

Scientific note: *Danaus eresimus* (Cramer, 1777) new to Chile and the status in that country of *Danaus erippus* (Cramer, 1776)

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Abstract - *Danaus eresimus* is reported for the first time for Chile based on a specimen collected by Alfredo Ugarte in Vicuña, Elqui, Coquimbo, Chile (620m, 30°01'54.23"S ; 70°42'29.73"W). The status of *Danaus erippus* in Chile and western Argentina is summarized.

Resumen-*Danaus eresimus* esta registrado por primera vez colectado por Alfredo Ugarte en el valle de Elqui, Coquimbo, Chile. El estado de *Danaus erippus* en Chile y zona Este de Argentina esta analizada.

During the last decade, I and colleagues have been preparing an updated list of the butterflies of Chile (Benyamini et al., in prep.). This work is accompanied by descriptions of numerous new species and subspecies, especially in the Lycaenidae (Bálint & Benyamini, 2001; Bálint et al., 2001; Benyamini & Bálint, 2011) and Satyrinae (Pyrzcz, in prep.), but also among other nymphalid subfamilies (Benyamini, unpubl. data).

Research for the list began when I lived three years in Chile between 1992 and 1995, and since then I have visited Chile every year and completed over one hundred expeditions throughout the country, from the coast to the Cordillera de los Andes and from the Peruvian border at the north to Tierra del Fuego. I have also visited and reviewed the major Chilean collections of: Concepción University; National Museum at Quinta Normal, Santiago; the late Lucho G. Peña collection now in the possession of Pedro Vidal, Santiago; and the Alfredo Ugarte collection, Santiago. Foreign museums visited include the Natural History Museum, London, UK, the Field Museum, Chicago, USA, where part of the L. Peña collection exists, and the McGuire Centre for Lepidoptera, Florida Museum of Natural History, Gainesville, USA. A special effort has also been made to prepare currently papered specimens from a number of collections to expand distributional data and to identify potentially overlooked material of systematic interest. In particular, the papered butterfly collection of L. Peña and A. Ugarte, collected during many expeditions in Chile and Argentina, has proved to be of great value for our research.

While revising specimens of *Danaus erippus* (until recently regarded as a subspecies of *D. plexippus* (Peña & Ugarte, 2006)), my assistant Ofir Tomer found one specimen of *Danaus eresimus* (Figs. 1, 2) representing a new record for Chile. *Danaus eresimus* was described by Cramer in 1777 as *Papilio eresimus* from Surinam. It has six currently recognized subspecies, hitherto known from the southern USA through Central America to Uruguay, N. Argentina, Paraguay and Bolivia, and a seventh subspecies, *D. eresimus tethys* Forbes 1944, from Haiti (Lamas, 2004).

The single Chilean male specimen bears the following data: "Elqui, Vicuña, Coquimbo, 11/1997, leg. A. Ugarte". Alfredo Ugarte confirmed (pers. comm.) that he was the collector in Valle de Elqui and Vicuña, Coquimbo, Chile on this date, but in the field apparently overlooked the significance of the find. The specimen represents *Danaus eresimus plexaure*, described by Godart in 1819 from "Brazil", and hitherto known from E. Brazil, Paraguay, Uruguay, E. Bolivia and N. Argentina (D'Abbrera,

1984). Hayward (1973) recorded the taxon in Argentina not only from Misiones, Chaco, Formosa, Corrientes, Santa Fé, Entre Ríos and Buenos Aires, but also from the north-western Argentinean provinces of La Rioja, Catamarca, Tucumán, Salta and Jujuy. Bentancur (2011) provided a distribution map for this species indicating its occurrence closer to the Chilean border.

The Mediterranean dry Elqui Valley is not the typical wet biotope associated with *D. eresimus* and therefore the butterfly probably does not maintain a breeding population there. Assuming therefore that the Chilean specimen represents a stray, possible source regions include Catamarca and Tucumán, which contain wet and warm biotopes of the Yungas biogeographic region where the species is abundant. Nevertheless, these regions lie 580 km from Vicuña and are separated by mountain barriers. Although the species is not known to be migratory, it is known from the Bahamas and Haiti, suggesting some long-distance dispersal ability.

While *D. eresimus* is a butterfly of more humid regions, confined in southern South America mostly to its eastern part, *Danaus erippus* has a wider distribution, being a larger and a stronger flyer that is known to cross the Andes to Chile. I observed *D. erippus* flying westwards towards Chile in Tafi de Valle, Tucumán (Paso de San Francisco, 4700m, 26°52'44.90"S; 68°19'23.97"W) and south of Malargüe, Mendoza (Paso Pehuenche, 2500m, 36°00'10.00"S; 70°24'33.31"W) and collected several migrating specimens in Copiapo, Atacama, Chile (400m, 27°21'55.67"S; 70°19'50.00"W) on 14 August 1994 (Fig. 3). Juan Enrique Barriga of Curico (pers. comm.) reported a specimen in Talca 250km south of Santiago. Ugarte (pers. comm.) also observed the species at Arica (Paso de Tambo Quemado, 4600m, 18°16'57.33"S; 69°05'09.82"W), Codpa (Salar de Surire, 4200m), Copiapo (Paso de San Francisco, 4700m) and the Elqui Valley (Paso de Agua Negra, 4800m, 30°11'32.95"S; 69°49'27.65"W) where he and the local entomologist Guido Castillo found larvae and pupae of a locally breeding population. According to Melica Muñoz & Luis Faundez (pers. comm.), there are several potential Asclepiadaceae hostplants in Chile, including: *Astephanus geminiflorus* Decne.; *Cynanchum boerhaviifolium* Hook. & Arn.; *Cynanchum atacamense* Liedt; *Tweedia birostrata* (Hook. & Arn.) Hook. & Arn. and *Tweedia stipitata* G. H. Rua & Liedt. Quite surprisingly, however, Squeo et al. (1994) list no Asclepiadaceae from the region.

In the Lucho Peña collection, there is a specimen from Lonquimay, Araucania Region, Chile (930m, 38°27'10.04"S;



Fig. 1 - *Danaus eresimus plexaure* - male, upperside, Vicuña, Elqui, Coquimbo, Chile. 11/1997, Leg. Alfredo Ugarte. Fig. 2 - Same as Fig. 1, except for underside. Fig. 3 -Migrating *Danaus erippus* male, Copiapo, Atacama, Chile, 200m, 14.8.1994, Leg. Dubi Benyamini.

71°22'17.45''W). This specimen possibly crossed the Andes through Paso de Pino Hachado, Neuquen, (2000m, 38°39'44.60''S; 70°54'3.25''W). The collecting site is approximately 560 km south of Santiago and is the most southerly known record in Chile. It seems most likely that *D. erippus* establishes only temporary breeding populations in Chile, where it should be regarded as an infrequent migrant from Argentina.

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