



Original research article

# Public awareness and perceptual factors in the conservation of elusive species: The case of the endangered Ryukyu flying fox



Christian Ernest Vincenot<sup>a,\*</sup>, Anja Maria Collazo<sup>b</sup>, Kristy Wallmo<sup>c</sup>,  
Lina Koyama<sup>a</sup>

<sup>a</sup> Department of Social Informatics, Graduate School of Informatics, Kyoto University, Kyoto, Japan

<sup>b</sup> Graduate School of Human and Environmental Studies, Kyoto University, Kyoto, Japan

<sup>c</sup> National Marine Fisheries Service, National Oceanographic and Atmospheric Administration, Silver Spring, MD, USA

## ARTICLE INFO

### Article history:

Received 23 October 2014

Received in revised form 7 February 2015

Accepted 7 February 2015

Available online 13 February 2015

### Keywords:

Public attitude

Fruit bat

Megabat

Biophilia

Contingent valuation

Social survey

## ABSTRACT

The success of biological conservation initiatives is not solely reliant on the collection of ecological information, but equally on public adherence to protection programs. Awareness and perception of target species condition the intensity and orientation of public involvement in conservation initiatives. Their evaluation is critical in the case of elusive animals, for which incertitude surrounding public attitude is maximized. This study featured the first assessment of public awareness and perceptual factors of a megabat (*Pteropodidae*). We investigated inhabitants' feelings, knowledge, and frequency of sightings related to the solitary Ryukyu flying fox (*Pteropus dasymallus*) on Ishigaki island, Japan. The willingness to protect this species and mitigate its impact on agriculture was evaluated through contingent valuation. This fruit bat was not credited with aesthetic or scientific values, yet atypically did not trigger negativistic attitude. While respondents were reasonably aware of its existence, they were largely ignorant of its ecological importance. An overall lack of interest for this species was revealed by a low willingness-to-pay for its protection. The rejection of lethal control as means to protect orchards was, however, unequivocal. The success of *P. dasymallus* preservation may depend on the prior implementation of education programs focusing on aesthetic, ecological and utilitarian values.

© 2015 The Authors. Published by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

## 1. Introduction

Environmental attitude has been shown to be an indicator of support for wildlife conservation (Knight, 2008; Sharp et al., 2011) and one of the leverage points for successful policies (Clark and Wallace, 1998; Zinn et al., 1998). Actually, social psychological and philosophical explanatory variables, such as environmental attitudes, ethical positions, biophilic factors, and social norms, have proven to be superior predictors of the willingness-to-pay (WTP) than those of socio-economy (Martín-López et al., 2007; Spash et al., 2009). This fact has become clear to environmental sociologists and economists in recent decades, yet it has not been fully integrated in the fields of conservation biology and wildlife management (Aldrich et al., 2007; Ojea and Loureiro, 2007). While attitudinal studies have been undertaken to evaluate public perception of a particular species for conservation purpose (see early works on large predators, e.g. Kellert, 1985), economic valuations

\* Correspondence to: Yoshida Honmachi, Sakyo-ku, Kyoto 606-8501, Japan. Tel.: +81 75 753 3296; fax: +81 75 753 3133.  
E-mail address: [Christian@Vincenot.biz](mailto:Christian@Vincenot.biz) (C.E. Vincenot).



**Fig. 1.** Physical characteristics of the Ryukyu flying fox. Belonging to the megabats, this fruit bat is phenotypically and behaviorally distinct from most microbats. It is comparatively much larger, has a fox-like face, vocalizes within the human hearing range, and feeds mainly on fruits.

(e.g. through revealed or stated preference methods) seem to remain the principal metrics sought and relied on. The latter offer an efficient way to evaluate public interest in a species and, in some cases, estimate appropriate budget allocations in conservation programs (e.g. Jakobsson and Dragun, 2001 and Becker et al., 2007). Nonetheless, lumped economic valuations provide little information on the psychological incentives for public adherence or rejection and fail to identify particular socio-cultural issues linked with the species of interest. Studies on perceptual factors are therefore important for the case of elusive species, in which uncertainty surrounding potential explanatory variables (e.g. awareness, knowledge, and affect) exists. To date elusive animals have received limited attention in the literature (e.g. Oli et al., 1994), though an understanding of perceptual factors may enhance conservation success for these species.

In this study, we used a social survey to investigate public awareness and perceptual factors in the case of an endangered solitary fruit bat inhabiting subtropical Japanese islands, the Ryukyu flying fox (*Pteropus dasymallus*, Temminck 1825). A contingent valuation (CV) component was also included in our survey instrument in order to assess the willingness to act to conserve this species.

## 2. Background

### 2.1. Target species

The Ryukyu Flying Fox (*Pteropus dasymallus*) is a medium-sized island fruit bat (140 mm forearm length, 80 cm wingspan, ca. 450 g) of the Pteropodidae family (Fig. 1). It is endemic to the Ryukyu archipelago in Japan, to Taiwan, and to three islands of the Philippines. Unlike most flying foxes species, which live in large colonies, *P. dasymallus* is remarkably solitary

Download English Version:

<https://daneshyari.com/en/article/4379587>

Download Persian Version:

<https://daneshyari.com/article/4379587>

[Daneshyari.com](https://daneshyari.com)