

## Twitter Thread by Billy Bostickson ■■■&■ ■



**Billy Bostickson ■■■&■ ■**

[@BillyBostickson](#)



### 1. Project 1742 (EcoHealth/DTRA)

**Risks of bat-borne zoonotic diseases in Western Asia**

**Duration: 24/10/2018-23 /10/2019**

**Funding: \$71,500**

**[@dgaytandzhieva](#)**

**<https://t.co/680CdD8uug>**

EASL – International Liver Foundation	ტექნიკური მხარდაჭერა C - ჰეპატიტის მეექვსე ორდღიანი ეროვნული სემინარისთვის, რომელიც ჩატარდება 2019 წლის 6 და 7 მარტს	\$ 4,000	7/03/19-7/05/19
GIZ გერმანიის საერთაშორისო თანამშრომლობის საზოგადოება	დარგობრივი ინსტიტუტების მხარდაჭერა საქართველოში- დასავლეთ აზიური ქსელის შექმნა კავკასიის რეგიონში ბიოუსაფრთხოების გასაუმჯობესებლად	GEL 73,006	01/01/19-31/12/19
EcoHealth Alliance ეკოპელს ალიანსი	დასავლეთ აზიაში ლამურის მიერ გამოწვეული ზოონოზური დაავადებების რისკების ანალიზი	\$ 71,500	24/10/18-23/10/19
UNFPA-United Nations Population Fund გაეროს მოსახლეობის ფონდი	საშვილოსნოს ყელის კიბოს სკრინინგის რეგისტრის შექმნა	\$ 83,220	01/02/19-31/12/19
Evero commission ევრო კავშირი	რისკების თაობაზე ცნობიერების ამაღლება და თბური ტალღების ტრანსსასაზღვრო ზემოქმედების შემცირების კომუნიკაცია	€ 29,275	01/02/19-31/01/21
LIFER - The Liver Institute and Foundation for Education and Research ღვიძლის ინსტიტუტი და განათლებისა და კვლევის ფონდი	ნარკოტიკების ინექციურ მომხმარებელთა (ნიმ) პოპულაციაში C ჰეპატიტის ვირუსით პირველად ინფიცირებულთა და რე-ინფიცირებულთა კოჰორტის დახასიათება, საქართველოში ზიანის შემცირების ქსელის ორ შერჩეულ ცენტრში, გლობალური ჰეპატიტების ეპიდაფეთქების და ზედამხედველობის - ტექნოლოგიის (GHOST) გამოყენებით	\$ 20,000	11/06/19-20/06/20

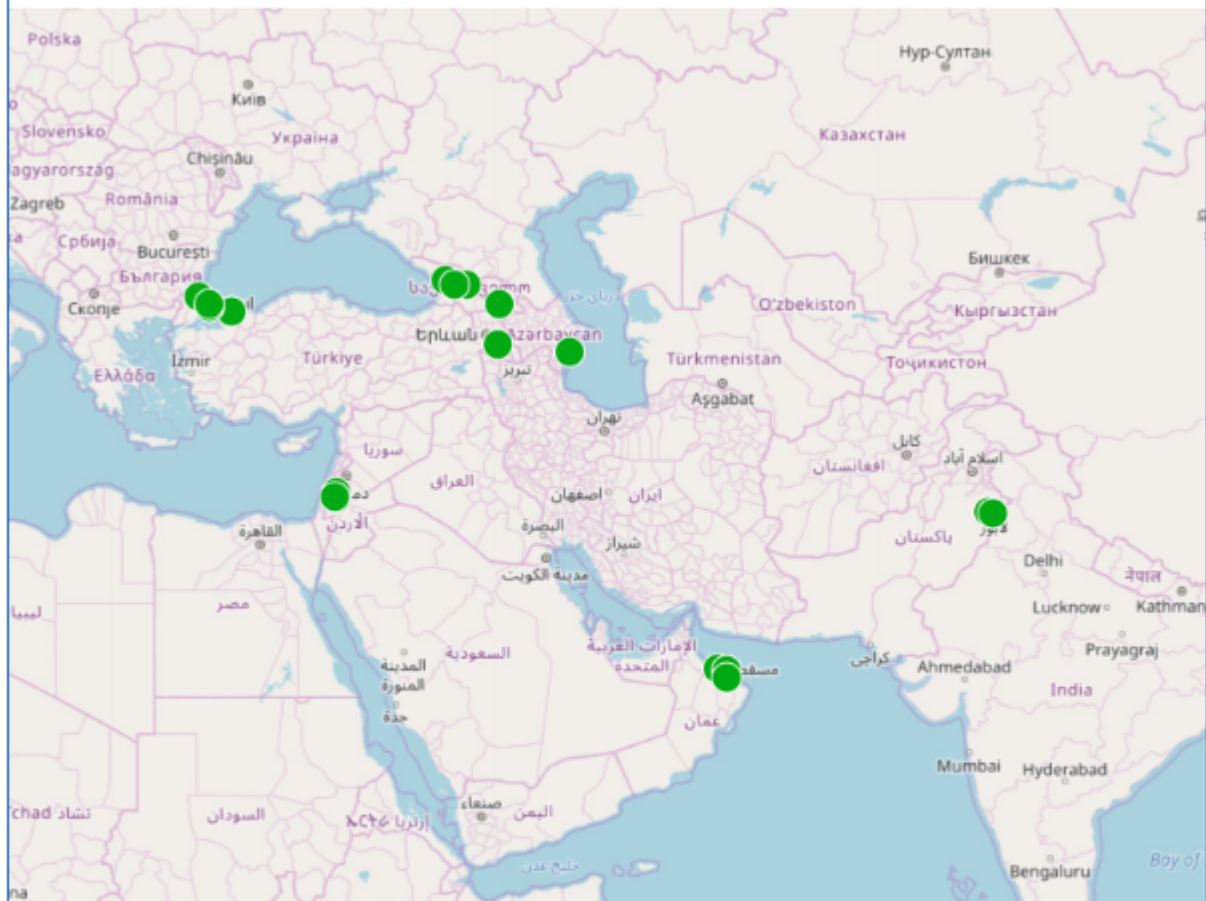
## 2. Bat Virus Database

Access to the database is limited only to those scientists participating in our 'Bats and Coronaviruses' project

Our intention is to eventually open up this database to the larger scientific community

<https://t.co/mPn7b9HM48>

## WAB-Net Study Sites



Despite growing recognition that bats are important hosts of zoonotic pathogens, there remains limited scientific knowledge of the distribution and ecology of bats, their pathogen diversity, and potential interfaces for transmission to humans and other species in Western Asia – an area encompassing over 20 countries in the Middle East and Near East. The Western Asia Bat Research Network (WAB-Net, pronounced "wah-bee net") represents the first coordinated research effort to understand the distribution and diversity of bats and their associated viruses, and, subsequently the risk of bat-borne disease emergence in Western Asia. The integrated approach of WAB-Net embodies a coordinated strategy to advance scientific knowledge around transboundary zoonotic disease emergence risk in Western Asia to inform early detection, diagnosis, and response.

[wabnet@ecohealthalliance.org](mailto:wabnet@ecohealthalliance.org)

### 3. EcoHealth Alliance & DTRA Asking for Trouble

One Health research project focused on characterizing bat diversity, bat coronavirus diversity and the risk of bat-borne zoonotic disease emergence in the region.

<https://t.co/u6aUeWBGEn>

## Bats and Viruses in Western Asia: A Model for One Health Surveillance using Research Networks

Kevin J. Olival<sup>1†</sup>, Kendra Phelps<sup>1\*</sup>, Nisreen Alhמוד<sup>2</sup>, Shahzad Ali<sup>3</sup>, Rasit Bilgin<sup>4</sup>, Ketı Sidamonidze<sup>5</sup>, Lela Urushadze<sup>5</sup>, Luke Hamel<sup>1</sup> and William Karesh<sup>1</sup>



\* Presenting author; † Please direct questions to [olival@ecohealthalliance.org](mailto:olival@ecohealthalliance.org)  
<sup>1</sup>EcoHealth Alliance - New York, USA; <sup>2</sup>Royal Scientific Society - Amman, Jordan; <sup>3</sup>University of Veterinary & Animal Sciences - Lahore, Pakistan; <sup>4</sup>Boğaziçi University - İstanbul, Turkey; <sup>5</sup>R. Lugar Center, NCDC - Tbilisi, Georgia



### 4. Phelps, Olival, Epstein, Karesh - EcoHealth/DTRA

# Results

We have achieved the following since the project's inception (Oct 2017):

- **Inaugural WAB-Net workshop** was held on September 17-20, 2018 in Tbilisi, Georgia with **40 participants from 11 countries** in Western Asia (Fig 4)
- **Identified key personnel and sampling sites** in high- and medium-engagement countries
- **Standardized field and lab protocols** to ensure region-wide consistency in CoV sampling and screening methods



Figure 4. Participants at 2018 WAB-Net workshop



Figure 5. Non-lethal sampling of bats

- **Sampled 270 bats (of 9 species) in three high-engagement countries:** 90 individual bats in Turkey (Aug), Georgia (Sept), and Jordan (Oct) (Fig 5)

Species (no. sampled/country)	Turkey	Georgia	Jordan
<i>Miniopterus schreibersii</i>	30	78	0
<i>Myotis capaccinii</i>	15	0	0
<i>Myotis blythii</i>	0	8	0
<i>Rhinolophus blasii</i>	17	1	0
<i>Rhinolophus euryale</i>	27	2	0
<i>Rhinolophus ferrumequinum</i>	1	1	0
<i>Rhinopoma cystops</i>	0	0	2
<i>Rhinopoma microphyllum</i>	0	0	60
<i>Rousettus aegyptiacus</i>	0	0	28

## 5, Methods and Expected Outcomes

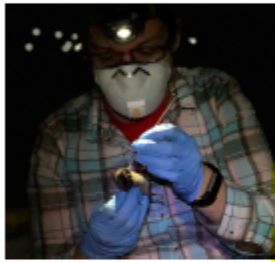
(Unexpected Outcome = New Coronavirus Pandemic)



# Methods

**Objective 1:** Characterize bat and bat-associated CoVs in Western Asia to assess risk of disease emergence

- Capture and non-lethally sample **5,000 bats** in 5-year period (2018-2023)
- Collect **20,000 samples (i.e. oral, rectal swabs and/or feces, and blood)** (Fig 2) and screen for CoVs using consensus PCR at regional labs in Georgia and Jordan



**Figure 2.** Collecting saliva samples from *Miniopterus schreibersii* in Turkey using a miniature cotton swab, then sample is placed in vials with transport media and stored in ultra-cold cryoshipper

- Record **morphological and demographic traits** (e.g., species, age, sex, reproductive status, body condition) of sampled bats
- Assess **environmental and human disturbance data** to identify interactions between humans and bats at sampled sites
- Data will be used to **estimate the risk of regional disease emergence** by:
  - 1) **identifying correlates of CoV diversity and distribution** (e.g., host diversity or traits, site conditions)
  - 2) **characterizing interactions between humans and bats** (e.g., cave tourism, guano collection, hunting)

**Objective 2:** Establish the Western Asia Bat Research Network (WAB-Net) to foster regional collaboration

- A **regional One Health initiative** to connect bat researchers and virologists with public health experts in **> 12 countries** (Fig 3)



**Figure 3.** WAB-Net participant countries. High-engagement countries, with more intensive sampling efforts, represent biogeographic 'gateways' for bat and bat-associated pathogen dispersal

- **Strengthen diagnostic capabilities** for early detection, and **promote collaborations** in zoonotic disease research



R. Lugar Center - NCDC  
Tbilisi, Georgia



Royal Scientific Society  
Amman, Jordan

- Host **annual workshops**, in-service **training opportunities**, and **One Health research exchanges** to provide field-to-lab training in disease surveillance to WAB-Net members

6. Back after the Outage, wasn't me!

Dr. Kendra Phelps

<https://t.co/AIPHcj2W4>

<https://t.co/O91SjdLzyn>

<https://t.co/7ejxdT7fT1>

<https://t.co/LLZmyvzFtj>

<https://t.co/VM9p5Q1hZf>

<https://t.co/RyQinOYY0j>

<https://t.co/dJYPnXwcbi>



Dr. Kendra Phelps of EcoHealth Alliance holds a *Rousettus aegyptiacus* bat, captured as part of WAB-Net's 'Bats & Coronavirus' project (here, at a sampling site near Lahore, Pakistan)

7. Even the so-called "professional" bat researchers working for EcoHealth often fail to use proper PPE (masks, suits), despite being well aware of the risks of infection from bats since 2013, Here is Kendra Philips and her local colleagues <https://t.co/O91SjdtY9N>



8. Some "wows" have animated me to add more tweets ;)

Bat Researchers have known since 2013 about bat to human direct transmission of viruses

Here is the full advice from "SEABCRU" prepared by Kevin Olival in Pnomh Penh 2013, updated 2015

[http://128.199.199.236/?page\\_id=1137](http://128.199.199.236/?page_id=1137)

## Potential Transmission Routes

There are two likely routes of transmission to humans. **First**, direct contact of feces, urine, saliva or blood from a bat. This could happen via a bite from a bat, or

through bat excreta (e.g. feces or urine) getting into the mucosal membrane (eye, mouth, nose) of a person. **Second**, through inhalation of aerosolized feces or urine. It is possible that any virus found in bat feces or urine could be contracted in this manner, so precaution should be taken when handling these samples or in environments where you may be exposed to aerosolized feces or urine.

9. The Full guidance for PPE is listed carefully under three sets, A, B and C.



## Assessing Risk and Appropriate Personal Protective Equipment (PPE)

There is not a one size fits all solution to PPE, and you should modify what you wear based on your level of risk of exposure to bat saliva, urine, feces, or blood. In **Figure 1**, we present a flow chart to illustrate how PPE may differ when doing different bat research activities.

### Examples of different levels of exposure:

High level of exposure: A high risk of exposure would include: working under a very active and large roost of bats with falling urine and feces. Another example would be working in a closed area/cave with a large population of bats and lots of aerosolized feces and urine. In these situations additional protection would include a tyvek suit to minimize exposure of skin and clothing. **PPE Set A**

Other examples of high risk include working with species known to harbor lethal, zoonotic viruses, e.g. Nipah virus, Ebola, or SARS-coronavirus, and especially when working in areas where there have been known human or animal outbreaks due to bat-borne viruses. In these cases, one should take extra precautions and consult with emerging disease professionals. However, one should always also keep in mind that bats do not necessarily show any signs of illness when carrying viruses, so precaution should be taken even when working with apparently health animals<sup>28</sup>.

10. Bat Research is a dangerous hobby!

<https://t.co/Fidi5S1qRx>

1. Uncle Sham's sticky fingers?

Neither the name of the biologist nor what "program" she was working for when this happened in 2012 was ever published...<https://t.co/oAC6H0NF09>

— Billy Bostickson \U0001f3f4\U0001f441&\U0001f441 \U0001f193 (@BillyBostickson) October 5, 2020

11. Dead Bat Researchers

## Understanding Risk

Based on available data, **the likelihood of a bat virus being transmitted to humans is very low.** For example, only 9 in 10,000 (0.1%) of bats tested for European Bat Lyssavirus were positive for virus<sup>26</sup>, **but over that same period two people died and both were bat researchers.** Following the WHO risk assessment protocol, this would be categorized as a “very unlikely” risk, with <5% probability<sup>27</sup>. **However, the consequence of getting infected with a disease is very high.** For example, >70% of people infected with Nipah virus in Bangladesh have died<sup>4</sup>. Because the consequences may be very severe, we recommend using protective measures to further reduce the probability of contacting a disease. These actions include wearing **Personal Protective Equipment (PPE)** while working with bats or collecting samples from bats, and practicing general safety procedures in handling animals.

### 12. Many more similar stories

Infection and Death from European Bat Lissavirus (EBL)

<https://t.co/EsgEI87LaO>

A sad time for bats and bat biologists

<https://t.co/qB9YAFyAp7>

13. On May 23, 2012, Assistant Professor Dr. Björn Martin Siemers died as a result of an infection, within only a few hours, and just two days before his 40th birthday.

<https://t.co/veRUTaxH6D>.

### 14. More stories

<https://t.co/QSGKzxjaiN>

Bats can infect humans with Rabies, Marburg, Nipah and many other viruses, some known others unknown.

Health authorities confirmed the patient was outdoors and in broad daylight when the nocturnal creature “struck” his hand then flew away.

“He wasn’t doing anything risky that would put him in a position where he would encounter bats,” said Dr. Bonnie Henry, B.C.’s chief provincial health officer. “This is an incredibly unfortunate strange circumstance for this young man and his family.”

Major had no visible puncture wound or scratch marks — something that’s not unusual because bat scratches can be microscopic, said Henry. He developed symptoms of rabies six weeks after exposure.

### 15. Talking of Marburg - A Tragic Story

Ebola, Marburg, and a Real Life Cave of Death



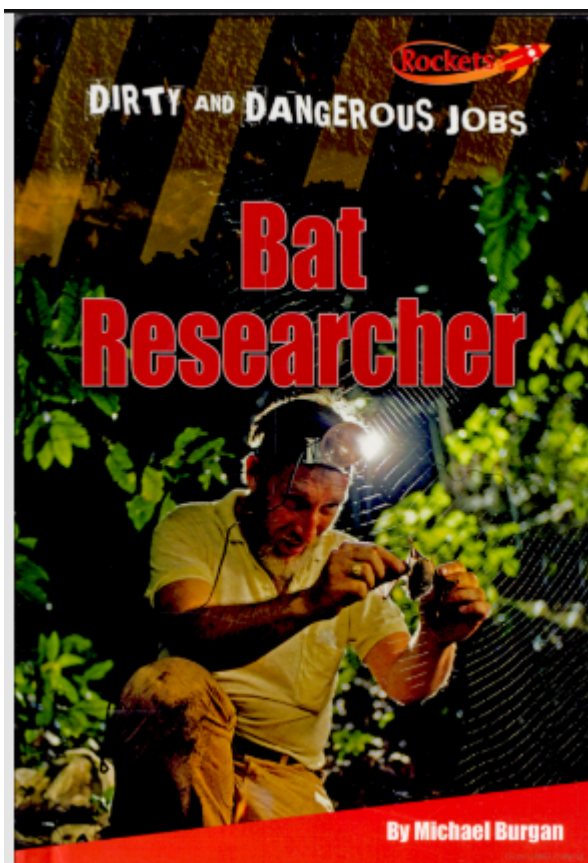
16. General Official Advice:

Has always been "Never handle a bat with bare hands. Use thick gloves or call a bat removal expert to help you remove bats from your house"

<https://t.co/A5NN40GICG>

But let's look at the so-called experts!

Please observe the hands...



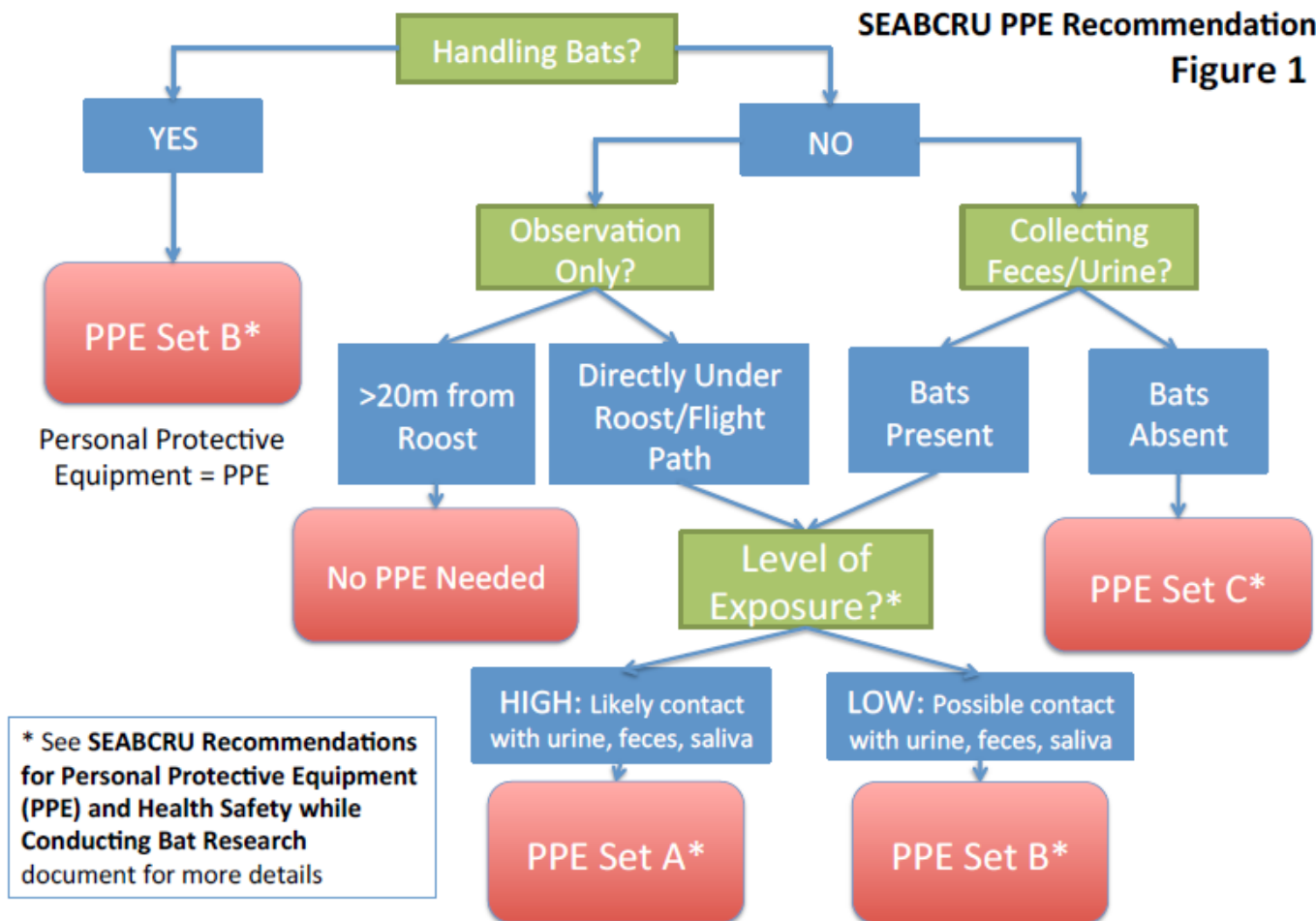
17. The PPE Flow Chart for Bat Researchers

The details for each set (A, B, C) can be found in a previous tweet in this thread or here:

[http://128.199.199.236/wp-content/uploads/2013/10/SEABCRU\\_Disease-guidelines-revised\\_13Aug2015.pdf](http://128.199.199.236/wp-content/uploads/2013/10/SEABCRU_Disease-guidelines-revised_13Aug2015.pdf)



**SEABCRU PPE Recommendations  
Figure 1**



18. Now let's take a look at the Bat Researchers in action

1. Covered Arms - No!
2. Respirator/N95 Mask - No!
3. Gloves - No!

That is Kendra Phelps from EcoHealth showing us how not to follow their own advice, putting our lives at risk with our tax money, thanks to Fauci & Daszak



19. More Bat Research without Gloves



20. And more!



21. Half Way There, Professor!





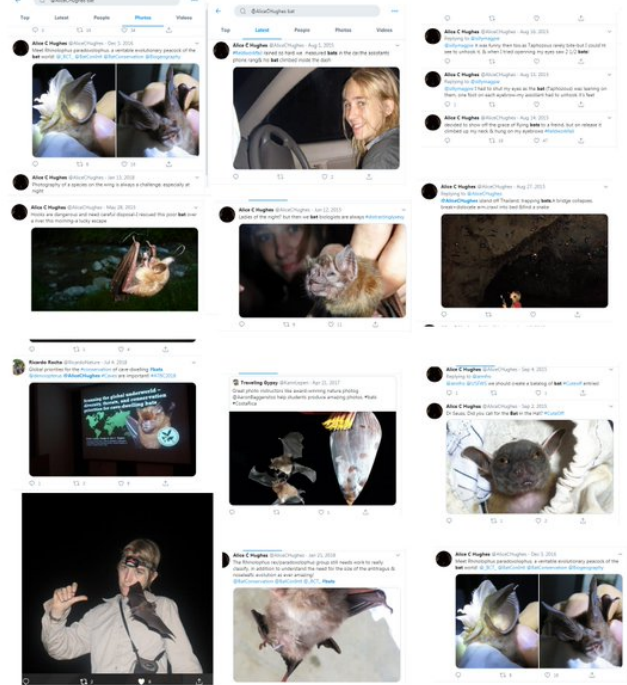
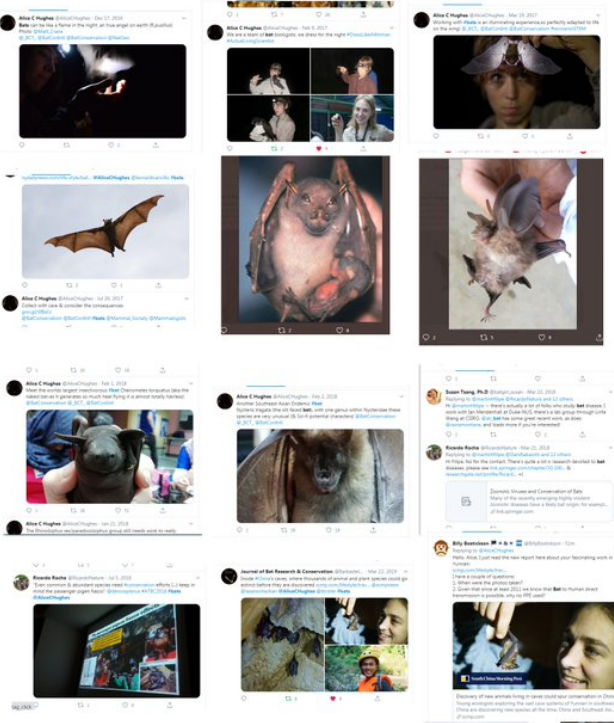
22. Bare Arms!



23. The Reality of Bat Research in Yunnan



# THE REALITY OF BAT RESEARCH IN CHINA



24. The Ecohealth/WIV Photo-shoots for the Media



25. Daszak's Propaganda Show

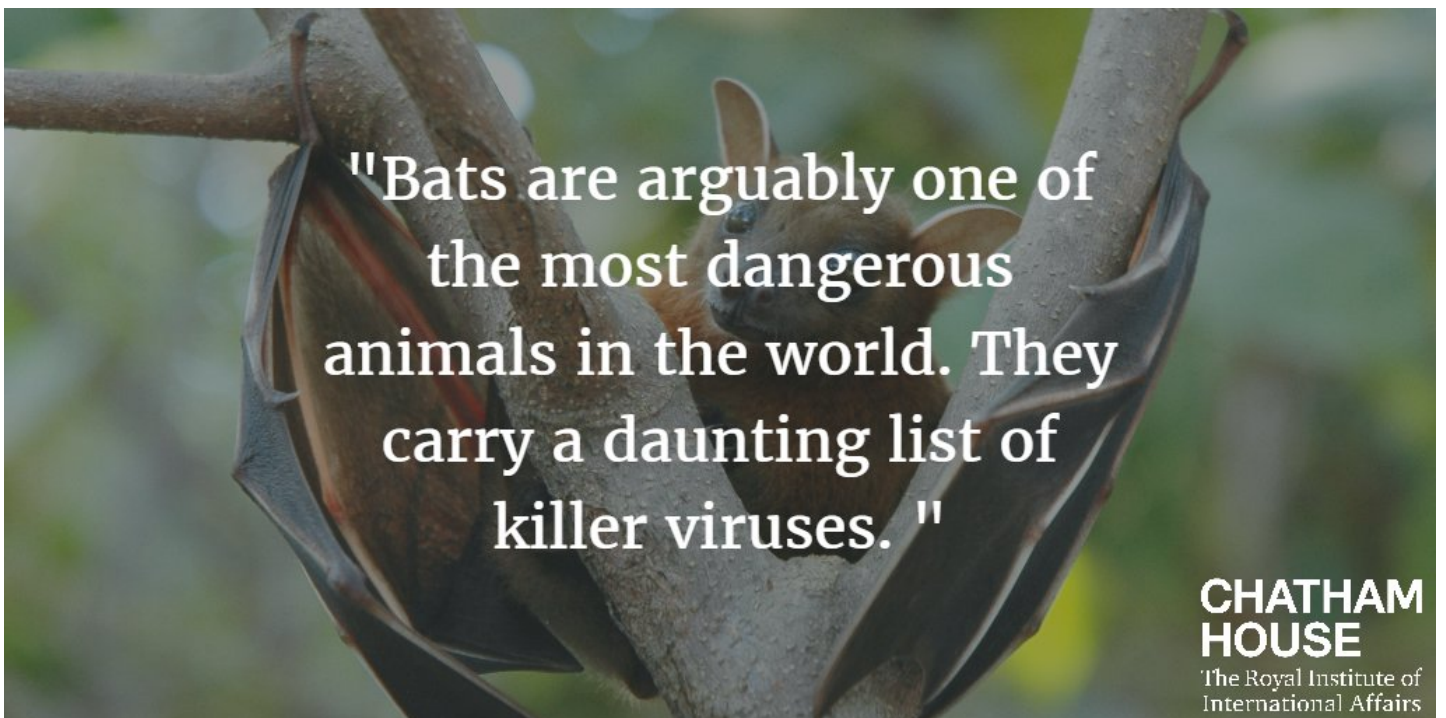


# THE PROPAGANDA



Could bats hold the secret to Covid-19? Meet scientists investigating these fascinating animals. CNN Special Report – Bats – The Mystery Behind Covid-19 airs Sunday at 10 p.m. ET

26. This what we know and what they know



27. What we know they do and how they do it

"Before entering caves, scientists pull on hazmat suits, face masks & thick gloves to cover every inch of their skin. Contact with bat droppings or urine could expose them to the world's deadliest unknown viruses"



**More Batshit Lies!**  
"Even if they stumbled across the virus, they would be very unlikely to get infected. When collecting samples, they take precautions to avoid infecting themselves, wearing N95 respirator masks, Tyvek suits, goggles and gloves" Says Mazet  
<https://www.nprillinois.org/post/virus-researchers-cast-doubt-theory-coronavirus-lab-accident#stream/0>

**Bloody Batshit Lies!**  
"Before entering caves, scientists pull on hazmat suits, face masks & thick gloves to cover every inch of their skin. Contact with bat droppings or urine could expose them to the world's deadliest unknown viruses"  
[sttoday.com/news/national/...](https://today.com/news/national/...)



"Even if they stumbled across the virus, they would be very unlikely to get infected. When collecting samples, they take precautions to avoid infecting themselves, wearing N95 respirator masks, Tyvek suits, goggles and gloves" Says Jonna Mazet

28. Old Headlines - Were They Right?  
From way back in February 2020



# **BAT ATTACK** Coronavirus may have started in Wuhan lab where **HUNDREDS** of bats ‘attacked and peed on scientists’, experts say

[Mark Hodge](#)

16 Feb 2020, 9:27 | Updated: 17 Feb 2020, 17:48

29. unroll [@threadreaderapp](#)

30. Someone sent a video showing bat handling by Ecohealth:

<https://t.co/lff0Jc7JBr>

and an interview with Kendra Phelps

<https://t.co/l6HGqLmWut>