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*Wildlife Research*

### Supplementary Material

#### **Determinants of attitudes towards wildlife in rural Taiwan and its implications for leopard cat (*Prionailurus bengalensis*) conservation performance payment**

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**Table S1.** Question and answer options used in the questionnaire-based interview survey

<b>Question</b>	<b>Answer options</b>
<b>General questions about experience with nature</b>	
How do you feel about nature?	very good/good/neutral/bad/very bad/(I don't know)
Why?	open ended
Have you ever taken the potential influence on nature into account when you were taking decisions related to the management of your farm, orchard, land or animals?	yes/no
If yes, what decisions did you take?	open ended
If no, why not?	open ended
Where do you receive your information about wildlife?	family members friends/news/television programmes/the village or the community/other: .....
Have you ever participated in any environmental group/organization or engaged in conservation activities?	yes/no
If yes, which groups/activities?	open ended
<b>Questions asked for each species separately</b>	
Have you ever heard of pangolin/gem-faced civet/leopard cat/ferret badger?	yes/no
Can you please pick up the picture of pangolin/gem-faced civet/leopard cat/ferret badger?	
How do you feel about pangolin/gem-faced civet/leopard cat/ferret badger?	very positive/positive/neutral/negative/very negative/(I don't know)
Why?	open ended
If there is a pangolin/gem-faced civet/leopard cat/ferret badger living on your land, do you expect it to:	stay/no preference/leave/(I don't know)
Why?	open ended
What benefits do you have from living with pangolin/gem-faced civet/leopard cat/ferret badger?	open ended
How important do you feel it is to conserve pangolin/gem-faced civet/leopard cat/ferret badger?	very important/important/neutral/unimportant/very unimportant/(I don't know)
Why?	open ended
Do you think the number of pangolin/gem-faced civet/leopard cat/ferret badger in your village is:	increasing/stable/decreasing/(I don't know)
Why?	open ended
What do you think is needed to conserve pangolin/gem-faced civet/leopard cat/ferret badger in your village?	open ended
What do you expect to be the priority pangolin/gem-faced civet/leopard cat/ferret badger conservation or local development?	conservation/no preference/development/(I don't know)
Why?	open ended
If the government would provide a monetary reward to villages where pangolin/gem-faced civet/leopard cat/ferret badger occur, how much would you recommend the government to pay as a minimum to your village for presence of a pangolin /gem-faced civet/leopard cat/ferret badger?	open ended
Why?	open ended
If the government would provide a monetary reward to villages where pangolin/gem-faced civet/leopard cat/ferret badger occur, do you expect pangolin/gem-faced civet/leopard cat/ferret badger living on your land to:	stay/no preference/leave/(I don't know)
Why?	open ended
If the government would provide a monetary reward to villages where pangolin/gem-faced civet/leopard cat/ferret badger occur, what do you	conservation/no preference/development/(I don't

expect to be the priority pangolin/gem-faced civet/leopard cat/ferret badger conservation or local development? Why?	know) open ended
Have you seen pangolin/gem-faced civet/leopard cat/ferret badger in your area? Please describe the situation (when, where etc.):	yes/no open ended
<b>Demographics and personal information</b>	
Gender	male/female
Age	open ended
Education level	≤ elementary school/junior high/senior high/≥ university level
Occupation	open ended
Monthly income	< 10 000 TWD/10 000-20 000 TWD/20 000-40 000 TWD/40 000-60 000 TWD/60 000-80 000 TWD/>80 000/Other: .....
Religion	open ended
Do you keep chickens/geese/ducks/dogs/cats? How many? How do you keep chickens/geese/ducks/dogs/cats?	yes/no open ended free roaming/fenced or chained/sometimes free roaming sometimes fenced or chained/locked up in cages/other: .....

**Table S2.** Final models with significant explanatory variables (highlighted in grey) which affect attitude towards leopard cat, pangolin, gem-faced civet, ferret badger.

<b>Attitude towards a species (Positive = reference)</b>									
<b>Species</b>	<b>Significant variables</b>	<b><math>\beta</math></b>	<b>SE</b>	<b>Wald</b>	<b>df</b>	<b>p</b>	<b>Exp (<math>\beta</math>)</b>	<b>95% CI</b>	
								<b>Lower</b>	<b>Upper</b>
<b>Leopard cat</b>									
Negative	Age	0.10	0.03	10.57	1	< 0.01	1.10	1.04	1.17
	Township ( <i>Zhuolan = reference</i> )								
	Yuanli	2.58	0.96	7.30	1	< 0.01	13.21	2.03	85.95
	Sanyi	0.60	0.96	0.38	1	0.54	1.81	0.28	11.97
Neutral	Keeps poultry ( <i>None = reference</i> )								
	Poultry	2.36	0.72	10.83	1	< 0.01	10.57	2.60	43.06
	Age	0.03	0.02	3.65	1	0.06	1.03	1.00	1.07
	Township ( <i>Zhuolan = reference</i> )								
	Yuanli	0.41	0.51	0.66	1	0.42	1.51	0.56	4.10
	Sanyi	-0.74	0.49	2.29	1	0.13	0.48	0.18	1.25
	Keeps poultry ( <i>None = reference</i> )								
	Poultry	1.24	0.47	6.90	1	< 0.01	3.45	1.37	8.69
<b>Pangolin*</b>									
	<i>None</i>								
<b>Gem-faced civet</b>									
Negative	Occupation ( <i>Other = reference</i> )								
	Farmer	1.20	0.60	4.03	1	0.04	3.33	1.03	10.80
Neutral	Occupation ( <i>Other = reference</i> )								
	Farmer	-0.08	0.47	0.03	1	0.87	0.92	0.37	2.33
<b>Ferret badger</b>									
	<i>None</i>								

\*Binary logistic regression

**Table S3.** Final models with significant explanatory variables (highlighted in grey) which affect attitude towards leopard cat, pangolin, gem-faced civet, ferret badger conservation

Attitude towards a species' conservation ( <i>Important = reference</i> )								95% CI		
Species	Significant variables	$\beta$	SE	Wald	df	p	Exp ( $\beta$ )	Lower	Upper	
<b>Leopard cat</b>	Unimportant	Age	0.09	0.03	12.18	1	< 0.01	1.10	1.04	1.15
		Township ( <i>Zhuolan = reference</i> )								
		Yuanli	2.14	0.78	7.59	1	< 0.01	8.48	1.85	38.83
		Sanyi	1.02	0.82	1.55	1	0.21	2.78	0.56	13.89
		Keeps poultry ( <i>None = reference</i> )								
	Neutral	Poultry	1.61	0.60	7.20	1	< 0.01	4.98	1.54	16.07
		Age	0.02	0.02	1.66	1	0.20	1.02	0.99	1.06
		Township ( <i>Zhuolan = reference</i> )								
		Yuanli	0.11	0.59	0.03	1	0.86	1.11	0.35	3.50
		Sanyi	0.92	0.51	3.26	1	0.07	2.50	0.92	6.79
	Keeps poultry ( <i>None = reference</i> )									
	Poultry	0.32	0.48	0.44	1	0.51	1.38	0.54	3.51	
<b>Pangolin</b>	Unimportant	Age	0.07	0.03	5.32	1	0.02	1.07	1.01	1.14
		Gender ( <i>Male = reference</i> )								
		Female	1.60	0.74	4.69	1	0.03	4.93	1.16	20.89
	Neutral	Age	0.02	0.02	1.69	1	0.19	1.02	0.99	1.06
		Gender ( <i>Male = reference</i> )								
		Female	0.74	0.47	2.42	1	0.12	2.09	0.83	5.29
<b>Gem-faced civet</b>	Unimportant	Occupation ( <i>Other = reference</i> )								
		Farmer	1.26	0.52	5.81	1	0.02	3.51	1.26	9.74
	Neutral	Occupation ( <i>Other = reference</i> )								
	Farmer	0.38	0.49	0.60	1	0.44	1.46	0.56	3.82	
<b>Ferret badger</b>	<i>None</i>									

**Table S4.** Final models with significant explanatory variables (highlighted in grey) which affect tolerance to leopard cat, pangolin, gem-faced civet, ferret badger without conservation performance payment

<b>Tolerance to the species (<i>Stay = reference</i>)</b>									
<b>Species</b>	<b>Significant variables</b>	<b><math>\beta</math></b>	<b>SE</b>	<b>Wald</b>	<b>df</b>	<b>p</b>	<b>Exp (<math>\beta</math>)</b>	<b>95% CI</b>	
								<b>Lower</b>	<b>Upper</b>
<b>Leopard cat</b>									
Leave	Township ( <i>Zhuolan = reference</i> )								
	Yuanli	1.44	0.58	6.10	1	0.01	4.21	1.35	13.16
	Sanyi	0.24	0.57	0.19	1	0.67	1.28	0.42	3.86
	Keeps poultry ( <i>None = reference</i> )								
No preference	Poultry	1.52	0.51	8.82	1	< 0.01	4.55	1.67	12.39
	Township ( <i>Zhuolan = reference</i> )								
	Yuanli	0.06	0.58	0.01	1	0.92	1.06	0.34	3.28
	Sanyi	-0.21	0.52	0.17	1	0.69	0.81	0.30	2.23
	Keeps poultry ( <i>None = reference</i> )								
Poultry	0.17	0.55	0.10	1	0.76	1.18	0.40	3.48	
<b>Pangolin</b>									
Leave	Township ( <i>Zhuolan = reference</i> )								
	Yuanli	0.65	0.69	0.91	1	0.34	1.92	0.50	7.37
	Sanyi	0.18	0.73	0.06	1	0.80	1.20	0.29	5.00
	Gender ( <i>Male = reference</i> )								
No preference	Female	0.55	0.62	0.80	1	0.37	1.74	0.52	5.84
	Township ( <i>Zhuolan = reference</i> )								
	Yuanli	-1.13	0.49	5.29	1	0.02	0.32	0.12	0.85
	Sanyi	-0.68	0.47	2.11	1	0.15	0.50	0.20	1.27
	Gender ( <i>Male = reference</i> )								
Female	1.13	0.48	5.65	1	0.02	3.11	1.22	7.93	
<b>Gem-faced civet</b>									
Leave	Gender ( <i>Male = reference</i> )								
	Female	1.81	0.82	4.91	1	0.03	6.09	1.23	30.09
No preference	Gender ( <i>Male = reference</i> )								
	Female	1.17	0.83	2.01	1	0.16	3.23	0.64	16.28
<b>Ferret badger</b>	<i>None</i>								

**Table S5.** Final models with significant explanatory variables (highlighted in grey) which affect change in tolerance to leopard cat, pangolin, gem-faced civet, ferret badger in response to a conservation performance payment scenario

Change in tolerance with conservation performance payment ( <i>Positive = reference</i> )								95% CI	
Species	Significant variables	$\beta$	SE	Wald	df	p	Exp ( $\beta$ )	Lower	Upper
<b>Leopard cat</b>									
Negative change	Age	0.07	0.03	4.57	1	0.03	1.07	1.01	1.14
	Encountered ( <i>No = reference</i> )								
No change	Yes	-0.90	0.78	1.34	1	0.25	0.41	0.09	1.87
	Age	0.01	0.02	0.15	1	0.70	1.01	0.97	1.04
	Encountered ( <i>No = reference</i> )								
	Yes	-1.12	0.42	7.01	1	0.01	0.33	0.14	0.75
<b>Pangolin</b>									
Negative change	Age	-0.01	0.03	0.17	1	0.68	0.99	0.93	1.05
No change	Age	0.04	0.02	8.20	1	<0.01	1.05	1.01	1.08
<b>Gem-faced civet*</b>									
No change	Encountered ( <i>No = reference</i> )								
	Yes	1.19	0.56	4.59	1	0.03	3.29	1.11	9.79
<b>Ferret badger*</b>									
No change	Encountered ( <i>No = reference</i> )								
	Yes	1.82	0.81	5.03	1	0.03	6.16	1.26	30.16

\*Binary logistic regression

**Table S6.** Final models with significant explanatory variables (highlighted in grey) which affect prioritization of leopard cat, pangolin, gem-faced civet, ferret badger conservation versus local development without conservation performance payment

Prioritization species' conservation over local development ( <i>Conservation = reference</i> )								95% CI		
Species	Significant variables	$\beta$	SE	Wald	df	P	Exp ( $\beta$ )	Lower	Upper	
<b>Leopard cat</b>	Development	Age	0.05	0.02	8.37	1	<0.01	1.06	1.02	1.09
		Township ( <i>Zhuolan = reference</i> )								
		Yuanli	0.87	0.54	2.59	1	0.11	2.39	0.83	6.93
		Sanyi	0.54	0.53	1.02	1	0.31	1.72	0.60	4.88
	No preference	Age	0.04	0.02	2.97	1	0.09	1.04	1.00	1.09
		Township ( <i>Zhuolan = reference</i> )								
	Yuanli	1.00	0.75	1.77	1	0.18	2.72	0.62	11.89	
	Sanyi	1.53	0.68	5.09	1	0.02	4.64	1.22	17.58	
<b>Pangolin</b>	<i>None</i>									
<b>Gem-faced civet</b>	Development	Township ( <i>Zhuolan = reference</i> )								
		Yuanli	-0.65	0.68	0.91	1	0.34	0.52	0.14	1.98
		Sanyi	-1.57	0.65	5.78	1	0.02	0.21	0.06	0.75
		Education ( $\geq$ <i>University = reference</i> )								
		$\leq$ Elementary school	2.30	0.81	8.09	1	<0.01	9.98	2.05	48.67
		Junior high	-0.32	0.90	0.12	1	0.73	0.73	0.13	4.24
		Senior high	1.45	0.72	4.08	1	0.04	4.25	1.04	17.30
	No preference	Township ( <i>Zhuolan = reference</i> )								
		Yuanli	-0.21	0.88	0.06	1	0.82	0.81	0.15	4.54
		Sanyi	-0.29	0.80	0.13	1	0.72	0.75	0.16	3.58
	Education ( $\geq$ <i>University = reference</i> )									
	$\leq$ Elementary school	1.16	1.08	1.15	1	0.28	3.20	0.38	26.66	
	Junior high	1.14	0.96	1.39	1	0.24	3.12	0.47	20.65	
	Senior high	0.87	0.96	0.83	1	0.36	2.39	0.37	15.54	
<b>Ferret badger</b>	<i>None</i>									



**Table S7.** Final models with significant explanatory variables (highlighted in grey) which affect change in prioritization of leopard cat, pangolin, gem-faced civet, ferret badger conservation versus local development in response to a conservation performance payment scenario

Change in prioritization with conservation performance payment ( <i>Positive = reference</i> )								95% CI	
Species	Significant variables	$\beta$	SE	Wald	df	p	Exp ( $\beta$ )	Lower	Upper
<b>Leopard cat</b>									
Negative change	Age	-0.03	0.03	0.88	1	0.35	0.97	0.92	1.03
	Gender ( <i>Male = reference</i> )								
No change	Female	-0.55	0.75	0.53	1	0.47	0.58	0.13	2.53
	Age	-0.05	0.02	5.04	1	0.03	0.95	0.91	0.99
	Gender ( <i>Male = reference</i> )								
	Female	-1.30	0.58	5.03	1	0.03	0.27	0.09	0.85
<b>Pangolin</b>									
	<i>None</i>								
<b>Gem-faced civet*</b>									
	<i>None</i>								
<b>Ferret badger*</b>									
No change	Encountered ( <i>No = reference</i> )								
	Yes	2.39	1.09	4.84	1	0.03	10.91	1.30	91.61

\*Binary logistic regression

**Table S8.** Overview home range sizes (mean  $\pm$  SD) leopard cat, Chinese pangolin, gem-faced civet, ferret badger, crab eating mongoose and small Indian civet.

Species	Home range size (mean $\pm$ SD)		Reference
	100%MCP	95%Kernel	
Leopard cat	5.0 $\pm$ 3.2 km <sup>2</sup>	4.7 $\pm$ 2.1 km <sup>2</sup>	Chen et al., 2016
Chinese pangolin	0.31 $\pm$ 0.27 km <sup>2</sup>	-	Lin, 2011
Gem-faced civet	3.90 $\pm$ 2.35 km <sup>2</sup>	-	Zhou et al., 2014
Ferret badger	1.89 $\pm$ 1.83 km <sup>2</sup>	-	Zhang et al., 2010
Crab eating mongoose	-	0.45 $\pm$ 2.1 km <sup>2</sup>	Weng, 2010
Small Indian civet	3.1 km <sup>2</sup>	-	Rabinowitz, 1991

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