

Assessing the effectiveness of public awareness-raising initiatives for the Hainan gibbon *Nomascus hainanus*

JUNFEI QIAN, MORENA MILLS, HEIDI MA and SAMUEL T. TURVEY

SUPPLEMENTARY TABLE 1 Available information on past conservation awareness-raising activities conducted in villages adjacent to Bawangling National Nature Reserve, Hainan.

ACTIVITY AND INSTIGATOR	REGION	DATE	REFERENCE
Promoting local community engagement in natural resource management (<i>Fauna & Flora International</i>)	Qingsong Township (Baisha County)	2003	Fauna & Flora International (2008)
Scholarships given to 715 children in four villages, in exchange for families to stop resource extraction in reserve and to protect forest and gibbons; 250 families signed agreements (<i>Seacology, Zoological Society of Shanghai, Zoological Society of Paris, Hainan Environmental Ecological Education Centre</i>)	Southern part of gibbon range	2003–2005	Fellowes et al. (2008); Seacology (2020)
Environmental education to improve awareness, change values and attitudes, and engage local people in sustainable use of natural resources and conservation of gibbons and habitat (<i>Fauna & Flora International</i>)	Qingsong Township (Baisha County)	2005	Fauna & Flora International (2008)
Hainan gibbon drawing contest in schools; photography activities in students' home villages; activities on Hainan gibbon conservation and environmental awareness (<i>Fauna & Flora International</i>)	Six villages in Qingsong Township (Baisha County)	2007	Fauna & Flora International (2007)
Teacher training courses on environmental education methods (<i>Fauna & Flora International</i>)	Two schools in Qingsong Township (Baisha County)	2007–2008	Fauna & Flora International (2007)
Hainan gibbon conservation awareness activities in schools, and support for student extracurricular activities about conservation and environmental protection; targeted 1000 students and their parents (<i>Fauna & Flora International</i>)	Six villages in Qingsong Township (Baisha County)	2007–2008	Fauna & Flora International (2007)
Establishment of 'Gibbon Community Learning Centre' to improve knowledge on conservation and sustainable development (<i>Fauna & Flora International</i>)	Qingsong Township (Baisha County)	2007–2008	Fauna & Flora International (2007)

Donation of Hainan gibbon t-shirts (<i>Fauna & Flora International</i>)	Not reported	Before 2008	Fellowes et al. (2008)
Hainan gibbon calendars and Chinese New Year decorations distributed to communities (<i>Kadoorie Farm & Botanic Garden</i>)	Multiple (specific villages not reported)	From before 2008	Fellowes et al. (2008); KFBG (2018)
2000 calendars distributed with students' drawings about Hainan gibbon conservation (<i>Fauna & Flora International</i>)	Qingsong Township (Baisha County)	Jan 2008	Fauna & Flora International (2008)
Mural painting of gibbons and forest habitat involving local schoolchildren (<i>Kadoorie Farm & Botanic Garden</i>)	Miao Village, Qingsong Township (Baisha County)	Not reported	KFBG (2018)
Hainan gibbon funfair in school on International Gibbon Day (<i>Kadoorie Farm & Botanic Garden</i>)	Not reported	2013, 2015	KFBG (2016)
Demonstration of sustainable agriculture and beekeeping techniques to promote conservation of Hainan gibbon habitat; 10,000 bitter cardamom seedlings distributed to 50 households (<i>Kadoorie Farm & Botanic Garden</i>)	At least in Miao village in Qingsong Township (Baisha County)	2016	KFBG (2016, 2018)
Hainan gibbon billboard (<i>Kadoorie Farm & Botanic Garden</i>)	Qingsong Township (Baisha County), road junction	Not reported	KFBG (2018)
Regular visits of reserve wardens to all communities, for awareness-raising about conservation and reserve regulations (<i>Bawangling National Nature Reserve management office</i>)	All villages around reserve	Start date unknown; ongoing	BNNR management office, pers. comm., 2018

FAUNA & FLORA INTERNATIONAL CHINA PROGRAMME (2007) *Community-Based Education for Conservation of the Hainan Gibbon*. Beijing: Fauna & Flora International China Programme.

FAUNA & FLORA INTERNATIONAL CHINA PROGRAMME (2008) *Community-Based Capacity Building and Mainstreaming for Conservation of the Hainan Gibbon*. Beijing: Fauna & Flora International China Programme.

FELLOWES, J.R., CHAN, B.P.L., ZHOU, J., CHEN, S., YANG, S. & NG, S.C. (2008) Current status of the Hainan gibbon (*Nomascus hainanus*): progress of population monitoring and other priority actions. *Asian Primates Journal*, 1, 2–9.

KADOORIE FARM & BOTANIC GARDEN (2016) China eco tales: working with local people, KCC bolsters the future of Hainan gibbons. Available at: <https://www.kfbg.org/eng/blogs/hainan-gibbons-fair.aspx> [accessed 14 June 2019].

KADOORIE FARM & BOTANIC GARDEN (2018) Oral presentation given at “*Gibbon Conservation Technical Skills Meeting*” (Guangzhou, China, 22–23 Apr 2018).

SEACOLOGY (2020) Projects, China, Hainan Island. <https://www.seacology.org/project/96-china> [accessed 10 March 2020].

SUPPLEMENTARY MATERIAL 1 English-language version of Hainan wildlife knowledge household interview.

Instructions: Fill in Pre.1 to Pre.19 by walking around, using a GPS and Google maps, referring to the literature, and asking local villagers before the interviews. Carry this out once for each village.

Pre.1	GPS coordinates of village: _____
Pre.2	Name of the village: _____
Pre.3	[Single choice] Are there any bus services within 1km of the village? <input type="checkbox"/> Yes <input type="checkbox"/> No
Pre.4	[Single choice] Are there any train services within 1km of the village? <input type="checkbox"/> Yes <input type="checkbox"/> No
Pre.5	[Single choice] Is there any highway access within 1km of the village? <input type="checkbox"/> Yes <input type="checkbox"/> No
Pre.6	Size (km ²) of the village: _____
Pre.7	Population of the village: _____
Pre.8	Distance (km) to the reserve management office: _____
Pre.9	Distance (km) to the boundary of the reserve: _____
Pre.10	[Single choice] Are there any gibbon-related billboards within 500 m of the village? <input type="checkbox"/> Yes <input type="checkbox"/> No
Pre.11	[Single choice] Are there any gibbon-related posters within 500 m of the village? <input type="checkbox"/> Yes <input type="checkbox"/> No

Pre.12 [Single choice] Are there any gibbon-related murals within 500 m of the village?
 Yes | No

Pre.13 [Single choice] Is there any other gibbon-related information within 500 m of the village?
 Yes | No
If “Yes”, go to question Pre.13.a
If “No”, go to question Pre.14

Pre.13.a Describe this information:

Pre.14 [Single choice] Are there any playschools in the village?
 Yes | No

Pre.15 [Single choice] Are there any elementary schools in the village?
 Yes | No

Pre.16 [Single choice] Are there any middle schools in the village?
 Yes | No

Pre.17 [Single choice] Are there any high schools in the village?
 Yes | No

Pre.18 Name of nearest major town:

Pre.19 Distance (km) to nearest major town:

Fill in the following information at the beginning of each interview

Date: _____ Interviewer: _____

Name of the village: _____

Interview No. in this village: _____

Instructions for interviews

I am a graduate student at Imperial College London (UK). I am conducting community-based interviews to research the wildlife around here. Could I please interview you? Here are some instructions for our interview:

- You must be at least 18 years old.
- This is an anonymous interview. No personal identity information will be recorded.
- The answers you provide will only be used for scientific research and analysis. No information will be disclosed to a third party.
- This survey is very important. We hope you can answer all the questions, and answer them honestly.
- You can end the interview at any time.

Thank you for your participation!

1 [Single choice] Are you willing to participate in this survey?

Yes | No

2 [Single choice] Are you literate?

Yes | Yes but not many characters | No

3 [Single choice] Can you understand Mandarin?

Yes | Yes but not much | No

4 [Single choice] Can you understand Hainanese?

Yes | Yes but not much | No

5 How old are you? _____

6 [Single choice] What is your gender?

Male | Female

7 [Single choice] What is your ethnicity?

Li | Miao | Han | Don't know | Other: _____

8 [Single choice] How long have you been living in this village?

All my life | Other: _____

If their answer is "All my life", go to question 10

If their answer is "Other", go to question 9.a, 9.b and 9.c

9.a) Where are you from?

9.b) Where did you live previously?

9.c) How long have you been living here?

10 Number of adults (including you) living in your house

11 Number of children (under 18) living in your house

If they have children, go to question 12

If they do not have children, go to question 13

12 [Single choice] Do you have children attending school?

Yes | No

If their answer is “Yes”, go to question 12.a and 12.b

If their answer is “No”, go to question 13

12.a) Which school year are they in?

12.b) [Single choice] Do they go to school in this village?

Yes | No

If their answer is “Yes”, go to question 13

If their answer is “No”, go to question 12.d) and 12.e)

12.d) Which village/town do they go to school in?

12.e) What is the distance (km) to that village/town?

- 13 [Single choice] Where is the nearest playschool to your village?
 I do not know | Qingsongxiang | Baisha | Qichazhen | Bawangzhen |
 Wangxiaxiang | Shilu | Changjiang | Other: _____
- 14 [Single choice] Where is the nearest elementary school to your village?
 I do not know | Qingsongxiang | Baisha | Qichazhen | Bawangzhen |
 Wangxiaxiang | Shilu | Changjiang | Other: _____
- 15 [Single choice] Where is the nearest middle school to your village?
 I do not know | Qingsongxiang | Baisha | Qichazhen | Bawangzhen |
 Wangxiaxiang | Shilu | Changjiang | Other: _____
- 16 [Single choice] Where is the nearest high school to your village?
 I do not know | Qingsongxiang | Baisha | Qichazhen | Bawangzhen |
 Wangxiaxiang | Shilu | Changjiang | Other: _____
- 17 [Multiple choices] What is your occupation?
 I do not have a job | Farmer | Husbandry practitioner | Fisherman
 Forest worker | Teacher | Student | Painter | Worker
 Staff at the government department
 Retired | Other: _____
- 18 What is your average annual household income (yuan)?

- 19 [Single choice] What is your highest education level?
 No education | Elementary school | Middle school | High school
 College | Undergraduate | Graduate degree or above
 Other: _____
- 20 [Single choice] Do you watch TV?
 Yes | No
- 21 [Single choice] Do you read newspapers?
 Yes | No
- 22 [Single choice] Do you listen to the radio?
 Yes | No

23 [Single choice] Do you use a smartphone?

Yes | No

24 [Single choice] Do you use Wechat?

Yes | No

25 [Single choice] Do you use Sina Weibo?

Yes | No

26 [Single choice] Do you have access to a computer, laptop or tablet?

Yes | No

27 [Single choice] Do you use the internet?

Yes | No

28 [Single choice] Do you go into the forest more than once a month?

Yes | No

29 Which animals in China are endangered?

Write the species in the order they are mentioned. List all species that come to mind, and use prompts (e.g. are there any other animals in China which are endangered?) if necessary to make sure they have thought of as many as they can

30 Which animals in Hainan are endangered?

Write the species in the order they are mentioned. List all species that come to mind, and use prompts (e.g. are there any other animals in China which are endangered?) if necessary to make sure they have thought of as many as they can

31 [Single choice] Have you heard of Bawangling National Nature Reserve?

Yes definitely | Maybe | No | Don't know

32 [Single choice] Do you know the reason why the forest at Bawangling was made into a protected area?

If they say something like "because there are rare animals in it", ask which species

Don't know

33 [Single choice] What do you remember about the most recent time that someone came to your community and spoke to you about conservation of the environment and wildlife?

Ask respondent to provide as much detail as possible but without prompting them about specifics

No conservation education has been conducted in this community

After the above open-ended question, prompt them by asking 33.a, 33.b, 33.c, 33.d and 33.e

33.a) [Single choice] When did it happen?

Don't know | _____

33.b) [Multiple choices] Who came to speak to you?

Don't know

Reserve management officials

Biologists

Village or community leader

Forest police

Local governmental officials

Mainland Chinese NGO

Hong Kong/Macau/Taiwan NGO

International NGO

University students

Other:

33.c) [Multiple choices] What topics did they speak to you about?

Don't know

It is prohibited to cut down trees

It is prohibited to collect firewood

It is prohibited to set fires inside or near the forest

Where the boundaries of the reserve are drawn

It is prohibited to hunt, trap, or catch wild animals. List species mentioned:

What NTFPs are/are not allowed to be collected from within the reserve. List species mentioned (and if can/cannot collect):

Where villagers are/are not allowed to go inside the reserve

What species of animals are found here. List species mentioned

What species of animals are protected. List species mentioned

It is prohibited to graze cattle in the forest

Other: _____

33.d) [Multiple choices] How did they communicate with you?

Don't know

Showed film

Handed out pamphlets and printed materials

Gave presentation about species

Spoke to people door-to-door

Gathered people for a group meeting

Spoke to village headman and asked him to disperse message to members of the community

Broadcast message from vehicle with loudspeaker

Other: _____

35.e) [Multiple choices] What were you told would happen if local people followed the conservation policies made for managing Bawangling National Nature Reserve?

Don't know

None

Will become poorer

Future generations will never see the forest or know what's in it

Have less natural resources to use

Restoration of the forest ecosystem and local environment

Improved livelihoods

Monetary compensation

Children and grandchildren will be able to use the resources in the future

Other: _____

34 Have there been any other conservation education events that have happened in your community? What do you remember about these events?

Ask respondent to provide as much detail as possible but without prompting them about specifics

For questions 35 to 44: Ask respondent about each of the following animal species while showing one picture of this animal.

[Wild boar, *Sus scrofa*]

35.a) [Single choice] Do you know this animal?

Yes, name: 野猪 (Wild boar)

Yes, name: 山猪 (Wild boar)

Yes, name: _____

Yes, but I do not know its name

Don't know

35.b) [Single choice] Do you think this animal exists in the forest of Bawangling National Nature Reserve?

Exists here now

Maybe exists here now

Existed here in the past but not any more

Existed here in the past but do not know about now

Existed here in the past but is rare now

Did not exist here in the past but exists here now

They have never existed here

Don't know

35.c) [Single choice] Is this species a high-priority protected species (Level I or II nationally protected species), or not a high-priority protected species?

Yes | No | Probably yes | Level I nationally protected species

Level II nationally protected species

Level III nationally protected species

It is a protected species but I do not know the level of its protection

Don't know

35.d) [Single choice] Does this species eat leaves?

Yes | Probably yes | No | Don't know

It eats fruits | It eats bananas | It eats corns | It eats sugar cane

It eats cassava | It eats sweet potato | It eats nuts

It eats bark | It eats tree roots | It eats everything

[Rhesus macaque, *Macaca mulatta*]

36.a) [Single choice] Do you know this animal?

Yes, name: 猴 (Monkey)

Yes, name: 猴子 (Monkey)

Yes, name: “no” (Monkey—Li language)

Yes, name: “胃” (Gibbon—Li language)

Yes, name: “费” (Gibbon—Li language)

Yes, name: 长臂猿 (Gibbon)

Yes, name: 猕猴 (Macaque)

Yes, name: _____

Yes, but I do not know its name

Don't know

36.b) [Single choice] Do you think this animal exists in the forest of Bawangling National Nature Reserve?

Exists here now

Maybe exists here now

Existed here in the past but not any more

Existed here in the past but do not know about now

Existed here in the past but is rare now

Did not exist here in the past but now exists here

They have never existed here

Don't know

36.c) [Single choice] Is this species a high-priority protected species (Level I or II nationally protected species), or not a high-priority protected species?

Yes | No | Probably yes | Level I nationally protected species

Level II nationally protected species

Level III nationally protected species

It is a protected species but I do not know the level of its protection

Don't know

36.d) [Single choice] Does this species eat leaves?

Yes | Probably yes | No | Don't know

It eats fruits | It eats bananas | It eats corns | It eats sugar cane

It eats cassava | It eats sweet potato

It eats bark | It eats tree roots | It eats everything

[Ring-tailed lemur, *Lemur catta*]

37.a) [Single choice] Do you know this animal?

- Yes, name: 狐狸 (Fox)
- Yes, name: “大牟” (Fox—Li language)
- Yes, name: 什么狸 (A kind of civet)
- Yes, name: “楞” (Civet—Li language)
- Yes, name: “浪亮” (Civet—Li language)
- Yes, name: 猴子 (Monkey)
- Yes, name: _____
- Yes, but I do not know its name
- Don't know

37.b) [Single choice] Do you think this animal exists in the forest of Bawangling National Nature Reserve?

- Exists here now
- Maybe exists here now
- Existed here in the past but not any more
- Existed here in the past but do not know about now
- Existed here in the past but is rare now
- Did not exist here in the past but now exists here
- They have never existed here
- Don't know

37.c) [Single choice] Is this species a high-priority protected species (Level I or II nationally protected species), or not a high-priority protected species?

- Yes | No | Probably yes | Level I nationally protected species
- Level II nationally protected species
- Level III nationally protected species
- It is a protected species but I do not know the level of its protection
- Don't know

37.d) [Single choice] Does this species eat leaves?

- Yes | Probably yes | No | Don't know

It eats fruits | It eats crabs | It eats fishes | It eats shells

It eats cassava | It eats sweet potato

It eats bark | It eats tree roots | It eats everything

[Maritime striped squirrel, *Tamiops maritimus*]

38.a) [Single choice] Do you know this animal?

Yes, name: 小松鼠 (Striped squirrel—Li language)

Yes, name: “隔六” (Striped squirrel—Li language)

Yes, name: “溜” (Striped squirrel—Li language)

Yes, name: “吱溜” (Striped squirrel—Li language)

Yes, name: “suo” (Giant squirrel—Li language)

Yes, name: 松鼠 (Squirrel)

Yes, name: _____

Yes, but I do not know its name

Don't know

38.b) [Single choice] Do you think this animal exists in the forest of Bawangling National Nature Reserve?

Exists here now

Maybe exists here now

Existed here in the past but not any more

Existed here in the past but do not know about now

Existed here in the past but is rare now

Did not exist here in the past but now exists here

They have never existed here

Don't know

38.c) [Single choice] Is this species a high-priority protected species (Level I or II nationally protected species), or not a high-priority protected species?

Yes | No | Probably yes | Level I nationally protected species

Level II nationally protected species

Level III nationally protected species

It is a protected species but I do not know the level of its protection

Don't know

38.d) [Single choice] Does this species eat leaves?

Yes | Probably yes | No | Don't know

It eats fruits | It eats bananas | It eats corns | It eats sugar cane

It eats cassava | It eats sweet potato | It eats nuts

It eats bark | It eats tree roots | It eats everything

[Chinese pangolin, *Manis pentadactyla*]

39.a) [Single choice] Do you know this animal?

Yes, name: 穿山甲 (Pangolin)

Yes, name: “闷” (Pangolin—Li language)

Yes, name: “门” (Pangolin—Li language)

Yes, name: _____

Yes, but I do not know its name

Don't know

39.b) [Single choice] Do you think this animal exists in the forest of Bawangling National Nature Reserve?

Exists here now

Maybe exists here now

Existed here in the past but not any more

Existed here in the past but do not know about now

Existed here in the past but is rare now

Did not exist here in the past but now exists here

They have never existed here

Don't know

39.c) [Single choice] Is this species a high-priority protected species (Level I or II nationally protected species), or not a high-priority protected species?

Yes | No | Probably yes | Level I nationally protected species

Level II nationally protected species

- Level III nationally protected species
- It is a protected species but I do not know the level of its protection
- Don't know

39.d) [Single choice] Does this species eat leaves?

- Yes | Probably yes | No | Don't know
- It eats ants | It eats termites | It eats worms | It eats earthworms
- It eats fruits | It eats banana | It eats corn | It eats sugar cane
- It eats cassava | It eats sweet potato
- It eats bark | It eats tree roots | It eats everything

[Asian black bear, *Ursus thibetanus*]

40.a) [Single choice] Do you know this animal?

- Yes, name: 黑熊 (Black bear)
- Yes, name: “木 A (A 四声)” (Black bear—Li language)
- Yes, name: 熊猫 (Black bear—Li language)
- Yes, name: 狗熊 (Bear)
- Yes, name: 熊 (Bear)
- Yes, name: _____
- Yes, but I do not know its name
- Don't know

40.b) [Single choice] Do you think this animal exists in the forest of Bawangling National Nature Reserve?

- Exists here now
- Maybe exists here now
- Existed here in the past but not any more
- Existed here in the past but do not know about now
- Existed here in the past but is rare now
- Did not exist here in the past but now exists here
- They have never existed here
- Don't know

40.c) [Single choice] Is this species a high-priority protected species (Level I or II nationally protected species), or not a high-priority protected species?

- Yes | No | Probably yes | Level I nationally protected species
- Level II nationally protected species
- Level III nationally protected species
- It is a protected species but I do not know the level of its protection
- Don't know

40.d) [Single choice] Does this species eat leaves?

- Yes | Probably yes | No | Don't know
- It eats meat | It eats fruit | It eats bananas | It eats corn
- It eats sugar cane | It eats cassava | It eats sweet potato
- It eats bark | It eats tree roots | It eats everything

[Masked palm civet, *Paguma larvata*]

41.a) [Single choice] Do you know this animal?

- Yes, name: 狸 (Civet)
- Yes, name: 果狸 (Civet)
- Yes, name: 果子狸 (Civet)
- Yes, name: “楞” (Civet—Li language)
- Yes, name: “荡” (Civet—Li language)
- Yes, name: “浪亮” (Civet—Li language)
- Yes, name: 狐狸 (Fox)
- Yes, name: “大牟” (Fox—Li language)
- Yes, name: _____
- Yes, but I do not know its name
- Don't know

41.b) [Single choice] Do you think this animal exists in the forest of Bawangling National Nature Reserve?

- Exists here now
- Maybe exists here now

- Existed here in the past but not any more
- Existed here in the past but do not know about now
- Existed here in the past but is rare now
- Did not exist here in the past but now exists here
- They have never existed here
- Don't know

41.c) [Single choice] Is this species a high-priority protected species (Level I or II nationally protected species), or not a high-priority protected species?

- Yes | No | Probably yes | Level I nationally protected species
- Level II nationally protected species
- Level III nationally protected species
- It is a protected species but I do not know the level of its protection
- Don't know

41.d) [Single choice] Does this species eat leaves?

- Yes | Probably yes | No | Don't know
- It eats fruit | It eats crabs | It eats fishes | It eats shells
- It eats cassava | It eats sweet potato
- It eats bark | It eats tree roots | It eats everything

[Black giant squirrel, *Ratufa bicolor*]

42.a) [Single choice] Do you know this animal?

- Yes, name: 大松鼠 (Giant squirrel)
- Yes, name: 海南大松鼠 (Hainan giant squirrel)
- Yes, name: “suo” (Giant squirrel—Li language)
- Yes, name: “格酪” (Giant squirrel—Li language)
- Yes, name: 小松鼠 (Striped squirrel—Li language)
- Yes, name: “隔六” (Striped squirrel—Li language)
- Yes, name: “溜” (Striped squirrel—Li language)
- Yes, name: “吱溜” (Striped squirrel—Li language)
- Yes, name: 松鼠 (Squirrel)

Yes, name: _____

Yes, but I do not know its name

Don't know

42.b) [Single choice] Do you think this animal exists in the forest of Bawangling National Nature Reserve?

Exists here now

Maybe exists here now

Existed here in the past but not any more

Existed here in the past but do not know about now

Existed here in the past but is rare now

Did not exist here in the past but now exists here

They have never existed here

Don't know

42.c) [Single choice] Is this species a high-priority protected species (Level I or II nationally protected species), or not a high-priority protected species?

Yes | No | Probably yes | Level I nationally protected species

Level II nationally protected species

Level III nationally protected species

It is a protected species but I do not know the level of its protection

Don't know

42.d) [Single choice] Does this species eat leaves?

Yes | Probably yes | No | Don't know

It eats fruit | It eats bananas | It eats corn | It eats sugar cane

It eats cassava | It eats sweet potato | It eats nuts

It eats bark | It eats tree roots | It eats everything

[Malayan porcupine, *Hystrix brachyura*]

43.a) [Single choice] Do you know this animal?

Yes, name: 豪猪 (Porcupine)

Yes, name: 刺猪 (Porcupine)

- Yes, name: 刺猬 (Porcupine—Li language)
- Yes, name: “赖” (Porcupine—Li language)
- Yes, name: “陈” (Porcupine—Li language)
- Yes, name: _____
- Yes, but I do not know its name
- Don't know

43.b) [Single choice] Do you think this animal exists in the forest of Bawangling National Nature Reserve?

- Exists here now
- Maybe exists here now
- Existed here in the past but not any more
- Existed here in the past but do not know about now
- Existed here in the past but is rare now
- Did not exist here in the past but now exists here
- They have never existed here
- Don't know

43.c) [Single choice] Is this species a high-priority protected species (Level I or II nationally protected species), or not a high-priority protected species?

- Yes | No | Probably yes | Level I nationally protected species
- Level II nationally protected species
- Level III nationally protected species
- It is a protected species but I do not know the level of its protection
- Don't know

43.d) [Single choice] Does this species eat leaves?

- Yes | Probably yes | No | I do not know
- It eats fruit | It eats things that are bitter
- It eats bark | It eats tree roots | It eats everything

[Hainan gibbon, *Nomascus hainanus*]

44 [Single choice] Do you know this animal?

- Yes, name: 长臂猿 (Gibbon)
- Yes, name: “胃” (Gibbon—Li language)
- Yes, name: “费” (Gibbon—Li language)
- Yes, name: 猿 (Ape)
- Yes, name: 大猩猩 (Gorilla)
- Yes, name: 猩猩 (Orangutan)
- Yes, name: 猴 (Monkey)
- Yes, name: 猴子 (Monkey)
- Yes, name: “no” (Monkey—Li language)
- Yes, name: _____
- Yes, but I do not know its name
- Don't know

If they did not recognise the gibbon from the picture, or if they use an alternative name that is not recognised, go to question 45.a, 45.b and 45.c

Otherwise go to question 44.a, 44.b and 44.c

44.a) [Single choice] Does this species eat leaves?

- Yes | No | Don't know | It eats fruit

44.b) Can you describe other characteristics of this animal?

- Don't know
- It has long arms
- I heard it sing loudly in a tree
- It is the ancestor of humans
- It looks like a human
- It lives in the trees all its life and never goes down to the ground
- It drinks water in trees
- It is black
- It is yellow

- It is a national Level I protected animal
- People used to hunt it
- Its arm bones can be used to make chopsticks that are sensitive to poisons.
- Other: _____

44.c) [Single choice] Do you think this animal exists in the forest of Bawangling National Nature Reserve?

- Exists here now
- Maybe exists here now
- Existed here in the past but not any more
- Existed here in the past but do not know about now
- Existed here in the past but is rare now
- Did not exist here in the past but now exists here
- They have never existed here
- Don't know

If they think that gibbons live in the forest of Bawangling National Nature Reserve, go to question 46

If they do not think that gibbons live in the forest of Bawangling National Nature Reserve, go to question 47

45.a) [Single choice] Do you think there are any gibbons (i.e. use standard Chinese word 长臂猿 or use Li language word “胃” / “费”) in the forest of Bawangling National Nature Reserve?

- Exists here now
- Maybe exists here now
- Existed here in the past but not any more
- Existed here in the past but do not know about now
- Existed here in the past but is rare now
- Did not exist here in the past but now exists here
- They have never existed here
- Don't know

45.b) [Single choice] Do you know if gibbons eat leaves?

Yes | No | Don't know | It eats fruits

45.c) Do you know any other characteristics of gibbons?

Don't know

It has long arms

I heard it sing loudly in a tree

It is the ancestor of humans

It looks like a human

It lives in the trees all its life and never goes down to the ground

It drinks water in trees

It is black

It is yellow

It is a national Level I protected animal

People used to hunt it

Its arm bones can be used to make chopsticks that are sensitive to poisons.

Other: _____

If they think that gibbons live in the forest of Bawangling National Nature Reserve, go to question 46

If they do not think the gibbons live in the forest of Bawangling National Nature Reserve, go to question 47

46 How do you know that gibbons live in the forest of Bawangling National Nature Reserve?

Tick all of the responses that they say, without any prompting

I have seen them in the forest

I have heard them singing in the forest

From specific conservation education activities.

Specific activity/campaign name/details: _____

From people from Bawangling National Nature Reserve

From rangers

- From forest police
- From the local government
- From other villagers
- From the elder generation in the village
- From my child/children
- From other family members
- From other people (Chinese, Foreigners; who are they: _____)
- From TV
- From newspaper
- From billboards
- From radio
- From leaflets
- From speakers on vehicles
- From calendar
- From people from Kadoorie Farm & Botanic Garden
- From a school teacher when I was attending school
- Other: _____

If they do not specifically say they have seen or heard gibbons, go to question 46.a and 46.b

Otherwise go to question 47

46.a) [Single choice] Have you seen gibbons in the forest of Bawangling National Nature Reserve?

Yes | No | Don't know

46.b) [Single choice] Have you heard gibbons singing in the forest of Bawangling National Nature Reserve?

Yes | No | Don't know

47 Has anyone ever told you that gibbons live inside Bawangling National Nature Reserve?

Yes | No | Don't know

If their answer is “Yes”, go to question 47.a, 47.b and 47.c

Otherwise go to question 48

47.a) Who told you?

47.b) When was the most recent time that someone told you?

47.c) How many other times has someone told you, and who was it?

Describe / list how many times, when, and who

48 [Single choice] Do gibbons live anywhere else on Hainan today?

Yes | No | Don't know

If their answer is “Yes”, go to question 48.a

Otherwise, go to question 49

48.a) Where else do they live?

49 [Single choice] Did gibbons used to be found in other parts of Hainan in the past, where they no longer occur today?

Yes | No | Don't know

If their answer is “Yes”, go to question 49.a

If they think that gibbons exist today or in the past anywhere on Hainan (including in Bawangling and/or elsewhere), go to question 50

If they do not think that gibbons exist today or in the past anywhere on Hainan (including in Bawangling and/or elsewhere), but they have answered something about gibbons, go to question 55

If they do not think that gibbons exist today or in the past anywhere on Hainan

(including in Bawangling and/or elsewhere) and they did not know anything about gibbons, go to question 61

49.a) Where else do they live?

50 [Single choice] Is this type of gibbon only found on Hainan, or is it found elsewhere too?

Just on Hainan | Also found elsewhere | Don't know

If their answer is "Also found elsewhere", go to question 50.a

If they think that gibbons live in the forest of Bawangling National Nature Reserve, go to question 51

If they do not think that gibbons live in the forest of Bawangling National Nature Reserve, go to question 55

50.a) Where else do they live?

51 What is the status of the gibbon population in the forest of Bawangling National Nature Reserve:

Many | Few/Rare | Extinct | Don't know

52 How many gibbons do you think are there in the forest of Bawangling National Nature Reserve?

53 How do you know the status of the gibbon population in the forest of Bawangling National Nature Reserve?

Tick all of the responses that they say, without any prompting

From specific conservation education activities.

Specific activity/campaign name/details: _____

From people from Bawangling National Nature Reserve

From rangers

From forest police

- From the local government
- From other villagers
- From the elder generation in the village
- From my child/children
- From other family members
- From other people (Chinese, Foreigners; who are they: _____)
- From TV
- From newspapers
- From billboards
- From radio
- From leaflets
- From speakers on vehicles
- From calendar
- From people from Kadoorie Farm & Botanic Garden
- From a school teacher when I was attending school
- Other: _____

54 Has anyone ever told you the status of the gibbon population inside Bawangling National Nature Reserve?

- Yes | No | Don't know

If their answer is "Yes", go to question 54.a, 54.b and 54.c

Otherwise go to question 55

54.a) Who told you?

54.b) When was the most recent time that someone told you?

54.c) How many other times has someone told you, and who was it?

Describe / list how many times, when, and who

55 Is this species a high-priority protected species (Level I or II nationally protected species), or not a high-priority protected species?

- Yes | No | Probably yes | Level I nationally protected species
- Level II nationally protected species
- Level III nationally protected species
- It is a protected species but I do not know the level of its protection
- Don't know

If their answer is "Yes" or "No", go to question 55.a and 55.b

If their answer is "I do not know", go to question 56

55.a) Can you describe the gibbon's protection level?

55.b) How do you know information about the laws concerning gibbon protection?

Tick all of the responses that they say, without any prompting

- From specific conservation education activities.
Specific activity/campaign name/details: _____
- From people from Bawangling National Nature Reserve
- From rangers
- From forest police
- From the local government
- From other villagers
- From the elder generation in the village
- From my child/children
- From other family members

- From other people (Chinese, Foreigners; who are they: _____)
- From TV
- From newspapers
- From billboards
- From radio
- From leaflets
- From speakers on vehicles
- From calendar
- From people from Kadoorie Farm & Botanic Garden
- From a school teacher when I was attending school
- Other: _____

56 Has anyone ever told you information about the laws concerning gibbon protection?

- Yes | No | Don't know

If their answer is "Yes", go to question 56.a, 56.b and 56.c

Otherwise go to question 57

56.a) Who told you?

56.b) When was the most recent time that someone told you?

56.c) How many other times has someone told you, and who was it?

Describe / list how many times, when, and who

57 What are the main things that threaten the gibbons?

If they could answer something about threats, go to question 57.a

Otherwise, go to question 58

57.a) How did you know information about the threats to gibbons?

Tick all of the responses that they say, without any prompting

From specific conservation education activities.

Specific activity/campaign name/details: _____

From people from Bawangling National Nature Reserve

From rangers

From forest police

From the local government

From other villagers

From the elder generation in the village

From my child/children

From other family members

From other people (Chinese, Foreigners, who are they: _____)

From TV

From newspapers

From billboards

From radio

From leaflets

From speakers on vehicles

From calendar

From people from Kadoorie Farm & Botanic Garden

From a school teacher when I was attending school

Other: _____

58 Has anyone ever told you information about threats to gibbons living inside Bawangling National Nature Reserve?

Yes | No | Don't know

If their answer is "Yes", go to question 58.a, 58.b and 58.c

Otherwise go to question 59

58.a) Who told you?

58.b) When was the most recent time that someone told you?

58.c) How many other times has someone told you, and who was it?

Describe / list how many times, when, and who

59 What do you think you/your family could do to help gibbon conservation?

60 Do you know anything else about gibbons that has not been covered by this interview?
Who told you? When? How often?

61 Have people from Bawangling Nature Reserve discussed with you, or with people from this community, about your/local people's needs from the forest?

Yes, with you | Yes, with other people from village | No | Don't know

If their answer is "Yes, with you" and "Yes, with other people from village", go to question 61.a, 61.b and 61.c

Otherwise, go to question 62

61.a) When?

61.b) How often?

61.c) What do you still remember from the discussion?

62.a) [Single choice] Would you like to receive more information about wildlife conservation in Hainan?

Yes | No | Don't know | Don't mind

62.b) Why?

63.a) [Multiple choices] We are planning to do some more activities to inform you more about gibbons. Please tell us your preferred activities:

Tick all of the responses that they say, without any prompting

Group face-to-face lectures and discussions (workshops)

Posters

Photo exhibitions

Video-watching activities

Brochures

Audio announcements from mobile vehicle

- Billboard
- Painting murals
- Games and lectures for children at school
- Games and lectures for children and parents in the village
- Receive gibbon-themed calendar
- Other: _____
- Don't know
- Don't mind

63.b) Why would you prefer this specific type of activity?

64 How do you like group face-to-face lectures and discussions (workshops) to inform you about gibbons?

- Like it very much | Not like or dislike | Do not like it | Don't know
- Don't mind

65 How do you like posters to inform you more about gibbons?

- Like it very much | Not like or dislike | Do not like it | Don't know
- Don't mind

66 How do you like photo exhibitions to inform you more about gibbons?

- Like it very much | Not like or dislike | Do not like it | Don't know
- Don't mind

67 How do you like video-watching activities to inform you more about gibbons?

- Like it very much | Not like or dislike | Do not like it | Don't know
- Don't mind

68 How do you like to receive brochures to inform you more about gibbons?

- Like it very much | Not like or dislike | Do not like it | Don't know
- Don't mind

69 How do you like audio announcements from mobile vehicles to inform you more about gibbons?

Like it very much | Not like or dislike | Do not like it | Don't know
 Don't mind

70 How do you like billboards to inform you more about gibbons?

Like it very much | Not like or dislike | Do not like it | Don't know
 Don't mind

71 How do you like murals to inform you more about gibbons?

Like it very much | Not like or dislike | Do not like it | Don't know
 Don't mind

72 How do you like games and lectures for children at school to inform you more about gibbons?

Like it very much | Not like or dislike | Do not like it | Don't know
 Don't mind

73 How do you like games and lectures for children and parents in the village to inform you more about gibbons?

Like it very much | Not like or dislike | Do not like it | Don't know
 Don't mind

74 How do you like to receive gibbon-themed calendars to inform you more about gibbons?

Like it very much | Not like or dislike | Do not like it | Don't know
 Don't mind

75.a) [Multiple choices] When would you prefer the sessions to be?

Tick all of the responses that they say, without any prompting

January | February | March | April | May | June | July | August
 September | October | November | December
 Don't know Don't mind

75.b) Why would you prefer this date?

If their answer is “I do not know” or “I do not mind”, go to question 75.c
Otherwise, go to question 76

75.c) [Multiple choices] Considering that you could be busy with sowing or harvesting on your farm or doing other seasonal activities, when would be the best time for the session?

January | February | March | April | May | June | July | August

September | October | November | December

Don't know Don't mind

76.a) [Single choice] How long would you prefer each session to be?

Don't know | Don't mind

76.b) Why?

77.a) [Single choice] How often would you prefer the sessions to be?

Don't know | Don't mind

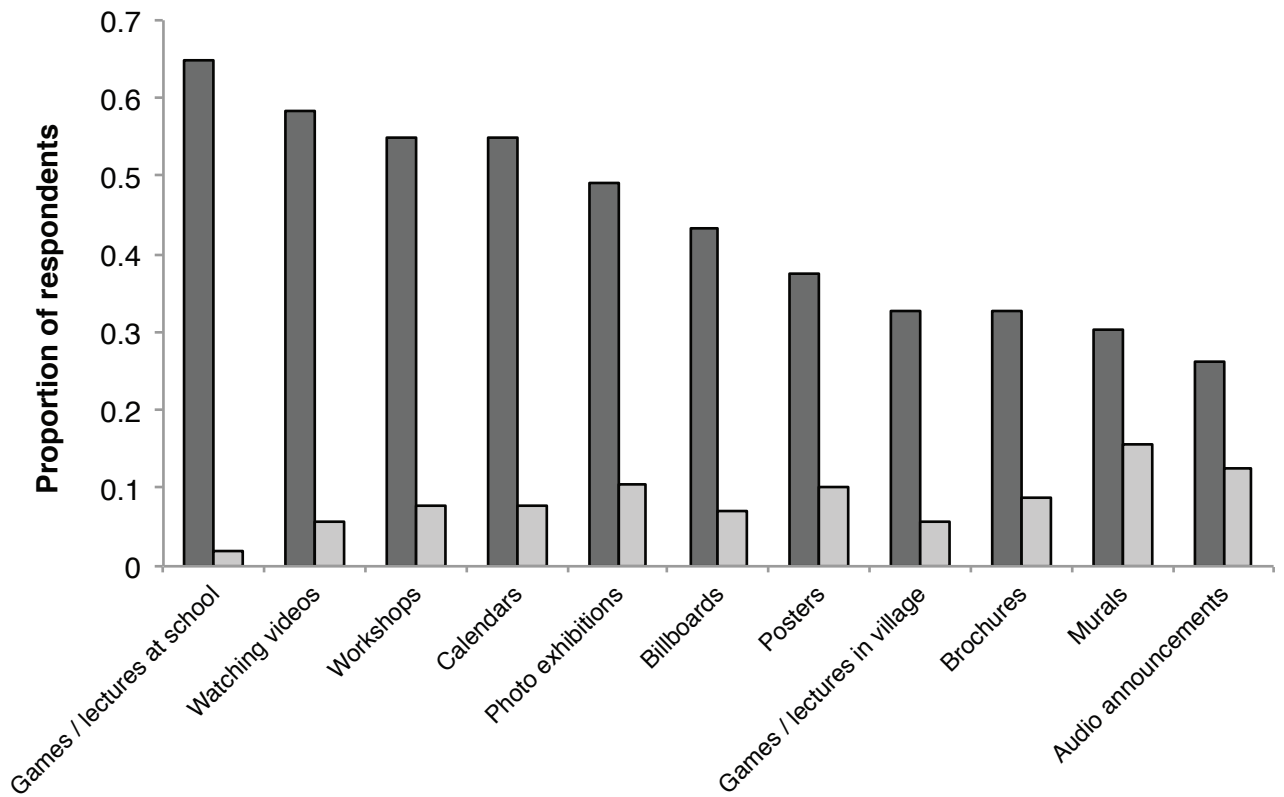
77.b) Why?

End of interview

SUPPLEMENTARY TABLE 2 Reported responses to open-ended question about gibbon characteristics.

CATEGORY	RESPONSE	NO. OF RESPONSES
Ecological characteristics	Gibbons stay in trees for their entire life.	25
	Gibbons sing very loudly.	12
	Gibbons stay in trees for their entire life; they will not even go down to the ground to drink water, but instead find a tree near a stream or river, hold onto a vine to reach the water, and use their hands to scoop up water to drink.	6
	Gibbons usually sing from 4 am to 8 am.	3
	Gibbons usually climb very high up in trees.	2
	Gibbons live in groups of 5–10 individuals. Sometimes the groups merge.	2
	Gibbons cover their wounds with leaves when injured.	1
	Gibbons have poor ability to survive.	1
	Gibbons reproduce every 3–4 years.	1
Morphological characteristics	Gibbons look like / look similar to humans.	12
	Gibbons have long arms.	7
	Black-coloured gibbons occur locally.	5
	Gibbons have a long tail.	3
	Yellow-coloured gibbons occur locally.	2
	Baby gibbons are black; adult gibbons are yellow.	1
	Gibbons are yellow at birth; they become black at around 1 year old age of one; at sexual maturity, females turn yellow again while males remain black.	1
	Females have a black patch on top of their heads.	1
	Gibbons are larger than monkeys.	1
Protected status	Gibbons are protected animals.	15
	We are protecting the gibbons.	7
	Gibbons are the most important animals in the world.	5
	We are not allowed to hunt gibbons.	4
	Gibbons are not afraid of humans any more.	1
Hunting practices	People used to hunt gibbons.	10
	Gibbon arm bones can be used to make chopsticks, which can be used to test whether food or water is poisoned. Place chopsticks into water, and they will jump if the water is poisoned, as if the water is boiling. If food is poisoned, the chopsticks will shake in your hands.	4
	People used to eat gibbon meat.	3
	You need guns to hunt gibbons. If you kill a gibbon, it will remain clinging tightly to the tree and will not fall onto the ground unless you cover the ground with fresh tree leaves.	2
	Gibbons are very afraid of humans.	2
	Gibbon gallbladder is so bitter that if you put it on your palm, the taste can seep through your hand and give the back of your hand a bitter taste.	1

	My father used to hunt gibbons. Gibbon meat does not taste good; it tastes bloody.	1
Cultural beliefs	Gibbons are the ancestors of humans.	5
	People turned into gibbons.	3
	Gibbons are spiritual animals.	2
	The older generation told us that if we kill a gibbon, a monster/bad spirit from the mountain will take away one of our family members in exchange for the gibbon's life.	2



SUPPLEMENTARY FIG.1 Percentage of total respondent sample who reported that they strongly liked (dark grey) or did not like/disliked (pale grey) different suggested methods for future conservation awareness-raising.