

South Korea, January 7-12 and March 17-21, 2019

VLADIMIR DINETS

South Korea is a friendly, compact, densely populated and seriously overdeveloped country. If you've been to Japan, Korea will look strikingly familiar: Japanese and Korean cultures have common origin and have been very similar through much of their history, so in the first half of the 20th century both nations were eagerly looking forward to their full merger (these facts are well known to professional historians but vehemently denied in both countries' school textbooks, so don't expect laypeople to be aware of them). One difference is that while in both countries almost everybody knows a few words of English, only Koreans are not afraid to try using them.

South Korea has hot, humid summers and bimodal winters: usually dry and cold (down to -20°C, but mostly around zero), but sometimes warm (up to 18°C) and rainy. Autumn is nice but the risk of typhoons is high; spring is unpredictable, with frequent rains and sudden cold spells. Roads are excellent: you can drive across the country N to S in 6-8 hours and E to W in 2-3. All cars must carry chains in winter. You need an international driving license to rent a car. You'll also be asked for your address in Korea and it will be checked, so have name, address and phone number of a real hotel ready even if you are planning to camp or sleep in the car. Google Maps can't be used for navigation in Directions mode; locals use a lousy phone app called Wize. Fortunately, most rental cars have easy-to-figure-out GPS navigators (but the one I rented on Jeju had a completely useless one). Even if navigating by phone, keep the car GPS turned on: it will warn you about countless speed cameras. Foreign credit cards sometimes don't work, so bring at least two. Beware of ticks in summer: many carry tick-borne encephalitis.

Mammalian fauna is severely depleted (even **red fox** is extinct), but there are still at least 55 regularly occurring native land mammals. You can theoretically see all of them by visiting just three locations: Seosan Lakes, Seoraksan National Park, and Jeju Island (pronounced Che-joo-doh). Three species are endemic: **Korean hare**, **Korean red-backed vole**, and **Jeju field mouse** (none of them universally recognized). Recent data suggest that the local subspecies of **Ussuri mole** and **Ognev's big-eared bat** might also be endemic species. A few **shrews**, **Siberian musk deer**, **long-tailed goral**, **leopard cat**, **Chinese water deer**, **Siberian roe deer**, **Asian badger**, and some **Myotis bats** are easier to see here than elsewhere. Marine mammals usually stay far offshore but a few can be reliably seen from land, notably **spotted seal**, **narrow-ridged finless porpoise**, and **Northern fur seal**. Small mammal trapping is dangerous: local rodents (particularly **striped field mouse**) often carry Korean hemorrhagic fever which kills up to 20% of infected people and leaves many others with permanent kidney failure; tularemia is also very common. The best sources of general information on Korean mammals, both by Jo et al., are *Mammals of Korea* (<https://biotaxa.org/Zootaxa/article/view/zootaxa.4522.1.1>) and *Current Status of Mammals of Jeju Island* (https://www.researchgate.net/publication/270615758_Current_status_of_terrestrial_mammals_on_Jeju_Island).

I visited South Korea twice in 2019. My trip to the northern part of the country was in January, just after new moon; the temperatures were around -6°C at night (down to -10°C at higher elevations) and just above zero during the day. In the southern part, where I was on March 19-22, the moon was nearly full, the temperature was around +9°C at night (around zero at higher elevations on Jeju) and up to +16°C during the day. On Ulleung and Dok Islands it was raining all the time. I saw 34 native land species (27 on the mainland, 14 on Jeju and 2 on Ulleung), and 7 marine species.



Water deer, Seosan Lakes

The Mainland

Seosan Lakes two hours S of Seoul are a world-famous birding site, but they are also great for mammals, particularly in winters with high numbers of two resident vole species. When I was there, vole burrows were everywhere but the rodents themselves were scarce. I mostly explored the trails at Seosan Birdland (36.630874N 126.378063E) and the roads through surrounding fields. The first mammal I saw in Korea was a huge, gorgeous **leopard cat** on the highway near Birdland turnoff; unfortunately it was a roadkill, the only one I ever saw in the country. In one night of spotlighting and thermal imaging I saw one **lesser Asian white-tailed shrew** (identified by long tail) in the forest, at least a dozen **water deer**, a few **mainland raccoon dogs** including two feeding on a long-dead water deer, two **Mandarin voles** (ochre-colored and very short-tailed) at daybreak on the grassy slopes around the lower parking lot, just one **reed vole** (*Microtus fortis*, dark-grey) along the canal at 36.628132N 126.379762E, and a bunch of shy rodents in dense vegetation at 36.630833N 126.376788E. The few of the latter that I could see well were **striped field mice** and I think the others were, too, although **Eurasian harvest mice** would also be possible. In the morning there were a few **Eurasian red squirrels** (black in Korea) around the watchtower. A herd of **narrow-ridged finless porpoises** was visible from Ganworam Hermitage (36.603507N 126.411016E). As I was leaving the lakes at 10:15, I saw a **leopard cat** walking along the edge of the ice on a half-frozen river (36.703532N 126.451833E), trying to get close to coots swimming nearby; it was mobbed by a few whooper swans. In the same area there were multiple tracks of **Norway rats** in frozen mud.



Leopard cat, Seosan Lakes

Yangyang is a town located in the NE of the country at the mouth of a large river; the sandbar separating the estuary from the sea (38.107859N 128.644249E) is fenced off and usually has a lot of birds. As I was watching them through the fence I spotted a **least weasel** hunting in tall grass; I wondered what it was after, waited until dark and saw a **ratlike hamster** running across the dunes. A **spotted seal** kept popping up in the waves about 50 m offshore.



Korean red-backed vole and greater horseshoe bat, Seoraksan National Park

Seoraksan National Park has rugged peaks (with very scarce wildlife), mixed forests, and some nice trails; the roads get almost zero traffic after 22:00. When I was there all streams and even waterfalls were frozen, but, typically for Korean winters, there was almost no snow on the ground. I didn't see a single mammal there during the day; at night there were lots of ungulates but remarkably few rodents. The best place was a nearly abandoned village (with just two summer homes apparently still in use) accessible by a short trail from a pullout at 38.069916N 128.369617E. There I found two **Siberian musk deer** (they used the debris left from collapsed houses like they normally would use fallen trees, to lay a network of trails on top of them), a **Korean red-backed vole** (brick-orange) near an abandoned cabin, an **Ussuri white-tailed shrew** (identified by short tail) in another house reduced to the stone basement, and a **common serotine** sleeping (but not in full torpor despite bitter cold) in the old stables at the far end of the village. There were also tracks of a larger vole, probably **reed vole**. A few buildings had lots of old bat droppings on the floor, so it would be a good idea to check them in summer. There were very few mammals on the roads in Seoraksan: I saw a pair of **raccoon dogs** near the main nature center turnoff, a small deer (either **water deer** or **Siberian roe deer**) on the grounds of the center, and an **Ussuri shrew** (instantly recognizable by large size) near the high pass at 38.096904N 128.405792E. Trying to look sideways through my thermal imager while driving was more productive: I found a **Eurasian boar** near the abandoned village pullout mentioned above, a **Korean hare** in a tiny field further down the same road just before it ends at a T-junction, a **Siberian roe deer** about halfway between the high pass and the nature center, and a **long-tailed goral** at 38.088600N 128.427043E. The goral was far upstream from the road and I spent an hour crawling towards it over snow and frozen ground, but then enjoyed at least as much time observing it through the imager at close range as it calmly browsed on frozen herbs while moving across a near-vertical rock face. I walked trails to two waterfalls; the short trail starting at 38.085568N 128.433626E had one **greater horseshoe bat** hibernating in a small cave about 2 km past the first waterfall, while the longer (and very steep) trail starting at 38.119643N 128.341398E had **Siberian roe deer** (heard only) and a pile of **yellow-throated marten** feces. The three small deer occurring in Korea can be difficult to tell apart, particularly if you see them through a thermal imager, but they have very different alarm calls: **Siberian roe** barks like a large, angry dog; **water deer** gives a menacing (rather scary, actually) raspy croak; **Siberian musk deer** produces a loud hiss.



Long-tailed goral and Siberian musk deer, Seoraksan National Park

Bukhansan National Park is located less than an hour from Seoul's main airport and is a convenient place to spend the last night before an early flight. It is extremely popular (reportedly listed by Guinness as the world's most visited national park per unit square), and at lower elevations you should expect to meet hikers even in the dead of the night, but higher up it gets better. Unfortunately, just as in Seoraksan, steep rocky slopes are apparently avoided by mammals. In a whole night in the park I saw just one **Siberian weasel**, one **Korean mouse** in a tree about 5 m above ground, and another Korean mouse that jumped out of a bird nestbox I opened. I don't have coordinates for any of them because my phone suddenly went into a coma that night. There were also some **boar** digs along streams.

Daegu is a city in the southern part of the country, it is connected to Japan and Jeju Island by cheap flights. Just a few hundred meters from the airport is Geumbo River; its floodplain is a long, narrow park (access from the bridge at 35.899533N 128.624775E) inhabited by **Ussuri moles** (I trapped one) and **Norway rats**. **Siberian chipmunks** lived on the forested slope above (35.904234N 128.624614E). At dusk, many **Japanese** and a few **Alashan pipistrelles** hunted above the river, occasionally landing on the underside of the bridge.



Ussuri mole, Daegu, and Oriental bentwing, Hallasan National Park

The Islands

Jeju-do is a volcanic island, scenic but very touristy in May-October. It is accessible by a number of ferries (http://english.visitkorea.or.kr/enu/TRP/TP_ENG_3_2.jsp) that pass through waters where many cetacean species can possibly be seen, but actual sightings are rare except in the immediate vicinity of the island. I took a 12-hr ferry from Busan and saw a **minke whale** about 40 min before arrival to Jeju, and a small group of **Indo-Pacific bottlenose dolphins** near the harbor entrance; a good place to look for the latter from the shore should be the pier at 33.529426N 126.541549E. The island's interior is dominated by Mt. Hallasan (1950 m) in the national park of the same name. Gurin Cave (33.411073N 126.546172E, accessible by a 1.8 km hike upstream from 33.421513N 126.548887E) is the best bat cave in Korea. It is a 450 m-long lava tube where five species hibernate in November-March: **greater horseshoe bat**, **Japanese pipistrelle**, and three **myotis**: **big-footed**, **Eastern water**, and **Hodgson's**. When I was there, most myotis and all pipistrelles had already left, and the last individuals were active and very skittish, but in the warm upper end of the cave there was a big roost of **Oriental bentwings** with one **Ikonnikov's myotis** mixed in. Bring underwater casing and mask defogger: camera lens constantly fog up there, making photography all but impossible. **Japanese pipistrelles** were flying around the lights at the trailhead, giving their audible calls (I also heard them at other places, up to 1100 m, despite the cold). Just before reaching the cave I saw a **Siberian weasel** chasing a **ratlike hamster**; the latter is rare on Jeju and confined to shady ravines. Watch for endemic Jeju salamanders in trailside pools. A few more Siberian weasels were seen while driving at night, all of them at low elevations. The distinctive island race of **Siberian roe deer** is easy to see and very tame; the best area is along Hwy 1139 south of the place signposted "1100 m Wetland" (33.357685N 126.462999E), from sunset till midnight. The wetland has a nice boardwalk where I saw a **Laxmann's shrew**. **Asian badger** and **Jeju mouse** are said to be abundant, but I saw only one of each, probably because of full moon. The badger was in Bidjarim Forest (a grove of ancient nutmeg trees, accessible from 33.490954N 126.810635E), and the mouse on Mt. Hallasan at 33.348617N 126.497914E. I also found a few **Eurasian harvest mice** in Hado Ecological Reserve (33.511964N 126.895416E), and briefly saw a **lesser Asian white-tailed shrew** crossing a road at 33.421622N 126.845228E (it's the only shrew occurring at low elevations on Jeju).

Ulleung-do, accessible by ferries (I took ferry from Pohang, which takes 3.5 hrs), has just two native land mammals: an endemic subspecies of **Lesser Asian white-tailed shrew**, which is very common (I saw three in one night along the trail going up from 37.497485N 130.890151E), and **Ognev's big-eared bat** (I saw only one, at 37.493023N 130.905043E). **Black rat** and **house mouse** from the island have also been described as endemic subspecies, but these are no longer recognized. They are extremely common, the rat mostly in woodlands and the mouse in grassy openings.



Siberian roe deer, Hallasan National Park

Dok-do is a tiny clump of islets with a permanent population of 1, claimed by Japan (which calls it Takeshima) but currently administered by Korea. It is reached by a ferry from Ulleung which runs on a chaotic schedule, with only 55 departures a year; you need a Korean speaker to make advance reservations. You get about 30 min on one of the islands, which is enough to run around (the hiking trail is 550 m long). There's a lot of birds but no land mammals. The islands were the last known rookery of **Japanese sea lion** but it went extinct in the 1970s. I saw a few **northern fur seals** floating about 100 m from the ferry pier (at appr. 37.240749N 131.867055E), and a mixed herd of **Pacific white-sided** and **long-beaked common dolphins** about 1/3 of the way toward Ulleung-do (37.311578N 131.621166E).



Greater horseshoe bats in Gurin Cave, Hallasan National Park

Scientific names

Mainland

Ussuri white-tailed shrew *Crocidura lasiura thomasi*
Lesser Asian white-tailed shrew *C. shantungensis coreae*
Ussuri shrew *Sorex mirabilis kutscheruki*
Ussuri mole *Mogera robusta coreana*
Greater horseshoe bat *Rhinolophus ferrumequinum nippon*
Common serotine *Eptesicus serotinus brachydigitus*
Japanese pipistrelle *Pipistrellus abramus*
Alashan pipistrelle *Hypsugo alaschanicus coreensis*
Red fox *Vulpes vulpes peculiosa* (extinct)
Yellow-throated marten *Martes flavigula borealis*
Least weasel *Mustela nivalis mosanensis*
Siberian weasel *M. sibirica manchurica*
Leopard cat *Prionailurus bengalensis euptilura*
Mainland raccoon dog *Nyctereutes procyonoides ussuriensis*
Spotted seal *Phoca largha*
Narrow-ridged finless porpoise *Neophocoena asiaorientalis sunameri*
Eurasian boar *Sus scrofa coreanus*
Siberian musk deer *Moschus moschiferus parvipes*
Water deer *Hydropotes inermis argyropus*
Siberian roe deer *Capreolus pygargus tianschanicus*
Long-tailed goral *Naemorhedus caudatus raddeanus*
Eurasian red squirrel *Sciurus vulgaris mantchuricus*
Siberian chipmunk *Tamias sibiricus barberi*
Ratlike hamster *Tscherskia triton nestor*
Mandarin vole *Lasiopodomys mandarinus kushidae*
Reed vole *Microtus fortis fuliginosus*
Korean red-backed vole *Craseomys regulus*
Norway rat *Rattus norvegicus caraco*
Eurasian harvest mouse *Micromus minutus ussuricus*
Korean mouse *Apodemus peninsulae peninsulae*
Striped field mouse *A. agrarius coreae*
Korean hare *Lepus coreanus*

Jeju Island

Laxmann's shrew *Sorex caecutiens hallamontanus*
Lesser Asian white-tailed shrew *C. shantungensis* undescribed subsp.
Greater horseshoe bat *Rhinolophus ferrumequinum nippon*
Hodgson's myotis *Myotis formosus tsuensis*
Eastern water myotis *M. petax ussuriensis*
Big-footed myotis *M. macrodactylus*
Ikonnikov's myotis *M. ikonnikovi*
Japanese pipistrelle *Pipistrellus abramus*
Oriental bentwing *Miniopterus fuliginosus*
Asian badger *Meles leucurus amurensis*
Siberian weasel *Mustela sibirica quelpartis*
Siberian roe deer *Capreolus pygargus* undescribed ssp.
Minke whale *Balaenoptera acutorostrata scammoni*
Indo-pacific bottlenose dolphin *Tursiops aduncus*
Eurasian harvest mouse *Micromus minutus hertigi*
Jeju mouse *Apodemus chejuensis*

Ulleung and Dok Islands

Lesser Asian white-tailed shrew *Crocidura shantungensis utsuryonensis*
Ognev's big-eared bat, *Plecotus ognevi uenoi*
Japanese sea lion *Zalophus japonicus* (extinct)
Northern fur seal *Callorhinchus ursinus*
Pacific white-sided dolphin *Lagenorhynchus obliquidens*
Long-beaked common dolphin *Delphinus (delphis) capensis*
Black rat *Rattus rattus tanezumi*
House mouse *Mus musculus musculus*