

Oryx

Pangolin consumption is more prevalent than past studies have shown

By Alegria Olmedo, 7th April 2021

The minibus stopped outside the veterinary wing of Save Vietnam's Wildlife's premises in northern Viet Nam. There was no time to waste: aboard the bus were 23 pangolins, in crates. This last leg of their journey was from a nearby police station, but they had been shipped all the way from Malaysia a few days earlier. Whether their odyssey would terminate in Viet Nam, destined for local sale and consumption, or continue on to China in a few days' time, was unclear.



Pangolina, the Sunda pangolin. Photo: Alegria Olmedo

It was all hands on deck: vets, education officers, accountants and the Director of Save Vietnam's Wildlife all rushed to unload the crates and bring the pangolins into the clinic. Initially I hung back, unsure if I would be allowed to enter the clinic and assuming I would be in the way. But quickly it became clear that whether I knew how to resuscitate pangolins or not was irrelevant. The 23 new

arrivals needed to be removed from the crates, receive urgent care and be put in quarantine. Unsure but determined, I soon after found myself next to the in-house vet, holding a pangolin's tail down, keeping it from curling to protect itself, looking away from the blood smeared across its belly so the vet could inject a tranquiliser. The pangolins were dehydrated and physically exhausted, and some were sick, and others injured. Only 18 survived.



Ho Chi Minh City at dusk. Photo: Alegria Olmedo

Pangolins are traded within South-east Asia, and from Africa to Asia, for consumption of their body parts. In Viet Nam and China, their meat is considered a delicacy, and their scales are used as medicine. My research on pangolin consumption in the southern Vietnamese city of Ho Chi Minh City had only started 3 months before this encounter with the 23 Sunda pangolins from Malaysia. Two months after my clumsy attempt to help in Save Vietnam's Wildlife's clinic, I was in Ho Chi Minh City training a group of local research assistants in a surveying technique to uncover sensitive behaviours. Our aim was to survey 1,200 Ho Chi Minh City residents to assess how many had consumed pangolin meat, scales and pangolin wine (a whole pangolin or pangolin parts or fluids soaked or mixed in rice wine) in the previous year. However, pangolins are protected in Viet Nam and selling them is illegal, so we knew people might not be willing to admit they had consumed these products. We therefore used the unmatched count technique, which allows researchers to enquire about people's behaviour in a way that means they do not have to admit directly to having done something illegal. Despite previous studies having investigated the consumption of pangolin products, no one had previously used a technique that is appropriate for asking questions regarding a sensitive behaviour. This means that previous research may have potentially underreported the number of people who consume pangolin products.



Part of the research team in Ho Chi Minh City. Photo: Alegria Olmedo

Back at my desk at the University of Oxford, I compared our unmatched count technique results with those from our direct questions and found our suspicions were correct: only a small number of people openly admitted to having consumed pangolin products thus, the unmatched count technique results elicited a higher number of consumers. Our results provided a more accurate picture of how many people consume pangolin meat, scales and wine. Unfortunately, this number is very high. At least 2 and 4% of Ho Chi Minh City residents had consumed pangolin meat and scales, respectively, in the last year. Considering populations of pangolins native to Viet Nam are in serious decline, it is likely the 23 pangolins trafficked from Malaysia were brought in to meet this high demand.



1,200 residents surveyed



Used the Unmatched Count Technique (UCT) to investigate pangolin consumption

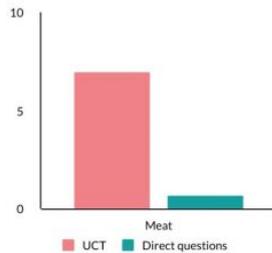
UCT, an indirect technique that keeps answers confidential, was compared to direct questions to explore the sensitivity of pangolin consumption



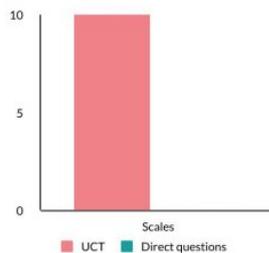
Identified individuals most likely to consume pangolin products

Consumption prevalence estimates

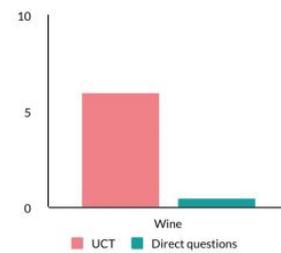
7% pangolin meat
(SE± 5.7%)



10% pangolin scales
(SE± 5.7%)



6.5% pangolin wine
(SE± 6.3%)



Most likely to consume if:



lower income



elementary occupation



higher education



< 55 years old

Most likely to consume if:



residents of District 5



> 55 years old

Most likely to consume if:



middle income



elementary occupation



residents of District 5



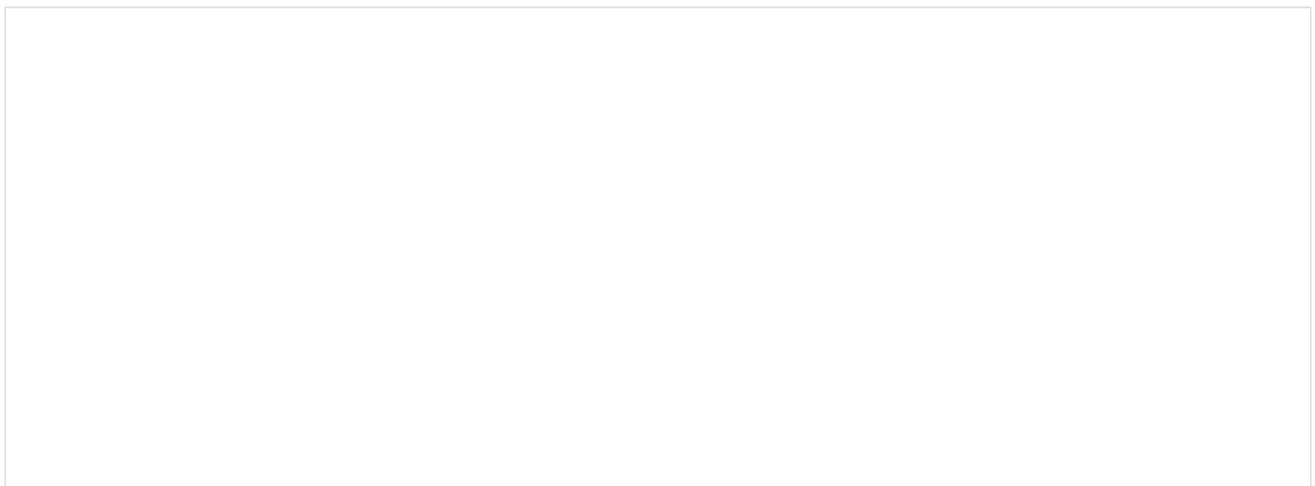
unmarried

(Olmedo et al., 2021 Oryx)

Visual abstract by Alegria Olmedo

Our [findings](#) contribute to the evidence that pangolin consumption in Viet Nam is probably unsustainable. This research also identified demographic characteristics associated with consumption and has informed further research into the contexts of pangolin meat consumption, as our study provided evidence this product's consumption is not as sensitive as consumption of scales and it takes place in restaurants, where it can be researched more. It is our hope other researchers and practitioners will make use of our study to tackle this unsustainable consumption.

The open access article [Uncovering prevalence of pangolin consumption using a technique for investigating sensitive behaviour](#) is available in *Oryx—The International Journal of Conservation*.





Alegria Olmedo

Alegria Olmedo is in her final year as a Doctoral researcher at the University of Oxford. She has worked as a conservation practitioner and researcher addressing the illegal trade in wildlife in Vietnam since 2013. Her interest in pangolin conservation led her and two colleagues to create the NGO People for Pangolins.