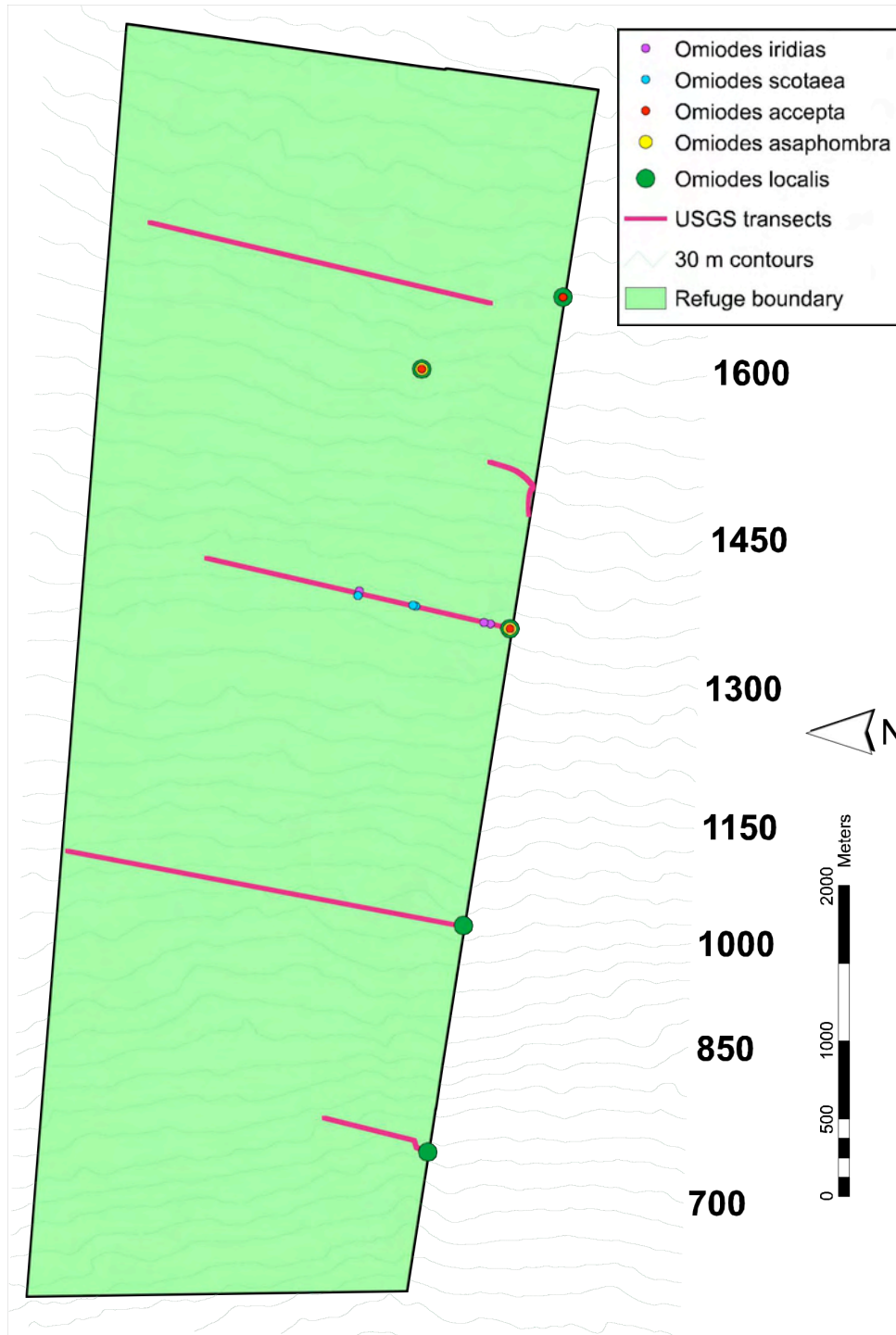


Figure 10. Distributions of *Omiodes* leafroller moths at the Kona Forest Unit of Hakalau National Wildlife Refuge: *Omiodes accepta*, *O. asaphombra*, *O. iridias*, *O. localis*, and *O. scotaea*. Moths were collected from light traps (sheet- and bucket-type) and transect heads and at the field camp. Surveys for larvae were also conducted along transects at elevations of 762 m, 1067 m, 1372 m, and 1676 m. Determinations were made by Will Haines.



Figure 11. Distributions of *Scotorythra* moths at the Kona Forest Unit of Hakalau National Wildlife Refuge (Part 1 of 3): *Scotorythra arboricolans*, *S. artemidora*, and *S. paludicola*. Moths were collected from light traps (sheet- and bucket-type) at transect heads and at the field camp. Determinations were confirmed by Mandy Heddle of University of California at Berkeley.

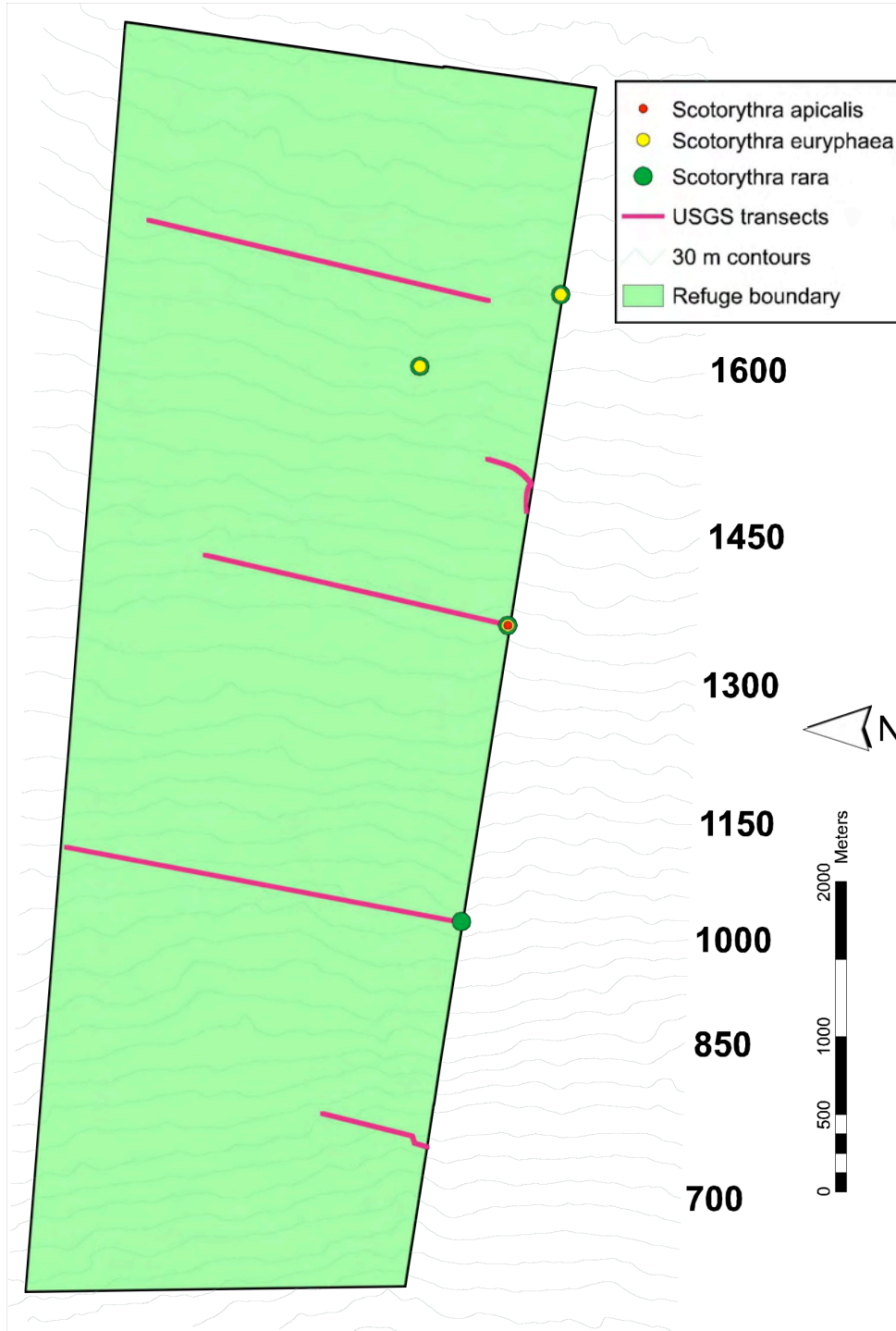


Figure 12. Distributions of *Scotorythra* moths at the Kona Forest Unit of Hakalau National Wildlife Refuge (Part 2 of 3): *Scotorythra apicalis*, *S. euryphaea*, and *S. rara*. Moths were collected from light traps (sheet- and bucket-type) at transect heads and at the field camp. Determinations were confirmed by Mandy Heddle of University of California at Berkeley.

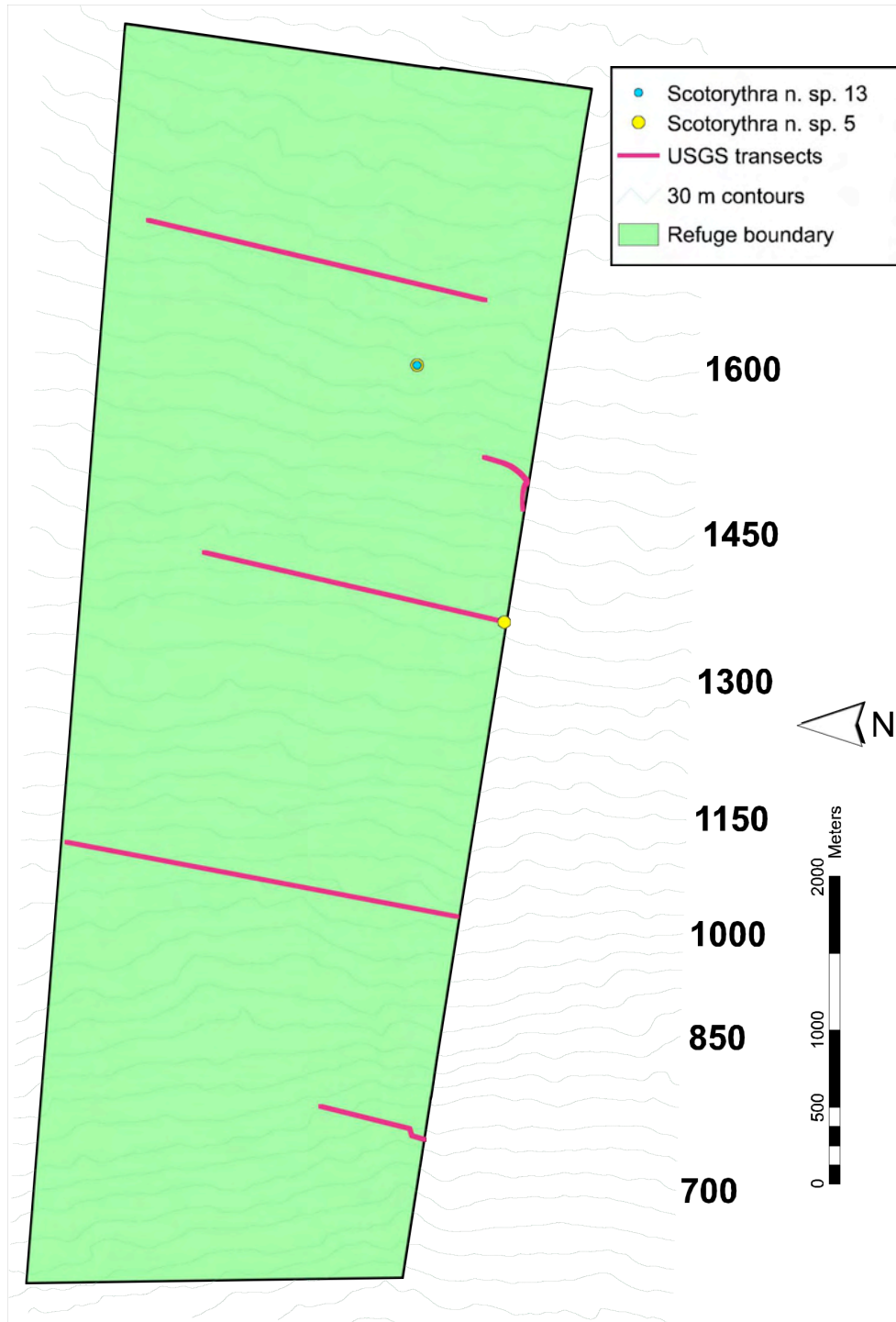


Figure 13. Distributions of *Scotorythra* moths at the Kona Forest Unit of Hakalau National Wildlife Refuge (Part 3 of 3): *Scotorythra* new species 5 and 13. Moths were collected from light traps (sheet- and bucket-type) at transect heads and at the field camp. Determinations were confirmed by Mandy Heddle of University of California at Berkeley.

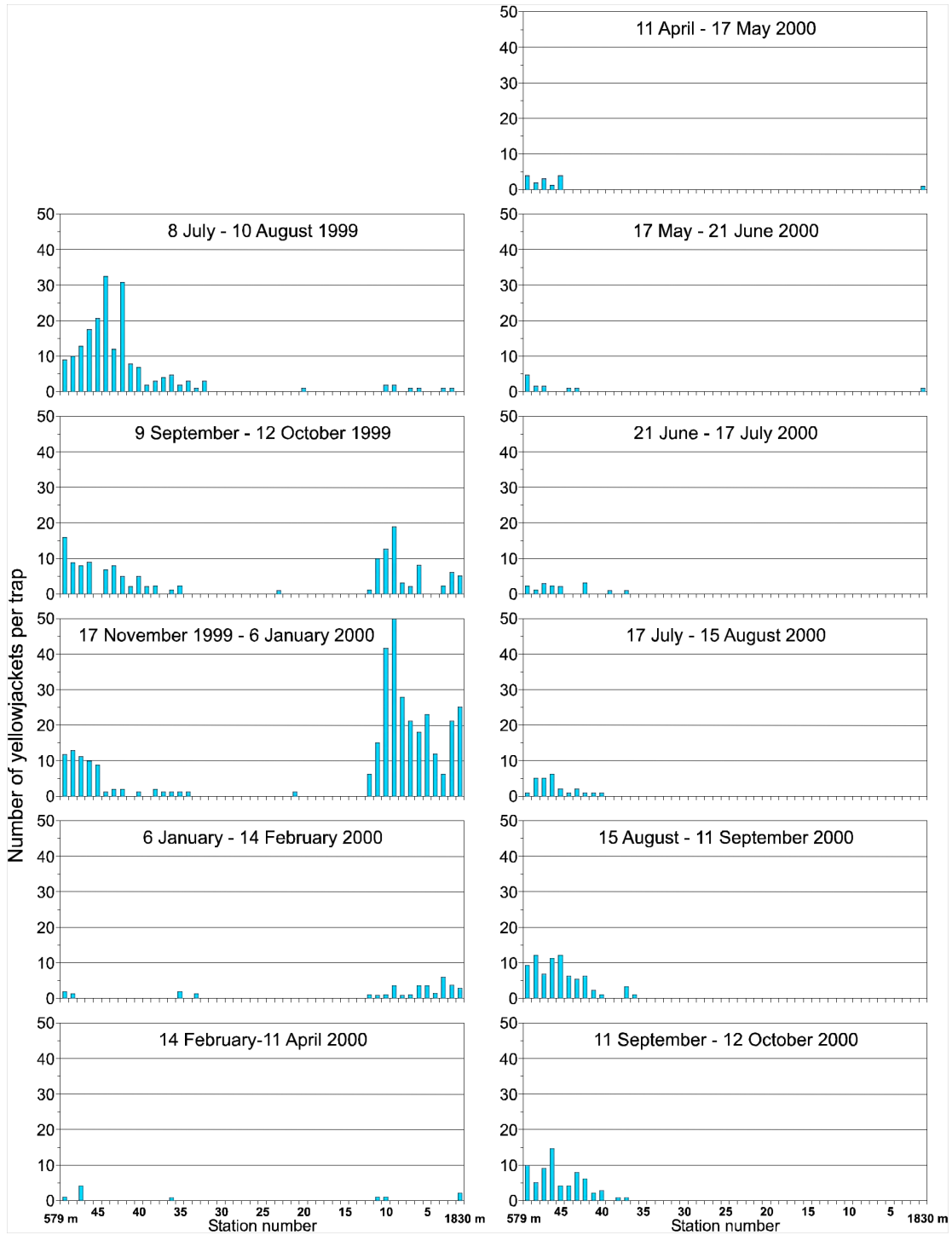


Figure 14. Seasonal abundances of yellowjacket wasps (*Vespula pennsylvanica*) along the south boundary road of the Kona Forest Unit of Hakalau National Wildlife Refuge between 8 July 1999 and 12 October 2000. Station numbers refer to trap stations placed along the road at intervals of 0.1 mile. Station 1 is at an elevation of 1676 m, station 49 is at an elevation of 762 m. Yellowjacket were monitored using heptyl butyrate traps. Determinations made by David Foote.

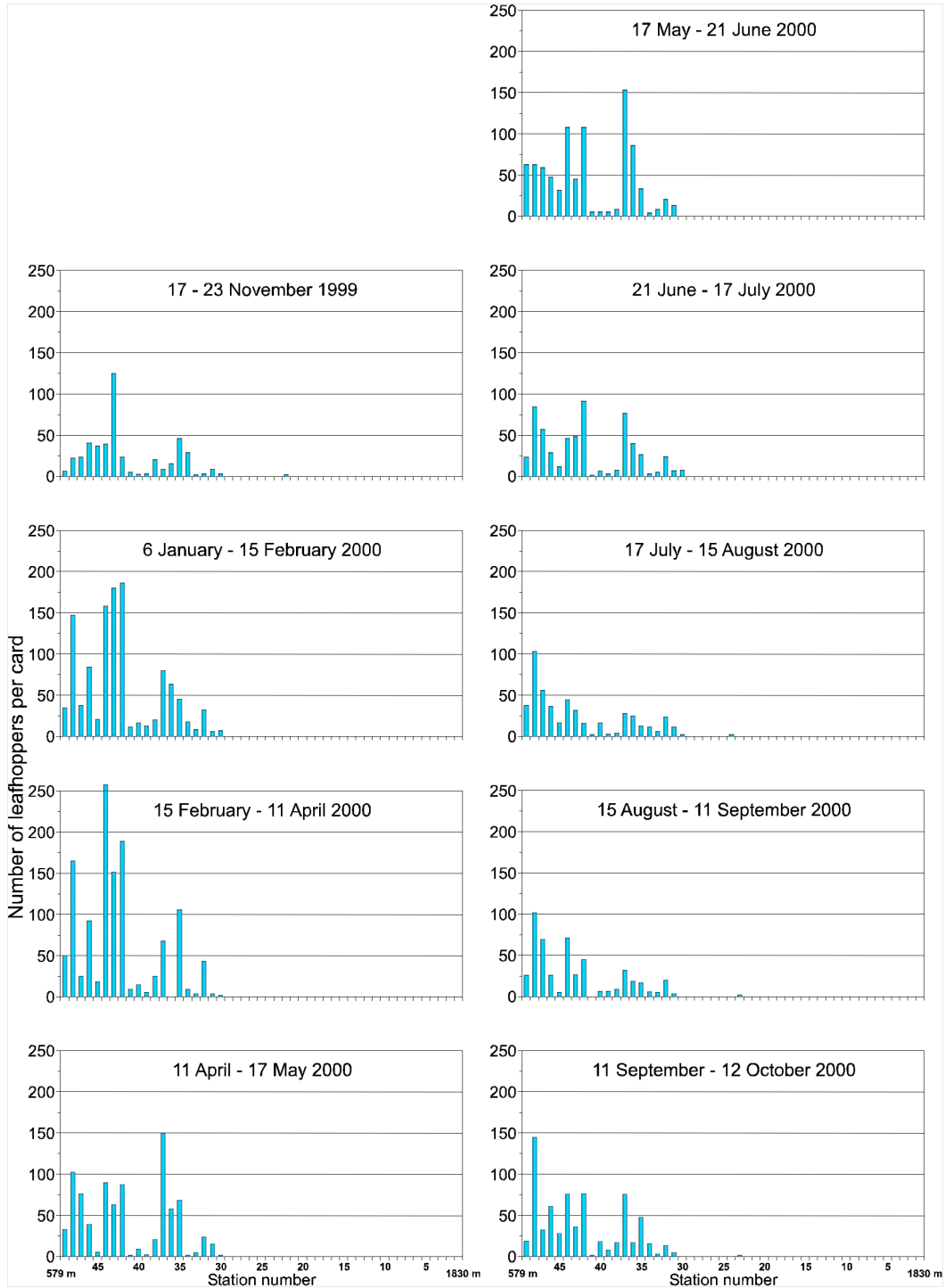


Figure 15. Seasonal abundances of two-spotted leafhopper (*Sophonia rufofascia*) along the southern boundary of the Kona Forest Unit of Hakalau National Wildlife Refuge between 17 November 1999 and 12 October 2000. Station numbers refer to trap stations placed along the road at intervals of 0.1 miles. Station one is at an elevation of 1844 m, while station 49 is at an elevation of 579 m. Leafhoppers were monitored using yellow sticky traps. Determinations made by David Foote.

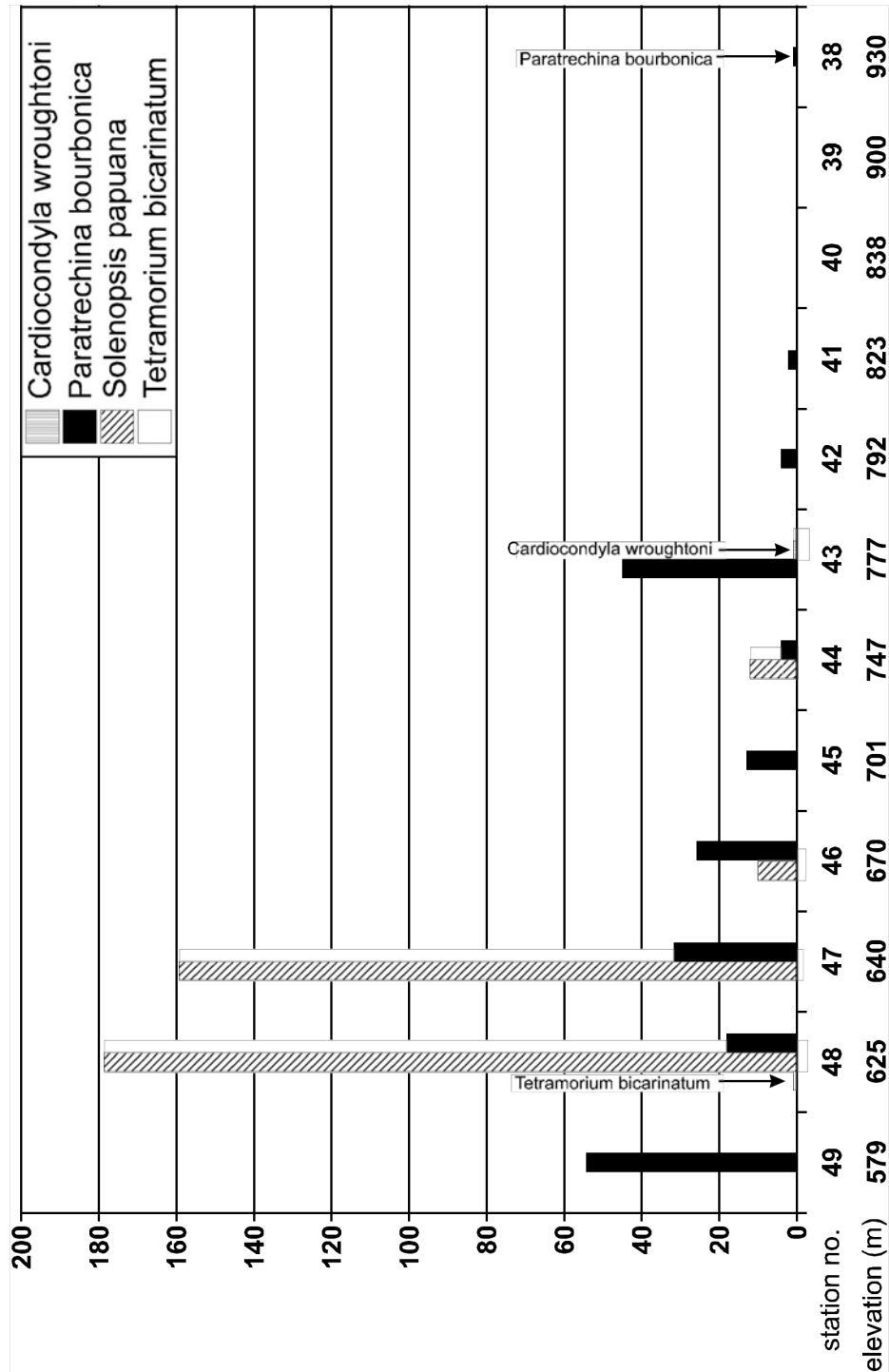


Figure 16. Abundances of ants (Hymenoptera: Formicidae) along the southern boundary of the Kona Forest Unit of Hakalau National Wildlife Refuge. Ants were monitored a total of four times (November 1999, February 2000, May 2000, and June 2000) using protein and carbohydrate baits. Although ants were surveyed along the entire southern boundary (579-1844 m), ants were discovered only at elevations between 579 m and 930 m. Ant abundance is expressed as the total number of ant specimens observed at each station over all four monitoring events. Determinations were made by Will Haines and Lori Lach.

XI. APPENDICES

APPENDIX 1. Publication 1: Foote, D. 1999. Rediscovery of *Drosophila heteroneura* on the Island of Hawai'i. *Bishop Museum Occasional Papers* **64**: 27-28

APPENDIX 2. Publication 2: Johnson, P.J., W. P. Haines, and D. Foote. 2002. A new generic combination and new Hawai'i Island record for *Adelocera beardsleyi* (Ohira & Becker) (Coleoptera: Elateridae). *Bishop Museum Occasional Papers* **69**: 29-31.

APPENDIX 3. Publication 3: Haine, W.P., Giffin, J., and D. Foote. 2003. Rediscovery of five species of *Omiodes* Guenée (Lepidoptera: Crambidae) on Hawai'i Island. *Bishop Museum Occasional Papers* **79**: 45-49.

APPENDIX 4: List of archived specimens collected at the Kona Forest Unit of Hakalau National Wildlife Refuge. Specimens are grouped by taxon. This list was exported from Biota, The Biodiversity Database Manager (Colwell, 1996), which was used to catalog specimens for the Hawaii Volcanoes National Park Invertebrate Collection. Taxonomic ranks in parentheses indicate that specimens were not identified to lower taxonomic levels. Total specimens (lot specimens treated as single specimens): 1683. Total individuals: 9330

Appendix 1. Publication 1: Foote, D. 1999. Rediscovery of *Drosophila heteroneura* on the Island of Hawaii. *Bishop Museum Occasional Papers* **64**: 27-28

Records of the Hawaii Biological Survey for 1999-Part 2: Notes

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BISHOP MUSEUM OCCASIONAL PAPERS: No.64, 2000

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Rediscovery of *Drosophila heteroneura* on the Island of Hawai'i

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Drosophila heteroneura Perkins is a rare picture-wing pomace fly endemic to the Island of Hawai'i and part of a group of picture-wing *Drosophila* that are currently being listed by the Fish and Wildlife Service as Threatened or Endangered under the Endangered Species Act. *Drosophila heteroneura* is one of the most intensively studied native arthropods in Hawai'i and research on the species has helped to unravel the patterns and mechanisms of speciation that has led to the formation of more than 800 species of Hawaiian *Drosophila* (e.g., Carson & Kaneshiro, 1976; Carson & Yoon, 1982, Carson, 1992). Three decades ago, when researchers first focused attention on picture-winged *Drosophila*, *D. heteroneura* was widespread, with 73 historical collection records from 16 localities over 4 of the 5 major volcanoes on the island (U.S. Fish & Wildlife Service, 1995). The extirpation of smaller populations was first reported from the Ola 'a Forest of H&waii Volcanoes National Park (HVNP) in 1980 (Carson, 1986; Foote & Carson, 1994). Subsequently, *D. heteroneura* disappeared from sites in the southern and western parts of the island at locations where the species had traditionally yielded larger collections. Records maintained as part of the Hawai'i *Drosophila* Project indicate that the last collection of *D. heteroneura* occurred in 1993 at Hualalai. Since this time, concerted efforts to relocate *D. heteroneura* at historical sites have failed.

***Drosophila heteroneura* Perkins Rediscovery; Range extension**

On 16-17 November 1999 specimens of *Drosophila heteroneura* were collected in a recently established National Wildlife Refuge, north of Waiea Rd in South Kona. This represents a new population or subpopulation not previously discovered. The specimens were taken as part of a rapid biological assessment of invertebrates occurring in the Kona Forest Unit (KFU) of the Hakalau National Wildlife Refuge conducted by the Pacific

Island Ecosystem Research Center, U.S. Geological Survey. Survey work was focused along four 500-700 m transects following elevational contours at 762, 1067, 1372, and 1676 m, respectively, extending north from the southern boundary of the Refuge. Sponges containing a combination of yeast-fermented banana and mushroom bait were placed every 50 m along each transect and surveyed twice over a period of 24 hr. A total of 29 picture-wing *Drosophila* were observed and collected, including 2 female and 4 male *D. heteroneura*. All of the picture-winged species were found on the 1372 m elevation transect with the exception of *Drosophila sproati* at 1067 m. *Drosophila silvestris* was equally abundant at this location and, together with *D. heteroneura*, comprised 42% of the picture-wings collected.

Drosophila heteroneura is completely sympatric with *D. silvestris* throughout its historical range between about 1000 and 1600 m altitude in montane rain forests (Carson & Yoon, 1982). The KFU observations occur approximately 12 km S of the nearest historical population of Pauahi and fall within the southern most area of the predicted range for *D. silvestris* (Carson, 1982). The habitat at the KFU 1372 m transect is *Metrosideros/Cibotium* tree fern forest with a dense understory that includes large *Clermontia clemontioides* (both subspecies, *C. c. clemontioides* and *C. c. rockiana*, occur in the Refuge). *Clermontia clemontioides* is a recorded host plant of *D. heteroneura* and appears to be relatively common throughout the Refuge between approximately 1200 and 1700 m elevation, including *Acacia/Metrosideros* forests with former pasture lands kept open by feral cattle. The range of *D. heteroneura* at KFU will be determined as part of the ongoing invertebrate inventory through December 2000.

Material Examined: HAWAII: Hakalau National Wildlife Refuge, Kona Forest Unit, along 1372 m transect, 100-600 m from S. Boundary Rd, 16-17 Nov 1999, D. Foote, *et al.* [all vouchers currently in culture at the laboratory of Dr. Donald Price, University of Hawaii at Hilo].

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Appendix 2. Publication 2: Johnson, P.J., W. P. Haines, and D. Foote. 2002. A new generic combination and new Hawaii Island record for *Adelocera beardsleyi* (Ohira & Becker) (Coleoptera: Elateridae). *Bishop Museum Occasional Papers* **69**: 29-31.

30 BISHOP MUSEUM OCCASIONAL PAPERS: No.69, 2002
Notes

A new generic combination and Hawaiian Island record for *Adelocera beardsleyi* (Ohira & Reeker) (Coleoptera: Elateridae)

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Brachylacon beardsleyi Ohira and Becker (1978) was first described and recorded from Ewa, O'ahu. No specimens of this species have since been reported from O'ahu or elsewhere, until now. Here, we provide a generic transfer of this species to *Adelocera*. Latreille and report this species from the island of Hawaii.

Ohira and Becker (1978) provided the original generic attribution of *Brachylacon beardsleyi* without discussion beyond remarking that it was "somewhat allied to *Brachylacon (Brachylacon) perraudieri* Fleutiaux" from Cambodia. Von Hayek (1973, 1979) reviewed the generic concepts of the genera of Elateridae assigned to the subfamily Agrypninae and reduced many gen names to synonymy, including the synonymy of *Brachylacon* Motschulsky with *Adelocera*. *Adelocera* was (re)described and *B. perraudieri* was assigned to this genus by von Hayek (1973). The holotype of *B. beardsleyi* is in the Bishop Museum, Honolulu, and was previously studied and photographed by Johnson. The holotype and the specimen reported above possess the salient characteristics given by von Hayek (1973, 1979) for *Adelocera* and will easily trace to this genus in her keys. Notable traits for assignment to *Adelocera* and possessed by *B. beardsleyi* include the antennal grooves being half the length of the pronotosternal grooves, antennal segment 3 longer than segment 2, metasternal tarsal grooves are transverse, tibial spurs absent, tarsal claws with ventral setae near base, and the mesepimeron forming part of the mesocoxal cavity. Since the holotype and the specimen reported below possess these characters, we propose the new combination of *Adelocera beardsleyi*.

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Records of the Hawaii Biological Survey for 20PO-Part 2:

Coleoptera:Elateridae

***Adelocera beardsleyi* (Ohira & Becker) New island record; Rediscovery; Name change**

Between 11 April and 17 May 2000, a single specimen of *Adelocera beardsleyi* collected from a recently established National Wildlife Refuge in the district of Kona. The specimen, which has been deposited in the invertebrate collection of Hawaii Volcanoes National Park (HVNVP), was collected by staff of the Pacific Island Ecology Research Center, U.S. Geological Survey, as part of a rapid assessment of invertebrate species of concern at the Kona Forest Unit of the Hakalau National Wildlife Refuge. A female specimen (length 6.3 mm) was recovered from a yellow sticky trap (manufactured by Seabright Laboratories to control and monitor flying insect pests) at an elevation of 579m. Sticky traps were hung from the branches of trees and shrubs at forty-nine stations along the southern boundary of the Refuge, ranging in elevation from 579 to 1830m. Traps were replaced monthly or bi-monthly between November 17, 1999 and October 12, 2000. *A. beardsleyi* was collected from the southwest corner of the Refuge at the lowest elevation present on the Refuge. Other elaterids recovered from sticky traps during the survey included 62 specimens of endemic *Anchastus swezeyi* Van Zwaluwenburg (Sharp) from elevations from 579 to 1737m, and 39 specimens of the adventive *Conoderus* (Sharp) from elevations from 579 to 1737m.

The collection site of *A. beardsleyi* is abandoned ranchland with vegetation dominated by alien invasive plant species (nomenclature for flowering plants follows Wagner *et al.* 1990; and for ferns follows Wagner, 1981). Dominant plants include guava (*Psidium guajava* L.), Christmas berry (*Schinus molle* Raddi), and the indigenous uluhe fern (*Dicranopteris linearis* [Burm.] Underw.). Historically, prior to disturbance by humans and ungulates, the collection site was most likely dominated by 'ohi'a (*Metrosideros polymorpha* Gaud.).

Material examined. HAWAII. Hakalau National Wildlife Refuge, Kona Forest Unit, along southern boundary at 579 m elev.. yellow sticky trap. 11 Apr.-17 May 2000. W. Haines. HVNPOO3049 (HVNVP).

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Appendix 3. Publication 3: Haine, W.P., Giffin, J., and D. Foote. 2003. Rediscovery of five species of *Omiodes* Guenée (Lepidoptera: Crambidae) on Hawai‘i Island. *Bishop Museum Occasional Papers* **79**: 45-49.

46 BISHOP MUSEUM OCCASIONAL PAPERS: No. 79, 2004 Records of the Hawaii Biological Survey for 2003—Part 2: Notes

Rediscovery of five species of *Omiodes* Guenée (Lepidoptera: Crambidae) on Hawai‘i Island

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Beginning in 1980, through a contract from the U.S. Fish & Wildlife Service, an assessment of the conservation status of more than 800 species of native Hawaiian insects was undertaken by Wayne Gagné, Carl Christensen, and others (Gagné, 1982; Gagné & Christensen, 1985). Twentytwo species of endemic leafrollers in the genus *Hedylepta* (= *Omiodes*: Crambidae) were among the first groups of Lepidoptera analyzed, and Gagné (1982: Table 2) reported nine species that were “presumed recently extinct”. These results were based upon an analysis of the most recent museum specimen collection dates and an assessment of threats. The results were subsequently reported internationally (Gagné & Howarth, 1985), citing the reasons for extinctions as the combined pressures of habitat destruction, increased rarity of host plants, and the introduction of alien parasitoids for biological control. These data were subsequently reported to the U.S. Fish & Wildlife Service and became the basis for listing candidate endangered species (U.S. Fish & Wildlife Service, 1984).

Since then, 14 of the 23 known Hawaiian species of *Omiodes* leafroller moths have been variously cited as extinct or possibly extinct (Table 1) (Gagné & Howarth, 1985; Beattie, 1994; Evenhuis, 2002; IUCN, 2003). This amounts to more than half of the native species in this genus. The species currently listed as extinct by HBS are: *O. anastrepta* Meyrick, *O. anastreptiodes* Swezey, *O. asaphombra* Meyrick, *O. continuatalis* Wallengren, *O. epicentra* Meyrick, *O. euryprora* Meyrick, *O. fullawayi* Swezey, *O. giffardi* Swezey, *O. iridias* Meyrick, *O. laysanensis* Meyrick, *O. meyricki* Swezey, *O. monogona* Meyrick, *O. musicola* Swezey, and *O. telegrapha* Meyrick.

An examination of the insect collections of Hawaii Volcanoes National Park and the collection of J. Giffin revealed recently collected specimens for five of these 14 species. Some of these species are represented by only a few specimens from a few localities, and may truly be threatened with extinction. Other species, however, have been quite widely collected on Hawai‘i Island. The “rediscovery” of these widespread species suggests either that they were never truly in danger of extinction (at least on this island), or that their numbers have increased in recent decades. It is possible that the previous lack of recent collection records for these species may have been due to a lack of active interest in them since the 1950s.

Much of the concern for *Omiodes* moths and the speculation surrounding their conservation status stems from the group's unusual history. Because of their occurrence on sugarcane and coconut palms, two species, *O. accepta* and *O. blackburni*, were specifically targeted for biological control using imported parasitoids between 1895 and 1958 (Funasaki et al., 1988). As early as 1954, entomologists in Hawai'i recognized a decline in populations of native *Omiodes* moths, and suggested that this decline was due in part to pressure from introduced parasitoids and predators (Swezey, 1954; Zimmerman, 1958).

However, at least some species seem to be present in good numbers, and it is clear that the conservation status of *Omiodes* moths should be reexamined. The many peculiarities of this genus, with regards to biological control (Funasaki et al., 1988), conservation biology (Gagné & Howarth, 1985), and evolutionary history (Zimmerman, 1960), make it an ideal subject for future surveys and studies.

Since the rediscoveries reported here are primarily based on incidental collections on a single island, rather than active searches for *Omiodes* moths, it is highly possible that other 'extinct' species are extant. These rediscoveries illustrate the drawbacks of relying solely on museum specimens (although they are often the best data source available), and the need for focused surveys when proposing extinction status. An attempt should be made to relocate *Omiodes* species on all islands, especially since several of the currently listed species are likely to be rare or threatened, if not yet extinct. If populations of threatened moths are located, distributions may be mapped, and actions may be taken to protect these moths by protecting their host plants and habitats.

Institutions with vouchered material are abbreviated as follows: Hawaii Volcanoes National Park (HVNP); Jon Giffin, personal collection (JGPC).

Table 1: Species of Hawaiian Omiodes currently listed as extinct. Species Agencies listing as extinct* Rediscovered?

anastrepta Meyrick	HBS, USFWS.	Yes	Meyrick meyricki	Howarth. HBS, USFWS, IUCN, Gagné & Howarth.	No
anastreptoides Swezey	HBS.	Yes	Swezey monogona	HBS, USFWS.	Yes
asaphombra Meyrick	HBS, USFWS, IUCN, Gagné & Howarth.	Yes	Meyrick musicola	HBS, USFWS, IUCN, Gagné & Howarth.	No
continuatalis Wallengren	HBS, IUCN, Gagné & Howarth.	Yes	Swezey telegrapha	HBS, IUCN, Gagné & Howarth.	No
epicentra Meyrick	HBS, IUCN, Gagné & Howarth.	No	Meyrick		
eurypora Meyrick	HBS, USFWS, IUCN, Gagné & Howarth.	No			
fullawayi Swezey	HBS, USFWS, IUCN, Gagné & Howarth.	No			
giffardi Swezey	HBS.	No			
iridias Meyrick	HBS, USFWS.	No			
laysanensis	HBS, IUCN, Gagné &	No			

* HBS = Hawai'i Biological Survey (Evenhuis 2002),
USFWS = U.S. Fish & Wildlife Service (Beattie 1994),
IUCN = International Union for the Conservation of Nature
(IUCN 2003), Gagné & Howarth (1982).

Omiodes anastrepta Meyrick Rediscovery

This species has historically been reported from the islands of O'ahu, Moloka'i, and Hawai'i (Nishida, 2002). Its recorded host plant is *Carex wahuensis* Mey (Zimmerman, 1958). Here we report thirteen specimens, collected from wet and mesic forest on the windward and leeward sides of the island of Hawai'i. This species was first cited as possibly extinct in 1994 by the U.S. Fish & Wildlife Service (Beattie, 1994). Subsequently, it was listed as extinct by HBS (Evenhuis, 2002).

Material examined: HAWAI'I: Ka'u Distr, Hawaii Volcanoes National Park, Kīpuka Kī, at white light, 10 Mar 1994, D. Foote et al., 1 specimen, 19944275a (HVNP); Ka'u Distr, Hawaii Volcanoes National Park, Kīpuka Kī, at UV light, 8 Jun 1994, D. Foote et al., 1 specimen, 19945156 (HVNP); Ka'u Distr, Hawai'i Volcanoes National Park, Kīpuka Kī, at UV light, 1 Dec 1994, D. Foote et al. 1 specimen, 19945820 (HVNP); Ka'u Distr, Hawaii Volcanoes National Park, Kīpuka Kī, at white light, 4 Jan 1994, D. Foote et al., 1 specimen, 19945904 (HVNP); Ka'u Distr, Hawaii Volcanoes National Park, Keamoku lava flow, at white light, 10 Mar 1994, D. Foote et al., 4 specimens, 19944276, 19944277, 19944278, 19944279 (HVNP); Ka'u Distr, Hawaii Volcanoes National Park, Keamoku lava flow, at UV light, 13 Apr 1994, D. Foote et al., 1 specimen, 19944627 (HVNP); Ka'u Distr, Hawaii Volcanoes National Park, Keamoku lava flow, at white light, 2 Mar 1994, D. Foote et al., 1

specimen, 19946031 (HVNP); Ka‘u Distr, Hawaii Volcanoes National Park, Thurston Lava Tube, at white light, 10 May 1994, D. Foote et al., 1 specimen, 19944887 (HVNP); South Hilo Distr, Hakalau National Wildlife Refuge, Maulua, 1300 m, 11 Feb 1999, D. LaPointe, 1 specimen, (HVNP); N. Kona, Hualālai, Keauhou 2, Pu‘u Lehua, 14 Dec 2000, J. Giffin, 1 specimen, (JGPC).

Omiodes anastreptoides Swezey Rediscovery

This species has historically been reported only from the island of Hawai‘i (Nishida, 2002). Larvae have been reared from a sedge, possibly *Carex wahuensis* Mey (Zimmerman, 1958). Here we report nine specimens of this species, all collected from wet forest on the windward side of the island of Hawai‘i. This species was first officially cited as a Category 2 species of concern in 1994 by the U.S. Fish & Wildlife Service (Beattie, 1994). Subsequently, it was listed as extinct by HBS (Evenhuis, 2002).

Material examined: HAWAI‘I: S. Hilo Distr, Hilo Watershed, Pu‘u O‘o boundary, at light, 2 Jul 1999, J. Giffin, 1 specimen, (JGPC); S. Kohala Distr, Kohala Forest Reserve, at light, 4 Apr 1994, 30 Aug 1994, 29 Oct 1994, J. Giffin, 4 specimens, (JGPC); S. Hilo Distr, Hakalau National Wildlife Refuge, Maulua, 1300 m, 11 Feb 1999, P.L. Little, 1 specimen, (HVNP); S. Hilo Distr, Upper Waiākea Forest Reserve, at light, 8 Jul 1999, 30 May 2000, J. Giffin, 3 specimens, (JGPC).

Omiodes asaphombra Meyrick Rediscovery

This species has historically been collected on the islands of Kaua‘i, O‘ahu, Moloka‘i, and Hawai‘i (Nishida, 2002). Here we report six specimens from the leeward and windward sides of the island of Hawai‘i. This species has only been reared from *Joinvillea adscendens* Gaudichaud, and has been reported to be specific to this plant (Swezey, 1954). Despite the fact that this plant is not known to occur on the leeward side of Hawai‘i Island, five of these six specimens were collected from the district of S. Kona. Therefore, we consider it likely that *O. asaphombra* is able to utilize another host plant. *Omiodes asaphombra* was first presumed extinct by Gagné & Howarth (1982) due to the scarcity of *Joinvillea adscendens*. It was subsequently listed as possibly extinct by FWS (Beattie, 1994), and as extinct by the IUCN (2003) and HBS (Evenhuis, 2002).

Material examined: HAWAI‘I: S. Hilo Distr, Hilo Watershed, Pu‘u O‘o boundary, at light, 2 Jul 1999, J. Giffin, 1 specimen, (JGPC); S. Kona Distr, Kona Forest Unit of Hakalau NWR, Field camp, 20 Jul 2000, W. Haines, 1 specimen, HVNP003587, (HVNP); S. Kona Distr, Kona Forest Unit of Hakalau NWR, 1372 m, 1 Aug 2000, K. Magnacca, 3 specimens, HVNP003712, HVNP003713, HVNP003714 (HVNP); S. Kona Distr, S. Kona Forest Reserve, 1500 m, at light, 10 Apr 2001, J. Giffin, 1 specimen, (JGPC).

Omiodes continuatalis Wallengren Rediscovery This species has been reported from all the main islands except Kaho‘olawe and Ni‘ihau (Nishida, 2002), and early entomologists reported this to be one of the most commonly seen moths in Hawai‘i in the late 1800s (Zimmerman, 1958). Recorded host plants for this species include both native and nonnative grasses, including pili, (*Heteropogon contortus* (L.)). We here report 13 specimens from mesic forest on both the windward and leeward sides of Hawai‘i Island. *Omiodes continuatalis* was first presumed extinct by Gagné & Howarth (1982) due to the loss of habitat and introduction of biocontrol agents and was subsequently listed as extinct by the International Union for Conservation of Nature (IUCN, 2003) and HBS (Evenhuis, 2002).

Material examined: HAWAI‘I: S. Kona Distr, Honomalino Forest Reserve, at light, 24 Nov 2000, J. Giffin, 2 specimens (JGPC); Ka‘u Distr, Hawaii Volcanoes National Park, Keamoku lava flow, at white light, 3 Oct 1994, D. Foote et al., 1 specimen, 19945660 (HVNP); Ka‘u Distr,

Hawaii Volcanoes National Park, Kipuka Ki, at white light, 10 Mar 1994, D. Foote et al., 3 specimens 19944272, 19944273, 19944274a (HVNP); N. Kona Distr, Pu‘u Wa‘awa‘a, at light, 5 Apr 1994, J. Giffin, 1 specimen, (JGPC); N. Kona Distr, Pu‘u Wa‘awa‘a, at light, 30 Jul 1994, J. Giffin, 1 specimen, (JGPC); N. Kona Distr, Pu‘u Wa‘awa‘a, at light, 1 Nov 1994, J. Giffin, 1 specimen, (JGPC); N. Kona Distr, Pu‘u Wa‘awa‘a, at light, 28 May 1995, J. Giffin, 1 specimen, (JGPC); S. Kona Distr, Pu‘uhonua o Honaunau, 1992, D. Foote et al., 3 specimens, PUHO 1992424, PUHO 1992425, PUHO 1992 449 (HVNP).

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Omiodes monogona Meyrick Rediscovery This species has been historically reported from all the main islands except Kaho‘olawe and Ni‘ihau (Nishida, 2002). Zimmerman (1958) reported its principal native host to be wiliwili, *Erythrina sandwicensis* Degener, but he also listed several other native and nonnative legumes as alternate hosts for the caterpillars. Here we report seven specimens, from mesic to wet forest on both windward and leeward sides of southern Hawai‘i Island. *O. monogona* was first cited as possibly extinct in 1994 by the U.S. Fish & Wildlife Service (Beattie, 1994) and was subsequently listed as such by HBS (Evenhuis, 2002). Material examined: HAWAI‘I: S. Kona Distr, Honomalino Forest Reserve, 1050 m, at light, 23 Mar 1995, J. Giffin, 1 specimen, (JGPC); Ka‘u Distr, Hawaii Volcanoes National Park, Kipuka Ki, at white light, 10 Mar 1994, D. Foote et al., 2 specimens 19944274b, 19944725b (HVNP); Puna Distr, Hawaii Volcanoes National Park, Ola‘a Forest Agric. Unit, at white light, 3 May 1994, D. Foote et al., 2 specimens, 19944810, 19944811, (HVNP); Ka‘u Distr, Hawaii Volcanoes National Park, Kilauea Field Station, at white light, 8 May 1994, D. Foote et al., 2 specimens 19945021, 19945024 (HVNP).

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Appendix 4. List of archived specimens collected at the Kona Forest Unit of Hakalau National Wildlife Refuge. Specimens are grouped by taxon. This list was exported from Biota, The Biodiversity Database Manager (Colwell, 1996), which was used to catalog specimens for the Hawaii Volcanoes National Park Invertebrate Collection. Taxonomic ranks in parentheses indicate that specimens were not identified to lower taxonomic levels. Total specimens (lot specimens treated as single specimens): 1683. Total individuals: 9330.

Specimen code	Order	Family	Genus	Species	Determined by	Stage/Sex	Abund.	Collector	Date(s) collected	Collection method	Locality name	Site
HVNP002014	Acari	(Acari)	(Acari)	(Acari)		Adult - sex unknown	12	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 2, 60m
HVNP002028	Acari	(Acari)	(Acari)	(Acari)		Adult - sex unknown	4	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 4, 80m
HVNP002037	Acari	(Acari)	(Acari)	(Acari)		Adult - sex unknown	3	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 5, 90m
HVNP002042	Acari	(Acari)	(Acari)	(Acari)		Adult - sex unknown	4	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 6, 100m
HVNP002052	Acari	(Acari)	(Acari)	(Acari)		Adult - sex unknown	4	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 7, 110m
HVNP002061	Acari	(Acari)	(Acari)	(Acari)		Adult - sex unknown	4	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 8, 120m
HVNP002075	Acari	(Acari)	(Acari)	(Acari)		Adult - sex unknown	3	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 10, 140m
HVNP002104	Acari	(Acari)	(Acari)	(Acari)	A. Paradis	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 5, 40m
HVNP002127	Acari	(Acari)	(Acari)	(Acari)	P. Henne	Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 9, 90m
HVNP002143	Acari	(Acari)	(Acari)	(Acari)	K. Schlappa	Adult - sex unknown	16	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 1, 50m
HVNP002151	Acari	(Acari)	(Acari)	(Acari)	A. Paradis	Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 2, 60m
HVNP002161	Acari	(Acari)	(Acari)	(Acari)	P. Henne	Adult - sex unknown	3	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 3, 70m
HVNP002170	Acari	(Acari)	(Acari)	(Acari)	J. K. McMurry	Adult - sex unknown	6	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 5, 80m
HVNP002182	Acari	(Acari)	(Acari)	(Acari)	A. Paradis	Adult - sex unknown	3	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 6, 100m
HVNP002190	Acari	(Acari)	(Acari)	(Acari)	J. K. McMurry	Adult - sex unknown	11	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 7, 110m
HVNP002199	Acari	(Acari)	(Acari)	(Acari)	P. Henne	Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 8, 120m
HVNP002205	Acari	(Acari)	(Acari)	(Acari)	P. Henne	Adult - sex unknown	10	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 9, 130m
HVNP002215	Acari	(Acari)	(Acari)	(Acari)	P. Henne	Adult - sex unknown	9	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 10, 140m
HVNP002224	Acari	(Acari)	(Acari)	(Acari)	P. Henne	Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 1, 10m
HVNP002230	Acari	(Acari)	(Acari)	(Acari)	A. Paradis	Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 2, 20m
HVNP002236	Acari	(Acari)	(Acari)	(Acari)	P. Henne	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 3, 30m
HVNP002241	Acari	(Acari)	(Acari)	(Acari)	P. Henne	Adult - sex unknown	3	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 5, 50m
HVNP002260	Acari	(Acari)	(Acari)	(Acari)	J. K. McMurry	Adult - sex unknown	3	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 9, 90m
HVNP002266	Acari	(Acari)	(Acari)	(Acari)	J. K. McMurry	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 10, 100m
HVNP002282	Acari	(Acari)	(Acari)	(Acari)	A. Paradis	Adult - sex unknown	13	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 4, 80m
HVNP002285	Acari	(Acari)	(Acari)	(Acari)	K. Schlappa	Adult - sex unknown	2	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 1, 500m
HVNP002296	Acari	(Acari)	(Acari)	(Acari)	P. Henne	Adult - sex unknown	2	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 2, 510m
HVNP002313	Acari	(Acari)	(Acari)	(Acari)	A. Paradis	Adult - sex unknown	1	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 4, 530m
HVNP002324	Acari	(Acari)	(Acari)	(Acari)		Adult - sex unknown	1	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 5, 540m
HVNP002330	Acari	(Acari)	(Acari)	(Acari)		Adult - sex unknown	1	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 6, 550m
HVNP002341	Acari	(Acari)	(Acari)	(Acari)		Adult - sex unknown	4	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 8, 570m
HVNP002346	Acari	(Acari)	(Acari)	(Acari)	A. Paradis	Adult - sex unknown	4	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 9, 580m
HVNP002357	Acari	(Acari)	(Acari)	(Acari)	P. Henne	Adult - sex unknown	5	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 10, 590m
HVNP002365	Acari	(Acari)	(Acari)	(Acari)	P. Henne	Adult - sex unknown	3	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 500'	Trap 1
HVNP002372	Acari	(Acari)	(Acari)	(Acari)	K. Schlappa	Adult - sex unknown	3	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 500'	Trap 2
HVNP002377	Acari	(Acari)	(Acari)	(Acari)	K. Schlappa	Adult - sex unknown	5	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 500'	Trap 3

Specimen code	Order	Family	Genus	Species	Determined by	Stage/Sex	Abund.	Collector	Date(s) collected	Collection method	Locality name	Site
HVNP002388	Acari	(Acari)	(Acari)	(Acari)	P. Henne	Adult - sex unknown	4	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 500'	Trap 4
HVNP002396	Acari	(Acari)	(Acari)	(Acari)		Adult - sex unknown	5	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 500'	Trap 5
HVNP002407	Acari	(Acari)	(Acari)	(Acari)	K. Schlappe	Adult - sex unknown	5	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 500'	Trap 6
HVNP002416	Acari	(Acari)	(Acari)	(Acari)	P. Henne	Adult - sex unknown	2	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 500'	Trap 7
HVNP002427	Acari	(Acari)	(Acari)	(Acari)	K. Schlappe	Adult - sex unknown	5	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 500'	Trap 8
HVNP002438	Acari	(Acari)	(Acari)	(Acari)		Adult - sex unknown	3	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 500'	Trap 9
HVNP002469	Acari	(Acari)	(Acari)	(Acari)		Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 1, 500m
HVNP002482	Acari	(Acari)	(Acari)	(Acari)		Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 2, 510m
HVNP002501	Acari	(Acari)	(Acari)	(Acari)		Adult - sex unknown	2	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 4, 530m
HVNP002519	Acari	(Acari)	(Acari)	(Acari)		Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 6, 550m
HVNP002532	Acari	(Acari)	(Acari)	(Acari)		Adult - sex unknown	3	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 8, 570m
HVNP002541	Acari	(Acari)	(Acari)	(Acari)	A. Paradis	Adult - sex unknown	4	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 9, 580m
HVNP002546	Acari	(Acari)	(Acari)	(Acari)	A. Paradis	Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 10, 590m
HVNP002549	Acari	(Acari)	(Acari)	(Acari)	W. Haines	Adult - sex unknown	8	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	1B
HVNP002567	Acari	(Acari)	(Acari)	(Acari)	W. Haines	Adult - sex unknown	25	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	2B
HVNP002587	Acari	(Acari)	(Acari)	(Acari)	W. Haines	Adult - sex unknown	14	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	3B
HVNP002604	Acari	(Acari)	(Acari)	(Acari)	W. Haines	Adult - sex unknown	23	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	4B
HVNP002625	Acari	(Acari)	(Acari)	(Acari)	W. Haines	Adult - sex unknown	17	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	5B
HVNP002646	Acari	(Acari)	(Acari)	(Acari)	W. Haines	Adult - sex unknown	23	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	1W
HVNP002665	Acari	(Acari)	(Acari)	(Acari)	W. Haines	Adult - sex unknown	18	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	2W
HVNP002679	Acari	(Acari)	(Acari)	(Acari)	W. Haines	Adult - sex unknown	5	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	3W
HVNP002692	Acari	(Acari)	(Acari)	(Acari)	W. Haines	Adult - sex unknown	10	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	4W
HVNP002704	Acari	(Acari)	(Acari)	(Acari)	W. Haines	Adult - sex unknown	11	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	5W
HVNP002717	Acari	(Acari)	(Acari)	(Acari)	W. Haines	Adult - sex unknown	4	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 3500ft	1B
HVNP002729	Acari	(Acari)	(Acari)	(Acari)	W. Haines	Adult - sex unknown	12	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 3500ft	2B - 25m
HVNP002740	Acari	(Acari)	(Acari)	(Acari)	N. Renie	Adult - sex unknown	6	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 3500ft	3B - 60m
HVNP002755	Acari	(Acari)	(Acari)	(Acari)	W. Haines	Adult - sex unknown	7	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 3500ft	1W - 0m
HVNP002763	Acari	(Acari)	(Acari)	(Acari)	W. Haines	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 3500ft	2W - 30m
HVNP002772	Acari	(Acari)	(Acari)	(Acari)	N. Renie	Adult - sex unknown	5	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 3500ft	3W - 50m
HVNP002781	Acari	(Acari)	(Acari)	(Acari)	W. Haines, D. Bennett	Adult - sex unknown	4	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 3500ft	5W - 110m
HVNP002787	Acari	(Acari)	(Acari)	(Acari)	N. Renie	Adult - sex unknown	14	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	3B - 100m
HVNP002806	Acari	(Acari)	(Acari)	(Acari)	D. Bennett	Adult - sex unknown	19	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	4B - 160m
HVNP002824	Acari	(Acari)	(Acari)	(Acari)	D. Bennett	Adult - sex unknown	57	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	5B - 185m
HVNP002841	Acari	(Acari)	(Acari)	(Acari)	N. Renie	Adult - sex unknown	30	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	2W - 80m
HVNP002860	Acari	(Acari)	(Acari)	(Acari)	P. Henne	Adult - sex unknown	25	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	3W - 130m
HVNP002873	Acari	(Acari)	(Acari)	(Acari)	D. Bennett	Adult - sex unknown	45	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	4W - 170m
HVNP002883	Acari	(Acari)	(Acari)	(Acari)	N. Renie	Adult - sex unknown	28	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	5W - 290m
HVNP002895	Acari	(Acari)	(Acari)	(Acari)	N. Renie	Adult - sex unknown	7	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	1B - 15m
HVNP002910	Acari	(Acari)	(Acari)	(Acari)	N. Renie	Adult - sex unknown	10	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	2B - 25m
HVNP002921	Acari	(Acari)	(Acari)	(Acari)	N. Renie	Adult - sex unknown	27	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	1W - 5m
HVNP002934	Acari	(Acari)	(Acari)	(Acari)		Adult - sex unknown	17	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	1B
HVNP002947	Acari	(Acari)	(Acari)	(Acari)	P. Henne	Adult - sex unknown	30	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	2B
HVNP002964	Acari	(Acari)	(Acari)	(Acari)	D. Bennett	Adult - sex unknown	43	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	3B

Specimen code	Order	Family	Genus	Species	Determined by	Stage/Sex	Abund.	Collector	Date(s) collected	Collection method	Locality name	Site
HVNP002977	Acari	(Acari)	(Acari)	(Acari)	N. Renie	Adult - sex unknown	21	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	4B
HVNP002989	Acari	(Acari)	(Acari)	(Acari)	D. Bennett	Adult - sex unknown	4	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	5B
HVNP003001	Acari	(Acari)	(Acari)	(Acari)	N. Renie	Adult - sex unknown	4	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	1W
HVNP003011	Acari	(Acari)	(Acari)	(Acari)	N. Renie	Adult - sex unknown	8	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	2W
HVNP003023	Acari	(Acari)	(Acari)	(Acari)	P. Henne	Adult - sex unknown	18	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	3W
HVNP003033	Acari	(Acari)	(Acari)	(Acari)	P. Henne	Adult - sex unknown	13	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	4W
HVNP003042	Acari	(Acari)	(Acari)	(Acari)	N. Renie	Adult - sex unknown	8	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	5W
HVNP002016	Amphipoda	(Amphipoda)	(Amphipoda)	(Amphipoda)		Adult - sex unknown	9	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 2, 60m
HVNP002043	Amphipoda	(Amphipoda)	(Amphipoda)	(Amphipoda)		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 6, 100m
HVNP002063	Amphipoda	(Amphipoda)	(Amphipoda)	(Amphipoda)		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 8, 120m
HVNP002550	Amphipoda	(Amphipoda)	(Amphipoda)	(Amphipoda)	W. Haines	Adult - sex unknown	7	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	1B
HVNP002568	Amphipoda	(Amphipoda)	(Amphipoda)	(Amphipoda)	W. Haines	Adult - sex unknown	166	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	2B
HVNP002588	Amphipoda	(Amphipoda)	(Amphipoda)	(Amphipoda)	W. Haines	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	3B
HVNP002605	Amphipoda	(Amphipoda)	(Amphipoda)	(Amphipoda)	W. Haines	Adult - sex unknown	15	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	4B
HVNP002626	Amphipoda	(Amphipoda)	(Amphipoda)	(Amphipoda)	W. Haines	Adult - sex unknown	36	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	5B
HVNP002647	Amphipoda	(Amphipoda)	(Amphipoda)	(Amphipoda)	W. Haines	Adult - sex unknown	26	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	1W
HVNP002666	Amphipoda	(Amphipoda)	(Amphipoda)	(Amphipoda)	W. Haines	Adult - sex unknown	16	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	2W
HVNP002680	Amphipoda	(Amphipoda)	(Amphipoda)	(Amphipoda)	W. Haines	Adult - sex unknown	38	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	3W
HVNP002693	Amphipoda	(Amphipoda)	(Amphipoda)	(Amphipoda)	W. Haines	Adult - sex unknown	26	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	4W
HVNP002705	Amphipoda	(Amphipoda)	(Amphipoda)	(Amphipoda)	W. Haines	Adult - sex unknown	23	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	5W
HVNP002718	(Annelida)	(Annelida)	(Annelida)	(Annelida)	W. Haines	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 3500ft	1B
HVNP002741	(Annelida)	(Annelida)	(Annelida)	(Annelida)	N. Renie	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 3500ft	3B - 60m
HVNP002773	(Annelida)	(Annelida)	(Annelida)	(Annelida)	N. Renie	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 3500ft	3W - 50m
HVNP002782	(Annelida)	(Annelida)	(Annelida)	(Annelida)	W. Haines, D. Bennett N. Renie	Adult - sex unknown	4	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 3500ft	5W - 110m
HVNP002788	(Annelida)	(Annelida)	(Annelida)	(Annelida)	N. Renie	Adult - sex unknown	6	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	3B - 100m
HVNP002807	(Annelida)	(Annelida)	(Annelida)	(Annelida)	D. Bennett	Adult - sex unknown	5	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	4B - 160m
HVNP002825	(Annelida)	(Annelida)	(Annelida)	(Annelida)	D. Bennett	Adult - sex unknown	4	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	5B - 185m
HVNP002842	(Annelida)	(Annelida)	(Annelida)	(Annelida)	N. Renie	Adult - sex unknown	4	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	2W - 80m
HVNP002861	(Annelida)	(Annelida)	(Annelida)	(Annelida)	P. Henne	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	3W - 130m
HVNP002884	(Annelida)	(Annelida)	(Annelida)	(Annelida)	N. Renie	Adult - sex unknown	11	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	5W - 290m
HVNP002896	(Annelida)	(Annelida)	(Annelida)	(Annelida)	N. Renie	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	1B - 15m
HVNP002911	(Annelida)	(Annelida)	(Annelida)	(Annelida)	N. Renie	Adult - sex unknown	3	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	2B - 25m
HVNP002922	(Annelida)	(Annelida)	(Annelida)	(Annelida)	N. Renie	Adult - sex unknown	3	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	1W - 5m
HVNP002935	(Annelida)	(Annelida)	(Annelida)	(Annelida)		Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	1B
HVNP002948	(Annelida)	(Annelida)	(Annelida)	(Annelida)	P. Henne	Adult - sex unknown	2	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	2B
HVNP002009	Araneae	(Araneae)	(Araneae)	(Araneae)		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 2, 60m
HVNP002017	Araneae	(Araneae)	(Araneae)	(Araneae)		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 3, 70m
HVNP002045	Araneae	(Araneae)	(Araneae)	(Araneae)		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 7, 110m
HVNP002057	Araneae	(Araneae)	(Araneae)	(Araneae)		Adult - sex unknown	3	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 8, 120m
HVNP002065	Araneae	(Araneae)	(Araneae)	(Araneae)		Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 9, 130m
HVNP002078	Araneae	(Araneae)	(Araneae)	(Araneae)	P. Henne	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 1, 0m
HVNP002086	Araneae	(Araneae)	(Araneae)	(Araneae)		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 2, 10m
HVNP002100	Araneae	(Araneae)	(Araneae)	(Araneae)	A. Paradis	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 5, 40m

Specimen code	Order	Family	Genus	Species	Determined by	Stage/Sex	Abund.	Collector	Date(s) collected	Collection method	Locality name	Site
HVNP002114	Araneae	(Araneae)	(Araneae)	(Araneae)	A. Paradis	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 8, 70m
HVNP002128	Araneae	(Araneae)	(Araneae)	(Araneae)	A. Paradis	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 10, 100m
HVNP002136	Araneae	(Araneae)	(Araneae)	(Araneae)	K. Schiappa	Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 1, 50m
HVNP002166	Araneae	(Araneae)	(Araneae)	(Araneae)	J. K. McMurry	Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 5, 80m
HVNP002174	Araneae	(Araneae)	(Araneae)	(Araneae)	A. Paradis	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 6, 100m
HVNP002211	Araneae	(Araneae)	(Araneae)	(Araneae)	P. Henne	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 10, 140m
HVNP002270	Araneae	(Araneae)	(Araneae)	(Araneae)	A. Paradis	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 8, 80m
HVNP002297	Araneae	(Araneae)	(Araneae)	(Araneae)	P. Henne	Adult - sex unknown	1	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 2, 510m
HVNP002306	Araneae	(Araneae)	(Araneae)	(Araneae)	P. Henne	Adult - sex unknown	1	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 3, 520m
HVNP002314	Araneae	(Araneae)	(Araneae)	(Araneae)	A. Paradis	Adult - sex unknown	1	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 4, 530m
HVNP002358	Araneae	(Araneae)	(Araneae)	(Araneae)	P. Henne	Adult - sex unknown	1	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 10, 590m
HVNP002378	Araneae	(Araneae)	(Araneae)	(Araneae)	K. Schiappa	Adult - sex unknown	3	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 3
HVNP002397	Araneae	(Araneae)	(Araneae)	(Araneae)	K. Schiappa	Adult - sex unknown	1	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 5
HVNP002408	Araneae	(Araneae)	(Araneae)	(Araneae)	K. Schiappa	Adult - sex unknown	1	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 6
HVNP002428	Araneae	(Araneae)	(Araneae)	(Araneae)	K. Schiappa	Adult - sex unknown	1	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 8
HVNP002439	Araneae	(Araneae)	(Araneae)	(Araneae)	K. Schiappa	Adult - sex unknown	2	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 9
HVNP002461	Araneae	(Araneae)	(Araneae)	(Araneae)	K. Schiappa	Adult - sex unknown	1	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 1, 500m
HVNP002486	Araneae	(Araneae)	(Araneae)	(Araneae)	A. Paradis	Adult - sex unknown	2	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 3, 520m
HVNP002496	Araneae	(Araneae)	(Araneae)	(Araneae)	K. Schiappa	Adult - sex unknown	1	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 4, 530m
HVNP002521	Araneae	(Araneae)	(Araneae)	(Araneae)	K. Schiappa	Adult - sex unknown	1	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 7, 560m
HVNP002551	Araneae	(Araneae)	(Araneae)	(Araneae)	W. Haines	Adult - sex unknown	5	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	1B
HVNP002589	Araneae	(Araneae)	(Araneae)	(Araneae)	W. Haines	Adult - sex unknown	4	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	3B
HVNP002606	Araneae	(Araneae)	(Araneae)	(Araneae)	W. Haines	Adult - sex unknown	3	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	4B
HVNP002627	Araneae	(Araneae)	(Araneae)	(Araneae)	W. Haines	Adult - sex unknown	2	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	5B
HVNP002648	Araneae	(Araneae)	(Araneae)	(Araneae)	W. Haines	Adult - sex unknown	18	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	1W
HVNP002667	Araneae	(Araneae)	(Araneae)	(Araneae)	W. Haines	Adult - sex unknown	4	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	2W
HVNP002681	Araneae	(Araneae)	(Araneae)	(Araneae)	W. Haines	Adult - sex unknown	18	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	3W
HVNP002694	Araneae	(Araneae)	(Araneae)	(Araneae)	W. Haines	Adult - sex unknown	20	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	4W
HVNP002706	Araneae	(Araneae)	(Araneae)	(Araneae)	W. Haines	Adult - sex unknown	6	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	5W
HVNP002756	Araneae	(Araneae)	(Araneae)	(Araneae)	W. Haines	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 3500ft	1W - 0m
HVNP002764	Araneae	(Araneae)	(Araneae)	(Araneae)	W. Haines	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 3500ft	2W - 30m
HVNP002774	Araneae	(Araneae)	(Araneae)	(Araneae)	N. Renie	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 3500ft	3W - 50m
HVNP002789	Araneae	(Araneae)	(Araneae)	(Araneae)	N. Renie	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	3B - 100m
HVNP002843	Araneae	(Araneae)	(Araneae)	(Araneae)	N. Renie	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	2W - 80m
HVNP002965	Araneae	(Araneae)	(Araneae)	(Araneae)	D. Bennett	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	3B
HVNP002650	Chilopoda	(Chilopoda)	(Chilopoda)	(Chilopoda)	W. Haines	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	1W
HVNP002069	Coleoptera	(Coleoptera)	(Coleoptera)	(Coleoptera)		Larva	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 9, 130m
HVNP002076	Coleoptera	(Coleoptera)	(Coleoptera)	(Coleoptera)		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 10, 140m
HVNP002345	Coleoptera	(Coleoptera)	(Coleoptera)	(Coleoptera)		Adult - sex unknown	1	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 8, 570m
HVNP002414	Coleoptera	(Coleoptera)	(Coleoptera)	(Coleoptera)	K. Schiappa	Adult - sex unknown	1	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 6
HVNP002425	Coleoptera	(Coleoptera)	(Coleoptera)	(Coleoptera)	P. Henne	Larva	1	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 7
HVNP002471	Coleoptera	(Coleoptera)	(Coleoptera)	(Coleoptera)		Larva	1	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 1, 500m
HVNP002484	Coleoptera	(Coleoptera)	(Coleoptera)	(Coleoptera)		Larva	1	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 2, 510m

Specimen code	Order	Family	Genus	Species	Determined by	Stage/Sex	Abund.	Collector	Date(s) collected	Collection method	Locality name	Site
HVNP002502	Coleoptera	(Coleoptera)	(Coleoptera)	(Coleoptera)		Larva	1	K. Schlappla et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 4, 530m
HVNP002552	Coleoptera	(Coleoptera)	(Coleoptera)	(Coleoptera)	W. Haines	Adult - sex unknown	6	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	1B
HVNP002569	Coleoptera	(Coleoptera)	(Coleoptera)	(Coleoptera)	W. Haines	Larva	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	2B
HVNP002570	Coleoptera	(Coleoptera)	(Coleoptera)	(Coleoptera)	W. Haines	Adult - sex unknown	6	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	2B
HVNP002591	Coleoptera	(Coleoptera)	(Coleoptera)	(Coleoptera)	W. Haines	Adult - sex unknown	2	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	3B
HVNP002608	Coleoptera	(Coleoptera)	(Coleoptera)	(Coleoptera)	W. Haines	Adult - sex unknown	7	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	4B
HVNP002628	Coleoptera	(Coleoptera)	(Coleoptera)	(Coleoptera)	W. Haines	Adult - sex unknown	5	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	5B
HVNP002651	Coleoptera	(Coleoptera)	(Coleoptera)	(Coleoptera)	W. Haines	Adult - sex unknown	5	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	1W
HVNP002669	Coleoptera	(Coleoptera)	(Coleoptera)	(Coleoptera)	W. Haines	Adult - sex unknown	4	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	2W
HVNP002695	Coleoptera	(Coleoptera)	(Coleoptera)	(Coleoptera)	W. Haines	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	4W
HVNP002707	Coleoptera	(Coleoptera)	(Coleoptera)	(Coleoptera)	W. Haines	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	5W
HVNP002719	Coleoptera	(Coleoptera)	(Coleoptera)	(Coleoptera)	W. Haines	Larva	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 3500ft	1B
HVNP002742	Coleoptera	(Coleoptera)	(Coleoptera)	(Coleoptera)	N. Renie	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 3500ft	3B - 60m
HVNP002765	Coleoptera	(Coleoptera)	(Coleoptera)	(Coleoptera)	W. Haines	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 3500ft	2W - 30m
HVNP002766	Coleoptera	(Coleoptera)	(Coleoptera)	(Coleoptera)	W. Haines	Larva	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 3500ft	2W - 30m
HVNP002790	Coleoptera	(Coleoptera)	(Coleoptera)	(Coleoptera)	N. Renie	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	3B - 100m
HVNP002791	Coleoptera	(Coleoptera)	(Coleoptera)	(Coleoptera)	N. Renie	Larva	2	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	3B - 100m
HVNP002810	Coleoptera	(Coleoptera)	(Coleoptera)	(Coleoptera)	D. Bennett	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	4B - 160m
HVNP002828	Coleoptera	(Coleoptera)	(Coleoptera)	(Coleoptera)	D. Bennett	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	5B - 185m
HVNP002829	Coleoptera	(Coleoptera)	(Coleoptera)	(Coleoptera)	D. Bennett	Larva	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	5B - 185m
HVNP002844	Coleoptera	(Coleoptera)	(Coleoptera)	(Coleoptera)	N. Renie	Larva	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	2W - 80m
HVNP002875	Coleoptera	(Coleoptera)	(Coleoptera)	(Coleoptera)	D. Bennett	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	4W - 170m
HVNP002897	Coleoptera	(Coleoptera)	(Coleoptera)	(Coleoptera)	N. Renie	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	1B - 15m
HVNP002912	Coleoptera	(Coleoptera)	(Coleoptera)	(Coleoptera)	N. Renie	Adult - sex unknown	2	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	2B - 25m
HVNP002923	Coleoptera	(Coleoptera)	(Coleoptera)	(Coleoptera)	N. Renie	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	1W - 5m
HVNP002967	Coleoptera	(Coleoptera)	(Coleoptera)	(Coleoptera)	D. Bennett	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	3B
HVNP002978	Coleoptera	(Coleoptera)	(Coleoptera)	(Coleoptera)	N. Renie	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	4B
HVNP003002	Coleoptera	(Coleoptera)	(Coleoptera)	(Coleoptera)	N. Renie	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	1W
HVNP003013	Coleoptera	(Coleoptera)	(Coleoptera)	(Coleoptera)	N. Renie	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	2W
HVNP003338	Coleoptera	(Coleoptera)	(Coleoptera)	(Coleoptera)	W. Haines	Adult - sex unknown	1	D. Foote et al.	17 Nov 1999	Search	KFU Office, Rt. 11	
HVNP003293	Coleoptera	Aglycyderidae	Proterhinus	(Proterhinus)	W. Haines	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 5, 90m
HVNP003809	Coleoptera	Aglycyderidae	Proterhinus	(Proterhinus)	W. Haines	1M, 1F, 1Larva	1	W. Haines	22 Jun 2000	Search	KFU, Vespula station 31	Between Vesp 31 & 32
HVNP003778	Coleoptera	Aglycyderidae	Proterhinus	affinis	W. Haines	Male	1	W. Haines	20 Jun 2000	Branchbeating (daytime)	KFU, Transect at 3500ft	430
HVNP003779	Coleoptera	Aglycyderidae	Proterhinus	affinis	W. Haines	Male	1	W. Haines	20 Jun 2000	Branchbeating (daytime)	KFU, Transect at 3500ft	430
HVNP003780	Coleoptera	Aglycyderidae	Proterhinus	affinis	W. Haines	Female	1	W. Haines	20 Jun 2000	Branchbeating (daytime)	KFU, Transect at 3500ft	430
HVNP003781	Coleoptera	Aglycyderidae	Proterhinus	affinis	W. Haines	Female	1	W. Haines	20 Jun 2000	Branchbeating (daytime)	KFU, Transect at 3500ft	430
HVNP003782	Coleoptera	Aglycyderidae	Proterhinus	affinis	W. Haines	Female	1	W. Haines	20 Jun 2000	Branchbeating (daytime)	KFU, Transect at 3500ft	430
HVNP003783	Coleoptera	Aglycyderidae	Proterhinus	affinis	W. Haines	Male	1	W. Haines	20 Jun 2000	Branchbeating (daytime)	KFU, Transect at 3500ft	500
HVNP003784	Coleoptera	Aglycyderidae	Proterhinus	affinis	W. Haines	Male	1	W. Haines	20 Jun 2000	Branchbeating (daytime)	KFU, Transect at 3500ft	500
HVNP003785	Coleoptera	Aglycyderidae	Proterhinus	affinis	W. Haines	Male	1	W. Haines	20 Jun 2000	Branchbeating (daytime)	KFU, Transect at 3500ft	500
HVNP003786	Coleoptera	Aglycyderidae	Proterhinus	affinis	W. Haines	Female	1	W. Haines	20 Jun 2000	Branchbeating (daytime)	KFU, Transect at 4500ft	120
HVNP003787	Coleoptera	Aglycyderidae	Proterhinus	affinis	W. Haines	Female	1	W. Haines	20 Jun 2000	Branchbeating (daytime)	KFU, Transect at 4500ft	120
HVNP003788	Coleoptera	Aglycyderidae	Proterhinus	affinis	W. Haines	Female	1	W. Haines	20 Jun 2000	Branchbeating (daytime)	KFU, Transect at 4500ft	300

Specimen code	Order	Family	Genus	Species	Determined by	Stage/Sex	Abund.	Collector	Date(s) collected	Collection method	Locality name	Site
HVNP003801	Coleoptera	Aglycyderidae	Proterhinus	similis	W. Haines	Male	1	W. Haines	21 Jun 2000	Branchbeating (daytime)	KFU, Transect at 2500ft	380
HVNP003802	Coleoptera	Aglycyderidae	Proterhinus	similis	W. Haines	Male	1	W. Haines	21 Jun 2000	Branchbeating (daytime)	KFU, Transect at 2500ft	380
HVNP003803	Coleoptera	Aglycyderidae	Proterhinus	similis	W. Haines	Female	1	W. Haines	21 Jun 2000	Branchbeating (daytime)	KFU, Transect at 2500ft	380
HVNP003804	Coleoptera	Aglycyderidae	Proterhinus	similis	W. Haines	Female	1	W. Haines	21 Jun 2000	Branchbeating (daytime)	KFU, Transect at 2500ft	380
HVNP003805	Coleoptera	Aglycyderidae	Proterhinus	similis	W. Haines	Male	1	W. Haines	21 Jun 2000	Branchbeating (daytime)	KFU, Transect at 2500ft	380
HVNP003806	Coleoptera	Aglycyderidae	Proterhinus	similis	W. Haines	Male	1	W. Haines	21 Jun 2000	Branchbeating (daytime)	KFU, Vespula station 41	Between Vesp 41&42
HVNP003807	Coleoptera	Aglycyderidae	Proterhinus	similis	W. Haines	Female	1	W. Haines	22 Jun 2000	Branchbeating (daytime)	KFU Camp	
HVNP003808	Coleoptera	Aglycyderidae	Proterhinus	similis	W. Haines	Female	1	W. Haines	22 Jun 2000	Branchbeating (daytime)	KFU, Vespula station 31	Between Vesp 31 & 32
HVNP003291	Coleoptera	Aglycyderidae	Proterhinus	similis	W. Haines	Adult - sex unknown	1	W. Haines	06 Jan 2000	Fell onto sticky card when hanging it	KFU, Vespula station 15	
HVNP003759	Coleoptera	Aglycyderidae	Proterhinus	similis	W. Haines	Female	1	W. Haines	19 Jun 2000	Branchbeating (daytime)	KFU, Transect at 5500ft	1060
HVNP003773	Coleoptera	Aglycyderidae	Proterhinus	similis	W. Haines	Female	1	W. Haines	20 Jun 2000	Branchbeating (daytime)	KFU, Transect at 3500ft	430
HVNP003791	Coleoptera	Aglycyderidae	Proterhinus	subangularis	W. Haines	Male	1	W. Haines	21 Jun 2000	Branchbeating (daytime)	KFU, Transect at 2500ft	340
HVNP003792	Coleoptera	Aglycyderidae	Proterhinus	subangularis	W. Haines	Female	1	W. Haines	21 Jun 2000	Branchbeating (daytime)	KFU, Transect at 2500ft	340
HVNP003793	Coleoptera	Aglycyderidae	Proterhinus	subangularis	W. Haines	Female	1	W. Haines	21 Jun 2000	Branchbeating (daytime)	KFU, Transect at 2500ft	340
HVNP003794	Coleoptera	Aglycyderidae	Proterhinus	subangularis	W. Haines	Male	1	W. Haines	21 Jun 2000	Branchbeating (daytime)	KFU, Transect at 2500ft	340
HVNP003795	Coleoptera	Aglycyderidae	Proterhinus	subangularis	W. Haines	Male	1	W. Haines	21 Jun 2000	Branchbeating (daytime)	KFU, Transect at 2500ft	340
HVNP003796	Coleoptera	Aglycyderidae	Proterhinus	subangularis	W. Haines	Female	1	W. Haines	21 Jun 2000	Branchbeating (daytime)	KFU, Transect at 2500ft	440
HVNP002129	Coleoptera	Carabidae	(Carabidae)	(Carabidae)	A. Paradis	Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 10, 100m
HVNP002809	Coleoptera	Carabidae	(Carabidae)	(Carabidae)	D. Bennett	Adult - sex unknown	2	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	4B - 160m
HVNP002827	Coleoptera	Carabidae	(Carabidae)	(Carabidae)	D. Bennett	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	5B - 185m
HVNP002862	Coleoptera	Carabidae	(Carabidae)	(Carabidae)	P. Henne	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	3W - 130m
HVNP002950	Coleoptera	Carabidae	(Carabidae)	(Carabidae)	P. Henne	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	2B
HVNP003012	Coleoptera	Carabidae	(Carabidae)	(Carabidae)	N. Renie	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	2W
HVNP003124	Coleoptera	Carabidae	(Carabidae)	(Carabidae)	W. Haines	Adult - sex unknown	1	W. Haines	17-18 May 2000	Bucket Light trap, 22W UV Search	KFU, Transect at 3500ft	
HVNP003337	Coleoptera	Cerambycidae	(Cerambycidae)	(Cerambycidae)	W. Haines	Adult - sex unknown	1	D. Foote et al.	15 Nov 1999		KFU Office, Rt. 11	
HVNP002877	Coleoptera	Curculionidae	(Curculionidae)	(Curculionidae)	D. Bennett	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	4W - 170m
HVNP002992	Coleoptera	Curculionidae	(Curculionidae)	(Curculionidae)	D. Bennett	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	5B
HVNP003348	Coleoptera	Curculionidae	(Curculionidae)	(Curculionidae)	W. Haines	Adult - sex unknown	1	D. Foote et al.	16 Nov 1999	Search	KFU Office, Rt. 11	
HVNP003622	Coleoptera	Elaterridae	(Elaterridae)	(Elaterridae)	W. Haines	Adult - sex unknown	1	W. Haines	17 Jul-15 Aug 2000	Yellow sticky card (Seabright)	KFU, Vespula station 32	
HVNP003050	Coleoptera	Elaterridae	Anchastus	swezeyi	W. Haines	Adult - sex unknown	1	W. Haines	17-23 Nov 1999	Yellow sticky card (Seabright)	KFU, Vespula station 43	
HVNP003051	Coleoptera	Elaterridae	Anchastus	swezeyi	W. Haines	Adult - sex unknown	1	W. Haines	17-23 Nov 1999	Yellow sticky card (Seabright)	KFU, Vespula station 43	
HVNP003052	Coleoptera	Elaterridae	Anchastus	swezeyi	W. Haines	Adult - sex unknown	1	W. Haines	17-23 Nov 1999	Yellow sticky card (Seabright)	KFU, Vespula station 45	
HVNP003053	Coleoptera	Elaterridae	Anchastus	swezeyi	W. Haines	Adult - sex unknown	4	W. Haines	11 Apr-17 May 2000	Yellow sticky card (Seabright)	KFU, Vespula station 46	
HVNP003054	Coleoptera	Elaterridae	Anchastus	swezeyi	W. Haines	Adult - sex unknown	3	W. Haines	6 Jan-14 Feb 2000	Yellow sticky card (Seabright)	KFU, Vespula station 49	
HVNP003055	Coleoptera	Elaterridae	Anchastus	swezeyi	W. Haines	Adult - sex unknown	3	W. Haines	14 Feb-11 Apr 2000	Yellow sticky card (Seabright)	KFU, Vespula station 48	
HVNP003056	Coleoptera	Elaterridae	Anchastus	swezeyi	W. Haines	Adult - sex unknown	2	W. Haines	11 Apr-17 May 2000	Yellow sticky card (Seabright)	KFU, Vespula station 48	
HVNP003057	Coleoptera	Elaterridae	Anchastus	swezeyi	W. Haines	Adult - sex unknown	3	W. Haines	6 Jan-14 Feb 2000	Yellow sticky card (Seabright)	KFU, Vespula station 48	
HVNP003058	Coleoptera	Elaterridae	Anchastus	swezeyi	W. Haines	Adult - sex unknown	1	W. Haines	6 Jan-14 Feb 2000	Yellow sticky card (Seabright)	KFU, Vespula station 43	
HVNP003059	Coleoptera	Elaterridae	Anchastus	swezeyi	W. Haines	Adult - sex unknown	2	W. Haines	14 Feb-11 Apr 2000	Yellow sticky card (Seabright)	KFU, Vespula station 43	
HVNP003060	Coleoptera	Elaterridae	Anchastus	swezeyi	W. Haines	Adult - sex unknown	3	W. Haines	6 Jan-14 Feb 2000	Yellow sticky card (Seabright)	KFU, Vespula station 46	
HVNP003061	Coleoptera	Elaterridae	Anchastus	swezeyi	W. Haines	Adult - sex unknown	1	W. Haines	14 Feb-11 Apr 2000	Yellow sticky card (Seabright)	KFU, Vespula station 49	
HVNP003062	Coleoptera	Elaterridae	Anchastus	swezeyi	W. Haines	Adult - sex unknown	1	W. Haines	6 Jan-14 Feb 2000	Yellow sticky card (Seabright)	KFU, Vespula station 44	
HVNP003063	Coleoptera	Elaterridae	Anchastus	swezeyi	W. Haines	Adult - sex unknown	1	W. Haines	17-23 Nov 1999	Yellow sticky card (Seabright)	KFU, Vespula station 43	

Specimen code	Order	Family	Genus	Species	Determined by	Stage/Sex	Abund.	Collector	Date(s) collected	Collection method	Locality name	Site
HVNP003064	Coleoptera	Elateridae	Anchastus	swezeyi	W. Haines	Adult - sex unknown	1	W. Haines	11 Apr-17 May 2000	Yellow sticky card (Seabright)	KFU, Vespula station 49	
HVNP003065	Coleoptera	Elateridae	Anchastus	swezeyi	W. Haines	Adult - sex unknown	5	W. Haines	14 Feb-11 Apr 2000	Yellow sticky card (Seabright)	KFU, Vespula station 46	
HVNP003066	Coleoptera	Elateridae	Anchastus	swezeyi	W. Haines	Adult - sex unknown	1	W. Haines	14 Feb-11 Apr 2000	Yellow sticky card (Seabright)	KFU, Vespula station 45	
HVNP003067	Coleoptera	Elateridae	Anchastus	swezeyi	W. Haines	Adult - sex unknown	1	W. Haines	14 Feb-11 Apr 2000	Yellow sticky card (Seabright)	KFU, Vespula station 47	
HVNP003068	Coleoptera	Elateridae	Anchastus	swezeyi	W. Haines	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 2, 60m
HVNP003289	Coleoptera	Elateridae	Anchastus	swezeyi	W. Haines	Adult - sex unknown	1	W. Haines	11 Apr 2000	Shaking branches onto sheet	KFU, Transect at 2500ft	
HVNP003290	Coleoptera	Elateridae	Anchastus	swezeyi	W. Haines	Adult - sex unknown	1	W. Haines	11 Apr 2000	Shaking branches onto sheet	KFU, Transect at 2500ft	
HVNP003625	Coleoptera	Elateridae	Anchastus	swezeyi	W. Haines	Adult - sex unknown	2	W. Haines	17 Jul-15 Aug 2000	Yellow sticky card (Seabright)	KFU, Vespula station 43	
HVNP003627	Coleoptera	Elateridae	Anchastus	swezeyi	W. Haines	Adult - sex unknown	2	W. Haines	17 Jul-15 Aug 2000	Yellow sticky card (Seabright)	KFU, Vespula station 46	
HVNP003628	Coleoptera	Elateridae	Anchastus	swezeyi	W. Haines	Adult - sex unknown	2	W. Haines	17 Jul-15 Aug 2000	Yellow sticky card (Seabright)	KFU, Vespula station 48	
HVNP003643	Coleoptera	Elateridae	Anchastus	swezeyi	W. Haines	Adult - sex unknown	2	W. Haines et al	17 May-21 Jun 2000	Yellow sticky card (Seabright)	KFU, Vespula station 43	
HVNP003646	Coleoptera	Elateridae	Anchastus	swezeyi	W. Haines	Adult - sex unknown	9	W. Haines et al	17 May-21 Jun 2000	Yellow sticky card (Seabright)	KFU, Vespula station 46	
HVNP003647	Coleoptera	Elateridae	Anchastus	swezeyi	W. Haines	Adult - sex unknown	1	W. Haines et al	17 May-21 Jun 2000	Yellow sticky card (Seabright)	KFU, Vespula station 47	
HVNP003648	Coleoptera	Elateridae	Anchastus	swezeyi	W. Haines	Adult - sex unknown	1	W. Haines et al	17 May-21 Jun 2000	Yellow sticky card (Seabright)	KFU, Vespula station 48	
HVNP003656	Coleoptera	Elateridae	Anchastus	swezeyi	W. Haines	Adult - sex unknown	1	W. Haines et al	21 Jun-17 Jul 2000	Yellow sticky card (Seabright)	KFU, Vespula station 43	
HVNP003659	Coleoptera	Elateridae	Anchastus	swezeyi	W. Haines	Adult - sex unknown	5	W. Haines et al	21 Jun-17 Jul 2000	Yellow sticky card (Seabright)	KFU, Vespula station 46	
HVNP003660	Coleoptera	Elateridae	Anchastus	swezeyi	W. Haines	Adult - sex unknown	2	W. Haines et al	21 Jun-17 Jul 2000	Yellow sticky card (Seabright)	KFU, Vespula station 48	
HVNP003661	Coleoptera	Elateridae	Anchastus	swezeyi	W. Haines	Adult - sex unknown	1	W. Haines et al	21 Jun-17 Jul 2000	Yellow sticky card (Seabright)	KFU, Vespula station 49	
HVNP003049	Coleoptera	Elateridae	Adelocera	beardsteyi	W. Haines	Adult - sex unknown	1	W. Haines	11 Apr-17 May 2000	Yellow sticky card (Seabright)	KFU, Vespula station 49	
HVNP002635	Coleoptera	Elateridae	Conoderus	exsul	W. Haines	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	5B
HVNP002657	Coleoptera	Elateridae	Conoderus	exsul	W. Haines	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	1W
HVNP003029	Coleoptera	Elateridae	Conoderus	exsul	W. Haines	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	3W
HVNP003069	Coleoptera	Elateridae	Conoderus	exsul	W. Haines	Adult - sex unknown	1	W. Haines	17-23 Nov 1999	Yellow sticky card (Seabright)	KFU, Vespula station 42	
HVNP003070	Coleoptera	Elateridae	Conoderus	exsul	W. Haines	Adult - sex unknown	1	W. Haines	17-23 Nov 1999	Yellow sticky card (Seabright)	KFU, Vespula station 39	
HVNP003071	Coleoptera	Elateridae	Conoderus	exsul	W. Haines	Adult - sex unknown	2	W. Haines	11 Apr-17 May 2000	Yellow sticky card (Seabright)	KFU, Vespula station 49	
HVNP003072	Coleoptera	Elateridae	Conoderus	exsul	W. Haines	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 3, 20m
HVNP003073	Coleoptera	Elateridae	Conoderus	exsul	W. Haines	Adult - sex unknown	1	W. Haines	11 Apr-17 May 2000	Yellow sticky card (Seabright)	KFU, Vespula station 40	
HVNP003074	Coleoptera	Elateridae	Conoderus	exsul	W. Haines	Adult - sex unknown	1	W. Haines	17-23 Nov 1999	Yellow sticky card (Seabright)	KFU, Vespula station 07	
HVNP003075	Coleoptera	Elateridae	Conoderus	exsul	W. Haines	Adult - sex unknown	1	W. Haines	6 Jan-14 Feb 2000	Yellow sticky card (Seabright)	KFU, Vespula station 38	
HVNP003076	Coleoptera	Elateridae	Conoderus	exsul	W. Haines	Adult - sex unknown	1	W. Haines	14 Feb-11 Apr 2000	Yellow sticky card (Seabright)	KFU, Vespula station 43	
HVNP003077	Coleoptera	Elateridae	Conoderus	exsul	W. Haines	Adult - sex unknown	1	W. Haines	17-23 Nov 1999	Yellow sticky card (Seabright)	KFU, Vespula station 43	
HVNP003078	Coleoptera	Elateridae	Conoderus	exsul	W. Haines	Adult - sex unknown	1	W. Haines	17-23 Nov 1999	Yellow sticky card (Seabright)	KFU, Vespula station 27	
HVNP003616	Coleoptera	Elateridae	Conoderus	exsul	W. Haines	Adult - sex unknown	1	W. Haines	17 Jul-15 Aug 2000	Yellow sticky card (Seabright)	KFU, Vespula station 08	
HVNP003620	Coleoptera	Elateridae	Conoderus	exsul	W. Haines	Adult - sex unknown	1	W. Haines	17 Jul-15 Aug 2000	Yellow sticky card (Seabright)	KFU, Vespula station 27	
HVNP003621	Coleoptera	Elateridae	Conoderus	exsul	W. Haines	Adult - sex unknown	1	W. Haines	17 Jul-15 Aug 2000	Yellow sticky card (Seabright)	KFU, Vespula station 31	
HVNP003623	Coleoptera	Elateridae	Conoderus	exsul	W. Haines	Adult - sex unknown	1	W. Haines	17 Jul-15 Aug 2000	Yellow sticky card (Seabright)	KFU, Vespula station 34	
HVNP003624	Coleoptera	Elateridae	Conoderus	exsul	W. Haines	Adult - sex unknown	2	W. Haines	17 Jul-15 Aug 2000	Yellow sticky card (Seabright)	KFU, Vespula station 42	
HVNP003626	Coleoptera	Elateridae	Conoderus	exsul	W. Haines	Adult - sex unknown	2	W. Haines	17 Jul-15 Aug 2000	Yellow sticky card (Seabright)	KFU, Vespula station 43	
HVNP003629	Coleoptera	Elateridae	Conoderus	exsul	W. Haines	Adult - sex unknown	1	W. Haines	17 Jul-15 Aug 2000	Yellow sticky card (Seabright)	KFU, Vespula station 49	
HVNP003649	Coleoptera	Elateridae	Conoderus	exsul	W. Haines	Adult - sex unknown	1	W. Haines et al	17 May-21 Jun 2000	Yellow sticky card (Seabright)	KFU, Vespula station 49	
HVNP003655	Coleoptera	Elateridae	Conoderus	exsul	W. Haines	Adult - sex unknown	1	W. Haines et al	21 Jun-17 Jul 2000	Yellow sticky card (Seabright)	KFU, Vespula station 43	
HVNP003658	Coleoptera	Elateridae	Conoderus	exsul	W. Haines	Adult - sex unknown	1	W. Haines et al	21 Jun-17 Jul 2000	Yellow sticky card (Seabright)	KFU, Vespula station 44	
HVNP003125	Coleoptera	Nitidulidae	(Nitidulidae)	(Nitidulidae)	W. Haines	Adult - sex unknown	1	W. Haines	17-18 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 3500ft	

Specimen code	Order	Family	Genus	Species	Determined by	Stage/Sex	Abund.	Collector	Date(s) collected	Collection method	Locality name	Site
HVNP002863	Coleoptera	Ptiliidae	(Ptiliidae)	(Ptiliidae)	P. Henne	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	3W - 130m
HVNP003024	Coleoptera	Ptiliidae	(Ptiliidae)	(Ptiliidae)	P. Henne	Adult - sex unknown	2	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	3W
HVNP002026	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 4, 80m
HVNP002051	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 7, 110m
HVNP002120	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)	A. Paradis	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 8, 70m
HVNP002142	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)	K. Schlappa	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 1, 50m
HVNP002159	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)	P. Henne	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 3, 70m
HVNP002247	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)	A. Paradis	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 7, 70m
HVNP002280	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)	A. Paradis	Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 4, 80m
HVNP002290	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)	K. Schlappa	Adult - sex unknown	1	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 1, 500m
HVNP002320	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)	A. Paradis	Adult - sex unknown	2	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 4, 530m
HVNP002353	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)	A. Paradis	Adult - sex unknown	1	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 9, 580m
HVNP002392	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)	P. Henne	Adult - sex unknown	2	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 4
HVNP002403	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)		Adult - sex unknown	1	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 5
HVNP002434	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)	K. Schlappa	Adult - sex unknown	3	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 8
HVNP002446	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)		Adult - sex unknown	1	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 9
HVNP002456	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)		Adult - sex unknown	1	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 10
HVNP002467	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)		Adult - sex unknown	1	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 1, 500m
HVNP002492	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)	A. Paradis	Adult - sex unknown	1	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 3, 520m
HVNP002530	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)		Adult - sex unknown	1	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 8, 570m
HVNP002566	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)	W. Haines	Adult - sex unknown	50	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	1B
HVNP002585	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)	W. Haines	Adult - sex unknown	39	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	2B
HVNP002603	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)	W. Haines	Adult - sex unknown	91	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	3B
HVNP002623	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)	W. Haines	Adult - sex unknown	44	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	4B
HVNP002645	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)	W. Haines	Adult - sex unknown	34	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	5B
HVNP002664	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)	W. Haines	Adult - sex unknown	3	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	1W
HVNP002702	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)	W. Haines	Adult - sex unknown	2	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	4W
HVNP002727	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)	W. Haines	Adult - sex unknown	11	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 3500ft	1B
HVNP002739	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)	W. Haines	Adult - sex unknown	33	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 3500ft	2B - 25m
HVNP002753	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)	N. Renie	Adult - sex unknown	78	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 3500ft	3B - 60m
HVNP002754	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)	D. Bennett	Adult - sex unknown	26	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	5B
HVNP002779	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)	N. Renie	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 3500ft	3W - 50m
HVNP002805	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)	N. Renie	Adult - sex unknown	27	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	3B - 100m
HVNP002823	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)	D. Bennett	Adult - sex unknown	16	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	4B - 160m
HVNP002840	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)	D. Bennett	Adult - sex unknown	30	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	5B - 185m
HVNP002858	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)	N. Renie	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	2W - 80m
HVNP002872	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)	P. Henne	Adult - sex unknown	7	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	3W - 130m
HVNP002894	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)	N. Renie	Adult - sex unknown	5	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	5W - 290m
HVNP002908	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)	N. Renie	Adult - sex unknown	7	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	1B - 15m
HVNP002920	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)	N. Renie	Adult - sex unknown	20	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	2B - 25m
HVNP002932	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)	N. Renie	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	1W - 5m
HVNP002946	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)		Adult - sex unknown	46	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	1B
HVNP002962	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)	P. Henne	Adult - sex unknown	17	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	2B

Specimen code	Order	Family	Genus	Species	Determined by	Stage/Sex	Abund.	Collector	Date(s) collected	Collection method	Locality name	Site
HVNP002976	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)	D. Bennett	Adult - sex unknown	5	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	3B
HVNP002988	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)	N. Renie	Adult - sex unknown	14	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	4B
HVNP003032	Coleoptera	Staphylinidae	(Staphylinidae)	(Staphylinidae)	P. Henne	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	3W
HVNP003088	Coleoptera	Tenebrionidae	(Tenebrionidae)	(Tenebrionidae)	W. Haines	Adult - sex unknown	1	W. Haines	16-17 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 4500ft	
HVNP002000	Collembola	(Collembola)	(Collembola)	(Collembola)		Adult - sex unknown	7	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 1, 50m
HVNP002010	Collembola	(Collembola)	(Collembola)	(Collembola)		Adult - sex unknown	6	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 2, 60m
HVNP002018	Collembola	(Collembola)	(Collembola)	(Collembola)		Adult - sex unknown	13	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 3, 70m
HVNP002023	Collembola	(Collembola)	(Collembola)	(Collembola)		Adult - sex unknown	9	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 4, 80m
HVNP002031	Collembola	(Collembola)	(Collembola)	(Collembola)		Adult - sex unknown	32	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 5, 90m
HVNP002038	Collembola	(Collembola)	(Collembola)	(Collembola)		Adult - sex unknown	24	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 6, 100m
HVNP002046	Collembola	(Collembola)	(Collembola)	(Collembola)		Adult - sex unknown	9	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 7, 110m
HVNP002058	Collembola	(Collembola)	(Collembola)	(Collembola)		Adult - sex unknown	11	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 8, 120m
HVNP002066	Collembola	(Collembola)	(Collembola)	(Collembola)		Adult - sex unknown	7	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 9, 130m
HVNP002071	Collembola	(Collembola)	(Collembola)	(Collembola)		Adult - sex unknown	9	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 10, 140m
HVNP002079	Collembola	(Collembola)	(Collembola)	(Collembola)	P. Henne	Adult - sex unknown	17	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 1, 0m
HVNP002087	Collembola	(Collembola)	(Collembola)	(Collembola)		Adult - sex unknown	6	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 2, 10m
HVNP002092	Collembola	(Collembola)	(Collembola)	(Collembola)	K. Heckmann	Adult - sex unknown	18	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 3, 20m
HVNP002097	Collembola	(Collembola)	(Collembola)	(Collembola)	P. Henne	Adult - sex unknown	6	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 4, 30m
HVNP002101	Collembola	(Collembola)	(Collembola)	(Collembola)	A. Paradis	Adult - sex unknown	9	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 5, 40m
HVNP002106	Collembola	(Collembola)	(Collembola)	(Collembola)	P. Henne	Adult - sex unknown	15	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 6, 50m
HVNP002110	Collembola	(Collembola)	(Collembola)	(Collembola)	A. Paradis	Adult - sex unknown	15	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 7, 60m
HVNP002115	Collembola	(Collembola)	(Collembola)	(Collembola)	A. Paradis	Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 8, 70m
HVNP002122	Collembola	(Collembola)	(Collembola)	(Collembola)	P. Henne	Adult - sex unknown	26	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 8, 70m
HVNP002137	Collembola	(Collembola)	(Collembola)	(Collembola)	K. Schiappa	Adult - sex unknown	24	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 1, 50m
HVNP002146	Collembola	(Collembola)	(Collembola)	(Collembola)	A. Paradis	Adult - sex unknown	18	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 2, 60m
HVNP002155	Collembola	(Collembola)	(Collembola)	(Collembola)	P. Henne	Adult - sex unknown	22	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 3, 70m
HVNP002167	Collembola	(Collembola)	(Collembola)	(Collembola)	J. K. McMurry	Adult - sex unknown	4	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 5, 80m
HVNP002175	Collembola	(Collembola)	(Collembola)	(Collembola)	A. Paradis	Adult - sex unknown	13	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 6, 100m
HVNP002187	Collembola	(Collembola)	(Collembola)	(Collembola)	J. K. McMurry	Adult - sex unknown	17	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 7, 110m
HVNP002196	Collembola	(Collembola)	(Collembola)	(Collembola)	P. Henne	Adult - sex unknown	12	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 8, 120m
HVNP002202	Collembola	(Collembola)	(Collembola)	(Collembola)	P. Henne	Adult - sex unknown	6	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 9, 130m
HVNP002212	Collembola	(Collembola)	(Collembola)	(Collembola)	P. Henne	Adult - sex unknown	3	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 10, 140m
HVNP002220	Collembola	(Collembola)	(Collembola)	(Collembola)	P. Henne	Adult - sex unknown	13	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 1, 10m
HVNP002226	Collembola	(Collembola)	(Collembola)	(Collembola)	A. Paradis	Adult - sex unknown	22	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 2, 20m
HVNP002233	Collembola	(Collembola)	(Collembola)	(Collembola)	P. Henne	Adult - sex unknown	10	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 3, 30m
HVNP002239	Collembola	(Collembola)	(Collembola)	(Collembola)	P. Henne	Adult - sex unknown	7	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 5, 50m
HVNP002243	Collembola	(Collembola)	(Collembola)	(Collembola)	A. Paradis	Adult - sex unknown	24	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 7, 70m
HVNP002250	Collembola	(Collembola)	(Collembola)	(Collembola)	A. Paradis	Adult - sex unknown	18	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 6, 60m
HVNP002255	Collembola	(Collembola)	(Collembola)	(Collembola)	J. K. McMurry	Adult - sex unknown	22	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 6, 60m
HVNP002263	Collembola	(Collembola)	(Collembola)	(Collembola)	J. K. McMurry	Adult - sex unknown	21	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 10, 100m
HVNP002271	Collembola	(Collembola)	(Collembola)	(Collembola)	A. Paradis	Adult - sex unknown	17	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 8, 80m
HVNP002275	Collembola	(Collembola)	(Collembola)	(Collembola)	A. Paradis	Adult - sex unknown	8	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 4, 80m
HVNP002286	Collembola	(Collembola)	(Collembola)	(Collembola)	K. Schiappa	Adult - sex unknown	55	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 1, 500m

Specimen code	Order	Family	Genus	Species	Determined by	Stage/Sex	Abund.	Collector	Date(s) collected	Collection method	Locality name	Site
HVNP002298	Collembola	(Collembola)	(Collembola)	(Collembola)	P. Henne	Adult - sex unknown	21	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 2, 510m
HVNP002307	Collembola	(Collembola)	(Collembola)	(Collembola)	P. Henne	Adult - sex unknown	23	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 3, 520m
HVNP002315	Collembola	(Collembola)	(Collembola)	(Collembola)	A. Paradis	Adult - sex unknown	17	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 4, 530m
HVNP002325	Collembola	(Collembola)	(Collembola)	(Collembola)		Adult - sex unknown	18	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 5, 540m
HVNP002331	Collembola	(Collembola)	(Collembola)	(Collembola)		Adult - sex unknown	17	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 6, 550m
HVNP002340	Collembola	(Collembola)	(Collembola)	(Collembola)	K. Schiappa	Adult - sex unknown	2	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 7, 560m
HVNP002342	Collembola	(Collembola)	(Collembola)	(Collembola)		Adult - sex unknown	15	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 8, 570m
HVNP002347	Collembola	(Collembola)	(Collembola)	(Collembola)	A. Paradis	Adult - sex unknown	12	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 9, 580m
HVNP002359	Collembola	(Collembola)	(Collembola)	(Collembola)	P. Henne	Adult - sex unknown	13	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 10, 590m
HVNP002366	Collembola	(Collembola)	(Collembola)	(Collembola)	P. Henne	Adult - sex unknown	3	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 1
HVNP002373	Collembola	(Collembola)	(Collembola)	(Collembola)	K. Schiappa	Adult - sex unknown	10	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 2
HVNP002379	Collembola	(Collembola)	(Collembola)	(Collembola)	K. Schiappa	Adult - sex unknown	9	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 3
HVNP002389	Collembola	(Collembola)	(Collembola)	(Collembola)	P. Henne	Adult - sex unknown	22	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 4
HVNP002398	Collembola	(Collembola)	(Collembola)	(Collembola)		Adult - sex unknown	15	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 5
HVNP002409	Collembola	(Collembola)	(Collembola)	(Collembola)	K. Schiappa	Adult - sex unknown	13	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 6
HVNP002417	Collembola	(Collembola)	(Collembola)	(Collembola)	P. Henne	Adult - sex unknown	6	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 7
HVNP002429	Collembola	(Collembola)	(Collembola)	(Collembola)	K. Schiappa	Adult - sex unknown	6	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 8
HVNP002440	Collembola	(Collembola)	(Collembola)	(Collembola)		Adult - sex unknown	3	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 9
HVNP002450	Collembola	(Collembola)	(Collembola)	(Collembola)		Adult - sex unknown	15	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 10
HVNP002462	Collembola	(Collembola)	(Collembola)	(Collembola)		Adult - sex unknown	4	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 1, 500m
HVNP002475	Collembola	(Collembola)	(Collembola)	(Collembola)		Adult - sex unknown	13	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 2, 510m
HVNP002497	Collembola	(Collembola)	(Collembola)	(Collembola)		Adult - sex unknown	1	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 4, 530m
HVNP002505	Collembola	(Collembola)	(Collembola)	(Collembola)		Adult - sex unknown	19	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 5, 540m
HVNP002513	Collembola	(Collembola)	(Collembola)	(Collembola)		Adult - sex unknown	5	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 6, 550m
HVNP002522	Collembola	(Collembola)	(Collembola)	(Collembola)		Adult - sex unknown	1	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 7, 560m
HVNP002528	Collembola	(Collembola)	(Collembola)	(Collembola)		Adult - sex unknown	7	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 8, 570m
HVNP002535	Collembola	(Collembola)	(Collembola)	(Collembola)	A. Paradis	Adult - sex unknown	10	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 9, 580m
HVNP002544	Collembola	(Collembola)	(Collembola)	(Collembola)	A. Paradis	Adult - sex unknown	6	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 10, 590m
HVNP002553	Collembola	(Collembola)	(Collembola)	(Collembola)	W. Haines	Adult - sex unknown	18	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	1B
HVNP002571	Collembola	(Collembola)	(Collembola)	(Collembola)	W. Haines	Adult - sex unknown	30	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	2B
HVNP002592	Collembola	(Collembola)	(Collembola)	(Collembola)	W. Haines	Adult - sex unknown	22	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	3B
HVNP002609	Collembola	(Collembola)	(Collembola)	(Collembola)	W. Haines	Adult - sex unknown	18	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	4B
HVNP002629	Collembola	(Collembola)	(Collembola)	(Collembola)	W. Haines	Adult - sex unknown	6	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	5B
HVNP002652	Collembola	(Collembola)	(Collembola)	(Collembola)	W. Haines	Adult - sex unknown	26	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	1W
HVNP002670	Collembola	(Collembola)	(Collembola)	(Collembola)	W. Haines	Adult - sex unknown	5	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	2W
HVNP002683	Collembola	(Collembola)	(Collembola)	(Collembola)	W. Haines	Adult - sex unknown	23	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	3W
HVNP002696	Collembola	(Collembola)	(Collembola)	(Collembola)	W. Haines	Adult - sex unknown	19	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	4W
HVNP002708	Collembola	(Collembola)	(Collembola)	(Collembola)	W. Haines	Adult - sex unknown	17	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	5W
HVNP002720	Collembola	(Collembola)	(Collembola)	(Collembola)	W. Haines	Adult - sex unknown	7	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 3500ft	1B
HVNP002730	Collembola	(Collembola)	(Collembola)	(Collembola)	W. Haines	Adult - sex unknown	13	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 3500ft	2B - 25m
HVNP002743	Collembola	(Collembola)	(Collembola)	(Collembola)	N. Renie	Adult - sex unknown	20	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 3500ft	3B - 60m
HVNP002757	Collembola	(Collembola)	(Collembola)	(Collembola)	W. Haines	Adult - sex unknown	55	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 3500ft	1W - 0m
HVNP002767	Collembola	(Collembola)	(Collembola)	(Collembola)	W. Haines	Adult - sex unknown	26	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 3500ft	2W - 30m

Specimen code	Order	Family	Genus	Species	Determined by	Stage/Sex	Abund.	Collector	Date(s) collected	Collection method	Locality name	Site
HVNP002775	Collembola	(Collembola)	(Collembola)	(Collembola)	N. Renie	Adult - sex unknown	36	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 3500ft	3W - 50m
HVNP002783	Collembola	(Collembola)	(Collembola)	(Collembola)	W. Haines, D. Bennett	Adult - sex unknown	30	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 3500ft	5W - 110m
HVNP002792	Collembola	(Collembola)	(Collembola)	(Collembola)	N. Renie	Adult - sex unknown	53	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	3B - 100m
HVNP002811	Collembola	(Collembola)	(Collembola)	(Collembola)	D. Bennett	Adult - sex unknown	65	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	4B - 160m
HVNP002830	Collembola	(Collembola)	(Collembola)	(Collembola)	D. Bennett	Adult - sex unknown	88	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	5B - 185m
HVNP002845	Collembola	(Collembola)	(Collembola)	(Collembola)	N. Renie	Adult - sex unknown	130	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	2W - 80m
HVNP002864	Collembola	(Collembola)	(Collembola)	(Collembola)	P. Henne	Adult - sex unknown	22	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	3W - 130m
HVNP002876	Collembola	(Collembola)	(Collembola)	(Collembola)	D. Bennett	Adult - sex unknown	46	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	4W - 170m
HVNP002886	Collembola	(Collembola)	(Collembola)	(Collembola)	N. Renie	Adult - sex unknown	78	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	5W - 290m
HVNP002898	Collembola	(Collembola)	(Collembola)	(Collembola)	N. Renie	Adult - sex unknown	13	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	1B - 15m
HVNP002913	Collembola	(Collembola)	(Collembola)	(Collembola)	N. Renie	Adult - sex unknown	36	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	2B - 25m
HVNP002924	Collembola	(Collembola)	(Collembola)	(Collembola)	N. Renie	Adult - sex unknown	87	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	1W - 5m
HVNP002937	Collembola	(Collembola)	(Collembola)	(Collembola)	N. Renie	Adult - sex unknown	135	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	1B
HVNP002951	Collembola	(Collembola)	(Collembola)	(Collembola)	P. Henne	Adult - sex unknown	105	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	2B
HVNP002968	Collembola	(Collembola)	(Collembola)	(Collembola)	D. Bennett	Adult - sex unknown	186	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	3B
HVNP002979	Collembola	(Collembola)	(Collembola)	(Collembola)	N. Renie	Adult - sex unknown	77	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	4B
HVNP002991	Collembola	(Collembola)	(Collembola)	(Collembola)	D. Bennett	Adult - sex unknown	21	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	5B
HVNP003003	Collembola	(Collembola)	(Collembola)	(Collembola)	N. Renie	Adult - sex unknown	64	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	1W
HVNP003014	Collembola	(Collembola)	(Collembola)	(Collembola)	N. Renie	Adult - sex unknown	192	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	2W
HVNP003025	Collembola	(Collembola)	(Collembola)	(Collembola)	P. Henne	Adult - sex unknown	67	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	3W
HVNP003034	Collembola	(Collembola)	(Collembola)	(Collembola)	P. Henne	Adult - sex unknown	146	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	4W
HVNP003043	Collembola	(Collembola)	(Collembola)	(Collembola)	N. Renie	Adult - sex unknown	34	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	5W
HVNP002184	Diplopoda	(Diplopoda)	(Diplopoda)	(Diplopoda)	A. Paradis	Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 6, 100m
HVNP002206	Diplopoda	(Diplopoda)	(Diplopoda)	(Diplopoda)	P. Henne	Adult - sex unknown	3	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 9, 130m
HVNP002216	Diplopoda	(Diplopoda)	(Diplopoda)	(Diplopoda)	P. Henne	Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 10, 140m
HVNP002555	Diplopoda	(Diplopoda)	(Diplopoda)	(Diplopoda)	W. Haines	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	1B
HVNP002573	Diplopoda	(Diplopoda)	(Diplopoda)	(Diplopoda)	W. Haines	Adult - sex unknown	34	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	2B
HVNP002594	Diplopoda	(Diplopoda)	(Diplopoda)	(Diplopoda)	W. Haines	Adult - sex unknown	3	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	3B
HVNP002611	Diplopoda	(Diplopoda)	(Diplopoda)	(Diplopoda)	W. Haines	Adult - sex unknown	8	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	4B
HVNP002631	Diplopoda	(Diplopoda)	(Diplopoda)	(Diplopoda)	W. Haines	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	5B
HVNP002672	Diplopoda	(Diplopoda)	(Diplopoda)	(Diplopoda)	W. Haines	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	2W
HVNP002685	Diplopoda	(Diplopoda)	(Diplopoda)	(Diplopoda)	W. Haines	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	3W
HVNP002721	Diplopoda	(Diplopoda)	(Diplopoda)	(Diplopoda)	W. Haines	Adult - sex unknown	6	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 3500ft	1B
HVNP002732	Diplopoda	(Diplopoda)	(Diplopoda)	(Diplopoda)	W. Haines	Adult - sex unknown	18	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 3500ft	2B - 25m
HVNP002745	Diplopoda	(Diplopoda)	(Diplopoda)	(Diplopoda)	N. Renie	Adult - sex unknown	9	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 3500ft	3B - 60m
HVNP002776	Diplopoda	(Diplopoda)	(Diplopoda)	(Diplopoda)	N. Renie	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 3500ft	3W - 50m
HVNP002794	Diplopoda	(Diplopoda)	(Diplopoda)	(Diplopoda)	N. Renie	Adult - sex unknown	13	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	3B - 100m
HVNP002813	Diplopoda	(Diplopoda)	(Diplopoda)	(Diplopoda)	D. Bennett	Adult - sex unknown	33	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	4B - 160m
HVNP002832	Diplopoda	(Diplopoda)	(Diplopoda)	(Diplopoda)	D. Bennett	Adult - sex unknown	52	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	5B - 185m
HVNP002847	Diplopoda	(Diplopoda)	(Diplopoda)	(Diplopoda)	N. Renie	Adult - sex unknown	5	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	2W - 80m
HVNP002865	Diplopoda	(Diplopoda)	(Diplopoda)	(Diplopoda)	P. Henne	Adult - sex unknown	3	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	3W - 130m
HVNP002878	Diplopoda	(Diplopoda)	(Diplopoda)	(Diplopoda)	D. Bennett	Adult - sex unknown	5	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	4W - 170m
HVNP002887	Diplopoda	(Diplopoda)	(Diplopoda)	(Diplopoda)	N. Renie	Adult - sex unknown	8	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	5W - 290m

Specimen code	Order	Family	Genus	Species	Determined by	Stage/Sex	Abund.	Collector	Date(s) collected	Collection method	Locality name	Site
HVNP002900	Diplopoda	(Diplopoda)	(Diplopoda)	(Diplopoda)	N. Renie	Adult - sex unknown	34	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	1B - 15m
HVNP002926	Diplopoda	(Diplopoda)	(Diplopoda)	(Diplopoda)	N. Renie	Adult - sex unknown	4	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	1W - 5m
HVNP002939	Diplopoda	(Diplopoda)	(Diplopoda)	(Diplopoda)		Adult - sex unknown	15	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	1B
HVNP002953	Diplopoda	(Diplopoda)	(Diplopoda)	(Diplopoda)	P. Henne	Adult - sex unknown	21	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	2B
HVNP002970	Diplopoda	(Diplopoda)	(Diplopoda)	(Diplopoda)	D. Bennett	Adult - sex unknown	26	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	3B
HVNP002981	Diplopoda	(Diplopoda)	(Diplopoda)	(Diplopoda)	N. Renie	Adult - sex unknown	21	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	4B
HVNP002994	Diplopoda	(Diplopoda)	(Diplopoda)	(Diplopoda)	D. Bennett	Adult - sex unknown	7	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	5B
HVNP003004	Diplopoda	(Diplopoda)	(Diplopoda)	(Diplopoda)	N. Renie	Adult - sex unknown	11	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	1W
HVNP003015	Diplopoda	(Diplopoda)	(Diplopoda)	(Diplopoda)	N. Renie	Adult - sex unknown	9	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	2W
HVNP003027	Diplopoda	(Diplopoda)	(Diplopoda)	(Diplopoda)	P. Henne	Adult - sex unknown	7	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	3W
HVNP003036	Diplopoda	(Diplopoda)	(Diplopoda)	(Diplopoda)	P. Henne	Adult - sex unknown	5	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	4W
HVNP003044	Diplopoda	(Diplopoda)	(Diplopoda)	(Diplopoda)	N. Renie	Adult - sex unknown	3	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	5W
HVNP002003	Diptera	(Diptera)	(Diptera)	(Diptera)		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 1, 50m
HVNP002011	Diptera	(Diptera)	(Diptera)	(Diptera)		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 2, 60m
HVNP002039	Diptera	(Diptera)	(Diptera)	(Diptera)		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 6, 100m
HVNP002108	Diptera	(Diptera)	(Diptera)	(Diptera)	P. Henne	Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 6, 50m
HVNP002112	Diptera	(Diptera)	(Diptera)	(Diptera)	A. Paradis	Adult - sex unknown	3	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 7, 60m
HVNP002118	Diptera	(Diptera)	(Diptera)	(Diptera)	A. Paradis	Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 8, 70m
HVNP002125	Diptera	(Diptera)	(Diptera)	(Diptera)	P. Henne	Adult - sex unknown	9	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 9, 90m
HVNP002132	Diptera	(Diptera)	(Diptera)	(Diptera)	A. Paradis	Adult - sex unknown	4	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 10, 100m
HVNP002140	Diptera	(Diptera)	(Diptera)	(Diptera)	K. Schlappe	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 1, 50m
HVNP002145	Diptera	(Diptera)	(Diptera)	(Diptera)	K. Schlappe	Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 1, 50m
HVNP002153	Diptera	(Diptera)	(Diptera)	(Diptera)	A. Paradis	Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 2, 60m
HVNP002164	Diptera	(Diptera)	(Diptera)	(Diptera)	P. Henne	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 3, 70m
HVNP002201	Diptera	(Diptera)	(Diptera)	(Diptera)	P. Henne	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 8, 120m
HVNP002208	Diptera	(Diptera)	(Diptera)	(Diptera)	P. Henne	Adult - sex unknown	3	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 9, 130m
HVNP002257	Diptera	(Diptera)	(Diptera)	(Diptera)	J. K. McMurry	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5000ft	Trap 9, 90m
HVNP002278	Diptera	(Diptera)	(Diptera)	(Diptera)	A. Paradis	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 4, 80m
HVNP002317	Diptera	(Diptera)	(Diptera)	(Diptera)	A. Paradis	Adult - sex unknown	2	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 4, 530m
HVNP002333	Diptera	(Diptera)	(Diptera)	(Diptera)		Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 6, 550m
HVNP002350	Diptera	(Diptera)	(Diptera)	(Diptera)	A. Paradis	Adult - sex unknown	2	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 9, 580m
HVNP002367	Diptera	(Diptera)	(Diptera)	(Diptera)	P. Henne	Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 1
HVNP002387	Diptera	(Diptera)	(Diptera)	(Diptera)	K. Schlappe	Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 3
HVNP002405	Diptera	(Diptera)	(Diptera)	(Diptera)		Larva	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 5
HVNP002420	Diptera	(Diptera)	(Diptera)	(Diptera)	P. Henne	Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 7
HVNP002465	Diptera	(Diptera)	(Diptera)	(Diptera)		Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 1, 500m
HVNP002478	Diptera	(Diptera)	(Diptera)	(Diptera)		Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 2, 510m
HVNP002556	Diptera	(Diptera)	(Diptera)	(Diptera)	W. Haines	Adult - sex unknown	6	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	1B
HVNP002557	Diptera	(Diptera)	(Diptera)	(Diptera)	W. Haines	Larva	4	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	1B
HVNP002574	Diptera	(Diptera)	(Diptera)	(Diptera)	W. Haines	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	2B
HVNP002575	Diptera	(Diptera)	(Diptera)	(Diptera)	W. Haines	Larva	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	2B
HVNP002595	Diptera	(Diptera)	(Diptera)	(Diptera)	W. Haines	Adult - sex unknown	3	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	3B
HVNP002596	Diptera	(Diptera)	(Diptera)	(Diptera)	W. Haines	Larva	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	3B

Specimen code	Order	Family	Genus	Species	Determined by	Stage/Sex	Abund.	Collector	Date(s) collected	Collection method	Locality name	Site
HVNP002612	Diptera	(Diptera)	(Diptera)	(Diptera)	W. Haines	Larva	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	4B
HVNP002632	Diptera	(Diptera)	(Diptera)	(Diptera)	W. Haines	Adult - sex unknown	3	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	5B
HVNP002654	Diptera	(Diptera)	(Diptera)	(Diptera)	W. Haines	Larva	3	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	1W
HVNP002655	Diptera	(Diptera)	(Diptera)	(Diptera)	W. Haines	Adult - sex unknown	3	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	1W
HVNP002673	Diptera	(Diptera)	(Diptera)	(Diptera)	W. Haines	Adult - sex unknown	4	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	2W
HVNP002686	Diptera	(Diptera)	(Diptera)	(Diptera)	W. Haines	Adult - sex unknown	12	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	3W
HVNP002697	Diptera	(Diptera)	(Diptera)	(Diptera)	W. Haines	Adult - sex unknown	5	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	4W
HVNP002709	Diptera	(Diptera)	(Diptera)	(Diptera)	W. Haines	Adult - sex unknown	5	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	5W
HVNP002722	Diptera	(Diptera)	(Diptera)	(Diptera)	W. Haines	Larva	2	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 3500ft	1B
HVNP002723	Diptera	(Diptera)	(Diptera)	(Diptera)	W. Haines	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 3500ft	1B
HVNP002733	Diptera	(Diptera)	(Diptera)	(Diptera)	W. Haines	Adult - sex unknown	2	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 3500ft	2B - 25m
HVNP002734	Diptera	(Diptera)	(Diptera)	(Diptera)	W. Haines	Larva	3	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 3500ft	2B - 25m
HVNP002746	Diptera	(Diptera)	(Diptera)	(Diptera)	N. Renie	Larva	7	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 3500ft	3B - 60m
HVNP002747	Diptera	(Diptera)	(Diptera)	(Diptera)	N. Renie	Adult - sex unknown	3	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 3500ft	3B - 60m
HVNP002759	Diptera	(Diptera)	(Diptera)	(Diptera)	W. Haines	Adult - sex unknown	5	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 3500ft	1W - 0m
HVNP002768	Diptera	(Diptera)	(Diptera)	(Diptera)	W. Haines	Adult - sex unknown	2	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 3500ft	2W - 30m
HVNP002784	Diptera	(Diptera)	(Diptera)	(Diptera)	W. Haines, D. Bennett	Adult - sex unknown	6	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 3500ft	5W - 110m
HVNP002795	Diptera	(Diptera)	(Diptera)	(Diptera)	N. Renie	Adult - sex unknown	9	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	3B - 100m
HVNP002796	Diptera	(Diptera)	(Diptera)	(Diptera)	N. Renie	Larva	2	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	3B - 100m
HVNP002814	Diptera	(Diptera)	(Diptera)	(Diptera)	D. Bennett	Adult - sex unknown	5	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	4B - 160m
HVNP002833	Diptera	(Diptera)	(Diptera)	(Diptera)	D. Bennett	Adult - sex unknown	3	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	5B - 185m
HVNP002848	Diptera	(Diptera)	(Diptera)	(Diptera)	N. Renie	Larva	2	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	2W - 80m
HVNP002849	Diptera	(Diptera)	(Diptera)	(Diptera)	N. Renie	Adult - sex unknown	8	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	2W - 80m
HVNP002866	Diptera	(Diptera)	(Diptera)	(Diptera)	P. Henne	Adult - sex unknown	9	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	3W - 130m
HVNP002867	Diptera	(Diptera)	(Diptera)	(Diptera)	P. Henne	Larva	8	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	3W - 130m
HVNP002879	Diptera	(Diptera)	(Diptera)	(Diptera)	D. Bennett	Adult - sex unknown	5	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	4W - 170m
HVNP002888	Diptera	(Diptera)	(Diptera)	(Diptera)	N. Renie	Adult - sex unknown	11	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	5W - 290m
HVNP002901	Diptera	(Diptera)	(Diptera)	(Diptera)	N. Renie	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	1B - 15m
HVNP002927	Diptera	(Diptera)	(Diptera)	(Diptera)	N. Renie	Adult - sex unknown	15	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	1W - 5m
HVNP002954	Diptera	(Diptera)	(Diptera)	(Diptera)	P. Henne	Larva	3	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	2B
HVNP002955	Diptera	(Diptera)	(Diptera)	(Diptera)	P. Henne	Adult - sex unknown	5	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	2B
HVNP002971	Diptera	(Diptera)	(Diptera)	(Diptera)	D. Bennett	Adult - sex unknown	6	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	3B
HVNP002972	Diptera	(Diptera)	(Diptera)	(Diptera)	D. Bennett	Larva	25	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	3B
HVNP002982	Diptera	(Diptera)	(Diptera)	(Diptera)	N. Renie	Adult - sex unknown	5	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	4B
HVNP002995	Diptera	(Diptera)	(Diptera)	(Diptera)	D. Bennett	Larva	21	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	5B
HVNP003005	Diptera	(Diptera)	(Diptera)	(Diptera)	N. Renie	Adult - sex unknown	8	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	1W
HVNP003016	Diptera	(Diptera)	(Diptera)	(Diptera)	N. Renie	Larva	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	2W
HVNP003028	Diptera	(Diptera)	(Diptera)	(Diptera)	P. Henne	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	3W
HVNP003037	Diptera	(Diptera)	(Diptera)	(Diptera)	P. Henne	Adult - sex unknown	3	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	4W
HVNP003045	Diptera	(Diptera)	(Diptera)	(Diptera)	N. Renie	Adult - sex unknown	6	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	5W
HVNP001999	Diptera	(Diptera)	(Diptera)	(Diptera)	D. Bennett	Adult - sex unknown	4	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	5B
HVNP003339	Diptera	(Diptera)	(Diptera)	(Diptera)	W. Haines	Adult - sex unknown	1	D. Foote	17 Nov 1999	Search	KFU, Transect at 2500ft	
HVNP003341	Diptera	(Diptera)	(Diptera)	(Diptera)	W. Haines	Adult - sex unknown	1	D. Foote	17 Nov 1999	Search	KFU of Hakalau NWR	

Specimen code	Order	Family	Genus	Species	Determined by	Stage/Sex	Abund.	Collector	Date(s) collected	Collection method	Locality name	Site
HVNP003342	Diptera	(Diptera)	(Diptera)	(Diptera)	W. Haines	Adult - sex unknown	1	D. Foote et al.	17 Nov 1999	Search	KFU Office, Rt. 11	
HVNP003343	Diptera	(Diptera)	(Diptera)	(Diptera)	W. Haines	Adult - sex unknown	1	D. Foote	17 Nov 1999	Search	KFU	
HVNP002002	Diptera	Calliphoridae	(Calliphoridae)	(Calliphoridae)		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 1, 50m
HVNP002117	Diptera	Calliphoridae	(Calliphoridae)	(Calliphoridae)	A. Paradis	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 8, 70m
HVNP002156	Diptera	Calliphoridae	(Calliphoridae)	(Calliphoridae)	P. Henne	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 3, 70m
HVNP002177	Diptera	Calliphoridae	(Calliphoridae)	(Calliphoridae)	A. Paradis	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 6, 100m
HVNP002227	Diptera	Calliphoridae	(Calliphoridae)	(Calliphoridae)	A. Paradis	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 2, 20m
HVNP002234	Diptera	Calliphoridae	(Calliphoridae)	(Calliphoridae)	P. Henne	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 3, 30m
HVNP002264	Diptera	Calliphoridae	(Calliphoridae)	(Calliphoridae)	J. K. McMurry	Adult - sex unknown	3	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 10, 100m
HVNP002295	Diptera	Calliphoridae	(Calliphoridae)	(Calliphoridae)	K. Schlappe	Adult - sex unknown	2	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 1, 500m
HVNP002326	Diptera	Calliphoridae	(Calliphoridae)	(Calliphoridae)		Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 5, 540m
HVNP002348	Diptera	Calliphoridae	(Calliphoridae)	(Calliphoridae)	A. Paradis	Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 9, 580m
HVNP002381	Diptera	Calliphoridae	(Calliphoridae)	(Calliphoridae)	K. Schlappe	Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 3, 30m
HVNP002452	Diptera	Calliphoridae	(Calliphoridae)	(Calliphoridae)		Adult - sex unknown	5	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 10
HVNP002488	Diptera	Calliphoridae	(Calliphoridae)	(Calliphoridae)	A. Paradis	Adult - sex unknown	4	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 3, 520m
HVNP002498	Diptera	Calliphoridae	(Calliphoridae)	(Calliphoridae)		Adult - sex unknown	3	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 4, 530m
HVNP002590	Diptera	Calliphoridae	(Calliphoridae)	(Calliphoridae)	W. Haines	Adult - sex unknown	4	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	3B
HVNP002607	Diptera	Calliphoridae	(Calliphoridae)	(Calliphoridae)	W. Haines	Adult - sex unknown	5	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	4B
HVNP002649	Diptera	Calliphoridae	(Calliphoridae)	(Calliphoridae)	W. Haines	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	1W
HVNP002668	Diptera	Calliphoridae	(Calliphoridae)	(Calliphoridae)	W. Haines	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	2W
HVNP002682	Diptera	Calliphoridae	(Calliphoridae)	(Calliphoridae)	W. Haines	Adult - sex unknown	2	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	3W
HVNP002808	Diptera	Calliphoridae	(Calliphoridae)	(Calliphoridae)	D. Bennett	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	4B - 160m
HVNP002826	Diptera	Calliphoridae	(Calliphoridae)	(Calliphoridae)	D. Bennett	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	5B - 185m
HVNP002874	Diptera	Calliphoridae	(Calliphoridae)	(Calliphoridae)	D. Bennett	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	4W - 170m
HVNP002885	Diptera	Calliphoridae	(Calliphoridae)	(Calliphoridae)	N. Rennie	Adult - sex unknown	3	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	5W - 290m
HVNP002936	Diptera	Calliphoridae	(Calliphoridae)	(Calliphoridae)		Adult - sex unknown	6	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	1B
HVNP002949	Diptera	Calliphoridae	(Calliphoridae)	(Calliphoridae)	P. Henne	Adult - sex unknown	17	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	2B
HVNP002966	Diptera	Calliphoridae	(Calliphoridae)	(Calliphoridae)	D. Bennett	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	3B
HVNP002990	Diptera	Calliphoridae	(Calliphoridae)	(Calliphoridae)	D. Bennett	Adult - sex unknown	3	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	5B
HVNP003340	Diptera	Calliphoridae	(Calliphoridae)	(Calliphoridae)	W. Haines	Adult - sex unknown	1	D. Foote	17 Nov 1999	Search	KFU, Transect at 2500ft	
HVNP002032	Diptera	Dolichopodidae	(Dolichopodidae)	(Dolichopodidae)		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 5, 90m
HVNP002048	Diptera	Dolichopodidae	(Dolichopodidae)	(Dolichopodidae)		Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 7, 110m
HVNP002072	Diptera	Dolichopodidae	(Dolichopodidae)	(Dolichopodidae)		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 10, 140m
HVNP002081	Diptera	Dolichopodidae	(Dolichopodidae)	(Dolichopodidae)	P. Henne	Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 1, 0m
HVNP002088	Diptera	Dolichopodidae	(Dolichopodidae)	(Dolichopodidae)		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 2, 10m
HVNP002102	Diptera	Dolichopodidae	(Dolichopodidae)	(Dolichopodidae)	A. Paradis	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 5, 40m
HVNP002107	Diptera	Dolichopodidae	(Dolichopodidae)	(Dolichopodidae)	P. Henne	Adult - sex unknown	7	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 6, 50m
HVNP002111	Diptera	Dolichopodidae	(Dolichopodidae)	(Dolichopodidae)	A. Paradis	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 7, 60m
HVNP002124	Diptera	Dolichopodidae	(Dolichopodidae)	(Dolichopodidae)	P. Henne	Adult - sex unknown	3	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 9, 90m
HVNP002131	Diptera	Dolichopodidae	(Dolichopodidae)	(Dolichopodidae)	A. Paradis	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 10, 100m
HVNP002139	Diptera	Dolichopodidae	(Dolichopodidae)	(Dolichopodidae)	K. Schlappe	Adult - sex unknown	3	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 1, 50m
HVNP002148	Diptera	Dolichopodidae	(Dolichopodidae)	(Dolichopodidae)	A. Paradis	Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 2, 60m
HVNP002157	Diptera	Dolichopodidae	(Dolichopodidae)	(Dolichopodidae)	P. Henne	Adult - sex unknown	7	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 3, 70m

Specimen code	Order	Family	Genus	Species	Determined by	Stage/Sex	Abund.	Collector	Date(s) collected	Collection method	Locality name	Site
HVNP002168	Diptera	Dolichopodidae	(Dolichopodidae)	(Dolichopodidae)	J. K. McMurry	Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 5, 80m
HVNP002178	Diptera	Dolichopodidae	(Dolichopodidae)	(Dolichopodidae)	A. Paradis	Adult - sex unknown	3	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 6, 100m
HVNP002198	Diptera	Dolichopodidae	(Dolichopodidae)	(Dolichopodidae)	P. Henne	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 8, 120m
HVNP002203	Diptera	Dolichopodidae	(Dolichopodidae)	(Dolichopodidae)	P. Henne	Adult - sex unknown	3	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 9, 130m
HVNP002213	Diptera	Dolichopodidae	(Dolichopodidae)	(Dolichopodidae)	P. Henne	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 10, 140m
HVNP002277	Diptera	Dolichopodidae	(Dolichopodidae)	(Dolichopodidae)	A. Paradis	Adult - sex unknown	5	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 4, 80m
HVNP002288	Diptera	Dolichopodidae	(Dolichopodidae)	(Dolichopodidae)	K. Schlappe	Adult - sex unknown	3	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 1, 500m
HVNP002299	Diptera	Dolichopodidae	(Dolichopodidae)	(Dolichopodidae)	P. Henne	Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 2, 510m
HVNP002316	Diptera	Dolichopodidae	(Dolichopodidae)	(Dolichopodidae)	A. Paradis	Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 4, 530m
HVNP002343	Diptera	Dolichopodidae	(Dolichopodidae)	(Dolichopodidae)		Adult - sex unknown	2	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 8, 570m
HVNP002349	Diptera	Dolichopodidae	(Dolichopodidae)	(Dolichopodidae)	A. Paradis	Adult - sex unknown	3	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 9, 580m
HVNP002382	Diptera	Dolichopodidae	(Dolichopodidae)	(Dolichopodidae)	K. Schlappe	Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 3
HVNP002390	Diptera	Dolichopodidae	(Dolichopodidae)	(Dolichopodidae)	P. Henne	Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 4
HVNP002400	Diptera	Dolichopodidae	(Dolichopodidae)	(Dolichopodidae)		Adult - sex unknown	3	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 5
HVNP002419	Diptera	Dolichopodidae	(Dolichopodidae)	(Dolichopodidae)	P. Henne	Adult - sex unknown	2	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 7
HVNP002431	Diptera	Dolichopodidae	(Dolichopodidae)	(Dolichopodidae)	K. Schlappe	Adult - sex unknown	15	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 8
HVNP002442	Diptera	Dolichopodidae	(Dolichopodidae)	(Dolichopodidae)		Adult - sex unknown	18	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 9
HVNP002453	Diptera	Dolichopodidae	(Dolichopodidae)	(Dolichopodidae)		Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 10
HVNP002464	Diptera	Dolichopodidae	(Dolichopodidae)	(Dolichopodidae)		Adult - sex unknown	2	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 1, 500m
HVNP002477	Diptera	Dolichopodidae	(Dolichopodidae)	(Dolichopodidae)		Adult - sex unknown	3	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 2, 510m
HVNP002489	Diptera	Dolichopodidae	(Dolichopodidae)	(Dolichopodidae)	A. Paradis	Adult - sex unknown	10	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 3, 520m
HVNP002499	Diptera	Dolichopodidae	(Dolichopodidae)	(Dolichopodidae)		Adult - sex unknown	4	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 4, 530m
HVNP002507	Diptera	Dolichopodidae	(Dolichopodidae)	(Dolichopodidae)		Adult - sex unknown	3	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 5, 540m
HVNP002514	Diptera	Dolichopodidae	(Dolichopodidae)	(Dolichopodidae)		Adult - sex unknown	5	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 6, 550m
HVNP002529	Diptera	Dolichopodidae	(Dolichopodidae)	(Dolichopodidae)		Adult - sex unknown	3	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 8, 570m
HVNP002537	Diptera	Dolichopodidae	(Dolichopodidae)	(Dolichopodidae)	A. Paradis	Adult - sex unknown	2	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 9, 580m
HVNP002545	Diptera	Dolichopodidae	(Dolichopodidae)	(Dolichopodidae)	A. Paradis	Adult - sex unknown	2	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 10, 590m
HVNP002001	Diptera	Drosophilidae	Drosophila	(Drosophila)		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 1, 50m
HVNP002019	Diptera	Drosophilidae	Drosophila	(Drosophila)		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 3, 70m
HVNP002024	Diptera	Drosophilidae	Drosophila	(Drosophila)		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 4, 80m
HVNP002047	Diptera	Drosophilidae	Drosophila	(Drosophila)		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 7, 110m
HVNP002080	Diptera	Drosophilidae	Drosophila	(Drosophila)	P. Henne	Adult - sex unknown	9	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 1, 0m
HVNP002093	Diptera	Drosophilidae	Drosophila	(Drosophila)	K. Heckmann	Adult - sex unknown	3	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 3, 20m
HVNP002116	Diptera	Drosophilidae	Drosophila	(Drosophila)	A. Paradis	Adult - sex unknown	5	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 8, 70m
HVNP002123	Diptera	Drosophilidae	Drosophila	(Drosophila)	P. Henne	Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 9, 90m
HVNP002130	Diptera	Drosophilidae	Drosophila	(Drosophila)	A. Paradis	Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 10, 100m
HVNP002138	Diptera	Drosophilidae	Drosophila	(Drosophila)	K. Schlappe	Adult - sex unknown	7	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 1, 50m
HVNP002147	Diptera	Drosophilidae	Drosophila	(Drosophila)	A. Paradis	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 2, 60m
HVNP002176	Diptera	Drosophilidae	Drosophila	(Drosophila)	A. Paradis	Adult - sex unknown	3	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 6, 100m
HVNP002188	Diptera	Drosophilidae	Drosophila	(Drosophila)	J. K. McMurry	Adult - sex unknown	7	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 7, 110m
HVNP002197	Diptera	Drosophilidae	Drosophila	(Drosophila)	P. Henne	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 8, 120m
HVNP002221	Diptera	Drosophilidae	Drosophila	(Drosophila)	P. Henne	Adult - sex unknown	3	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 1, 10m
HVNP002244	Diptera	Drosophilidae	Drosophila	(Drosophila)	A. Paradis	Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 7, 70m

Specimen code	Order	Family	Genus	Species	Determined by	Stage/Sex	Abund.	Collector	Date(s) collected	Collection method	Locality name	Site
HVNP002251	Diptera	Drosophilidae	Drosophila	(Drosophila)	A. Paradis	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 6, 60m
HVNP002256	Diptera	Drosophilidae	Drosophila	(Drosophila)	J. K. McMurry	Adult - sex unknown	4	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 9, 90m
HVNP002276	Diptera	Drosophilidae	Drosophila	(Drosophila)	A. Paradis	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 4, 80m
HVNP002287	Diptera	Drosophilidae	Drosophila	(Drosophila)	K. Schlappe	Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 1, 500m
HVNP002332	Diptera	Drosophilidae	Drosophila	(Drosophila)		Adult - sex unknown	2	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 6, 550m
HVNP002380	Diptera	Drosophilidae	Drosophila	(Drosophila)	K. Schlappe	Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 3
HVNP002399	Diptera	Drosophilidae	Drosophila	(Drosophila)		Adult - sex unknown	5	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 5
HVNP002410	Diptera	Drosophilidae	Drosophila	(Drosophila)	K. Schlappe	Adult - sex unknown	3	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 6
HVNP002418	Diptera	Drosophilidae	Drosophila	(Drosophila)	P. Henne	Adult - sex unknown	2	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 7
HVNP002430	Diptera	Drosophilidae	Drosophila	(Drosophila)	K. Schlappe	Adult - sex unknown	5	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 8
HVNP002441	Diptera	Drosophilidae	Drosophila	(Drosophila)		Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 9
HVNP002451	Diptera	Drosophilidae	Drosophila	(Drosophila)		Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 10
HVNP002463	Diptera	Drosophilidae	Drosophila	(Drosophila)		Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 1, 500m
HVNP002476	Diptera	Drosophilidae	Drosophila	(Drosophila)		Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 2, 510m
HVNP002487	Diptera	Drosophilidae	Drosophila	(Drosophila)	A. Paradis	Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 3, 520m
HVNP002506	Diptera	Drosophilidae	Drosophila	(Drosophila)		Adult - sex unknown	2	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 5, 540m
HVNP002523	Diptera	Drosophilidae	Drosophila	(Drosophila)		Adult - sex unknown	2	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 7, 560m
HVNP002536	Diptera	Drosophilidae	Drosophila	(Drosophila)	A. Paradis	Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 9, 580m
HVNP002559	Diptera	Drosophilidae	Drosophila	(Drosophila)	W. Haines	Adult - sex unknown	43	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	1B
HVNP002577	Diptera	Drosophilidae	Drosophila	(Drosophila)	W. Haines	Adult - sex unknown	50	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	2B
HVNP002597	Diptera	Drosophilidae	Drosophila	(Drosophila)	W. Haines	Adult - sex unknown	19	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	3B
HVNP002598	Diptera	Drosophilidae	Drosophila	(Drosophila)	W. Haines	Adult - sex unknown	97	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	3B
HVNP002613	Diptera	Drosophilidae	Drosophila	(Drosophila)	W. Haines	Adult - sex unknown	5	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	4B
HVNP002614	Diptera	Drosophilidae	Drosophila	(Drosophila)	W. Haines	Adult - sex unknown	146	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	4B
HVNP002634	Diptera	Drosophilidae	Drosophila	(Drosophila)	W. Haines	Adult - sex unknown	54	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	5B
HVNP002656	Diptera	Drosophilidae	Drosophila	(Drosophila)	W. Haines	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	1W
HVNP002687	Diptera	Drosophilidae	Drosophila	(Drosophila)	W. Haines	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	3W
HVNP002735	Diptera	Drosophilidae	Drosophila	(Drosophila)	W. Haines	Adult - sex unknown	2	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 3500ft	2B - 25m
HVNP002748	Diptera	Drosophilidae	Drosophila	(Drosophila)	N. Renie	Adult - sex unknown	2	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 3500ft	3B - 60m
HVNP002749	Diptera	Drosophilidae	Drosophila	(Drosophila)	N. Renie	Adult - sex unknown	16	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 3500ft	3B - 60m
HVNP002785	Diptera	Drosophilidae	Drosophila	(Drosophila)	W. Haines, D. Bennett	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 3500ft	5W - 110m
HVNP002798	Diptera	Drosophilidae	Drosophila	(Drosophila)	N. Renie	Adult - sex unknown	3	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	3B - 100m
HVNP002815	Diptera	Drosophilidae	Drosophila	(Drosophila)	D. Bennett	Adult - sex unknown	6	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	4B - 160m
HVNP002816	Diptera	Drosophilidae	Drosophila	(Drosophila)	D. Bennett	Adult - sex unknown	6	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	4B - 160m
HVNP002834	Diptera	Drosophilidae	Drosophila	(Drosophila)	D. Bennett	Adult - sex unknown	5	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	5B - 185m
HVNP002835	Diptera	Drosophilidae	Drosophila	(Drosophila)	D. Bennett	Adult - sex unknown	15	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	5B - 185m
HVNP002850	Diptera	Drosophilidae	Drosophila	(Drosophila)	N. Renie	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	2W - 80m
HVNP002868	Diptera	Drosophilidae	Drosophila	(Drosophila)	P. Henne	Adult - sex unknown	2	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	3W - 130m
HVNP002889	Diptera	Drosophilidae	Drosophila	(Drosophila)	N. Renie	Adult - sex unknown	4	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	5W - 290m
HVNP002902	Diptera	Drosophilidae	Drosophila	(Drosophila)	N. Renie	Adult - sex unknown	7	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	1B - 15m
HVNP002903	Diptera	Drosophilidae	Drosophila	(Drosophila)	N. Renie	Adult - sex unknown	25	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	1B - 15m
HVNP002915	Diptera	Drosophilidae	Drosophila	(Drosophila)	N. Renie	Adult - sex unknown	5	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	2B - 25m
HVNP002916	Diptera	Drosophilidae	Drosophila	(Drosophila)	N. Renie	Adult - sex unknown	11	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	2B - 25m

Specimen code	Order	Family	Genus	Species	Determined by	Stage/Sex	Abund.	Collector	Date(s) collected	Collection method	Locality name	Site
HVNP002928	Diptera	Drosophilidae	Drosophila	(Drosophila)	N. Renie	Adult - sex unknown	2	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	1W - 5m
HVNP002940	Diptera	Drosophilidae	Drosophila	(Drosophila)		Adult - sex unknown	4	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	1B
HVNP002956	Diptera	Drosophilidae	Drosophila	(Drosophila)	P. Henne	Adult - sex unknown	18	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	2B
HVNP002973	Diptera	Drosophilidae	Drosophila	(Drosophila)	D. Bennett	Adult - sex unknown	29	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	3B
HVNP002983	Diptera	Drosophilidae	Drosophila	(Drosophila)	N. Renie	Adult - sex unknown	14	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	4B
HVNP002996	Diptera	Drosophilidae	Drosophila	(Drosophila)	D. Bennett	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	5B
HVNP002997	Diptera	Drosophilidae	Drosophila	(Drosophila)	D. Bennett	Adult - sex unknown	32	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	5B
HVNP003006	Diptera	Drosophilidae	Drosophila	(Drosophila)	N. Renie	Adult - sex unknown	4	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	1W
HVNP003017	Diptera	Drosophilidae	Drosophila	(Drosophila)	N. Renie	Adult - sex unknown	3	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	2W
HVNP003038	Diptera	Drosophilidae	Drosophila	(Drosophila)	P. Henne	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	4W
HVNP003046	Diptera	Drosophilidae	Drosophila	(Drosophila)	N. Renie	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	5W
HVNP003264	Diptera	Drosophilidae	Drosophila	(Drosophila)	W. Haines	Adult - sex unknown	1	D. Foote et al.	16 Nov 1999	Banana/Mushroom bait sponge	KFU, Transect at 4500ft	650m
HVNP002797	Diptera	Drosophilidae	Drosophila	setosimentum	N. Renie	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	3B - 100m
HVNP003265	Diptera	Drosophilidae	Drosophila	sproati	W. Haines	Adult - sex unknown	1	D. Foote et al.	16 Nov 1999	Banana/Mushroom bait sponge	KFU, Transect at 4500ft	650m
HVNP003266	Diptera	Drosophilidae	Drosophila	sproati	W. Haines	Adult - sex unknown	1	D. Foote et al.	16 Nov 1999	Banana/Mushroom bait sponge	KFU, Transect at 4500ft	650m
HVNP003267	Diptera	Drosophilidae	Drosophila	sproati	W. Haines	Adult - sex unknown	1	D. Foote et al.	17 Nov 1999	Banana/Mushroom bait sponge	KFU, Transect at 4500ft	200m
HVNP003268	Diptera	Drosophilidae	Drosophila	sproati	W. Haines	Adult - sex unknown	1	D. Foote et al.	16 Nov 1999	Banana/Mushroom bait sponge	KFU, Transect at 4500ft	450m
HVNP003269	Diptera	Drosophilidae	Drosophila	sproati	W. Haines	Adult - sex unknown	1	D. Foote et al.	17 Nov 1999	Banana/Mushroom bait sponge	KFU, Transect at 4500ft	700m
HVNP003270	Diptera	Drosophilidae	Drosophila	sproati	W. Haines	Adult - sex unknown	1	D. Foote et al.	17 Nov 1999	Banana/Mushroom bait sponge	KFU, Transect at 4500ft	700m
HVNP003271	Diptera	Drosophilidae	Drosophila	sproati	W. Haines	Adult - sex unknown	1	D. Foote et al.	17 Nov 1999	Banana/Mushroom bait sponge	KFU, Transect at 4500ft	700m
HVNP003272	Diptera	Drosophilidae	Drosophila	sproati	W. Haines	Adult - sex unknown	1	D. Foote et al.	17 Nov 1999	Banana/Mushroom bait sponge	KFU, Transect at 4500ft	650m
HVNP003273	Diptera	Drosophilidae	Drosophila	sproati	W. Haines	Adult - sex unknown	1	D. Foote et al.	15 Nov 1999	Banana/Mushroom bait sponge	KFU, Transect at 4500ft	200m
HVNP003274	Diptera	Drosophilidae	Drosophila	sproati	W. Haines	Adult - sex unknown	1	D. Foote et al.	15 Nov 1999	Banana/Mushroom bait sponge	KFU, Transect at 4500ft	200m
HVNP003275	Diptera	Drosophilidae	Drosophila	sproati	W. Haines	Adult - sex unknown	1	D. Foote et al.	17 Nov 1999	Banana/Mushroom bait sponge	KFU, Transect at 4500ft	
HVNP002558	Diptera	Drosophilidae	Drosophila	tanythrix	W. Haines	Adult - sex unknown	6	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	1B
HVNP002576	Diptera	Drosophilidae	Drosophila	tanythrix	W. Haines	Adult - sex unknown	6	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	2B
HVNP002633	Diptera	Drosophilidae	Drosophila	tanythrix	W. Haines	Adult - sex unknown	2	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	5B
HVNP002173	Diptera	Phoridae	(Phoridae)	(Phoridae)	J. K. McMurry	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 5, 80m
HVNP002194	Diptera	Phoridae	(Phoridae)	(Phoridae)	J. K. McMurry	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 7, 110m
HVNP002269	Diptera	Phoridae	(Phoridae)	(Phoridae)	J. K. McMurry	Adult - sex unknown	3	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 10, 100m
HVNP002113	Diptera	Pipunculidae	(Pipunculidae)	(Pipunculidae)	A. Paradis	Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 7, 60m
HVNP002293	Diptera	Pipunculidae	(Pipunculidae)	(Pipunculidae)	K. Schlappe	Adult - sex unknown	2	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 1, 500m
HVNP002322	Diptera	Pipunculidae	(Pipunculidae)	(Pipunculidae)	A. Paradis	Adult - sex unknown	3	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 4, 530m
HVNP002424	Diptera	Pipunculidae	(Pipunculidae)	(Pipunculidae)	P. Henne	Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 7
HVNP002459	Diptera	Pipunculidae	(Pipunculidae)	(Pipunculidae)		Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 10
HVNP002472	Diptera	Pipunculidae	(Pipunculidae)	(Pipunculidae)		Adult - sex unknown	2	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 1, 500m
HVNP002503	Diptera	Pipunculidae	(Pipunculidae)	(Pipunculidae)		Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 4, 530m
HVNP002527	Diptera	Pipunculidae	(Pipunculidae)	(Pipunculidae)		Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 7, 560m
HVNP002547	Diptera	Pipunculidae	(Pipunculidae)	(Pipunculidae)	A. Paradis	Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 10, 590m
HVNP002007	Diptera	Psychodidae	(Psychodidae)	(Psychodidae)		Adult - sex unknown	5	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 1, 50m
HVNP002022	Diptera	Psychodidae	(Psychodidae)	(Psychodidae)		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 3, 70m
HVNP002030	Diptera	Psychodidae	(Psychodidae)	(Psychodidae)		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 4, 80m
HVNP002044	Diptera	Psychodidae	(Psychodidae)	(Psychodidae)		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 6, 100m

Specimen code	Order	Family	Genus	Species	Determined by	Stage/Sex	Abund.	Collector	Date(s) collected	Collection method	Locality name	Site
HVNP002055	Diptera	Psychodidae	(Psychodidae)	(Psychodidae)		Adult - sex unknown	5	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 7, 110m
HVNP002064	Diptera	Psychodidae	(Psychodidae)	(Psychodidae)		Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 8, 120m
HVNP002077	Diptera	Psychodidae	(Psychodidae)	(Psychodidae)		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 10, 140m
HVNP002084	Diptera	Psychodidae	(Psychodidae)	(Psychodidae)	P. Henne	Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 1, 0m
HVNP002095	Diptera	Psychodidae	(Psychodidae)	(Psychodidae)	K. Heckmann	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 3, 20m
HVNP002099	Diptera	Psychodidae	(Psychodidae)	(Psychodidae)	P. Henne	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 4, 30m
HVNP002105	Diptera	Psychodidae	(Psychodidae)	(Psychodidae)	A. Paradis	Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 5, 40m
HVNP002144	Diptera	Psychodidae	(Psychodidae)	(Psychodidae)	K. Schlappe	Adult - sex unknown	6	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 1, 50m
HVNP002152	Diptera	Psychodidae	(Psychodidae)	(Psychodidae)	A. Paradis	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 2, 60m
HVNP002163	Diptera	Psychodidae	(Psychodidae)	(Psychodidae)	P. Henne	Adult - sex unknown	3	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 3, 70m
HVNP002185	Diptera	Psychodidae	(Psychodidae)	(Psychodidae)	A. Paradis	Adult - sex unknown	3	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 6, 100m
HVNP002200	Diptera	Psychodidae	(Psychodidae)	(Psychodidae)	P. Henne	Adult - sex unknown	3	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 8, 120m
HVNP002209	Diptera	Psychodidae	(Psychodidae)	(Psychodidae)	P. Henne	Adult - sex unknown	4	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 9, 130m
HVNP002219	Diptera	Psychodidae	(Psychodidae)	(Psychodidae)	P. Henne	Adult - sex unknown	3	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 10, 140m
HVNP002249	Diptera	Psychodidae	(Psychodidae)	(Psychodidae)	A. Paradis	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 7, 70m
HVNP002283	Diptera	Psychodidae	(Psychodidae)	(Psychodidae)	A. Paradis	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 4, 80m
HVNP002305	Diptera	Psychodidae	(Psychodidae)	(Psychodidae)	P. Henne	Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 2, 510m
HVNP002312	Diptera	Psychodidae	(Psychodidae)	(Psychodidae)	P. Henne	Adult - sex unknown	2	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 3, 520m
HVNP002323	Diptera	Psychodidae	(Psychodidae)	(Psychodidae)	A. Paradis	Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 4, 530m
HVNP002355	Diptera	Psychodidae	(Psychodidae)	(Psychodidae)	A. Paradis	Adult - sex unknown	3	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 9, 580m
HVNP002369	Diptera	Psychodidae	(Psychodidae)	(Psychodidae)	P. Henne	Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 500'	Trap 1
HVNP002376	Diptera	Psychodidae	(Psychodidae)	(Psychodidae)	K. Schlappe	Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 500'	Trap 2
HVNP002385	Diptera	Psychodidae	(Psychodidae)	(Psychodidae)	K. Schlappe	Adult - sex unknown	3	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 500'	Trap 3
HVNP002436	Diptera	Psychodidae	(Psychodidae)	(Psychodidae)	K. Schlappe	Adult - sex unknown	2	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 500'	Trap 8
HVNP002448	Diptera	Psychodidae	(Psychodidae)	(Psychodidae)		Adult - sex unknown	2	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 500'	Trap 9
HVNP002495	Diptera	Psychodidae	(Psychodidae)	(Psychodidae)	A. Paradis	Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 3, 520m
HVNP002512	Diptera	Psychodidae	(Psychodidae)	(Psychodidae)		Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 5, 540m
HVNP002534	Diptera	Psychodidae	(Psychodidae)	(Psychodidae)		Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 8, 570m
HVNP002543	Diptera	Psychodidae	(Psychodidae)	(Psychodidae)	A. Paradis	Adult - sex unknown	2	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 9, 580m
HVNP002548	Diptera	Psychodidae	(Psychodidae)	(Psychodidae)	A. Paradis	Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 10, 590m
HVNP002008	Diptera	Sciaridae	(Sciaridae)	(Sciaridae)		Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 1, 50m
HVNP002056	Diptera	Sciaridae	(Sciaridae)	(Sciaridae)		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 7, 110m
HVNP002085	Diptera	Sciaridae	(Sciaridae)	(Sciaridae)	P. Henne	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 1, 0m
HVNP002096	Diptera	Sciaridae	(Sciaridae)	(Sciaridae)	K. Heckmann	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 2, 20m
HVNP002154	Diptera	Sciaridae	(Sciaridae)	(Sciaridae)	A. Paradis	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 2, 60m
HVNP002165	Diptera	Sciaridae	(Sciaridae)	(Sciaridae)	P. Henne	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 3, 70m
HVNP002172	Diptera	Sciaridae	(Sciaridae)	(Sciaridae)	J. K. McMurry	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 5, 80m
HVNP002186	Diptera	Sciaridae	(Sciaridae)	(Sciaridae)	A. Paradis	Adult - sex unknown	13	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 6, 100m
HVNP002193	Diptera	Sciaridae	(Sciaridae)	(Sciaridae)	J. K. McMurry	Adult - sex unknown	7	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 7, 110m
HVNP002210	Diptera	Sciaridae	(Sciaridae)	(Sciaridae)	P. Henne	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 9, 130m
HVNP002225	Diptera	Sciaridae	(Sciaridae)	(Sciaridae)	P. Henne	Adult - sex unknown	82	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 1, 10m
HVNP002232	Diptera	Sciaridae	(Sciaridae)	(Sciaridae)	A. Paradis	Adult - sex unknown	50	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 2, 20m
HVNP002237	Diptera	Sciaridae	(Sciaridae)	(Sciaridae)	P. Henne	Adult - sex unknown	13	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 3, 30m

Specimen code	Order	Family	Genus	Species	Determined by	Stage/Sex	Abund.	Collector	Date(s) collected	Collection method	Locality name	Site
HVNP002238	Diptera	Sciaridae	(Sciaridae)	(Sciaridae)		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 4, 40m
HVNP002242	Diptera	Sciaridae	(Sciaridae)	(Sciaridae)	P. Henne	Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 5, 50m
HVNP002248	Diptera	Sciaridae	(Sciaridae)	(Sciaridae)	A. Paradis	Adult - sex unknown	34	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 7, 70m
HVNP002254	Diptera	Sciaridae	(Sciaridae)	(Sciaridae)	A. Paradis	Adult - sex unknown	10	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 6, 60m
HVNP002262	Diptera	Sciaridae	(Sciaridae)	(Sciaridae)	J. K. McMurry	Adult - sex unknown	80	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 9, 90m
HVNP002268	Diptera	Sciaridae	(Sciaridae)	(Sciaridae)	J. K. McMurry	Adult - sex unknown	95	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 10, 100m
HVNP002274	Diptera	Sciaridae	(Sciaridae)	(Sciaridae)	A. Paradis	Adult - sex unknown	35	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 8, 80m
HVNP002284	Diptera	Sciaridae	(Sciaridae)	(Sciaridae)	A. Paradis	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 4, 80m
HVNP002294	Diptera	Sciaridae	(Sciaridae)	(Sciaridae)	K. Schlappla	Adult - sex unknown	2	K. Schlappla et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 1, 500m
HVNP002339	Diptera	Sciaridae	(Sciaridae)	(Sciaridae)		Adult - sex unknown	3	K. Schlappla et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 6, 550m
HVNP002356	Diptera	Sciaridae	(Sciaridae)	(Sciaridae)	A. Paradis	Adult - sex unknown	1	K. Schlappla et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 9, 580m
HVNP002370	Diptera	Sciaridae	(Sciaridae)	(Sciaridae)	P. Henne	Adult - sex unknown	6	K. Schlappla et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 1
HVNP002386	Diptera	Sciaridae	(Sciaridae)	(Sciaridae)	K. Schlappla	Adult - sex unknown	3	K. Schlappla et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 3
HVNP002415	Diptera	Sciaridae	(Sciaridae)	(Sciaridae)	K. Schlappla	Adult - sex unknown	3	K. Schlappla et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 6
HVNP002426	Diptera	Sciaridae	(Sciaridae)	(Sciaridae)	P. Henne	Adult - sex unknown	1	K. Schlappla et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 7
HVNP002437	Diptera	Sciaridae	(Sciaridae)	(Sciaridae)	K. Schlappla	Adult - sex unknown	6	K. Schlappla et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 8
HVNP002449	Diptera	Sciaridae	(Sciaridae)	(Sciaridae)		Adult - sex unknown	2	K. Schlappla et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 9
HVNP002460	Diptera	Sciaridae	(Sciaridae)	(Sciaridae)		Adult - sex unknown	2	K. Schlappla et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 10
HVNP002474	Diptera	Sciaridae	(Sciaridae)	(Sciaridae)		Adult - sex unknown	2	K. Schlappla et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 1, 500m
HVNP002485	Diptera	Sciaridae	(Sciaridae)	(Sciaridae)		Adult - sex unknown	2	K. Schlappla et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 2, 510m
HVNP002504	Diptera	Sciaridae	(Sciaridae)	(Sciaridae)		Adult - sex unknown	1	K. Schlappla et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 4, 530m
HVNP002520	Diptera	Sciaridae	(Sciaridae)	(Sciaridae)		Adult - sex unknown	1	K. Schlappla et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 6, 550m
HVNP002533	Diptera	Sciaridae	(Sciaridae)	(Sciaridae)		Adult - sex unknown	3	K. Schlappla et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 8, 570m
HVNP002542	Diptera	Sciaridae	(Sciaridae)	(Sciaridae)	A. Paradis	Adult - sex unknown	1	K. Schlappla et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 9, 580m
HVNP002083	Diptera	Tipulidae	(Tipulidae)	(Tipulidae)	P. Henne	Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 1, 0m
HVNP002091	Diptera	Tipulidae	(Tipulidae)	(Tipulidae)		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 2, 10m
HVNP002098	Diptera	Tipulidae	(Tipulidae)	(Tipulidae)	P. Henne	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 4, 30m
HVNP002135	Diptera	Tipulidae	(Tipulidae)	(Tipulidae)	A. Paradis	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 10, 100m
HVNP002195	Diptera	Tipulidae	(Tipulidae)	(Tipulidae)	J. K. McMurry	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 7, 110m
HVNP002371	Diptera	Tipulidae	(Tipulidae)	(Tipulidae)	P. Henne	Adult - sex unknown	1	K. Schlappla et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 1
HVNP002033	Heteroptera	(Heteroptera)	(Heteroptera)	(Heteroptera)		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 5, 90m
HVNP002089	Heteroptera	(Heteroptera)	(Heteroptera)	(Heteroptera)		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 2, 10m
HVNP002133	Heteroptera	(Heteroptera)	(Heteroptera)	(Heteroptera)	A. Paradis	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 10, 100m
HVNP002360	Heteroptera	(Heteroptera)	(Heteroptera)	(Heteroptera)	P. Henne	Adult - sex unknown	1	K. Schlappla et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 10, 590m
HVNP002443	Heteroptera	(Heteroptera)	(Heteroptera)	(Heteroptera)		Adult - sex unknown	1	K. Schlappla et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 9
HVNP002515	Heteroptera	(Heteroptera)	(Heteroptera)	(Heteroptera)		Adult - sex unknown	1	K. Schlappla et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 6, 550m
HVNP002560	Heteroptera	(Heteroptera)	(Heteroptera)	(Heteroptera)	W. Haines	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	1B
HVNP002578	Heteroptera	(Heteroptera)	(Heteroptera)	(Heteroptera)	W. Haines	Adult - sex unknown	9	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	2B
HVNP002599	Heteroptera	(Heteroptera)	(Heteroptera)	(Heteroptera)	W. Haines	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	3B
HVNP002616	Heteroptera	(Heteroptera)	(Heteroptera)	(Heteroptera)	W. Haines	Adult - sex unknown	2	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	4B
HVNP002637	Heteroptera	(Heteroptera)	(Heteroptera)	(Heteroptera)	W. Haines	Adult - sex unknown	5	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	5B
HVNP002658	Heteroptera	(Heteroptera)	(Heteroptera)	(Heteroptera)	W. Haines	Adult - sex unknown	2	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	1W
HVNP002675	Heteroptera	(Heteroptera)	(Heteroptera)	(Heteroptera)	W. Haines	Adult - sex unknown	3	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	2W

Specimen code	Order	Family	Genus	Species	Determined by	Stage/Sex	Abund.	Collector	Date(s) collected	Collection method	Locality name	Site
HVNP002698	Heteroptera	(Heteroptera)	(Heteroptera)	(Heteroptera)	W. Haines	Adult - sex unknown	4	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	4W
HVNP002711	Heteroptera	(Heteroptera)	(Heteroptera)	(Heteroptera)	W. Haines	Adult - sex unknown	8	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	5W
HVNP002736	Heteroptera	(Heteroptera)	(Heteroptera)	(Heteroptera)	W. Haines	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 3500ft	2B - 25m
HVNP002760	Heteroptera	(Heteroptera)	(Heteroptera)	(Heteroptera)	W. Haines	Adult - sex unknown	2	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 3500ft	1W - 0m
HVNP002799	Heteroptera	(Heteroptera)	(Heteroptera)	(Heteroptera)	N. Renie	Adult - sex unknown	2	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	3B - 100m
HVNP002869	Heteroptera	(Heteroptera)	(Heteroptera)	(Heteroptera)	P. Henne	Adult - sex unknown	2	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	3W - 130m
HVNP002904	Heteroptera	(Heteroptera)	(Heteroptera)	(Heteroptera)	N. Renie	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	1B - 15m
HVNP003018	Heteroptera	(Heteroptera)	(Heteroptera)	(Heteroptera)	N. Renie	Adult - sex unknown	2	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	2W
HVNP002070	(Hexapoda)	(Hexapoda)	(Hexapoda)	(Hexapoda)		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 9, 130m
HVNP002406	(Hexapoda)	(Hexapoda)	(Hexapoda)	(Hexapoda)		Adult - sex unknown	1	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 5
HVNP002004	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)		Adult - sex unknown	4	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 1, 50m
HVNP002012	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)		Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 2, 60m
HVNP002034	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)		Adult - sex unknown	3	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 5, 90m
HVNP002040	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)		Adult - sex unknown	3	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 6, 100m
HVNP002049	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 7, 110m
HVNP002059	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)		Adult - sex unknown	3	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 8, 120m
HVNP002067	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 9, 130m
HVNP002073	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)		Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 10, 140m
HVNP002119	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)	A. Paradis	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 8, 70m
HVNP002134	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)	A. Paradis	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 10, 100m
HVNP002141	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)	K. Schlappa	Adult - sex unknown	3	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 1, 50m
HVNP002169	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)	J. K. McMurry	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 5, 80m
HVNP002179	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)	A. Paradis	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 6, 100m
HVNP002228	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)	A. Paradis	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 2, 20m
HVNP002245	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)	A. Paradis	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 7, 70m
HVNP002258	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)	J. K. McMurry	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 9, 90m
HVNP002300	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)	P. Henne	Adult - sex unknown	2	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 2, 510m
HVNP002308	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)	P. Henne	Adult - sex unknown	3	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 3, 520m
HVNP002318	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)	A. Paradis	Adult - sex unknown	1	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 4, 530m
HVNP002327	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)		Adult - sex unknown	1	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 5, 540m
HVNP002334	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)		Adult - sex unknown	2	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 6, 550m
HVNP002351	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)	A. Paradis	Adult - sex unknown	3	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 9, 580m
HVNP002361	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)	P. Henne	Adult - sex unknown	2	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 10, 590m
HVNP002391	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)	P. Henne	Adult - sex unknown	1	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 4
HVNP002401	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)		Adult - sex unknown	1	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 5
HVNP002421	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)	P. Henne	Adult - sex unknown	1	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 7
HVNP002432	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)	K. Schlappa	Adult - sex unknown	2	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 8
HVNP002444	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)		Adult - sex unknown	2	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 9
HVNP002454	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)		Adult - sex unknown	1	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 10
HVNP002466	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)		Adult - sex unknown	2	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 1, 500m
HVNP002479	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)		Adult - sex unknown	1	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 2, 510m
HVNP002490	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)	A. Paradis	Adult - sex unknown	3	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 3, 520m
HVNP002508	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)		Adult - sex unknown	1	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 5, 540m

Specimen code	Order	Family	Genus	Species	Determined by	Stage/Sex	Abund.	Collector	Date(s) collected	Collection method	Locality name	Site
HVNP002516	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)		Adult - sex unknown	4	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 6, 550m
HVNP002524	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)		Adult - sex unknown	2	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 7, 560m
HVNP002538	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)	A. Paradis	Adult - sex unknown	1	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 9, 580m
HVNP002851	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)	N. Renie	Adult - sex unknown	18	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	2W - 80m
HVNP002890	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)	N. Renie	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	5W - 290m
HVNP002917	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)	N. Renie	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	2B - 25m
HVNP002929	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)	N. Renie	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	1W - 5m
HVNP002984	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)	N. Renie	Adult - sex unknown	2	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	4B
HVNP003007	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)	N. Renie	Adult - sex unknown	2	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	1W
HVNP003039	Homoptera	(Homoptera)	(Homoptera)	(Homoptera)	P. Henne	Adult - sex unknown	2	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	4W
HVNP002121	Homoptera	Cicadellidae	(Cicadellidae)	(Cicadellidae)	A. Paradis	Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 8, 70m
HVNP002005	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)		Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 1, 50m
HVNP002020	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 3, 70m
HVNP002025	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)		Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 4, 80m
HVNP002035	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)		Adult - sex unknown	3	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 5, 90m
HVNP002050	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 7, 110m
HVNP002060	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 8, 120m
HVNP002068	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 9, 130m
HVNP002074	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)		Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 10, 140m
HVNP002090	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 2, 10m
HVNP002103	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	A. Paradis	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 5, 40m
HVNP002126	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	P. Henne	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 9, 90m
HVNP002149	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	A. Paradis	Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 2, 60m
HVNP002158	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	P. Henne	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 3, 70m
HVNP002180	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	A. Paradis	Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 6, 100m
HVNP002189	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	J. K. McMurry	Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 7, 110m
HVNP002222	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	P. Henne	Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 1, 10m
HVNP002229	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	A. Paradis	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 2, 20m
HVNP002235	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	P. Henne	Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 3, 30m
HVNP002240	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	P. Henne	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 5, 50m
HVNP002246	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	A. Paradis	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 7, 70m
HVNP002252	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	A. Paradis	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 6, 60m
HVNP002259	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	J. K. McMurry	Adult - sex unknown	3	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 9, 90m
HVNP002265	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	J. K. McMurry	Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 10, 100m
HVNP002272	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	A. Paradis	Adult - sex unknown	3	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 8, 80m
HVNP002279	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	A. Paradis	Adult - sex unknown	5	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 4, 80m
HVNP002289	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	K. Schlappa	Adult - sex unknown	1	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 1, 500m
HVNP002301	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	P. Henne	Adult - sex unknown	4	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 2, 510m
HVNP002309	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	P. Henne	Adult - sex unknown	1	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 3, 520m
HVNP002319	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	A. Paradis	Adult - sex unknown	2	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 4, 530m
HVNP002335	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)		Adult - sex unknown	4	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 6, 550m
HVNP002344	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)		Adult - sex unknown	1	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 8, 570m
HVNP002352	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	A. Paradis	Adult - sex unknown	7	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 9, 580m

Specimen code	Order	Family	Genus	Species	Determined by	Stage/Sex	Abund.	Collector	Date(s) collected	Collection method	Locality name	Site
HVNP002362	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	P. Henne	Adult - sex unknown	3	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500'	Trap 10, 590m
HVNP002374	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	K. Schlappa	Adult - sex unknown	2	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 2
HVNP002402	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)		Adult - sex unknown	1	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 5
HVNP002411	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	K. Schlappa	Adult - sex unknown	2	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 6
HVNP002433	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	K. Schlappa	Adult - sex unknown	1	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 8
HVNP002445	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)		Adult - sex unknown	1	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 9
HVNP002455	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)		Adult - sex unknown	1	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 10
HVNP002480	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)		Adult - sex unknown	1	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 2, 510m
HVNP002491	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	A. Paradis	Adult - sex unknown	3	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 3, 520m
HVNP002509	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)		Adult - sex unknown	1	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 5, 540m
HVNP002517	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)		Adult - sex unknown	1	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 6, 550m
HVNP002525	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)		Adult - sex unknown	3	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 7, 560m
HVNP002539	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	A. Paradis	Adult - sex unknown	2	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 9, 580m
HVNP002561	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	W. Haines	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	1B
HVNP002579	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	W. Haines	Adult - sex unknown	7	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	2B
HVNP002617	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	W. Haines	Adult - sex unknown	4	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	4B
HVNP002638	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	W. Haines	Adult - sex unknown	4	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	5B
HVNP002676	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	W. Haines	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	2W
HVNP002688	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	W. Haines	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	3W
HVNP002699	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	W. Haines	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	4W
HVNP002712	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	W. Haines	Adult - sex unknown	4	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	5W
HVNP002750	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	N. Renie	Adult - sex unknown	3	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 3500ft	3B - 60m
HVNP002769	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	W. Haines	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 3500ft	2W - 30m
HVNP002800	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	N. Renie	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	3B - 100m
HVNP002817	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	D. Bennett	Adult - sex unknown	11	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	4B - 160m
HVNP002836	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	D. Bennett	Adult - sex unknown	5	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	5B - 185m
HVNP002852	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	N. Renie	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	2W - 80m
HVNP002941	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)		Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	1B
HVNP002957	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	P. Henne	Adult - sex unknown	5	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	2B
HVNP002974	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	D. Bennett	Adult - sex unknown	5	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	3B
HVNP002985	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	N. Renie	Adult - sex unknown	4	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	4B
HVNP002998	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	D. Bennett	Adult - sex unknown	6	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	5B
HVNP003008	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	N. Renie	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	1W
HVNP003030	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	P. Henne	Adult - sex unknown	2	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	3W
HVNP003333	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	W. Haines	Adult - sex unknown	1	D. Foote et al.	16 Nov 1999	Search	KFU Office, Rt. 11	
HVNP003336	Hymenoptera	(Hymenoptera)	(Hymenoptera)	(Hymenoptera)	W. Haines	Adult - sex unknown	1	D. Foote et al.	16 Nov 1999	Search	KFU Office, Rt. 11	
HVNP003326	Hymenoptera	Anthrophoridae	Xylocopa	sonorina	W. Haines	Adult - sex unknown	1	D. Foote et al.	16 Nov 1999	Search	KFU Office, Rt. 11	
HVNP003335	Hymenoptera	Apidae	Apis	mellifera	W. Haines	Adult - sex unknown	1	D. Foote	17 Nov 1999	Search	KFU, Transect at 2500ft	
HVNP003644	Hymenoptera	Chrysididae	(Chrysididae)	(Chrysididae)	K. Magnacca	Adult - sex unknown	1	W. Haines et al	17 May-21 Jun 2000	Yellow sticky card (Seabright)	KFU, Vespula station 43	
HVNP003294	Hymenoptera	Colletidae	Hylaeus	(Hylaeus)	W. Haines	Adult - sex unknown	1	W. Haines	17-23 Nov 1999	Yellow sticky card (Seabright)	KFU, Vespula station 21	
HVNP003302	Hymenoptera	Colletidae	Hylaeus	(Hylaeus)	K. Magnacca	Female	1	W. Haines	6 Jan-15 Feb 2000	Yellow sticky card (Seabright)	KFU, Vespula station 44	
HVNP003313	Hymenoptera	Colletidae	Hylaeus	(Hylaeus)	K. Magnacca	Female	1	W. Haines	11 Apr-17 May 2000	Yellow sticky card (Seabright)	KFU, Vespula station 03	
HVNP003314	Hymenoptera	Colletidae	Hylaeus	(Hylaeus)	K. Magnacca	Female	1	W. Haines	11 Apr-17 May 2000	Yellow sticky card (Seabright)	KFU, Vespula station 49	

Specimen code	Order	Family	Genus	Species	Determined by	Stage/Sex	Abund.	Collector	Date(s) collected	Collection method	Locality name	Site
HVNP003612	Hymenoptera	Colletidae	Hylaeus	(Hylaeus)	W. Haines	Adult - sex unknown	4	W. Haines	17 Jul-15 Aug 2000	Yellow sticky card (Seabright)	KFU, Vesputa station 02	
HVNP003613	Hymenoptera	Colletidae	Hylaeus	(Hylaeus)	W. Haines	Adult - sex unknown	8	W. Haines	17 Jul-15 Aug 2000	Yellow sticky card (Seabright)	KFU, Vesputa station 04	
HVNP003618	Hymenoptera	Colletidae	Hylaeus	(Hylaeus)	W. Haines	Adult - sex unknown	2	W. Haines	17 Jul-15 Aug 2000	Yellow sticky card (Seabright)	KFU, Vesputa station 10	
HVNP003650	Hymenoptera	Colletidae	Hylaeus	(Hylaeus)	K. Magnacca	Adult - sex unknown	1	W. Haines et al	21 Jun-17 Jul 2000	Yellow sticky card (Seabright)	KFU, Vesputa station 04	
HVNP003657	Hymenoptera	Colletidae	Hylaeus	(Hylaeus)	K. Magnacca	Adult - sex unknown	1	W. Haines et al	21 Jun-17 Jul 2000	Yellow sticky card (Seabright)	KFU, Vesputa station 43	
HVNP003295	Hymenoptera	Colletidae	Hylaeus	coniceps	K. Magnacca	Adult - sex unknown	1	W. Haines	14 Feb-11 Apr 2000	Yellow sticky card (Seabright)	KFU, Vesputa station 12	
HVNP003305	Hymenoptera	Colletidae	Hylaeus	coniceps	K. Magnacca	Male	1	W. Haines	06 Jan 2000	Fell onto sticky card when hanging it	KFU, Vesputa station 15	
HVNP003619	Hymenoptera	Colletidae	Hylaeus	coniceps	K. Magnacca	Adult - sex unknown	3	W. Haines	17 Jul-15 Aug 2000	Yellow sticky card (Seabright)	KFU, Vesputa station 16	
HVNP003631	Hymenoptera	Colletidae	Hylaeus	coniceps	K. Magnacca	Adult - sex unknown	2	W. Haines et al	17 May-21 Jun 2000	Yellow sticky card (Seabright)	KFU, Vesputa station 02	
HVNP003638	Hymenoptera	Colletidae	Hylaeus	coniceps	K. Magnacca	Adult - sex unknown	1	W. Haines et al	17 May-21 Jun 2000	Yellow sticky card (Seabright)	KFU, Vesputa station 10	
HVNP003651	Hymenoptera	Colletidae	Hylaeus	coniceps	K. Magnacca	Adult - sex unknown	2	W. Haines et al	21 Jun-17 Jul 2000	Yellow sticky card (Seabright)	KFU, Vesputa station 10	
HVNP003652	Hymenoptera	Colletidae	Hylaeus	coniceps	K. Magnacca	Adult - sex unknown	1	W. Haines et al	21 Jun-17 Jul 2000	Yellow sticky card (Seabright)	KFU, Vesputa station 12	
HVNP003654	Hymenoptera	Colletidae	Hylaeus	coniceps	K. Magnacca	Adult - sex unknown	5	W. Haines et al	21 Jun-17 Jul 2000	Yellow sticky card (Seabright)	KFU, Vesputa station 19	
HVNP003735	Hymenoptera	Colletidae	Hylaeus	coniceps	K. Magnacca	Adult - sex unknown	1	W. Haines	15 Aug-11 Sep 2000	Yellow sticky card (Seabright)	KFU, Vesputa station 10	
HVNP003741	Hymenoptera	Colletidae	Hylaeus	coniceps	K. Magnacca	Adult - sex unknown	1	W. Haines	11 Sep-12 Oct 2000	Yellow sticky card (Seabright)	KFU, Vesputa station 10	
HVNP003734	Hymenoptera	Colletidae	Hylaeus	connectens	K. Magnacca	Adult - sex unknown	1	W. Haines	15 Aug-11 Sep 2000	Yellow sticky card (Seabright)	KFU, Vesputa station 04	
HVNP003739	Hymenoptera	Colletidae	Hylaeus	connectens	K. Magnacca	Adult - sex unknown	1	W. Haines	15 Aug-11 Sep 2000	Yellow sticky card (Seabright)	KFU, Vesputa station 18	
HVNP003737	Hymenoptera	Colletidae	Hylaeus	crabronoides	K. Magnacca	Adult - sex unknown	1	W. Haines	15 Aug-11 Sep 2000	Yellow sticky card (Seabright)	KFU, Vesputa station 16	
HVNP003297	Hymenoptera	Colletidae	Hylaeus	difficilis	K. Magnacca	Male	1	W. Haines	12 Feb-11 Apr 2000	Yellow sticky card (Seabright)	KFU, Vesputa station 07	
HVNP003298	Hymenoptera	Colletidae	Hylaeus	difficilis	K. Magnacca	Adult - sex unknown	2	W. Haines	11 Apr 2000	Sweep net	KFU, Vesputa station 01	
HVNP003299	Hymenoptera	Colletidae	Hylaeus	difficilis	K. Magnacca	Adult - sex unknown	1	W. Haines	14 Feb-11 Apr 2000	Yellow sticky card (Seabright)	KFU, Vesputa station 10	
HVNP003306	Hymenoptera	Colletidae	Hylaeus	difficilis	K. Magnacca	Adult - sex unknown	3	W. Haines	6 Jan-15 Feb 2000	Yellow sticky card (Seabright)	KFU, Vesputa station 11	
HVNP003317	Hymenoptera	Colletidae	Hylaeus	difficilis	K. Magnacca	Adult - sex unknown	1	W. Haines	11 Apr-17 May 2000	Yellow sticky card (Seabright)	KFU, Vesputa station 16	
HVNP003318	Hymenoptera	Colletidae	Hylaeus	difficilis	K. Magnacca	Adult - sex unknown	1	W. Haines	11 Apr-17 May 2000	Yellow sticky card (Seabright)	KFU, Vesputa station 10	
HVNP003319	Hymenoptera	Colletidae	Hylaeus	difficilis	K. Magnacca	Adult - sex unknown	4	W. Haines	11 Apr-17 May 2000	Yellow sticky card (Seabright)	KFU, Vesputa station 08	
HVNP003320	Hymenoptera	Colletidae	Hylaeus	difficilis	K. Magnacca	Adult - sex unknown	2	W. Haines	11 Apr-17 May 2000	Yellow sticky card (Seabright)	KFU, Vesputa station 19	
HVNP003321	Hymenoptera	Colletidae	Hylaeus	difficilis	K. Magnacca	Adult - sex unknown	1	W. Haines	11 Apr-17 May 2000	Yellow sticky card (Seabright)	KFU, Vesputa station 07	
HVNP003322	Hymenoptera	Colletidae	Hylaeus	difficilis	K. Magnacca	Adult - sex unknown	2	W. Haines	11 Apr-17 May 2000	Yellow sticky card (Seabright)	KFU, Vesputa station 06	
HVNP003323	Hymenoptera	Colletidae	Hylaeus	difficilis	K. Magnacca	Adult - sex unknown	5	W. Haines	11 Apr-17 May 2000	Yellow sticky card (Seabright)	KFU, Vesputa station 05	
HVNP003614	Hymenoptera	Colletidae	Hylaeus	difficilis	K. Magnacca	Adult - sex unknown	2	W. Haines	17 Jul-15 Aug 2000	Yellow sticky card (Seabright)	KFU, Vesputa station 07	
HVNP003615	Hymenoptera	Colletidae	Hylaeus	difficilis	K. Magnacca	Adult - sex unknown	3	W. Haines	17 Jul-15 Aug 2000	Yellow sticky card (Seabright)	KFU, Vesputa station 08	
HVNP003630	Hymenoptera	Colletidae	Hylaeus	difficilis	K. Magnacca	Adult - sex unknown	2	W. Haines et al	17 May-21 Jun 2000	Yellow sticky card (Seabright)	KFU, Vesputa station 01	
HVNP003632	Hymenoptera	Colletidae	Hylaeus	difficilis	K. Magnacca	Adult - sex unknown	2	W. Haines et al	17 May-21 Jun 2000	Yellow sticky card (Seabright)	KFU, Vesputa station 02	
HVNP003633	Hymenoptera	Colletidae	Hylaeus	difficilis	K. Magnacca	Adult - sex unknown	3	W. Haines et al	17 May-21 Jun 2000	Yellow sticky card (Seabright)	KFU, Vesputa station 05	
HVNP003634	Hymenoptera	Colletidae	Hylaeus	difficilis	K. Magnacca	Adult - sex unknown	3	W. Haines et al	17 May-21 Jun 2000	Yellow sticky card (Seabright)	KFU, Vesputa station 06	
HVNP003636	Hymenoptera	Colletidae	Hylaeus	difficilis	K. Magnacca	Adult - sex unknown	3	W. Haines et al	17 May-21 Jun 2000	Yellow sticky card (Seabright)	KFU, Vesputa station 08	
HVNP003637	Hymenoptera	Colletidae	Hylaeus	difficilis	K. Magnacca	Adult - sex unknown	2	W. Haines et al	17 May-21 Jun 2000	Yellow sticky card (Seabright)	KFU, Vesputa station 09	
HVNP003639	Hymenoptera	Colletidae	Hylaeus	difficilis	K. Magnacca	Adult - sex unknown	3	W. Haines et al	17 May-21 Jun 2000	Yellow sticky card (Seabright)	KFU, Vesputa station 14	
HVNP003640	Hymenoptera	Colletidae	Hylaeus	difficilis	K. Magnacca	Adult - sex unknown	1	W. Haines et al	17 May-21 Jun 2000	Yellow sticky card (Seabright)	KFU, Vesputa station 15	
HVNP003641	Hymenoptera	Colletidae	Hylaeus	difficilis	K. Magnacca	Adult - sex unknown	4	W. Haines et al	17 May-21 Jun 2000	Yellow sticky card (Seabright)	KFU, Vesputa station 16	
HVNP003738	Hymenoptera	Colletidae	Hylaeus	difficilis	K. Magnacca	Adult - sex unknown	1	W. Haines	15 Aug-11 Sep 2000	Yellow sticky card (Seabright)	KFU, Vesputa station 16	
HVNP003742	Hymenoptera	Colletidae	Hylaeus	difficilis	K. Magnacca	Adult - sex unknown	1	W. Haines	11 Sep-12 Oct 2000	Yellow sticky card (Seabright)	KFU, Vesputa station 15	
HVNP003743	Hymenoptera	Colletidae	Hylaeus	difficilis	K. Magnacca	Adult - sex unknown	1	W. Haines	11 Sep-12 Oct 2000	Yellow sticky card (Seabright)	KFU, Vesputa station 19	

Specimen code	Order	Family	Genus	Species	Determined by	Stage/Sex	Abund.	Collector	Date(s) collected	Collection method	Locality name	Site
HVNP003304	Hymenoptera	Colletidae	Hylaeus	dumetorum	K. Magnacca	Adult - sex unknown	1	K. Heckmann	14-15 Feb 2000	Yellow sticky card (Seabright)	KFU, Transect at 3500ft	770m
HVNP003311	Hymenoptera	Colletidae	Hylaeus	dumetorum	K. Magnacca	Adult - sex unknown	3	W. Haines	11 Apr-17 May 2000	Yellow sticky card (Seabright)	KFU, Vespula station 38	
HVNP003312	Hymenoptera	Colletidae	Hylaeus	dumetorum	K. Magnacca	Adult - sex unknown	1	W. Haines	11 Apr-17 May 2000	Yellow sticky card (Seabright)	KFU, Vespula station 44	
HVNP003642	Hymenoptera	Colletidae	Hylaeus	dumetorum	K. Magnacca	Adult - sex unknown	1	W. Haines et al	17 May-21 Jun 2000	Yellow sticky card (Seabright)	KFU, Vespula station 22	
HVNP003645	Hymenoptera	Colletidae	Hylaeus	dumetorum	K. Magnacca	Adult - sex unknown	1	W. Haines et al	17 May-21 Jun 2000	Yellow sticky card (Seabright)	KFU, Vespula station 45	
HVNP003736	Hymenoptera	Colletidae	Hylaeus	dumetorum	K. Magnacca	Adult - sex unknown	1	W. Haines	15 Aug-11 Sep 2000	Yellow sticky card (Seabright)	KFU, Vespula station 14	
HVNP003316	Hymenoptera	Colletidae	Hylaeus	specularis	W. Haines	Adult - sex unknown	1	W. Haines	11 Apr-17 May 2000	Yellow sticky card (Seabright)	KFU, Vespula station 19	
HVNP003617	Hymenoptera	Colletidae	Hylaeus	specularis	K. Magnacca	Adult - sex unknown	1	W. Haines	17 Jul-15 Aug 2000	Yellow sticky card (Seabright)	KFU, Vespula station 09	
HVNP003740	Hymenoptera	Colletidae	Hylaeus	specularis	K. Magnacca	Adult - sex unknown	1	W. Haines	15 Aug-11 Sep 2000	Yellow sticky card (Seabright)	KFU, Vespula station 38	
HVNP003303	Hymenoptera	Colletidae	Hylaeus	sphecodoides	K. Magnacca	Male	1	W. Haines	6 Jan-15 Feb 2000	Yellow sticky card (Seabright)	KFU, Vespula station 31	
HVNP003309	Hymenoptera	Colletidae	Hylaeus	sphecodoides	K. Magnacca	Adult - sex unknown	2	W. Haines	11 Apr-17 May 2000	Yellow sticky card (Seabright)	KFU, Vespula station 05	
HVNP003310	Hymenoptera	Colletidae	Hylaeus	sphecodoides	K. Magnacca	Adult - sex unknown	4	W. Haines	11 Apr-17 May 2000	Yellow sticky card (Seabright)	KFU, Vespula station 14	
HVNP003635	Hymenoptera	Colletidae	Hylaeus	sphecodoides	K. Magnacca	Adult - sex unknown	1	W. Haines et al	17 May-21 Jun 2000	Yellow sticky card (Seabright)	KFU, Vespula station 06	
HVNP003733	Hymenoptera	Colletidae	Hylaeus	sphecodoides	K. Magnacca	Adult - sex unknown	1	W. Haines	15 Aug-11 Sep 2000	Yellow sticky card (Seabright)	KFU, Vespula station 02	
HVNP003296	Hymenoptera	Colletidae	Hylaeus	volcanicus	K. Magnacca	Male	1	W. Haines	14 Feb-11 Apr 2000	Yellow sticky card (Seabright)	KFU, Vespula station 02	
HVNP003315	Hymenoptera	Colletidae	Hylaeus	volcanicus	K. Magnacca	Adult - sex unknown	1	W. Haines	11 Apr-17 May 2000	Yellow sticky card (Seabright)	KFU, Vespula station 15	
HVNP002615	Hymenoptera	Formicidae	(Formicidae)	(Formicidae)	W. Haines	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	4B
HVNP002636	Hymenoptera	Formicidae	(Formicidae)	(Formicidae)	W. Haines	Adult - sex unknown	3	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	5B
HVNP002674	Hymenoptera	Formicidae	(Formicidae)	(Formicidae)	W. Haines	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	2W
HVNP002710	Hymenoptera	Formicidae	(Formicidae)	(Formicidae)	W. Haines	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	5W
HVNP002171	Hymenoptera	Ichneumonidae	(Ichneumonidae)	(Ichneumonidae)	J. K. McMurry	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 5, 80m
HVNP002183	Hymenoptera	Ichneumonidae	(Ichneumonidae)	(Ichneumonidae)	A. Paradis	Adult - sex unknown	4	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 6, 100m
HVNP002191	Hymenoptera	Ichneumonidae	(Ichneumonidae)	(Ichneumonidae)	J. K. McMurry	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 7, 110m
HVNP002253	Hymenoptera	Ichneumonidae	(Ichneumonidae)	(Ichneumonidae)	A. Paradis	Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 6, 60m
HVNP002273	Hymenoptera	Ichneumonidae	(Ichneumonidae)	(Ichneumonidae)	A. Paradis	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 8, 80m
HVNP003085	Hymenoptera	Ichneumonidae	(Ichneumonidae)	(Ichneumonidae)	W. Haines	Adult - sex unknown	1	W. Haines	16-17 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 4500ft	
HVNP003086	Hymenoptera	Ichneumonidae	(Ichneumonidae)	(Ichneumonidae)	W. Haines	Adult - sex unknown	1	W. Haines	16-17 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 4500ft	
HVNP003087	Hymenoptera	Ichneumonidae	(Ichneumonidae)	(Ichneumonidae)	W. Haines	Adult - sex unknown	1	W. Haines	16-17 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 4500ft	
HVNP003114	Hymenoptera	Ichneumonidae	(Ichneumonidae)	(Ichneumonidae)	W. Haines	Adult - sex unknown	1	W. Haines	17-18 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 4500ft	
HVNP003115	Hymenoptera	Ichneumonidae	(Ichneumonidae)	(Ichneumonidae)	W. Haines	Adult - sex unknown	1	W. Haines	17-18 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 4500ft	
HVNP003162	Hymenoptera	Ichneumonidae	(Ichneumonidae)	(Ichneumonidae)	W. Haines	Adult - sex unknown	1	W. Haines	17-18 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 5500ft	
HVNP003179	Hymenoptera	Ichneumonidae	(Ichneumonidae)	(Ichneumonidae)	W. Haines	Adult - sex unknown	1	W. Haines	16-17 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 5500ft	
HVNP003180	Hymenoptera	Ichneumonidae	(Ichneumonidae)	(Ichneumonidae)	W. Haines	Adult - sex unknown	1	W. Haines	16-17 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 5500ft	
HVNP003181	Hymenoptera	Ichneumonidae	(Ichneumonidae)	(Ichneumonidae)	W. Haines	Adult - sex unknown	1	W. Haines	16-17 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 5500ft	
HVNP003182	Hymenoptera	Ichneumonidae	(Ichneumonidae)	(Ichneumonidae)	W. Haines	Adult - sex unknown	1	W. Haines	16-17 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 5500ft	
HVNP003300	Hymenoptera	Sphecidae	(Sphecidae)	(Sphecidae)	K. Magnacca	Adult - sex unknown	1	W. Haines	14 Feb-11 Apr 2000	Yellow sticky card (Seabright)	KFU, Vespula station 43	
HVNP003307	Hymenoptera	Sphecidae	(Sphecidae)	(Sphecidae)	K. Magnacca	Adult - sex unknown	1	W. Haines	11 Apr-17 May 2000	Yellow sticky card (Seabright)	KFU, Vespula station 43	
HVNP003327	Hymenoptera	Sphecidae	Ectemnius	atipennis	W. Haines	Adult - sex unknown	1	D. Foote	17 Nov 1999	Search	KFU, Transect at 2500ft	
HVNP003328	Hymenoptera	Sphecidae	Ectemnius	atipennis	W. Haines	Adult - sex unknown	1	D. Foote	17 Nov 1999	Search	KFU, Transect at 2500ft	
HVNP003329	Hymenoptera	Sphecidae	Ectemnius	atipennis	W. Haines	Adult - sex unknown	1	D. Foote	17 Nov 1999	Search	KFU, Transect at 2500ft	
HVNP003330	Hymenoptera	Sphecidae	Ectemnius	atipennis	W. Haines	Adult - sex unknown	1	D. Foote	17 Nov 1999	Search	KFU, Transect at 2500ft	
HVNP003331	Hymenoptera	Sphecidae	Ectemnius	atipennis	W. Haines	Adult - sex unknown	1	D. Foote	17 Nov 1999	Search	KFU, Transect at 2500ft	
HVNP003332	Hymenoptera	Sphecidae	Ectemnius	atipennis	W. Haines	Adult - sex unknown	1	D. Foote	17 Nov 1999	Search	KFU, Transect at 2500ft	

Specimen code	Order	Family	Genus	Species	Determined by	Stage/Sex	Abund.	Collector	Date(s) collected	Collection method	Locality name	Site
HVNP003301	Hymenoptera	Vespidae	Odynerus	(Odynerus)	K. Magnacca	Adult - sex unknown	1	W. Haines	6 Jan-15 Feb 2000	Yellow sticky card (Seabright)	KFU, Vespula station 19	
HVNP003308	Hymenoptera	Vespidae	Odynerus	(Odynerus)	K. Magnacca	Adult - sex unknown	1	W. Haines	11 Apr-17 May 2000	Yellow sticky card (Seabright)	KFU, Vespula station 14	
HVNP003334	Hymenoptera	Vespidae	Polistes	(Polistes)	W. Haines	Adult - sex unknown	1	D. Foote et al.	16 Nov 1999	Search	KFU Office, Rt. 11	
HVNP002963	Hymenoptera	Vespidae	Vespula	pensylvanica	P. Henne	Adult - sex unknown	2	D. Foote et al.	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	2B
HVNP002054	Isopoda	(Isopoda)	(Isopoda)	(Isopoda)		Adult - sex unknown	1	W. Haines et al.	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 7, 110m
HVNP002311	Isopoda	(Isopoda)	(Isopoda)	(Isopoda)	P. Henne	Adult - sex unknown	2	K. Schlappla et al.	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 3, 520m
HVNP002364	Isopoda	(Isopoda)	(Isopoda)	(Isopoda)	P. Henne	Adult - sex unknown	1	K. Schlappla et al.	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 10, 590m
HVNP002562	Isopoda	(Isopoda)	(Isopoda)	(Isopoda)	W. Haines	Adult - sex unknown	11	D. Foote et al.	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	1B
HVNP002580	Isopoda	(Isopoda)	(Isopoda)	(Isopoda)	W. Haines	Adult - sex unknown	31	D. Foote et al.	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	2B
HVNP002618	Isopoda	(Isopoda)	(Isopoda)	(Isopoda)	W. Haines	Adult - sex unknown	28	D. Foote et al.	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	4B
HVNP002639	Isopoda	(Isopoda)	(Isopoda)	(Isopoda)	W. Haines	Adult - sex unknown	5	D. Foote et al.	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	5B
HVNP002659	Isopoda	(Isopoda)	(Isopoda)	(Isopoda)	W. Haines	Adult - sex unknown	4	D. Foote et al.	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	1W
HVNP002677	Isopoda	(Isopoda)	(Isopoda)	(Isopoda)	W. Haines	Adult - sex unknown	13	D. Foote et al.	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	2W
HVNP002689	Isopoda	(Isopoda)	(Isopoda)	(Isopoda)	W. Haines	Adult - sex unknown	1	D. Foote et al.	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	3W
HVNP002700	Isopoda	(Isopoda)	(Isopoda)	(Isopoda)	W. Haines	Adult - sex unknown	2	D. Foote et al.	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	4W
HVNP002713	Isopoda	(Isopoda)	(Isopoda)	(Isopoda)	W. Haines	Adult - sex unknown	2	D. Foote et al.	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	5W
HVNP002724	Isopoda	(Isopoda)	(Isopoda)	(Isopoda)	W. Haines	Adult - sex unknown	4	D. Foote et al.	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 3500ft	1B
HVNP002737	Isopoda	(Isopoda)	(Isopoda)	(Isopoda)	W. Haines	Adult - sex unknown	6	D. Foote et al.	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 3500ft	2B - 25m
HVNP002761	Isopoda	(Isopoda)	(Isopoda)	(Isopoda)	W. Haines	Adult - sex unknown	3	D. Foote et al.	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 3500ft	1W - 0m
HVNP002770	Isopoda	(Isopoda)	(Isopoda)	(Isopoda)	W. Haines	Adult - sex unknown	3	D. Foote et al.	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 3500ft	2W - 30m
HVNP002777	Isopoda	(Isopoda)	(Isopoda)	(Isopoda)	N. Renie	Adult - sex unknown	4	D. Foote et al.	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 3500ft	3W - 50m
HVNP002786	Isopoda	(Isopoda)	(Isopoda)	(Isopoda)	W. Haines, D. Bennett	Adult - sex unknown	1	D. Foote et al.	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 3500ft	5W - 110m
HVNP002801	Isopoda	(Isopoda)	(Isopoda)	(Isopoda)	N. Renie	Adult - sex unknown	19	D. Foote et al.	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	3B - 100m
HVNP002818	Isopoda	(Isopoda)	(Isopoda)	(Isopoda)	D. Bennett	Adult - sex unknown	7	D. Foote et al.	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	4B - 160m
HVNP002837	Isopoda	(Isopoda)	(Isopoda)	(Isopoda)	D. Bennett	Adult - sex unknown	17	D. Foote et al.	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	5B - 185m
HVNP002853	Isopoda	(Isopoda)	(Isopoda)	(Isopoda)	N. Renie	Adult - sex unknown	2	D. Foote et al.	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	2W - 80m
HVNP002870	Isopoda	(Isopoda)	(Isopoda)	(Isopoda)	P. Henne	Adult - sex unknown	5	D. Foote et al.	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	3W - 130m
HVNP002880	Isopoda	(Isopoda)	(Isopoda)	(Isopoda)	D. Bennett	Adult - sex unknown	5	D. Foote et al.	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	4W - 170m
HVNP002891	Isopoda	(Isopoda)	(Isopoda)	(Isopoda)	N. Renie	Adult - sex unknown	10	D. Foote et al.	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	5W - 290m
HVNP002905	Isopoda	(Isopoda)	(Isopoda)	(Isopoda)	N. Renie	Adult - sex unknown	4	D. Foote et al.	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	1B - 15m
HVNP002918	Isopoda	(Isopoda)	(Isopoda)	(Isopoda)	N. Renie	Adult - sex unknown	8	D. Foote et al.	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	2B - 25m
HVNP002930	Isopoda	(Isopoda)	(Isopoda)	(Isopoda)	N. Renie	Adult - sex unknown	3	D. Foote et al.	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	1W - 5m
HVNP002942	Isopoda	(Isopoda)	(Isopoda)	(Isopoda)		Adult - sex unknown	5	D. Foote et al.	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	1B
HVNP002986	Isopoda	(Isopoda)	(Isopoda)	(Isopoda)	N. Renie	Adult - sex unknown	4	D. Foote et al.	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	4B
HVNP002999	Isopoda	(Isopoda)	(Isopoda)	(Isopoda)	D. Bennett	Adult - sex unknown	3	D. Foote et al.	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	5B
HVNP003009	Isopoda	(Isopoda)	(Isopoda)	(Isopoda)	N. Renie	Adult - sex unknown	24	D. Foote et al.	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	1W
HVNP003019	Isopoda	(Isopoda)	(Isopoda)	(Isopoda)	N. Renie	Adult - sex unknown	3	D. Foote et al.	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	2W
HVNP003040	Isopoda	(Isopoda)	(Isopoda)	(Isopoda)	P. Henne	Adult - sex unknown	3	D. Foote et al.	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	4W
HVNP003047	Isopoda	(Isopoda)	(Isopoda)	(Isopoda)	N. Renie	Adult - sex unknown	2	D. Foote et al.	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	5W
HVNP002053	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)		Adult - sex unknown	1	W. Haines et al.	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 7, 110m
HVNP002162	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)	P. Henne	Adult - sex unknown	3	W. Haines et al.	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 3, 70m
HVNP002218	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)	P. Henne	Larva	1	W. Haines et al.	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 10, 140m
HVNP002291	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)	K. Schlappla	Adult - sex unknown	1	K. Schlappla et al.	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 1, 500m

Specimen code	Order	Family	Genus	Species	Determined by	Stage/Sex	Abund.	Collector	Date(s) collected	Collection method	Locality name	Site
HVNP002384	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)	K. Schlappa	Larva	2	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 500'	Trap 3
HVNP002394	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)	P. Henne	Larva	1	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 500'	Trap 4
HVNP002423	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)	P. Henne	Larva	2	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 500'	Trap 7
HVNP002458	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)		Larva	1	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 500'	Trap 10
HVNP002473	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)		Larva	1	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 1, 500m
HVNP002494	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)	A. Paradis	Adult - sex unknown	1	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 3, 520m
HVNP002511	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)		Larva	1	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 5, 540m
HVNP002563	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)	W. Haines	Larva	4	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	1B
HVNP002581	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)	W. Haines	Adult - sex unknown	2	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	2B
HVNP002582	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)	W. Haines	Larva	8	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	2B
HVNP002600	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)	W. Haines	Larva	7	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	3B
HVNP002619	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)	W. Haines	Larva	12	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	4B
HVNP002640	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)	W. Haines	Larva	8	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	5B
HVNP002641	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)	W. Haines	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	5B
HVNP002660	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)	W. Haines	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	1W
HVNP002690	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)	W. Haines	Larva	4	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	3W
HVNP002714	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)	W. Haines	Larva	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	5W
HVNP002802	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)	N. Renie	Larva	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	3B - 100m
HVNP002819	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)	D. Bennett	Larva	9	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	4B - 160m
HVNP002838	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)	D. Bennett	Larva	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	5B - 185m
HVNP002854	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)	N. Renie	Larva	2	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	2W - 80m
HVNP002855	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)	N. Renie	Adult - sex unknown	3	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	2W - 80m
HVNP002881	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)	D. Bennett	Larva	4	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	4W - 170m
HVNP002943	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)		Larva	2	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	1B
HVNP002958	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)	P. Henne	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	2B
HVNP003020	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)	N. Renie	Larva	2	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	2W
HVNP003089	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)	W. Haines	Adult - sex unknown	1	W. Haines	16-17 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 4500ft	
HVNP003100	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)	W. Haines	Adult - sex unknown	1	W. Haines	17-18 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 4500ft	
HVNP003101	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)	W. Haines	Adult - sex unknown	1	W. Haines	17-18 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 4500ft	
HVNP003102	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)	W. Haines	Adult - sex unknown	1	W. Haines	17-18 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 4500ft	
HVNP003103	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)	W. Haines	Adult - sex unknown	1	W. Haines	17-18 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 4500ft	
HVNP003104	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)	W. Haines	Adult - sex unknown	1	W. Haines	17-18 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 4500ft	
HVNP003105	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)	W. Haines	Adult - sex unknown	1	W. Haines	17-18 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 4500ft	
HVNP003106	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)	W. Haines	Adult - sex unknown	1	W. Haines	17-18 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 4500ft	
HVNP003107	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)	W. Haines	Adult - sex unknown	1	W. Haines	17-18 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 4500ft	
HVNP003108	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)	W. Haines	Adult - sex unknown	1	W. Haines	17-18 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 4500ft	
HVNP003109	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)	W. Haines	Adult - sex unknown	1	W. Haines	17-18 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 4500ft	
HVNP003110	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)	W. Haines	Adult - sex unknown	1	W. Haines	17-18 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 4500ft	
HVNP003111	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)	W. Haines	Adult - sex unknown	1	W. Haines	17-18 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 4500ft	
HVNP003112	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)	W. Haines	Adult - sex unknown	1	W. Haines	17-18 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 4500ft	
HVNP003120	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)	W. Haines	Adult - sex unknown	1	W. Haines	17-18 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 3500ft	
HVNP003121	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)	W. Haines	Adult - sex unknown	1	W. Haines	17-18 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 3500ft	
HVNP003122	Lepidoptera	(Lepidoptera)	(Lepidoptera)	(Lepidoptera)	W. Haines	Adult - sex unknown	1	W. Haines	17-18 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 3500ft	

Specimen code	Order	Family	Genus	Species	Determined by	Stage/Sex	Abund.	Collector	Date(s) collected	Collection method	Locality name	Site
HVNP003602	Lepidoptera	Crambidae	Omiodes	accepta	W. Haines	Adult - sex unknown	1	W. Haines	21-22 Jul 2000	Light trapping - 22W UV	KFU Camp	
HVNP003701	Lepidoptera	Crambidae	Omiodes	accepta	W. Haines	Adult - sex unknown	1	M. Heddle	01 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 5500ft	0m
HVNP003702	Lepidoptera	Crambidae	Omiodes	accepta	W. Haines	Adult - sex unknown	1	M. Heddle	01 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 5500ft	0m
HVNP003703	Lepidoptera	Crambidae	Omiodes	accepta	W. Haines	Adult - sex unknown	1	M. Heddle	01 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 5500ft	0m
HVNP003704	Lepidoptera	Crambidae	Omiodes	accepta	W. Haines	Adult - sex unknown	1	K. Magnacca	01 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 4500ft	0m
HVNP003705	Lepidoptera	Crambidae	Omiodes	accepta	W. Haines	Adult - sex unknown	1	K. Magnacca	01 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 4500ft	0m
HVNP003706	Lepidoptera	Crambidae	Omiodes	accepta	W. Haines	Adult - sex unknown	1	K. Magnacca	01 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 4500ft	0m
HVNP003707	Lepidoptera	Crambidae	Omiodes	accepta	W. Haines	Adult - sex unknown	1	K. Magnacca	01 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 4500ft	0m
HVNP003708	Lepidoptera	Crambidae	Omiodes	accepta	W. Haines	Adult - sex unknown	1	K. Magnacca	01 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 4500ft	0m
HVNP003709	Lepidoptera	Crambidae	Omiodes	accepta	W. Haines	Adult - sex unknown	1	K. Magnacca	01 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 4500ft	0m
HVNP003710	Lepidoptera	Crambidae	Omiodes	accepta	W. Haines	Adult - sex unknown	1	K. Magnacca	01 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 4500ft	0m
HVNP003711	Lepidoptera	Crambidae	Omiodes	accepta	W. Haines	Adult - sex unknown	1	M. Heddle	02 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 3500ft	0m
HVNP003587	Lepidoptera	Crambidae	Omiodes	asaphombra	W. Haines	Adult - sex unknown	1	W. Haines	20-21 Jul 2000	Light trapping - 22W UV	KFU Camp	
HVNP003712	Lepidoptera	Crambidae	Omiodes	asaphombra	W. Haines	Adult - sex unknown	1	K. Magnacca	01 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 4500ft	0m
HVNP003713	Lepidoptera	Crambidae	Omiodes	asaphombra	W. Haines	Adult - sex unknown	1	K. Magnacca	01 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 4500ft	0m
HVNP003714	Lepidoptera	Crambidae	Omiodes	asaphombra	W. Haines	Adult - sex unknown	1	K. Magnacca	01 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 4500ft	0m
HVNP003812	Lepidoptera	Crambidae	Omiodes	iridias	W. Haines	Adult - sex unknown	1	W. Haines	20 Jun 2000	Astelia survey	KFU, Transect at 4500ft	130m
HVNP003813	Lepidoptera	Crambidae	Omiodes	iridias	W. Haines	Adult - sex unknown	1	K. Magnacca	01 Aug 2000	Astelia survey	KFU, Transect at 4500ft	175m
HVNP003814	Lepidoptera	Crambidae	Omiodes	iridias	W. Haines	Adult - sex unknown	1	K. Magnacca	01 Aug 2000	Astelia survey	KFU, Transect at 4500ft	175m
HVNP003815	Lepidoptera	Crambidae	Omiodes	iridias	W. Haines	Adult - sex unknown	1	W. Haines	02 Aug 2000	Astelia survey	KFU, Transect at 4500ft	975m
HVNP003598	Lepidoptera	Crambidae	Omiodes	localis	W. Haines	Adult - sex unknown	1	W. Haines	21-22 Jul 2000	Light trapping - 22W UV	KFU Camp	
HVNP003600	Lepidoptera	Crambidae	Omiodes	localis	W. Haines	Adult - sex unknown	1	W. Haines	21-22 Jul 2000	Light trapping - 22W UV	KFU Camp	
HVNP003601	Lepidoptera	Crambidae	Omiodes	localis	W. Haines	Adult - sex unknown	1	W. Haines	21-22 Jul 2000	Light trapping - 22W UV	KFU Camp	
HVNP003603	Lepidoptera	Crambidae	Omiodes	localis	W. Haines	Adult - sex unknown	1	W. Haines	21-22 Jul 2000	Light trapping - 22W UV	KFU Camp	
HVNP003604	Lepidoptera	Crambidae	Omiodes	localis	W. Haines	Adult - sex unknown	1	W. Haines	21-22 Jul 2000	Light trapping - 22W UV	KFU Camp	
HVNP003605	Lepidoptera	Crambidae	Omiodes	localis	W. Haines	Adult - sex unknown	1	W. Haines	21-22 Jul 2000	Light trapping - 22W UV	KFU Camp	
HVNP003715	Lepidoptera	Crambidae	Omiodes	localis	W. Haines	Adult - sex unknown	1	M. Heddle	01 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 5500ft	0m
HVNP003716	Lepidoptera	Crambidae	Omiodes	localis	W. Haines	Adult - sex unknown	1	M. Heddle	01 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 5500ft	0m
HVNP003717	Lepidoptera	Crambidae	Omiodes	localis	W. Haines	Adult - sex unknown	1	K. Magnacca	01 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 4500ft	0m
HVNP003718	Lepidoptera	Crambidae	Omiodes	localis	W. Haines	Adult - sex unknown	1	M. Heddle	02 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 3500ft	0m
HVNP003719	Lepidoptera	Crambidae	Omiodes	localis	W. Haines	Adult - sex unknown	1	K. Orr	02 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 2500ft	0m
HVNP003816	Lepidoptera	Crambidae	Omiodes	scotaea	W. Haines	Adult - sex unknown	1	W. Haines	02 Aug 2000	Astelia survey	KFU, Transect at 4500ft	975m
HVNP003817	Lepidoptera	Crambidae	Omiodes	scotaea	W. Haines	Adult - sex unknown	1	K. Magnacca	01 Aug 2000	Astelia survey	KFU, Transect at 4500ft	620m
HVNP003818	Lepidoptera	Crambidae	Omiodes	scotaea	W. Haines	Adult - sex unknown	1	K. Magnacca	01 Aug 2000	Astelia survey	KFU, Transect at 4500ft	630m
HVNP003098	Lepidoptera	Geometridae	(Geometridae)	(Geometridae)	W. Haines	Adult - sex unknown	1	W. Haines	17-18 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 4500ft	
HVNP003099	Lepidoptera	Geometridae	(Geometridae)	(Geometridae)	W. Haines	Adult - sex unknown	1	W. Haines	17-18 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 4500ft	
HVNP003249	Lepidoptera	Geometridae	(Geometridae)	(Geometridae)	W. Haines	Adult - sex unknown	1	D. Foote et al.	15-16 Nov 1999	Light trap: sheet w/ 22W UV	KFU Camp	
HVNP003251	Lepidoptera	Geometridae	(Geometridae)	(Geometridae)	W. Haines	Adult - sex unknown	1	D. Foote et al.	16 Nov 1999	Search	KFU Office, Rt. 11	
HVNP003744	Lepidoptera	Geometridae	(Geometridae)	(Geometridae)	W. Haines	Larva	1	W. Haines	01 Aug 2000	Branch beating (nocturnal)	KFU, Transect at 4500ft	170m
HVNP003745	Lepidoptera	Geometridae	(Geometridae)	(Geometridae)	W. Haines	Larva	1	M. Heddle	01 Aug 2000	Branch beating (nocturnal)	KFU, Transect at 5500ft	
HVNP003746	Lepidoptera	Geometridae	(Geometridae)	(Geometridae)	W. Haines	Larva	1	W. Haines	02 Aug 2000	Branch beating (nocturnal)	KFU, Transect at 2500ft	70m
HVNP003747	Lepidoptera	Geometridae	(Geometridae)	(Geometridae)	W. Haines	Larva	1	W. Haines	03 Aug 2000	Branch beating (nocturnal)	KFU Camp	
HVNP003748	Lepidoptera	Geometridae	(Geometridae)	(Geometridae)	W. Haines	Larva	1	W. Haines	03 Aug 2000	Branch beating (nocturnal)	KFU Camp	

Specimen code	Order	Family	Genus	Species	Determined by	Stage/Sex	Abund.	Collector	Date(s) collected	Collection method	Locality name	Site
HVNP003749	Lepidoptera	Geometridae	(Geometridae)	(Geometridae)	W. Haines	Larva	1	W. Haines	03 Aug 2000	Branch beating (nocturnal)	KFU Camp	
HVNP003750	Lepidoptera	Geometridae	(Geometridae)	(Geometridae)	W. Haines	Larva	1	W. Haines	03 Aug 2000	Branch beating (nocturnal)	KFU Camp	
HVNP003751	Lepidoptera	Geometridae	(Geometridae)	(Geometridae)	W. Haines	Larva	1	W. Haines	03 Aug 2000	Branch beating (nocturnal)	KFU Camp	
HVNP003752	Lepidoptera	Geometridae	(Geometridae)	(Geometridae)	W. Haines	Larva	1	W. Haines	02 Aug 2000		KFU, Transect at 4500ft	
HVNP003753	Lepidoptera	Geometridae	(Geometridae)	(Geometridae)	W. Haines	Larva	1	W. Haines	03 Aug 2000	Branch beating (nocturnal)	KFU Camp	
HVNP003250	Lepidoptera	Geometridae	Anacampodes	fragilaria	W. Haines	Adult - sex unknown	1	D. Foote et al.	15 Nov 1999	Search	KFU Office, Rt. 11	
HVNP003133	Lepidoptera	Geometridae	Eupithecia	monticolens	W. Haines	Adult - sex unknown	1	W. Haines	17-18 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 5500ft	
HVNP003134	Lepidoptera	Geometridae	Eupithecia	monticolens	W. Haines	Adult - sex unknown	1	W. Haines	17-18 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 5500ft	
HVNP003721	Lepidoptera	Geometridae	Eupithecia	monticolens	W. Haines	Adult - sex unknown	1	M. Heddle	01 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 5500ft	0m
HVNP003081	Lepidoptera	Geometridae	Eupithecia	staurophragma	W. Haines	Female	1	W. Haines	16-17 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 4500ft	
HVNP003079	Lepidoptera	Geometridae	Scotorythra	(Scotorythra)	W. Haines	Female	1	W. Haines	16-17 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 4500ft	
HVNP003097	Lepidoptera	Geometridae	Scotorythra	apicalis	A. Heddle	Male	1	W. Haines	17-18 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 4500ft	
HVNP003080	Lepidoptera	Geometridae	Scotorythra	aboricolans	W. Haines	Female	1	W. Haines	16-17 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 4500ft	
HVNP003090	Lepidoptera	Geometridae	Scotorythra	aboricolans	A. Heddle	Female	1	W. Haines	17-18 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 4500ft	
HVNP003091	Lepidoptera	Geometridae	Scotorythra	aboricolans	A. Heddle	Female	1	W. Haines	17-18 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 4500ft	
HVNP003092	Lepidoptera	Geometridae	Scotorythra	aboricolans	A. Heddle	Male	1	W. Haines	17-18 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 4500ft	
HVNP003094	Lepidoptera	Geometridae	Scotorythra	aboricolans	A. Heddle	Female	1	W. Haines	17-18 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 4500ft	
HVNP003095	Lepidoptera	Geometridae	Scotorythra	aboricolans	A. Heddle	Male	1	W. Haines	17-18 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 4500ft	
HVNP003096	Lepidoptera	Geometridae	Scotorythra	aboricolans	A. Heddle	Male	1	W. Haines	17-18 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 4500ft	
HVNP003126	Lepidoptera	Geometridae	Scotorythra	aboricolans	A. Heddle	Female	1	W. Haines	17-18 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 5500ft	
HVNP003127	Lepidoptera	Geometridae	Scotorythra	aboricolans	A. Heddle	Female	1	W. Haines	17-18 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 5500ft	
HVNP003128	Lepidoptera	Geometridae	Scotorythra	aboricolans	A. Heddle	Female	1	W. Haines	17-18 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 5500ft	
HVNP003129	Lepidoptera	Geometridae	Scotorythra	aboricolans	A. Heddle	Female	1	W. Haines	17-18 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 5500ft	
HVNP003130	Lepidoptera	Geometridae	Scotorythra	aboricolans	A. Heddle	Female	1	W. Haines	17-18 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 5500ft	
HVNP003173	Lepidoptera	Geometridae	Scotorythra	aboricolans	A. Heddle	Adult - sex unknown	1	W. Haines	16-17 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 5500ft	
HVNP003174	Lepidoptera	Geometridae	Scotorythra	aboricolans	A. Heddle	Adult - sex unknown	1	W. Haines	16-17 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 5500ft	
HVNP003177	Lepidoptera	Geometridae	Scotorythra	aboricolans	A. Heddle	Adult - sex unknown	1	W. Haines	16-17 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 5500ft	
HVNP003178	Lepidoptera	Geometridae	Scotorythra	aboricolans	A. Heddle	Adult - sex unknown	1	W. Haines	16-17 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 5500ft	
HVNP003239	Lepidoptera	Geometridae	Scotorythra	aboricolans	A. Heddle	Female	1	D. Foote et al.	15-16 Nov 1999	Light trap: sheet w/ 22W UV	KFU Camp	
HVNP003240	Lepidoptera	Geometridae	Scotorythra	aboricolans	A. Heddle	Female	1	D. Foote et al.	15-16 Nov 1999	Light trap: sheet w/ 22W UV	KFU Camp	
HVNP003241	Lepidoptera	Geometridae	Scotorythra	aboricolans	A. Heddle	Male	1	D. Foote et al.	15-16 Nov 1999	Light trap: sheet w/ 22W UV	KFU Camp	
HVNP003243	Lepidoptera	Geometridae	Scotorythra	aboricolans	A. Heddle	Male	1	D. Foote et al.	15-16 Nov 1999	Light trap: sheet w/ 22W UV	KFU Camp	
HVNP003549	Lepidoptera	Geometridae	Scotorythra	aboricolans	A. Heddle	Adult - sex unknown	1	W. Haines	19-20 Jul 2000	Light trapping - 22W UV	KFU Camp	
HVNP003550	Lepidoptera	Geometridae	Scotorythra	aboricolans	A. Heddle	Adult - sex unknown	1	W. Haines	19-20 Jul 2000	Light trapping - 22W UV	KFU Camp	
HVNP003551	Lepidoptera	Geometridae	Scotorythra	aboricolans	A. Heddle	Adult - sex unknown	1	W. Haines	19-20 Jul 2000	Light trapping - 22W UV	KFU Camp	
HVNP003552	Lepidoptera	Geometridae	Scotorythra	aboricolans	A. Heddle	Adult - sex unknown	1	W. Haines	19-20 Jul 2000	Light trapping - 22W UV	KFU Camp	
HVNP003554	Lepidoptera	Geometridae	Scotorythra	aboricolans	A. Heddle	Adult - sex unknown	1	W. Haines	19-20 Jul 2000	Light trapping - 22W UV	KFU Camp	
HVNP003584	Lepidoptera	Geometridae	Scotorythra	aboricolans	A. Heddle	Adult - sex unknown	1	W. Haines	20-21 Jul 2000	Light trapping - 22W UV	KFU Camp	
HVNP003693	Lepidoptera	Geometridae	Scotorythra	aboricolans	W. Haines	Male	1	M. Heddle	01 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 5500ft	0m
HVNP003694	Lepidoptera	Geometridae	Scotorythra	aboricolans	W. Haines	Female	1	M. Heddle	01 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 5500ft	0m
HVNP003695	Lepidoptera	Geometridae	Scotorythra	aboricolans	W. Haines	Female	1	M. Heddle	01 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 5500ft	0m
HVNP003696	Lepidoptera	Geometridae	Scotorythra	aboricolans	W. Haines	Male	1	K. Magnacca	01 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 4500ft	0m
HVNP003697	Lepidoptera	Geometridae	Scotorythra	aboricolans	W. Haines	Female	1	K. Magnacca	01 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 4500ft	0m

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HVNP003575	Lepidoptera	Geometridae	Scotorythra	rara	A. Heddle	Adult - sex unknown	1	W. Haines	20-21 Jul 2000	Light trapping - 22W UV	KFU Camp	
HVNP003576	Lepidoptera	Geometridae	Scotorythra	rara	A. Heddle	Adult - sex unknown	1	W. Haines	20-21 Jul 2000	Light trapping - 22W UV	KFU Camp	
HVNP003577	Lepidoptera	Geometridae	Scotorythra	rara	A. Heddle	Adult - sex unknown	1	W. Haines	20-21 Jul 2000	Light trapping - 22W UV	KFU Camp	
HVNP003580	Lepidoptera	Geometridae	Scotorythra	rara	A. Heddle	Adult - sex unknown	1	W. Haines	20-21 Jul 2000	Light trapping - 22W UV	KFU Camp	
HVNP003581	Lepidoptera	Geometridae	Scotorythra	rara	A. Heddle	Adult - sex unknown	1	W. Haines	20-21 Jul 2000	Light trapping - 22W UV	KFU Camp	
HVNP003673	Lepidoptera	Geometridae	Scotorythra	rara	W. Haines	Female	1	M. Heddle	01 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 5500ft	0m
HVNP003674	Lepidoptera	Geometridae	Scotorythra	rara	W. Haines	Male	1	M. Heddle	01 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 5500ft	0m
HVNP003675	Lepidoptera	Geometridae	Scotorythra	rara	W. Haines	Female	1	K. Magnacca	01 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 4500ft	0m
HVNP003676	Lepidoptera	Geometridae	Scotorythra	rara	W. Haines	Female	1	K. Magnacca	01 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 4500ft	0m
HVNP003677	Lepidoptera	Geometridae	Scotorythra	rara	W. Haines	Female	1	K. Magnacca	01 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 4500ft	0m
HVNP003678	Lepidoptera	Geometridae	Scotorythra	rara	W. Haines	Female	1	K. Magnacca	01 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 4500ft	0m
HVNP003679	Lepidoptera	Geometridae	Scotorythra	rara	W. Haines	Male	1	K. Magnacca	01 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 4500ft	0m
HVNP003680	Lepidoptera	Geometridae	Scotorythra	rara	W. Haines	Female	1	M. Heddle	02 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 3500ft	0m
HVNP003223	Lepidoptera	Geometridae	Scotorythra	sp. #13	A. Heddle	Male	1	D. Foote et al.	15-16 Nov 1999	Light trap: sheet w/ 22W UV	KFU Camp	
HVNP003222	Lepidoptera	Geometridae	Scotorythra	sp. #13	A. Heddle	Male	1	D. Foote et al.	15-16 Nov 1999	Light trap: sheet w/ 22W UV	KFU Camp	
HVNP003553	Lepidoptera	Geometridae	Scotorythra	sp. #13	A. Heddle	Adult - sex unknown	1	W. Haines	19-20 Jul 2000	Light trapping - 22W UV	KFU Camp	
HVNP003606	Lepidoptera	Geometridae	Scotorythra	sp. #13	A. Heddle	Adult - sex unknown	1	W. Haines	21-22 Jul 2000	Light trapping - 22W UV	KFU Camp	
HVNP003082	Lepidoptera	Noctuidae	(Noctuidae)	(Noctuidae)	W. Haines	Adult - sex unknown	1	W. Haines	16-17 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 4500ft	
HVNP003083	Lepidoptera	Noctuidae	(Noctuidae)	(Noctuidae)	W. Haines	Adult - sex unknown	1	W. Haines	16-17 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 4500ft	
HVNP003084	Lepidoptera	Noctuidae	(Noctuidae)	(Noctuidae)	W. Haines	Adult - sex unknown	1	W. Haines	16-17 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 4500ft	
HVNP003118	Lepidoptera	Noctuidae	(Noctuidae)	(Noctuidae)	W. Haines	Adult - sex unknown	1	W. Haines	16-17 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 3500ft	
HVNP003119	Lepidoptera	Noctuidae	(Noctuidae)	(Noctuidae)	W. Haines	Female	1	W. Haines	17-18 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 3500ft	
HVNP003131	Lepidoptera	Noctuidae	(Noctuidae)	(Noctuidae)	W. Haines	Adult - sex unknown	1	W. Haines	17-18 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 5500ft	
HVNP003132	Lepidoptera	Noctuidae	(Noctuidae)	(Noctuidae)	W. Haines	Adult - sex unknown	1	W. Haines	17-18 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 5500ft	
HVNP003163	Lepidoptera	Noctuidae	(Noctuidae)	(Noctuidae)	W. Haines	Adult - sex unknown	1	W. Haines	16-17 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 5500ft	
HVNP003164	Lepidoptera	Noctuidae	(Noctuidae)	(Noctuidae)	W. Haines	Adult - sex unknown	1	W. Haines	16-17 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 5500ft	
HVNP003165	Lepidoptera	Noctuidae	(Noctuidae)	(Noctuidae)	W. Haines	Adult - sex unknown	1	W. Haines	16-17 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 5500ft	
HVNP003166	Lepidoptera	Noctuidae	(Noctuidae)	(Noctuidae)	W. Haines	Adult - sex unknown	1	W. Haines	16-17 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 5500ft	
HVNP003167	Lepidoptera	Noctuidae	(Noctuidae)	(Noctuidae)	W. Haines	Adult - sex unknown	1	W. Haines	16-17 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 5500ft	
HVNP003258	Lepidoptera	Noctuidae	(Noctuidae)	(Noctuidae)	W. Haines	Adult - sex unknown	1	D. Foote et al.	15-16 Nov 1999	Light trap: sheet w/ 22W UV	KFU Camp	
HVNP003259	Lepidoptera	Noctuidae	(Noctuidae)	(Noctuidae)	W. Haines	Adult - sex unknown	1	D. Foote et al.	15-16 Nov 1999	Light trap: sheet w/ 22W UV	KFU Camp	
HVNP003260	Lepidoptera	Noctuidae	(Noctuidae)	(Noctuidae)	W. Haines	Adult - sex unknown	1	D. Foote et al.	15-16 Nov 1999	Light trap: sheet w/ 22W UV	KFU Camp	
HVNP003557	Lepidoptera	Noctuidae	(Noctuidae)	(Noctuidae)	W. Haines	Adult - sex unknown	1	W. Haines	19-20 Jul 2000	Light trapping - 22W UV	KFU Camp	
HVNP003558	Lepidoptera	Noctuidae	(Noctuidae)	(Noctuidae)	W. Haines	Adult - sex unknown	1	W. Haines	19-20 Jul 2000	Light trapping - 22W UV	KFU Camp	
HVNP003559	Lepidoptera	Noctuidae	(Noctuidae)	(Noctuidae)	W. Haines	Adult - sex unknown	1	W. Haines	19-20 Jul 2000	Light trapping - 22W UV	KFU Camp	
HVNP003560	Lepidoptera	Noctuidae	(Noctuidae)	(Noctuidae)	W. Haines	Adult - sex unknown	1	W. Haines	19-20 Jul 2000	Light trapping - 22W UV	KFU Camp	
HVNP003561	Lepidoptera	Noctuidae	(Noctuidae)	(Noctuidae)	W. Haines	Adult - sex unknown	1	W. Haines	19-20 Jul 2000	Light trapping - 22W UV	KFU Camp	
HVNP003562	Lepidoptera	Noctuidae	(Noctuidae)	(Noctuidae)	W. Haines	Adult - sex unknown	1	W. Haines	19-20 Jul 2000	Light trapping - 22W UV	KFU Camp	
HVNP003563	Lepidoptera	Noctuidae	(Noctuidae)	(Noctuidae)	W. Haines	Adult - sex unknown	1	W. Haines	19-20 Jul 2000	Light trapping - 22W UV	KFU Camp	
HVNP003722	Lepidoptera	Noctuidae	(Noctuidae)	(Noctuidae)	W. Haines	Adult - sex unknown	1	M. Heddle	01 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 5500ft	0m
HVNP003723	Lepidoptera	Noctuidae	(Noctuidae)	(Noctuidae)	W. Haines	Adult - sex unknown	1	M. Heddle	01 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 5500ft	0m
HVNP003252	Lepidoptera	Noctuidae	Ascalapha	odorata	W. Haines	Adult - sex unknown	1	D. Foote et al.	15-16 Nov 1999	Light trap: sheet w/ 22W UV	KFU Camp	
HVNP003253	Lepidoptera	Noctuidae	Ascalapha	odorata	W. Haines	Adult - sex unknown	1	D. Foote et al.	15-16 Nov 1999	Light trap: sheet w/ 22W UV	KFU Camp	

Specimen code	Order	Family	Genus	Species	Determined by	Stage/Sex	Abund.	Collector	Date(s) collected	Collection method	Locality name	Site
HVNP003254	Lepidoptera	Noctuidae	Ascalapha	odorata	W. Haines	Adult - sex unknown	1	D. Foote et al.	15-16 Nov 1999	Light trap: sheet w/ 22W UV	KFU Camp	
HVNP003255	Lepidoptera	Noctuidae	Ascalapha	odorata	W. Haines	Adult - sex unknown	1	D. Foote et al.	15-16 Nov 1999	Light trap: sheet w/ 22W UV	KFU Camp	
HVNP003256	Lepidoptera	Noctuidae	Ascalapha	odorata	W. Haines	Adult - sex unknown	1	D. Foote et al.	15-16 Nov 1999	Light trap: sheet w/ 22W UV	KFU Camp	
HVNP003257	Lepidoptera	Noctuidae	Ascalapha	odorata	W. Haines	Adult - sex unknown	1	D. Foote et al.	15-16 Nov 1999	Light trap: sheet w/ 22W UV	KFU Camp	
HVNP003811	Lepidoptera	Noctuidae	Lophoplusia	(Lophoplusia)	W. Haines	Adult - sex unknown	1	W. Haines	01 Aug 2000	Branchbeating (nocturnal) Search	KFU, Transect at 4500ft	190m
HVNP003349	Lepidoptera	Nymphalidae	Agraulis	vanillae	W. Haines	Adult - sex unknown	1	D. Foote et al.	16 Nov 1999	Search	KFU Office, Rt. 11	
HVNP003350	Lepidoptera	Nymphalidae	Agraulis	vanillae	W. Haines	Adult - sex unknown	1	D. Foote et al.	16 Nov 1999	Search	KFU Office, Rt. 11	
HVNP003261	Lepidoptera	Sphingidae	Agrilus	cingulatus	W. Haines	Adult - sex unknown	1	D. Foote et al.	15-16 Nov 1999	Light trap: sheet w/ 22W UV	KFU Camp	
HVNP003565	Lepidoptera	Sphingidae	Hyles	lineata	W. Haines	Adult - sex unknown	1	W. Haines	20-21 Jul 2000	Light trapping - 22W UV	KFU Camp	
HVNP003262	Lepidoptera	Sphingidae	Hyles	wilsoni	W. Haines	Adult - sex unknown	1	D. Foote et al.	15-16 Nov 1999	Light trap: sheet w/ 22W UV	KFU Camp	
HVNP003263	Lepidoptera	Sphingidae	Hyles	wilsoni	W. Haines	Adult - sex unknown	1	D. Foote et al.	15-16 Nov 1999	Light trap: sheet w/ 22W UV	KFU Camp	
HVNP003564	Lepidoptera	Sphingidae	Hyles	wilsoni	W. Haines	Adult - sex unknown	1	W. Haines	20-21 Jul 2000	Light trapping - 22W UV	KFU Camp	
HVNP003662	Lepidoptera	Sphingidae	Hyles	wilsoni	W. Haines	Adult - sex unknown	1	M. Heddle	01 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 5500ft	0m
HVNP003663	Lepidoptera	Sphingidae	Hyles	wilsoni	W. Haines	Adult - sex unknown	1	M. Heddle	01 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 5500ft	0m
HVNP003664	Lepidoptera	Sphingidae	Hyles	wilsoni	W. Haines	Adult - sex unknown	1	K. Magnacca	01 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 4500ft	0m
HVNP003665	Lepidoptera	Sphingidae	Hyles	wilsoni	W. Haines	Adult - sex unknown	1	K. Magnacca	01 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 4500ft	0m
HVNP003666	Lepidoptera	Sphingidae	Hyles	wilsoni	W. Haines	Adult - sex unknown	1	K. Magnacca	01 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 4500ft	0m
HVNP003667	Lepidoptera	Sphingidae	Hyles	wilsoni	W. Haines	Adult - sex unknown	1	K. Magnacca	01 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 4500ft	0m
HVNP003668	Lepidoptera	Sphingidae	Hyles	wilsoni	W. Haines	Adult - sex unknown	1	M. Heddle	02 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 3500ft	0m
HVNP003669	Lepidoptera	Sphingidae	Hyles	wilsoni	W. Haines	Adult - sex unknown	1	K. Orr	02 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 2500ft	0m
HVNP003720	Lepidoptera	Tortricidae	(Tortricidae)	(Tortricidae)	W. Haines	Adult - sex unknown	1	M. Heddle	02 Aug 2000	Lighting on sheet - 22W UV	KFU, Transect at 3500ft	0m
HVNP003160	Neuroptera	(Neuroptera)	(Neuroptera)	(Neuroptera)	W. Haines	Adult - sex unknown	1	W. Haines	17-18 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 5500ft	
HVNP003161	Neuroptera	(Neuroptera)	(Neuroptera)	(Neuroptera)	W. Haines	Adult - sex unknown	1	W. Haines	17-18 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 5500ft	
HVNP003183	Neuroptera	(Neuroptera)	(Neuroptera)	(Neuroptera)	W. Haines	Adult - sex unknown	1	W. Haines	16-17 May 2000	Bucket Light trap, 22W UV	KFU, Transect at 5500ft	
HVNP003566	Neuroptera	Chrysopidae	(Chrysopidae)	(Chrysopidae)	W. Haines	Adult - sex unknown	1	W. Haines	20-21 Jul 2000	Light trapping - 22W UV	KFU Camp	
HVNP003324	Odonata	Coenagrionidae	Megalagrion	calliphya	D. Foote	Male	1	W. Haines	18 May 2000	Aerial net	KFU, Transect at 2500ft	Boggy area in "pit crater"
HVNP003611	Odonata	Coenagrionidae	Megalagrion	calliphya	D. Foote	Male	1	W. Haines	17 May 2000	Aerial net	KFU, Transect at 2500ft	Boggy area in "pit crater"
HVNP002021	Orthoptera	(Orthoptera)	(Orthoptera)	(Orthoptera)		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 3, 70m
HVNP002027	Orthoptera	(Orthoptera)	(Orthoptera)	(Orthoptera)		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 4, 80m
HVNP002036	Orthoptera	(Orthoptera)	(Orthoptera)	(Orthoptera)		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 5, 90m
HVNP002292	Orthoptera	(Orthoptera)	(Orthoptera)	(Orthoptera)	K. Schiappa	Adult - sex unknown	2	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 1, 500m
HVNP002303	Orthoptera	(Orthoptera)	(Orthoptera)	(Orthoptera)	P. Henne	Adult - sex unknown	1	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 2, 510m
HVNP002329	Orthoptera	(Orthoptera)	(Orthoptera)	(Orthoptera)		Adult - sex unknown	1	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 5, 540m
HVNP002354	Orthoptera	(Orthoptera)	(Orthoptera)	(Orthoptera)	A. Paradis	Adult - sex unknown	1	K. Schiappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 9, 580m
HVNP002564	Orthoptera	(Orthoptera)	(Orthoptera)	(Orthoptera)	W. Haines	Adult - sex unknown	4	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	1B
HVNP002583	Orthoptera	(Orthoptera)	(Orthoptera)	(Orthoptera)	W. Haines	Adult - sex unknown	5	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	2B
HVNP002601	Orthoptera	(Orthoptera)	(Orthoptera)	(Orthoptera)	W. Haines	Adult - sex unknown	3	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	3B
HVNP002620	Orthoptera	(Orthoptera)	(Orthoptera)	(Orthoptera)	W. Haines	Adult - sex unknown	4	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	4B
HVNP002643	Orthoptera	(Orthoptera)	(Orthoptera)	(Orthoptera)	W. Haines	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	5B
HVNP002662	Orthoptera	(Orthoptera)	(Orthoptera)	(Orthoptera)	W. Haines	Adult - sex unknown	2	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	1W
HVNP002678	Orthoptera	(Orthoptera)	(Orthoptera)	(Orthoptera)	W. Haines	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	2W
HVNP002691	Orthoptera	(Orthoptera)	(Orthoptera)	(Orthoptera)	W. Haines	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	3W
HVNP002715	Orthoptera	(Orthoptera)	(Orthoptera)	(Orthoptera)	W. Haines	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	5W

Specimen code	Order	Family	Genus	Species	Determined by	Stage/Sex	Abund.	Collector	Date(s) collected	Collection method	Locality name	Site
HVNP002751	Orthoptera	(Orthoptera)	(Orthoptera)	(Orthoptera)	N. Renie	Adult - sex unknown	1	D. Foote et al.	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 3500ft	3B - 60m
HVNP003344	Orthoptera	(Orthoptera)	(Orthoptera)	(Orthoptera)		Adult - sex unknown	1	D. Foote et al.	16 Nov 1999	Search	KFU Office, Rt. 11	
HVNP003345	Orthoptera	(Orthoptera)	(Orthoptera)	(Orthoptera)	W. Haines	Adult - sex unknown	1	D. Foote et al.	16 Nov 1999	Search	KFU Office, Rt. 11	
HVNP003346	Orthoptera	(Orthoptera)	(Orthoptera)	(Orthoptera)	W. Haines	Adult - sex unknown	1	D. Foote et al.	16 Nov 1999	Search	KFU Office, Rt. 11	
HVNP003347	Orthoptera	(Orthoptera)	(Orthoptera)	(Orthoptera)	W. Haines	Adult - sex unknown	1	D. Foote et al.	16 Nov 1999	Search	KFU Office, Rt. 11	
HVNP003351	Orthoptera	(Orthoptera)	(Orthoptera)	(Orthoptera)	W. Haines	Adult - sex unknown	1	D. Foote	16 Nov 1999	Search	KFU, Transect at 3500ft	225m
HVNP003352	Orthoptera	(Orthoptera)	(Orthoptera)	(Orthoptera)	W. Haines	Adult - sex unknown	1	D. Foote	16 Nov 1999	Search	KFU, Transect at 3500ft	225m
HVNP002029	Psocoptera	(Psocoptera)	(Psocoptera)	(Psocoptera)		Adult - sex unknown	1	W. Haines et al.	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 4, 80m
HVNP002192	Psocoptera	(Psocoptera)	(Psocoptera)	(Psocoptera)	J. K. McMurry	Adult - sex unknown	1	W. Haines et al.	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 7, 110m
HVNP002261	Psocoptera	(Psocoptera)	(Psocoptera)	(Psocoptera)	J. K. McMurry	Adult - sex unknown	1	W. Haines et al.	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 9, 90m
HVNP002267	Psocoptera	(Psocoptera)	(Psocoptera)	(Psocoptera)	J. K. McMurry	Adult - sex unknown	1	W. Haines et al.	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 10, 100m
HVNP002338	Psocoptera	(Psocoptera)	(Psocoptera)	(Psocoptera)		Larva	1	K. Schiappa et al.	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 6, 550m
HVNP002375	Psocoptera	(Psocoptera)	(Psocoptera)	(Psocoptera)	K. Schiappa	Adult - sex unknown	1	K. Schiappa et al.	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 2
HVNP002395	Psocoptera	(Psocoptera)	(Psocoptera)	(Psocoptera)	P. Henne	Adult - sex unknown	1	K. Schiappa et al.	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 4
HVNP002413	Psocoptera	(Psocoptera)	(Psocoptera)	(Psocoptera)	K. Schiappa	Adult - sex unknown	1	K. Schiappa et al.	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 6
HVNP002470	Psocoptera	(Psocoptera)	(Psocoptera)	(Psocoptera)		Adult - sex unknown	1	K. Schiappa et al.	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 1, 500m
HVNP002483	Psocoptera	(Psocoptera)	(Psocoptera)	(Psocoptera)		Adult - sex unknown	1	K. Schiappa et al.	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 2, 510m
HVNP002622	Psocoptera	(Psocoptera)	(Psocoptera)	(Psocoptera)	W. Haines	Adult - sex unknown	1	D. Foote et al.	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	4B
HVNP002663	Psocoptera	(Psocoptera)	(Psocoptera)	(Psocoptera)	W. Haines	Adult - sex unknown	1	D. Foote et al.	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	1W
HVNP002701	Psocoptera	(Psocoptera)	(Psocoptera)	(Psocoptera)	W. Haines	Adult - sex unknown	1	D. Foote et al.	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	4W
HVNP002822	Psocoptera	(Psocoptera)	(Psocoptera)	(Psocoptera)	D. Bennett	Adult - sex unknown	1	D. Foote et al.	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	4B - 160m
HVNP002945	Psocoptera	(Psocoptera)	(Psocoptera)	(Psocoptera)		Adult - sex unknown	1	D. Foote et al.	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	1B
HVNP002961	Psocoptera	(Psocoptera)	(Psocoptera)	(Psocoptera)	P. Henne	Adult - sex unknown	1	D. Foote et al.	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	2B
HVNP003010	Psocoptera	(Psocoptera)	(Psocoptera)	(Psocoptera)	N. Renie	Adult - sex unknown	1	D. Foote et al.	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	1W
HVNP003022	Psocoptera	(Psocoptera)	(Psocoptera)	(Psocoptera)	N. Renie	Adult - sex unknown	1	D. Foote et al.	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	2W
HVNP003031	Psocoptera	(Psocoptera)	(Psocoptera)	(Psocoptera)	P. Henne	Adult - sex unknown	1	D. Foote et al.	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	3W
HVNP002207	Stylommatophora	Limacidae	Deroceras	(Deroceras)	P. Henne	Adult - sex unknown	1	W. Haines et al.	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 9, 130m
HVNP002217	Stylommatophora	Limacidae	Deroceras	(Deroceras)	P. Henne	Adult - sex unknown	1	W. Haines et al.	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 10, 140m
HVNP002304	Stylommatophora	Limacidae	Deroceras	(Deroceras)	P. Henne	Adult - sex unknown	1	K. Schiappa et al.	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 2, 510m
HVNP002337	Stylommatophora	Limacidae	Deroceras	(Deroceras)		Adult - sex unknown	1	K. Schiappa et al.	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 6, 550m
HVNP002554	Stylommatophora	Limacidae	Deroceras	(Deroceras)	W. Haines	Adult - sex unknown	20	D. Foote et al.	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	1B
HVNP002572	Stylommatophora	Limacidae	Deroceras	(Deroceras)	W. Haines	Adult - sex unknown	13	D. Foote et al.	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	2B
HVNP002593	Stylommatophora	Limacidae	Deroceras	(Deroceras)	W. Haines	Adult - sex unknown	9	D. Foote et al.	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	3B
HVNP002610	Stylommatophora	Limacidae	Deroceras	(Deroceras)	W. Haines	Adult - sex unknown	23	D. Foote et al.	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	4B
HVNP002630	Stylommatophora	Limacidae	Deroceras	(Deroceras)	W. Haines	Adult - sex unknown	7	D. Foote et al.	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	5B
HVNP002653	Stylommatophora	Limacidae	Deroceras	(Deroceras)	W. Haines	Adult - sex unknown	3	D. Foote et al.	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	1W
HVNP002671	Stylommatophora	Limacidae	Deroceras	(Deroceras)	W. Haines	Adult - sex unknown	1	D. Foote et al.	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	2W
HVNP002684	Stylommatophora	Limacidae	Deroceras	(Deroceras)	W. Haines	Adult - sex unknown	1	D. Foote et al.	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	3W
HVNP002731	Stylommatophora	Limacidae	Deroceras	(Deroceras)	W. Haines	Adult - sex unknown	5	D. Foote et al.	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 3500ft	2B - 25m
HVNP002744	Stylommatophora	Limacidae	Deroceras	(Deroceras)	N. Renie	Adult - sex unknown	9	D. Foote et al.	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 3500ft	3B - 60m
HVNP002758	Stylommatophora	Limacidae	Deroceras	(Deroceras)	W. Haines	Adult - sex unknown	1	D. Foote et al.	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 3500ft	1W - 0m
HVNP002793	Stylommatophora	Limacidae	Deroceras	(Deroceras)	N. Renie	Adult - sex unknown	2	D. Foote et al.	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	3B - 100m
HVNP002812	Stylommatophora	Limacidae	Deroceras	(Deroceras)	D. Bennett	Adult - sex unknown	3	D. Foote et al.	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	4B - 160m

Specimen code	Order	Family	Genus	Species	Determined by	Stage/Sex	Abund.	Collector	Date(s) collected	Collection method	Locality name	Site
HVNP002831	Stylommatophora	Limacidae	Deroceras	(Deroceras)	D. Bennett	Adult - sex unknown	5	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	5B - 185m
HVNP002846	Stylommatophora	Limacidae	Deroceras	(Deroceras)	N. Renie	Adult - sex unknown	3	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	2W - 80m
HVNP002899	Stylommatophora	Limacidae	Deroceras	(Deroceras)	N. Renie	Adult - sex unknown	5	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	1B - 15m
HVNP002914	Stylommatophora	Limacidae	Deroceras	(Deroceras)	N. Renie	Adult - sex unknown	8	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	2B - 25m
HVNP002925	Stylommatophora	Limacidae	Deroceras	(Deroceras)	N. Renie	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	1W - 5m
HVNP002938	Stylommatophora	Limacidae	Deroceras	(Deroceras)		Adult - sex unknown	5	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	1B
HVNP002952	Stylommatophora	Limacidae	Deroceras	(Deroceras)	P. Henne	Adult - sex unknown	4	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	2B
HVNP002969	Stylommatophora	Limacidae	Deroceras	(Deroceras)	D. Bennett	Adult - sex unknown	11	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	3B
HVNP002980	Stylommatophora	Limacidae	Deroceras	(Deroceras)	N. Renie	Adult - sex unknown	16	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	4B
HVNP002993	Stylommatophora	Limacidae	Deroceras	(Deroceras)	D. Bennett	Adult - sex unknown	5	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	5B
HVNP003026	Stylommatophora	Limacidae	Deroceras	(Deroceras)	P. Henne	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	3W
HVNP003035	Stylommatophora	Limacidae	Deroceras	(Deroceras)	P. Henne	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	4W
HVNP002642	Stylommatophora	Limacidae	Limax	(Limax)	W. Haines	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	5B
HVNP002661	Stylommatophora	Limacidae	Limax	(Limax)	W. Haines	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	1W
HVNP002725	Stylommatophora	Limacidae	Limax	(Limax)	W. Haines	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 3500ft	1B
HVNP002803	Stylommatophora	Limacidae	Limax	(Limax)	N. Renie	Adult - sex unknown	3	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	3B - 100m
HVNP002820	Stylommatophora	Limacidae	Limax	(Limax)	D. Bennett	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	4B - 160m
HVNP002856	Stylommatophora	Limacidae	Limax	(Limax)	N. Renie	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	2W - 80m
HVNP002892	Stylommatophora	Limacidae	Limax	(Limax)	N. Renie	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	5W - 290m
HVNP002906	Stylommatophora	Limacidae	Limax	(Limax)	N. Renie	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	1B - 15m
HVNP002959	Stylommatophora	Limacidae	Limax	(Limax)	P. Henne	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	2B
HVNP002015	Stylommatophora	Zonitidae	Oxychilus	allarius		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 2, 60m
HVNP002062	Stylommatophora	Zonitidae	Oxychilus	allarius		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 8, 120m
HVNP002565	Stylommatophora	Zonitidae	Oxychilus	allarius	W. Haines	Adult - sex unknown	5	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	1B
HVNP002584	Stylommatophora	Zonitidae	Oxychilus	allarius	W. Haines	Adult - sex unknown	3	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	2B
HVNP002602	Stylommatophora	Zonitidae	Oxychilus	allarius	W. Haines	Adult - sex unknown	3	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	3B
HVNP002621	Stylommatophora	Zonitidae	Oxychilus	allarius	W. Haines	Adult - sex unknown	3	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	4B
HVNP002644	Stylommatophora	Zonitidae	Oxychilus	allarius	W. Haines	Adult - sex unknown	4	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	5B
HVNP002726	Stylommatophora	Zonitidae	Oxychilus	allarius	W. Haines	Adult - sex unknown	44	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 3500ft	1B
HVNP002738	Stylommatophora	Zonitidae	Oxychilus	allarius	W. Haines	Adult - sex unknown	18	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 3500ft	2B - 25m
HVNP002752	Stylommatophora	Zonitidae	Oxychilus	allarius	N. Renie	Adult - sex unknown	34	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 3500ft	3B - 60m
HVNP002762	Stylommatophora	Zonitidae	Oxychilus	allarius	W. Haines	Adult - sex unknown	2	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 3500ft	1W - 0m
HVNP002771	Stylommatophora	Zonitidae	Oxychilus	allarius	W. Haines	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 3500ft	2W - 30m
HVNP002778	Stylommatophora	Zonitidae	Oxychilus	allarius	N. Renie	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 3500ft	3W - 50m
HVNP002804	Stylommatophora	Zonitidae	Oxychilus	allarius	N. Renie	Adult - sex unknown	54	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	3B - 100m
HVNP002821	Stylommatophora	Zonitidae	Oxychilus	allarius	D. Bennett	Adult - sex unknown	26	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	4B - 160m
HVNP002839	Stylommatophora	Zonitidae	Oxychilus	allarius	D. Bennett	Adult - sex unknown	46	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	5B - 185m
HVNP002857	Stylommatophora	Zonitidae	Oxychilus	allarius	N. Renie	Adult - sex unknown	3	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	2W - 80m
HVNP002871	Stylommatophora	Zonitidae	Oxychilus	allarius	P. Henne	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	3W - 130m
HVNP002882	Stylommatophora	Zonitidae	Oxychilus	allarius	D. Bennett	Adult - sex unknown	4	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	4W - 170m
HVNP002893	Stylommatophora	Zonitidae	Oxychilus	allarius	N. Renie	Adult - sex unknown	9	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	5W - 290m
HVNP002907	Stylommatophora	Zonitidae	Oxychilus	allarius	N. Renie	Adult - sex unknown	23	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	1B - 15m
HVNP002919	Stylommatophora	Zonitidae	Oxychilus	allarius	N. Renie	Adult - sex unknown	42	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	2B - 25m

Specimen code	Order	Family	Genus	Species	Determined by	Stage/Sex	Abund.	Collector	Date(s) collected	Collection method	Locality name	Site
HVNP002931	Stylommatophora	Zonitidae	Oxychilus	allarius	N. Renie	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	1W - 5m
HVNP002944	Stylommatophora	Zonitidae	Oxychilus	allarius		Adult - sex unknown	64	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	1B
HVNP002960	Stylommatophora	Zonitidae	Oxychilus	allarius	P. Henne	Adult - sex unknown	46	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	2B
HVNP002975	Stylommatophora	Zonitidae	Oxychilus	allarius	D. Bennett	Adult - sex unknown	35	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	3B
HVNP002987	Stylommatophora	Zonitidae	Oxychilus	allarius	N. Renie	Adult - sex unknown	11	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	4B
HVNP003000	Stylommatophora	Zonitidae	Oxychilus	allarius	D. Bennett	Adult - sex unknown	7	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 5500ft	5B
HVNP003021	Stylommatophora	Zonitidae	Oxychilus	allarius	N. Renie	Adult - sex unknown	5	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	2W
HVNP003041	Stylommatophora	Zonitidae	Oxychilus	allarius	P. Henne	Adult - sex unknown	4	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	4W
HVNP003048	Stylommatophora	Zonitidae	Oxychilus	allarius	N. Renie	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 5500ft	5W
HVNP002006	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)		Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 1, 50m
HVNP002013	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)		Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 2, 60m
HVNP002041	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)		Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 2500ft	Trap 6, 100m
HVNP002082	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)	P. Henne	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 1, 0m
HVNP002094	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)	K. Heckmann	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 3, 20m
HVNP002109	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)	P. Henne	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 3500ft	Trap 6, 50m
HVNP002150	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)	A. Paradis	Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 2, 60m
HVNP002160	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)	P. Henne	Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 3, 70m
HVNP002181	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)	A. Paradis	Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 6, 100m
HVNP002204	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)	P. Henne	Adult - sex unknown	5	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 9, 130m
HVNP002214	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)	P. Henne	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 4500ft	Trap 10, 140m
HVNP002223	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)	P. Henne	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 1, 10m
HVNP002231	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)	A. Paradis	Adult - sex unknown	1	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 2, 20m
HVNP002281	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)	A. Paradis	Adult - sex unknown	2	W. Haines et al	15-16 Nov 1999	Pan trap (green)	KFU, Transect at 5500ft	Trap 4, 80m
HVNP002302	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)	P. Henne	Adult - sex unknown	5	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Schlappa 2, 510m
HVNP002310	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)	P. Henne	Adult - sex unknown	2	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 3, 520m
HVNP002321	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)	A. Paradis	Adult - sex unknown	3	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 4, 530m
HVNP002328	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)		Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 5, 540m
HVNP002336	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)		Adult - sex unknown	2	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 6, 550m
HVNP002363	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)	P. Henne	Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 3500ft	Trap 10, 590m
HVNP002368	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)	P. Henne	Adult - sex unknown	2	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 1
HVNP002383	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)	K. Schlappe	Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 3
HVNP002393	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)	P. Henne	Adult - sex unknown	4	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 4
HVNP002404	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)		Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 5
HVNP002412	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)	K. Schlappe	Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 6
HVNP002422	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)	P. Henne	Adult - sex unknown	3	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 7
HVNP002435	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)	K. Schlappe	Adult - sex unknown	2	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 8
HVNP002447	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)		Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 9
HVNP002457	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)		Adult - sex unknown	1	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Bait loop at 5000'	Trap 10
HVNP002468	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)		Adult - sex unknown	2	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 1, 500m
HVNP002481	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)		Adult - sex unknown	2	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 2, 510m
HVNP002493	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)	A. Paradis	Adult - sex unknown	2	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 3, 520m
HVNP002500	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)		Adult - sex unknown	3	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 4, 530m
HVNP002510	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)		Adult - sex unknown	4	K. Schlappe et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 5, 540m

Specimen code	Order	Family	Genus	Species	Determined by	Stage/Sex	Abund.	Collector	Date(s) collected	Collection method	Locality name	Site
HVNP002518	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)		Adult - sex unknown	3	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 6, 550m
HVNP002526	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)		Adult - sex unknown	3	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 7, 560m
HVNP002531	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)		Adult - sex unknown	2	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 8, 570m
HVNP002540	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)	A. Paradis	Adult - sex unknown	1	K. Schlappa et al	15-16 Feb 2000	Pan trap (green)	KFU, Transect at 4500ft	Trap 9, 580m
HVNP002586	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)	W. Haines	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	2B
HVNP002624	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)	W. Haines	Adult - sex unknown	2	D. Foote et al	16-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 2500ft	4B
HVNP002703	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)	W. Haines	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	4W
HVNP002716	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)	W. Haines	Adult - sex unknown	1	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 2500ft	5W
HVNP002728	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)	W. Haines	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 3500ft	1B
HVNP002780	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)	N. Renie	Adult - sex unknown	3	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 3500ft	3W - 50m
HVNP002859	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)	N. Renie	Adult - sex unknown	5	D. Foote et al	16-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	2W - 80m
HVNP002909	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)	N. Renie	Adult - sex unknown	2	D. Foote et al	17-23 Nov 1999	Pitfall trap - Beer	KFU, Transect at 4500ft	1B - 15m
HVNP002933	Thysanoptera	(Thysanoptera)	(Thysanoptera)	(Thysanoptera)	N. Renie	Adult - sex unknown	1	D. Foote et al	17-23 Nov 1999	Pitfall trap - Water	KFU, Transect at 4500ft	1W - 5m