

Permit #: 1-1-2012-Young  
Permit Start Date: 1/1/2012  
Permit End Date: 12/31/2012  
Applicant: Diane W. Young

## Progress Report for “Revision of the genus *Indiopsocus* (Order “Psocoptera”)”

**Introduction:** On October 8, 2011, I visited the Texas A&M insect collection and borrowed a sampling of specimens from their holdings. Among them I found a specimen which was collected at Shellberg (now Vista Point) Tract by Mike Quinn and Ed Riley on June 7, 1994. I did not recognize the species and sent an image to the expert on North American Psocoptera, Dr. Ed Mockford of Illinois State Univ. who thought this might be a new species. He indicated this one should be designated *Indiopsocus* sp. # 41 until it has been properly described. I applied for a permit to collect at Vista Point since this was the only sight at which this species had been reported. In the mean time I began collecting specimens of this species at other sites in central Texas. So far, this species has only been reported in Hays, Travis, Blanco and Comal Counties. If this pattern is verified by more extensive collecting, that would be a very narrow species range.

Dr. Mockford and I are now in the process of describing three new species of *Indiopsocus* found in Texas, including sp. # 41. I have prepared drafts of species descriptions based on inspection of intact specimens and on slides prepared of wings, legs, genitalia, clunium/epiproct/paraproct preparations. Since my purpose in collecting at the Balcones Canyonlands Preserve involved only *Indiopsocus* sp. # 41, I shall only present data on that species in the present report.



Habitus, male

Habitus, female

**Methods:** Specimens were collected using a beating sheet and aspirator. Specimens were kept alive for photography (Rebel T1i camera and Canon MP-E 65mm lens) then preserved in 95% ethanol. Selected specimens were dissected and the posterior third of the abdomen processed by teasing out the gut contents then digesting in 10% potassium hydroxide and rinsing in distilled water. The appropriate anatomical structures were dehydrated in graded ethanol and Euparal essence then separated and oriented in Euparal mounting medium and a coverslip added. Using a



filer micrometer, I made measurements of appropriate anatomical structures. From these slides I prepared drawings of the forewing and epiproct (both sexes), phallosome, hypandrium, and paraproct (male) and subgenital plate, gonapophyses, and 9<sup>th</sup> sternum (females) using a Wild M20 microscope and Wild drawing tube.

**Results:** *Indiopsocus* sp. #41 is found exclusively on lower bare limbs of living *Juniperus ashei*. Adults are about 3.8 mm in total body length and occur in approximately equal numbers of males and females. Adults appear in November and are abundant then but become scarce starting in June. Little is known of the phenology and life cycle at present. An image of the nymph of this species is shown at the left.

A total of 30 males and 33 female specimens have been examined for this study. Before this species description can be completed, Dr. Mockford and I plan a collecting trip along the Texas coast in December. We need more specimens of *Indiopsocus* sp. #1 and *Indiopsocus* sp. "C" for an adequate specimen sample size. On this trip we may also be able to expand the known range of *Indiopsocus* sp. #41.

When our paper describing the three new species of *Indiopsocus* is published, a copy will be sent to The Balcones Canyonland Preserve office. This publication will include detailed data on collecting sites and dates, appropriate anatomical measurements, drawings depicting the microscopic images of anatomical structures involved in separating species and discussion of the relationship of these new species to known species in the genus. A key to Texas species of *Indiopsocus* will probably also be included.