

An Indigenous perspective on the conservation of an insular endemic: the prehensile-tailed skink *Corucia zebrata* on the Solomon Islands

PATRICK G. PIKACHA, DAVID BOSETO, IKUO TIGULU, HENSLYN BOSETO
JOSEF HURUTARAO and TYRONE H. LAVERY

Abstract The prehensile-tailed skink *Corucia zebrata* is endemic to the Solomon Islands. It is the most traded reptile from the country. During 2000–2019, CITES reported the legal export of 10,567 individuals. Although the level of this trade is well documented, impacts on the skink's survival in its native range are comparatively unknown. During January–May 2020, we surveyed 146 people on 12 islands to collect information on the habitats preferred by the prehensile-tailed skink, to understand perceptions of the species' conservation status and identify any potential threats. Respondents reported lowland and hill forests as being favoured habitats, with low proportions of respondents identifying coastal and montane forests as suitable habitat. Habitat loss (72%), hunting (17%), and predation (6%) were identified as the main threats. People younger than 30 years of age reported killing the skinks more frequently than did people over the age of 30. Prehensile-tailed skinks have a relatively small home range, long reproductive cycle, and are vulnerable to numerous threats. We thus recommend a halt to the current practice of exporting wild-caught prehensile-tailed skinks, and replacement by a well-regulated captive breeding programme.

Keywords *Corucia zebrata*, pet trade, prehensile-tailed skink, Solomon Islands, tropical forests, wildlife

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Introduction

Unsustainable harvesting for the wildlife trade has caused the decline of a number of lesser known species of herpetofauna (Schlaepfer et al., 2005). Moreover, when species are removed from the environment, the ecological contributions they make to ecosystems are reduced or eliminated (Miranda, 2017). The trade in wildlife, both legal and illegal, is a multibillion-dollar industry and is one of the foremost causes of population declines, extirpations and increased extinction risks (Symes et al., 2018).

To regulate global wildlife trade, CITES was established to protect species already threatened by trade from further losses and extinction (Janssen & Shepherd, 2018). The organization controls the wildlife trade with a focus on species of conservation concern amongst its 183 signatory countries (CITES, 2016). This regulation is managed by a system of appendices and permits/licenses (CITES, 2015, 2016). However, many species subject to international trade and in need of tighter regulation are yet to be placed under CITES restrictions (Janssen & Shepherd, 2018).

Many subsistence societies depend on wildlife as a source of protein (Boesch et al., 2017; Cornelio, 2020). Among Indigenous societies of Melanesia, the natural environment and its wildlife contribute significantly to livelihoods (Pollard et al., 2015; Brodie & Pangau-Adam, 2017), and to human physical and spiritual well-being (Naeem et al., 2016; Pikacha, 2020). Birds (Cornelio, 2020), mammals and reptiles are regularly hunted (Pikacha, 2008) or opportunistically killed as a source of protein. Over the past 3 decades, hunting practices in Melanesia have shifted from a mainly subsistence pursuit to a commercial enterprise, propelled by the advent of wildlife and pet markets, both within the region (Pangau-Adam et al., 2012) and internationally (Leary, 1990, 1991).

In the first review of the trade in terrestrial wildlife in the Solomon Islands, Leary (1991) reported the prehensile-tailed skink *Corucia zebrata* to be the most commonly exported species. Between 1987 and 1989, CITES permits showed a total of 5,886 individuals were exported from the country (Leary, 1990). In 1991, a further 3,365 individuals were exported (Leary, 1991), and during 1998–2002, 5,924 skinks were exported to the USA (Schlaepfer et al., 2005). Based on its life history traits, geographical distribution and levels of trade, the prehensile-tailed skink has been identified as

PATRICK G. PIKACHA*† (Corresponding author, orcid.org/0000-0002-1665-9067, patrick.pikacha@gmail.com), DAVID BOSETO, IKUO TIGULU and HENSLYN BOSETO Ecological Solutions–Solomon Islands, Gizo, Western Province, Solomon Islands

JOSEF HURUTARAO Ministry of Environment, Climate Change, Disaster Management and Meteorology, Solomon Islands Government, Honiara, Solomon Islands

TYRONE H. LAVERY Fenner School of Environment and Society, Australia National University, Canberra, Australia

*Also at: School of Biological Science, The University of Queensland, Brisbane, Australia

†Currently at: Pacific Adventist University, Port Moresby, Papua New Guinea

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one of the reptile species in the Solomon Islands most likely to be threatened by commercial take (Hagen et al., 2021). During 2000–2020, about half (5,728 out of 11,187) of the exports of the prehensile-tailed skink allocated for trade from the Solomon Islands were imported into the USA (CITES, undated).

The Solomon Islands Wildlife Protection and Management Act 1998 provides the legal protection for the conservation and management of wildlife, regulating the trade of animals and plants from the country (South Pacific Regional Environment Program, 2018). However, it is not uncommon in the Solomon Islands for the decisions made for the management, handling and export of wildlife to be swayed by political and economic gains rather than scientific data (Parsons et al., 2010). All prehensile-tailed skinks imported into the USA during 2000–2020 were either wild-caught (4,629 individuals), captive bred (783 individuals), of unknown source (310 individuals), or confiscated (6 individuals; CITES, undated). However, there are no captive breeding facilities in the Solomon Islands, and the size of wild populations is unknown (Hagen et al., 2021). Additionally, despite the absence of captive breeding facilities in the Solomon Islands for birds, high quantities of both native and non-native birds are exported from the country (Shepherd et al., 2012). This means that reports in the CITES database of the source of reptiles and birds exported from the Solomon Islands as captive bred are probably incorrect and fraudulent.

The prehensile-tailed skink is endemic to the Solomon Islands archipelago (McCoy, 2006; Hagen et al., 2012). It occurs on most of the large islands, with the western-most population on Buka in the Autonomous Region of Bougainville (Papua New Guinea), and the eastern-most population on Makira island (McCoy, 2006; Hagen et al., 2012). It is the largest arboreal skink (McCoy, 2006), a forest specialist (Richmond et al., 2018), herbivorous (Cooper, 2000), and the only known species of skink with a prehensile tail (McCoy, 2006). Its home range is usually limited to the canopy of a single tree (Hagen & Bull, 2011), and the reproductive rate of this live-bearing species is relatively low, as females bear only one or two young following a 6–7 month gestation (McCoy, 2006).

The prehensile-tailed skink is categorized as Near Threatened on the IUCN Red List because of significant decline, possibly at a rate of 30% over 10 years (Hagen et al., 2021). Several threats are evident: the species is prized bushmeat (Moyle et al., 2015; Pollard et al., 2015), its habitat is being exterminated at an unprecedented rate (Global Witness Report, 2018), it is preyed upon by raptors (Pikacha et al., 2012) and threatened by illegal collection for the pet trade (Hagen et al., 2021). The combination of high volumes of trade in wild-caught individuals, traditional hunting pressure, loss of forests and a low reproductive rate could potentially cause the extirpation of the prehensile-

tailed skink on some islands. There has been no study on the traditional collection of the prehensile-tailed skink, on perceptions of its conservation status, or an analysis of the pressures of commercial trade.

Here we present the first study of the prehensile-tailed skink based on traditional ecological knowledge. Using questionnaire surveys and informal interviews, we examine the interaction of people with the prehensile-tailed skink, examine perceptions of abundance and population trends, and record the perceived threats to the species. Based on our findings, we present recommendations for conservation and management of the prehensile-tailed skink in the Solomon Islands.

Study area

The Solomon Islands form one of the largest archipelagos in the South Pacific, with 992 islands (Fig. 1; Pikacha, 2008) and a human population of 721,455 (Solomon Islands National Statistics Office, 2020). The main islands in the north include Bougainville (Autonomous Region of Bougainville, Papua New Guinea), Choiseul and Isabel, and to the south the New Georgian islands, Guadalcanal, Malaita and Makira. The main islands comprise tropical rainforest (Pikacha, 2017), with 79.1% forest cover, and 49.9% categorized as primary forest (Mongabay, undated). During 1990–2010, 4.8% (111,000 ha) of forest cover was lost (Mongabay, undated). The country has reported high, unsustainable harvesting of timber (Katovai et al., 2015; Global Witness Report, 2018). The climate is relatively constant throughout the year but with seasonal changes in rainfall (Pacific Climate Change Science Portal, 2011).

Methods

During January–May 2020, we conducted a questionnaire survey with community members from 75 coastal, 36 lowland (2–5 km from the coastline) and 35 inland villages (> 5 km from the coastline; Supplementary Table 1; Fig. 1). Prehensile-tailed skinks (Plate 1) are opportunistically hunted as a food source on all of the islands on which we conducted a survey (McCoy, 2006; Pikacha, 2008; Hagen et al., 2021).

Sampling approach and data collection

We designed a questionnaire following examples used by similar ethnozoological studies (Jaroli et al., 2010) of threatened and cryptic (Soewu, 2008; Pedregosa-Hospdarsky et al., 2009) and traded wildlife (TRAFFIC, 2008). The questionnaire interviews were conducted by DB, HB and PGP with the help of research assistants, in the Unu (Makira island) and Marovo (New Georgia, Nggatokae and Vangunu islands) languages, and for other islands in pidgin, the

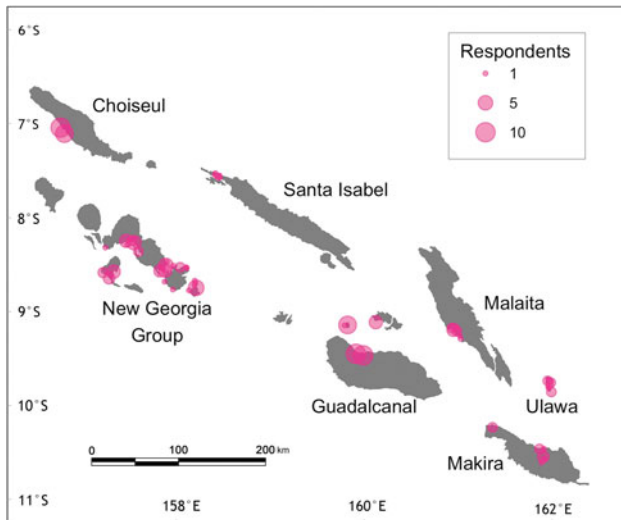


FIG. 1 The number of survey respondents across the range of the prehensile-tailed skink *Corucia zebrata* in the Solomon Islands.



PLATE 1 A wild prehensile-tailed skink *Corucia zebrata* in a hill forest on Kolombangara Island, Solomon Islands. Photos: Dylan Bush.

lingua franca (Jourdan, 2009). We aimed to interview equal numbers of respondents from each age group. However, the demographic bias of the Solomon Islands population (with a high proportion of the population < 30 years of age; South Pacific Regional Environment Program, 2019; Solomon Islands National Statistics Office, 2020) was reflected in the age composition of the respondents. We selected informants from a variety of locations, with varying levels of experience, and who had regular interaction with the forest, such as hunters or forest dwellers.

We used a mixed-method approach (Creswell & Creswell, 2018) to generate information about threats to the prehensile-tailed skink, with 146 questionnaires and 12 qualitative semi-structured interviews. The semi-structured interviews were on Uluwa island by HB, and on Vangunu island by PGP. The questionnaire (Supplementary Material 1) had five sections, to identify: (1) informant data, (2) knowledge of the forest, (3) perception of population trends of the prehensile-tailed skink (abundant, rare, unsure), (4) observations of habitat and feeding resources of the skink, and (5) perceptions of the best conservation approaches

that could be used. We classified habitats using the established Solomon Islands forest types: montane, hill or ridge, lowland and coastal (Shenk, 1994). We also questioned whether the species was *tabu* (Solomon pidgin: to ban, or 'no take'), an Indigenous resource management method practised throughout Melanesia (Whitmore et al., 2016; Basel et al., 2020) that involves setting up a no harvest zone in a patch of forest or on a reef. This ban on resource harvesting may be occasioned by the death of a chief or village elder, or in preparation for a forthcoming community feast. The length of the ban is determined by the chief, village elders and resource dependent communities, and is of variable length (from a few months to several years; Whitmore et al., 2016).

Data on the export of wildlife from the Solomon Islands was acquired from CITES (undated; UNEP-WCMC, 2013) for 2000–2020. We extracted data for the prehensile-tailed skink on numbers exported and the countries of import.

Data analysis

We analysed questionnaire responses quantitatively using the MASS library (Venables & Ripley, 2002) in R 4.0.2 (R Development Core Team, 2016). We used log-linear models to test whether perceptions about the abundance of the prehensile-tailed skink, knowledge of *tabu* protection relevant to the species, amount of time spent in the forest, and responses to finding prehensile-tailed skinks in the forest varied with age or island of residence. We also compiled statistics on the perceptions of preferred habitat type and the most important food resources for the species.

Results

Trade of prehensile-tailed skinks

During 2000–2003, high numbers of prehensile-tailed skinks were exported from the Solomon Islands. The trade declined to almost zero in 2009, with no exports until 2015 when the trade resumed and increased (Fig. 2). Most of the skinks exported were declared to have been sourced from the wild (Fig. 2). The majority of exports were to the USA, followed by Japan, France, Slovenia, Malaysia and Thailand, and with a few exports to six other countries (Fig. 3).

Frequency of visits to the forest by respondents

There was no relationship between how many days per year respondents visited the forest and their age ($F = 0.34$, $df = 4$, $P = 0.89$) or the location (or distance from the coastline) of their village ($F = 0.34$, $df = 2$, $P = 0.72$). However, there was between-island variation in how many days per year respondents visited the forest ($F = 5.27$, $df = 10$, $P < 0.01$).

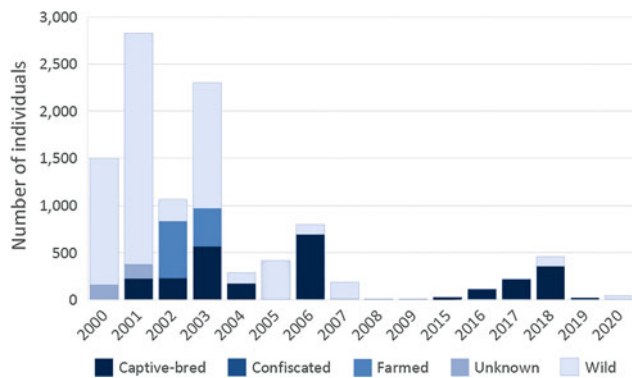


FIG. 2 The number of prehensile-tailed skinks, including their parts and derivatives, exported from the Solomon Islands during 2000–2020 recorded as captive-bred, confiscated or seized, farmed or born in captivity (but note this may not comply with the definition of ‘bred in captivity’ in CITES Resolution Conf. 10.16 (Rev.)), of unknown source, and sourced from the wild (UNEP-WCMC, 2013).

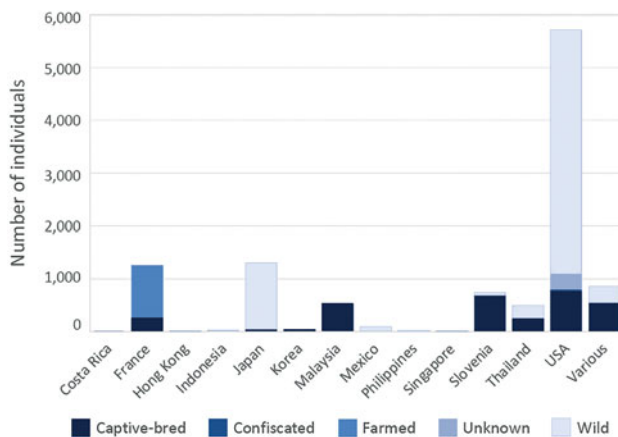


FIG. 3 Summary of the countries importing prehensile-tailed skinks, including their parts or derivatives, from the Solomon Islands during 2000–2020, recorded as captive-bred, confiscated or seized, farmed or born in captivity (but note this may not comply with the definition of ‘bred in captivity’ in CITES Resolution Conf. 10.16 (Rev.)), of unknown source, and sourced from the wild (UNEP-WCMC, 2013).

On average, respondents from Guadalcanal, Isabel, New Georgia, Nggatokae, Rendova, Ulawa and Vangunu islands visited the forest more often than respondents on other islands (Fig. 4, Supplementary Table 2).

In response to the question about whether there has been alteration to primary forests or not, most reported observing some change, and a low per cent reported there had been no change, little change or a big change (Table 1). The 90% of respondents that reported seeing changes described these alterations as having been the result of deforestation (from gardening, logging and establishment of coconut plantations), increased landslides, flooding, reduced river flow and rivers drying, and overharvesting of forest foods.

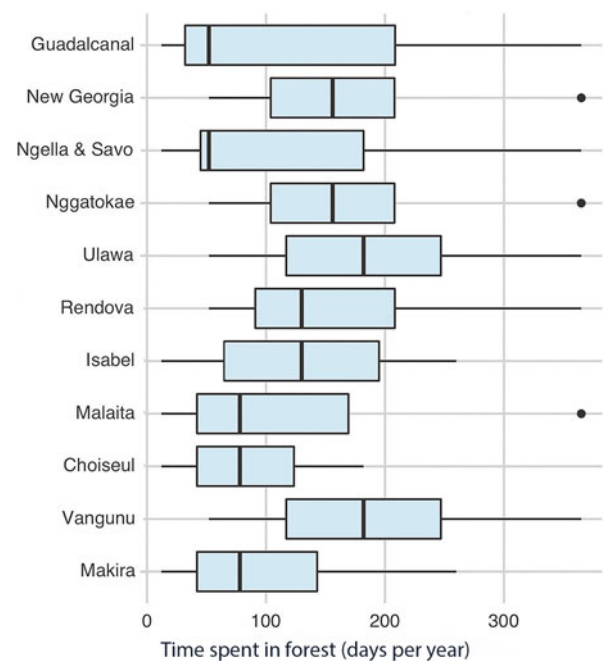


FIG. 4 Responses of a total of 146 interviewees from 12 islands to the question ‘How much time do you spend in the forest per year?’. The centre line indicates the median, the box the interquartile range, the whiskers $1.5 \times$ the interquartile range, and the dots indicate outliers.

The 4% of respondents that reported having seen no change to the forest were from Zaira village, located within an intact forest corridor extending from lowland to montane forests on Vangunu Island. The residents of Zaira reported only the use of traditional subsistence gardening.

Habitat and diet

To the question ‘In what forest type or habitat have you encountered prehensile-tailed skinks?’ most respondents stated lowland forests, followed by other forest types, or the intersection between forest types (Supplementary Table 3, Fig. 5). When respondents were asked ‘What is the state of the forest where the prehensile-tailed skinks were seen?’ most respondents in all age groups stated that the forest was undisturbed. Other respondents reported encounters with the skink in both disturbed and undisturbed forest, some observed the species in disturbed forest, and a few were unsure (Supplementary Table 3).

Regarding the skink’s diet, the majority of respondents (52%) stated that leaves, such as those of *Ficus benjamina*, *Ficus tinctoria*, *Ficus virgata*, *Ficus glandulifera*, *Ficus wassa*, *Ficus copiosa*, *Gnetum gnemon* and *Epipremnum* sp. (*Ahuto* or *mama’a* in Unu, Makira Island), were the main diet. Other foods mentioned by respondents were fruits (5%), ferns (3%) and vines (3%); 37% of respondents were unsure about the species’ diet.

TABLE 1 Per cent of responses of 146 respondents to the question 'Have you seen change to the forest in your specific area over your life-time?', with the types of changes perceived.

Perception of change	% of respondents	Type of change
Unsure	1	
No change	4	No logging; only subsistence gardening
Little change	3	Deforestation for timber, gardening & road construction
Some change	90	Clearance for coconut plantations & village expansion; depletion of harvestable timber trees, bamboo & rattan; development; floods & landslides
Big change	2	Logging & severe deforestation from repeated re-entry logging (a logging concession that is harvested multiple times, & where there is a marked reduction in tree girth with each successive logging operation)

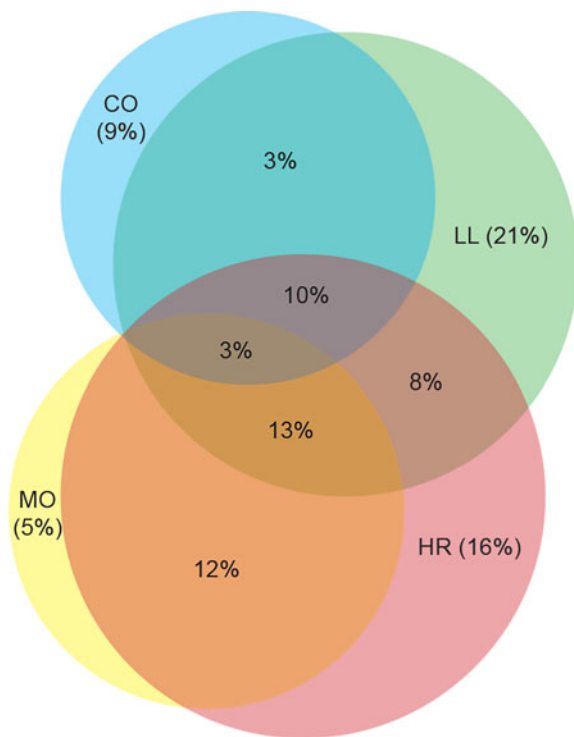


FIG. 5 Venn diagram showing per cent of responses of 146 respondents to the question, 'In what forest type or habitat have you encountered prehensile-tailed skinks?'. Overlaps between circles indicate where respondents listed multiple forest types. MO, montane; HR, hill or ridge; LL, lowland; CO, coastal.

Hunting and conservation

There was age-dependent variation in the responses to the question 'What do you do to the prehensile-tailed skinks when you see them in the forest?'. Younger people (aged ≤ 30 years) reported killing prehensile-tailed skinks more frequently than older people (aged > 30 years) ($F = 2.80$, $df = 5$, $P = 0.02$; Fig. 6a). The highest rates of hunting were reported from Makira (80% of respondents), followed by Isabel (38%), Guadalcanal (15%), Choiseul (11%), Savo (11%), Malaita (10%), Vangunu (9%) and New Georgia (4%). There was no hunting reported on Nggatokae,

Rendova, and Ulawa islands. On Nggatokae, the majority of people follow the Seventh-Day Adventist Church, whose tenets forbid the consumption of the species. On Rendova and Ulawa, the majority of respondents visited the forest to attend to gardens, subsequent to harvesting bush material, and cutting and milling timber (Supplementary Table 2). All respondents on Guadalcanal and Makira (100%), and nearly all on Isabel, reported that prehensile-tailed skinks were killed for food (Fig. 6b).

In response to the question 'What are the major threats to the prehensile-tailed skinks?' respondents identified habitat loss (73% of respondents), hunting (17%) and predation (6%); 3% were unsure and one respondent stated the impacts of climate change. A large per cent of respondents on Vangunu (89%), Choiseul (72%), Makira (70%) and Malaita (70%) reported that skink populations were in decline (Supplementary Table 2), whereas a large per cent of respondents on other islands thought skink populations were abundant or stable: Guadalcanal (95%), New Georgia (92%), Savo (78%), Nggatokae (70%), Ulawa (66%), Rendova (56%) and Isabel (50%) (Supplementary Table 2).

There was no relationship between respondents' age and when they last saw the prehensile-tailed skink ($F = 1.057$, $df = 5$, $P = 0.39$). The perceptions of whether the skink was rare or abundant depended on how much time they spent in the forest ($F = 5.15$, $df = 1$, $P = 0.03$) and on the island on which they lived ($F = 6.05$, $df = 10$, $P < 0.01$). The majority of respondents believed prehensile-tailed skinks were still abundant (59%), with fewer reporting them to be rare (36%), and 5% being unsure (Fig. 7).

Traditional conservation

In response to the question 'Is the prehensile-tailed skink traditionally a *tabu* or a managed species?', the majority of respondents indicated it is not (Fig. 8). The majority of respondents on Choiseul, Guadalcanal and Ngella and Savo were unsure, whereas respondents on most other islands indicated the skink is not *tabu* (Fig. 8). A few respondents from Guadalcanal, New Georgia, Nggatokae, Rendova and

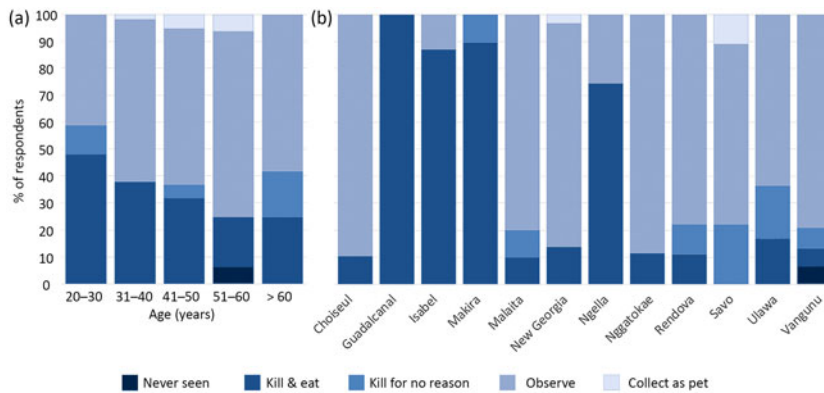


FIG. 6 Responses of a total of 146 interviewees to the question 'What do you do when you see the prehensile-tailed skink?' by (a) age group, and (b) island.

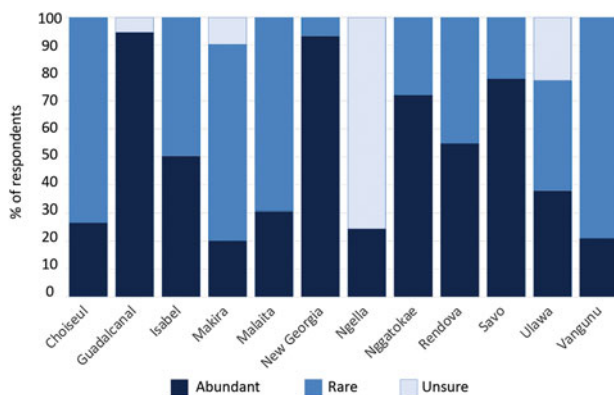


FIG. 7 Responses of 146 interviewees to the question 'Do you think the prehensile-tailed skink is rare or abundant, or are you unsure?' by island.

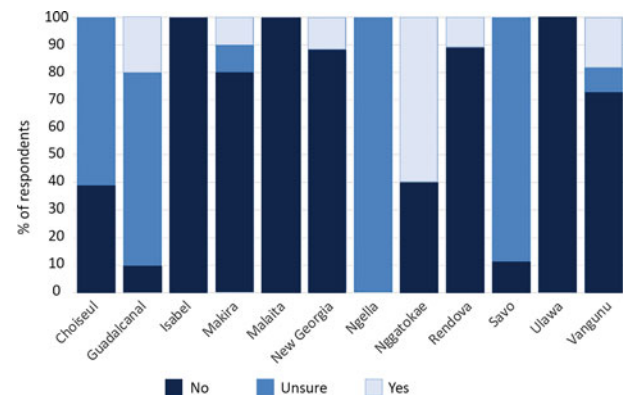


FIG. 8 Responses to the question 'Is the prehensile-tailed skink traditionally a *tabu* or protected, or a managed species?' by island.

Ulawa islands said the skinks were protected by the setting aside of traditional no-take zones. A respondent on Ulawa stated the skink is historically important, as the animal is depicted on traditional wooden bowls. To conserve this species, respondents recommended direct species conservation, preservation of habitat and improving awareness, and a few were unsure what to recommend (Table 2).

Discussion

Despite the popularity of the prehensile-tailed skink in the live pet trade, limited information is available on the biology of this species in the wild. This reflects the absence of scientific study, but not necessarily that knowledge of the species is lacking. The Indigenous people of the Solomon Islands have traditional knowledge of the prehensile-tailed skink, and we have presented some of this here for the first time, along with people's perceptions of the conservation status of this species and the demographics of hunters.

Our study highlights the cultural and economic dependence of rural Solomon Islands communities on forests. Some respondents spent more than half of the year engaged in some way with the forest. Forests provide food (Lavery

et al., 2016), building materials (Pikacha, 2008), logs (Katovai et al., 2021) and wildlife that is sold to generate income (Shepherd et al., 2012). As expected, the majority of respondents reported seeing changes to the forest in their lifetime. The Solomon Islands have experienced extensive unsustainable logging and loss of critical habitats for many species (Morrison et al., 2007; Lavery et al., 2016; Global Witness Report, 2018).

Research suggests that the principal habitat of the prehensile-tailed skink is lowland primary forest (McCoy, 2006; Hagen & Bull, 2011) but our respondents believed the species inhabits a range of forest types, including disturbed or secondary forests. It is not unusual to find the prehensile-tailed skink at disturbed forest sites near villages, occupying a single strangler fig tree *Ficus* sp. (Hagen & Bull, 2011; Boseto & Pikacha, 2016; Hagen et al., 2021). Secondary forests comprise a substantial proportion of forest cover (Chokkalingam & Jong, 2001), and are also habitat for other endemic and native reptiles such as the western crocodile skink *Tribolonotus pseudoponceleti*, Solomon Islands blue-tailed skink *Emoia pseudocyanura*, Solomons tree dragon *Hypsilurus macrolepsis* and white-striped cape skink *Eugongylus albobfasciolatus* (Lavery et al., 2016). Our

TABLE 2 Per cent of responses of 146 respondents to the question 'How would you protect the prehensile-tailed skink?', including conservation approaches recommended by the respondents, and descriptions and notes from interviews.

Recommended conservation approach	% of respondents	Description/notes from interview
Direct species conservation	55	Captive breed skink, do not kill skink, establish law to conserve species or regulate harvest, monitor population, stop harvest for export
Preserve habitat (forest)	27	Avoid logging, no cutting trees of large girth or strangler figs, protect forest, cease slash & burning forest clearance
Increase awareness	6	Increase awareness of species, reduce hunting pressure on the skink
Unsure	12	Do not know what to do, would try something but not sure what

respondents reported that the prehensile-tailed skink is abundant. Quantifying this abundance is problematic, as most animals are recorded after trees are felled (Read & Moseby, 2006) and the species is difficult to see in the forest canopy (Richmond et al., 2018; Hagen et al., 2021).

The impacts of commercial logging vary depending on species biology, and negative impacts on some vertebrates may be less than generally assumed (Meijaard et al., 2005). The impacts of commercial logging on forest bats in the Solomon Islands was greatest for endemic species (Lavery et al., 2020). In addition to being endemic to the Solomon Islands, life history traits (e.g. large-bodied, slow moving, low reproductive output, small home range) may predispose the prehensile-tailed skink to a high risk of extinction (McCoy, 2006; Meijaard & Sheil, 2008; Hagen & Bull, 2011). However, a limited home range (Hagen & Bull, 2011) and a preference for large strangler figs (Boseto & Pikacha, 2016) may reduce the impacts of logging on the species (McCoy, 2006). Strangler figs are not a commercially valuable species, and loggers often leave them standing. It is possible that prehensile-tailed skinks can persist in human-altered forests provided their host trees remain intact. The prehensile-tailed skink was caught in the interior forests of Malaita at Gofou, an area that was logged just prior to biodiversity surveys conducted by Kansas University (Moyle et al., 2015).

It may be that people's knowledge of the distinct habitat of the species makes it vulnerable to hunting pressures. On Makira the majority of respondents reported hunting as the reason for visiting the forest, and said the species was declining. In contrast, on Guadalcanal the majority of people

interviewed said the species was still abundant. Our results showed that most people visited the forest for gardening rather than hunting. Regardless of the reasons for visiting the forest, there is opportunistic hunting and killing of the skinks for food (McCoy, 2006; Pikacha, 2008), and the species is frequently observed in disturbed habitats (Boseto & Pikacha, 2016). Moreover, cultural differences exist with respect to the ability or willingness of local people to catch lizards. Some people showed a willingness to hunt them, whereas others were less enthusiastic (Hagen & Bull, 2011).

There was a halt in the export of prehensile-tailed skinks during 2009–2014. The cause of this is unclear, but the CITES database reported an increase in live coral exports during the same period (CITES, undated). Harvesting of wild coral provides one of the highest cash returns for resource-dependent communities in the Solomon Islands (Albert et al., 2012). In rural areas where many rely on natural resources, harvesting a variety of species is part of a livelihood strategy (Robinson et al., 2018).

A greater proportion of people under 30 years of age reported killing skinks than did older respondents. This might represent a loss of awareness of the traditional cultural protection of *tabu*, which is often put in place for certain species in the Solomon Islands. Most respondents, regardless of age, indicated the skink is not a protected species, but more young people were unsure about whether the species was *tabu* or not. This could mean that this information is being lost, or that younger people have not had time to learn it. Pollard et al. (2015) reported that prehensile-tailed skinks are used as a ceremonial food and as a sacrificial offering for magic, and figure in folklore stories.

In resource-dependent communities, crocodiles, snakes, and lizards are vital food sources, yet with the exception of some lizards these are preyed on to a lesser degree and often in a subsistence manner (Klemens & Thorbjarnarson, 1995). There are few exemplars of well-managed, sustainable harvest programmes for reptiles that are economically viable and culturally acceptable.

Only 0.28% of terrestrial ecosystems of the Solomon Islands are formally protected, and logging and agriculture continue to cause habitat loss, fragmentation and degradation (Katovai et al., 2015; Global Witness Report, 2018). Prolonged unrestrained exploitation of the Solomon Islands' forests by logging (Global Witness Report, 2018) and hunting (Moyle et al., 2015) may lead to extirpation of the prehensile-tailed skink in areas where it is heavily collected (Leary, 1990). To address the intractable challenges of managing the exploitation of prehensile-tailed skinks in the wild, we make five recommendations.

Firstly, a distinctive attribute of the prehensile-tailed skink is its herbivorous diet (Wright & Skeba, 1992), which comprises mostly leaves, and our findings show a link between intact forests and the species' presence. We recommend that

forests that provide the diversity of plants necessary for the species' dietary requirements be protected through the Solomon Islands Protected Areas Act (2010) (Myren, 2018).

Secondly, we recommend a total ban on the export of wild-caught prehensile-tailed skinks.

Thirdly, given present high rates of deforestation in the Solomon Islands and high numbers of the skink collected for the pet trade, captive breeding may be imperative for the trade to be sustainable (Mann & Meek, 2004). We recommend the establishment of ethical and well managed captive breeding facilities that afford qualified animal husbandry and veterinary care (Wadding et al., 2004). To out-compete the harvesting of wild skinks, captive breeding needs to be more cost-effective and less labour intensive than obtaining skinks from the wild. With the long history of captive breeding of prehensile-tailed skinks in the pet trade (Wright, 1993), captive populations have the potential to accomplish a higher output than wild populations. Commercial breeding can curb pressure on wildlife populations and support species conservation (Tensen, 2016).

Fourthly, a sweeping change in research priorities, monitoring efforts, and legislation is critical to guarantee that commercial harvesting of wild-caught prehensile-tailed skinks is reconcilable with their long-term existence. CITES wildlife export data (CITES, undated) show that the Solomon Islands have the greatest export of wild-captured reptiles in the South-west Pacific. We recommend a comprehensive review of the export industry, especially with regard to its impact on wild stocks, and improved regulation of the export of prehensile-tailed skinks by CITES. Stringent controls on importing and exporting as per CITES policies are known to have positive conservation effects on species (Doukakis et al., 2012).

Fifthly, we recommend that ecological and conservation information on the prehensile-tailed skink, an iconic Solomon Islands species, be inserted into primary and high school curricula, to highlight the importance of protecting this endemic species. Educating children has the potential to contribute significantly to the present and future conservation of this unique reptile species.

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Ethical standards This research abided by the *Oryx* guidelines on ethical standards and was approved by a research committee within the Environment Department, Solomon Islands Government (ethics permit MECDM020311), and conforms with ethical standards for community engagement in the Solomon Islands.

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