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Contents

Lindholm Antero & Forsten Annika: Observations of migratory birds at Laotieshan, Liaoning, China. September 2015

Observations of migratory birds at Laotieshan, Liaoning, China. September 2015

Antero Lindholm & Annika Forsten



Photo 1. A panorama of the view northwest to southeast as seen from the upper terraces.

Laotieshan is at the tip of the Liaodong Peninsula, in the southern part of the Liaoning Province, eastern China. The Shandong Peninsula is about 100 km away towards the south-southwest and the closest islands are about 40 km away in the same direction. Together they form the mouth of the Bohai Bay. Laotieshan is only 400 km eastsoutheast from Beijing and well known as a bird migration hotspot, although comprehensive reviews are still lacking. This article is a report about one trip, during which we had 11 more or less complete days of migration watching. It is intended as additional material for any future more exhaustive reviews of the bird migration at the site. We do not include much general information about birding at the site, just some minor updates to the earlier reports (Holt et al 2011, Holt & Townsend 2013, Townsend & Millington 2011). The names of the birds follow IOC World Bird List ver. 5.3 (Gill & Donsker 2015).

From September 20th to September 30th we arrived at the watch point every morning at about 5.15 am, well before daylight, and usually stayed there until late afternoon, between 4 pm to 5 pm (sunup on the 20th was at 5.39, sundown at 5.55pm). Our only absence before 3 pm was on the 26th when we were away from 9.30 to 12. In the morning we watched from the lower agricultural terraces (30m above sea level). In the afternoon we were either on the upper terraces (60m asl) or near the lighthouse (114m asl). These points are shown in Figure 1. All migrating birds were noted, with the exception, sometimes, of the hirundines (see the account of that group). A flight call without visual contact was counted as one individual, except when successive calls obviously came from the same individual. As is normal near the tips of peninsulas, some birds do not migrate straight out to sea, but hesitate and fly around before crossing,

or even turn back from the sea. This obviously makes separating different birds more difficult. We used the same method used at the Hanko bird observatory on the south-western tip of mainland Finland (anon. 2013): we counted birds that passed us in any direction, omitting the obvious reoccurring individuals and flocks (same size, same prominent individual). Obviously, there have been some multiple counts (the flocks reshuffling, the same unremarkable individuals flying around for an extended time.)

The tip of the peninsula is about five kilometres wide, and the lighthouse is in the south-western corner. For birds flying as long as possible over land, the lighthouse point seems to be the concentrating area, but undoubtedly many birds also cross the strait further east, and five kilometres is too distant to observe migrating birds, even the largest species, especially when there are higher ridges close to the tip obstructing the view. The proportion of birds migrating further east remains unknown. Possible observation sites there are inaccessible to foreigners and some of them probably severely restricted even to Chinese nationals.

Crested Honey Buzzard *Pernis* ptilorhynchus

The birds arrived along the ridge from the northeast and in the mornings headed quite high over the lighthouse point towards the south and Shandong. Later in the day they rose still higher until they finally, between 10 am and noon, apparently disappeared from our sight. About 2 pm they re-appeared lower down but at that point most days there did not seem to be any serious attempts



Photo 2 Second-year male Pied Harrier *Circus melanoleucos*, September 21st. Photo 3 First-year Peregrine Falcon *Falco peregrinus*, September 30th.

to cross the strait. On less bright days they continued to move along the ridge towards the south, then south-east and at last, quite late in the day, as they were already flying quite low, apparently towards the east. At this stage they probably no longer crossed the strait but landed somewhere in the forest on the ridge. From late morning to late afternoon there were also some birds, often flocks, returning from the sea. From the lighthouse it was easier to see which birds really crossed, but from the terraces counting the birds moving along the ridge was easier since only the last hilltops can be seen from the lighthouse garden.

Daily counts are included in Table 2. Southerly winds seemed to be best for observing numbers of this species. The highest count was on the 22nd with a somewhat stronger southerly wind than usual (8m/s) and cloud cover. It is possible that the preceding days with slight winds and mostly clear skies were in fact better for migration and more birds really crossed the strait, but we missed many of them because they rose too high. On September 24th we aged and sexed 48 birds returning from the sea in the afternoon, of these 36 (75%) were juveniles, 9 (19%) were adult males and only one was an adult female. Over the entire period, we took photos of 219 individuals - the individuals photographed were chosen just because the conditions allowed decent photographs, in order to avoid any bias. Of these, 126 (57.5%) were juveniles, 53 (24.2%) males and 40 (18.3%) females. During the first five days (n=152), 55.9% were juveniles, 26.3% males and 17.8% females. During the remaining six days (n=67), 61.2% were juveniles and adult males and females both 19.4% each. It is likely that in this species, as in European Honey Buzzard Pernis apivorus, the peak differs between the age classes, and perhaps also

between the sexes and that juvenile migration will continue later into October.

Primary feather moult was observed from photos, see Table 3. The individual variation in moult indexes was very high. One individual - a male - had only two old primaries left and many birds had three old ones, while one male had nine old primaries and the innermost still not fully grown, and several males had eight old primaries. Moult gaps were generally rather small. 21 birds (22.6%) had suspended moult completely, while the remaining birds migrated while actively moulting their primaries. The difference between the sexes is small, less than one feather, but significant (Wilcoxon rank sum test, W=1204, p = 0.001365), therefore females were more advanced in their flight feather moult than males.

Accipiters

Accipiter hawks behaved like Pernis, but Accipiters frequently stopped to hunt along the forest. There seemed to be an early morning peak of migrating birds, then for two to three hours fewer birds in sight and then migrating birds would again appear along the ridge. They advanced quite slowly and were difficult to count when the clouds were relatively low. Then the birds just continued soaring until they disappeared from view into the clouds. nisus Eurasian Sparrowhawk Accipiter Japanese Sparrowhawk A. gularis were by far the most numerous species. We saw only seven Chinese Sparrowhawks A. soloensis. See later for observations of Northern Goshawk A. gentilis. The best days for Accipiters tended to be the same as for Honey Buzzards. In Table 2, Accipiter columns includes counts of migrating unidentified Accipiters, Eurasian and Japanese Sparrowhawks (i.e.



Photo 4. Observing migration from the lower terraces.

excluding Chinese Sparrowhawk and Northern Goshawk). We left the most distant Accipiters over the ridge as 'Accipiter sp'. The resulting count included slightly fewer Eurasian than Japanese Sparrowhawks (for example from the 20th until the 23rd, 124 Eurasian, 164 Japanese). It is possible that this is not strictly the truth about Accipiter numbers migrating around Laotieshan, it may be that Japanese Sparrowhawks are more eager in checking the availability of prey around the terraces and thus becoming identified by the observers there. However, we saw no indications of an uneven distribution of migrating individuals, but still have some doubts. The majority of the identifiable individuals seen were juveniles, of photographed Japanese Sparrowhawks 83% (n=59), but again, this may possibly not mirror the correct age ratio, because adults may be prepared to migrate faster and are thus more unlikely to be seen at close quarters. Of the photographed adult Japanese Sparrowhawks, six were males and four females. Adults and first-years may well have different migration periods, as demonstrated in Europe for Eurasian Sparrowhawk (where also sexes have differing peak times, see for example Lehikoinen et al 2014, which shows that in southern Finland

young female Eurasian Sparrowhawks migrate first followed by young males, then 2nd calendar-year females, adult females, 2nd calendar-year males and last, adult males).

Harriers

The majority of the harriers were Pied Harriers *Circus melanoleucos*. Only 11 Eastern Marsh Harriers *Circus spilonotus* were seen, while seven remained unidentified. They migrated on a broad front from the shoreline to the ridge, and quite actively without much stopping or hesitation. In late afternoons, some were seen flying in other directions presumably searching for a roosting site. Daily Pied Harrier counts are included in Table 2. The plumage type of Pied Harriers was noted in 54 cases. Of these, 36 (67%) were first-year birds, 10 (18%) adult females and 8 (15%) adult males. Second-year birds were counted as adults in this context.

Date	Weather	Grounded migrants		
20	No significant cloud cover, good visibility, slight south-westerly wind, max +27	Quite many Less than the previous day		
	Similar to the previous day, wind somewhat more from the south.6.40: 25°C,13.30: 33°C			
	Stronger winds, about $8m/s$ from south, during the morning more cloud cover ($4/8$ at 7.30. more in the afternoon). $9:50/23^{\circ}C$, $12:00/27^{\circ}C$	Very few		
	Overcast, almost calm, visibility generally not good, islands not visible. 8:45/23°C,13:30/28°C, visibility decreased with the inland mountain only just visible	Slightly more		
- 4	No clouds in the morning, NNE 2m/s, visibility only about 1km. 7:30/23°C, 12:30/27°C	More or less as the previous day		
25	Overcast, one hour of rain in the morning. Almost calm	Distinctly more		
26	Slight NE wind, good visibility with the islands visible	Somewhat less		
27	Calm, clear skies, warm. Visibility became worse during the forenoon with 10.50 the islands no longer in sight. 10:30/23°C	Even less		
28	Totally overcast, calm in the morning, at 7.15 NE4-6-m/s, raining between 10.00 and 10.20	Somewhat more		
29	NE 4-8m/s, 1/8, good visibility. Hardly any wind in the late afternoon	Distinctly more		
	Slight wind from the south. Good visibility, overcast, about 20 min rain during the morning, in the afternoon less cloud cover. 5:15/17°C	Distinctly less		

Table 1. Weather and visibility information. The 'Islands' in question are Snake Island and Bird Island around 20 km away to the NNW.

Date	ОНВ	Pied Harrier	Accipiter total	Amur Falcon	Ashy Minivet	White- eyes	White- cheeked Starling	The second secon	Buntings + Unid passerines (mostly buntings)
20	394	15	158	35	2738	460	94	7	0
21	670	7	460	25	3223	1022	63	38	103
22	1935	20	443	2	3589	925	.0	27	
23	421	12	268	4	5797	905	3	187	157
24	83	6	112	4	382	69	109	47	24
25	141	5	65	1	1152	385	0	80	103
26	64	5	32	9	566	65	92	56	117
27	820	7	388	13	3677	557	229	160	19
28	88	8	21	5	720	430	639	29	175
29	49	1	66	1	278	40	455	46	210
30	565	15	69	21	808	122	188	97	
Total	5230	101	2082	120	22930	4980	1872	774	1081

Table 2. Numbers of some migrants.

Amur Falcon Falco amurensis

Small numbers of Amur Falcons were seen every day, counts in Table 2. They seemed to migrate mostly during the afternoons and seemed to be attracted by the lighthouse point. They flew singly or in small sparse flocks with an erratic path and often seemed to try to catch a dragonfly or other insects along the way. 21 birds were noted as adult or second-year males, 55 had female-type plumage (separating adult female and first-year birds is possible only fairly close up, so the sample size is too small to separate these). If we assume equal numbers of males and females, then we can estimate 44% juvenile birds.

Northern Goshawk, Peregrine Falcon *Falco peregrinus*, Eurasian Hobby *Falco subbuteo*

These species were seen very often, but seemed to concentrate on hunting the migrating birds and did not migrate actively. We were not able to separate true migrants from these local birds. At least up to five different Peregrines were present at the same time (more adults than first-years), and even more Hobbies - perhaps at least ten, including both adults and young birds early in our period, with numbers dropping slightly in late September. A minimum of four juvenile Goshawks were present





Photo 5. Olive-backed Pipit Anthus hodgsoni, September 29th.

Photo 6. Stejneger's Stonechat Saxicola stejnegeri, September 29th.

	Males	Females
n	45	38
min moult index	4	14
max moult index	40	34
mean	19,4	23
min number of old primaries	2	3
max number of old primaries	9	7

Table 3. Moult of Oriental Honey-buzzard Pernis ptilorhynchos as observed at Laotieshan

on later dates.

Other diurnal raptor species

Greater Spotted Eagle Clanga clanga was seen on three days. During the last days, the 26th-the 30th, a small number of Grey-faced Buzzards Butastur indicus were seen, both adults and juveniles. Their migration will peak later, as will Eastern Buzzard Buteo japonicus, of which we saw some birds during the 27th - the 30th, both adults and juveniles. These never tried to cross the strait, but were mostly seen flying around the ridge. Small numbers of Common Kestrel Falco tinnunculus migrated on most days, and several were hunting around Laotieshan, with numbers increasing towards the end of the month. Western Osprey Pandion haliaetus was less common, singles were seen on most days, of which some were not on active migration - some were seen carrying a fish. Black Kites Milvus migrans were common in the area, sometimes as many as 20 in a flock, but their migration was very difficult to count. They just seemed to hang

around with no true intention of crossing the sea, but some followed Honey Buzzards out over the sea.

Hirundines

Swallows and martins migrate in large numbers through Laotieshan. We did not try to get complete counts - they were ignored during the mornings, when relatively small numbers of them were migrating higher than other passerines. We concentrated on the migration around noon, but only counted them during prominent migration events, and only birds which flew close to the terrace watch point. A more complete count would have required more or less continuous observation with a telescope in both directions. Also we did not try to count birds which were not actively migrating - sometimes they gathered in large flocks. The best day for Barn Swallow Hirundo rustica was the 20th, when 4753 were counted, but only 77 Redrumped Swallows Cecropsis daurica. After that, Red-rumped Swallows dominated with peak numbers of 2415 on the 21st and 3710 on the 27th. Asian House Martin Delichon dasypus and Sand Martin Riparia riparia were seen only in small numbers. The most intense migration was during southerly winds or calm days, and then in a southerly direction, quite fast and purposefully. During north-easterly winds, there was less movement but again mostly against the wind, and therefore in a northerly direction.

Pipits

Visible passerine migration around Laotieshan was diverse and reasonably strong. However, in birds like pipits it did not reach the intensity of similar species in northern Europe. For example, the best days with Olive-backed Pipit Anthus hodgsoni were some hundred (see Table 2), when on the south coast of Finland, for its sister species Tree Pipit Anthus trivialis, a thousand birds in a day may well be expected during the height of the migration on several days. In addition, we observed three other species of pipit: Richard's A. richardi (small numbers daily, maximum 35 on the 23rd), Pechora A. gustavi (nine days, maximum 6 on the 27th) and Red-throated Pipit A. cervinus (eight days, maximum 9 on the 25th).

Buntings

Rosefinches Carpodacus erythrinus). Black-faced seen on four days. Bunting Emberiza spodocephala was by far the commonest bunting species, and Little Bunting E. On five days, other observed species, see migrants). See Table 2 for daily counts.

Pericrocotus Ashy Minivet divaricatus

Ashy Minivet migration is one of the specialities of Laotieshan and large numbers are seen. They move fast in dense flocks, often high. We saw about 23000 minivets and the best days occurred together with the best raptor migration. See Table 2.

Other migrating passerines

but the other species would not be possible to pick most two together. out in flight. Numbers in Table 2. They moved in fast-flying, noisy flocks and often dropped down to rest and feed in the trees, especially in the area around the lighthouse. Their calls were heard

everywhere.

White-cheeked Starling Spodiopsar cineraceus is quite a common migrant at Laotieshan, see Table 2. The flocks often returned from the tip and some double counts are inevitably included in the numbers. A couple of Purple-backed Starlings Agropsar sturninus were also seen mixed in the flocks.

Scarlet Rosefinch was also a reasonably common migrant, it was seen daily with a maximum of 21 on the 25th.

White Wagtail Motacilla alba was common. All identified birds were of ssp leucopsis. The species was observed daily, with the largest numbers 194 on the 22nd and 261 on the 23rd. Larger numbers migrated in late evening. On the evening of the 25th there were about 250 around the harbour probably heading for a roost, but on the previous evenings Many species of buntings migrate in Eastern Asia. several flocks certainly headed towards the south They are commonly quite difficult to identify in flight, and out over the sea. Eastern Yellow Wagtail especially as the flight calls are quite similar - so Motacilla tschutschensis was observed every day, they are not separated here. We also included but in small numbers, the maximum was 11 on the unidentified small passerines in the bunting counts, 27th. Grey Wagtail Motacilla cinerea was seen on as most of them should belong to some species of all but one day, the maximum was 11 on the 22nd. bunting (but they may include e.g. some Scarlet Single Forest Wagtails Dendronanthus indicus were

flocks of Yellow-bellied pusilla was the second most common. Concerning Pardaliparus venustulus arrived at the tip of the later (Resting peninsula. Exact counting was difficult, but the largest number of passing birds was 189 on the 29th. Total for the period was 510 birds.

> Other, less common passerine species on active migration were Eurasian Skylark Alauda arvensis, Grey-capped Greenfinch Chloris sinica. Brambling Fringilla montifringilla of which singles observed on several days. Grosbeaks Eophona migratoria were seen on seven days, with a maximum count of 15 on the 25th. Light-vented Bulbuls Pycnonotus sinensis visited the area several times, but as single birds or very small flocks, Three Brown-eared Bulbuls Hypsipetes amaurotis moved past the observation point on the 16th.

Other commoner migrating passerines included Black Drongos Dicrurus macrocercus were seen on White-eyes Zosterops sp. The vast majority of them two days, four birds in total. Black-naped Orioles are Chestnut-flanked White-eyes Z. erythropleura, Oriolus chinensis were seen on several days, at



Photo 7. The forest trail.



Photo 8. The sea trail.



Photo 9. The view from near the lighthouse towards the east.

Visible migration, other species

Small numbers of several species of herons and storks were seen: Black Storks Ciconia nigra (on the 25th and the 30th), Oriental Stork Ciconia boyciana (the 30th), Grey Herons Ardea cinerea (13 on the 25th, 22 on the 26th, 16 on the 28th and 1 on the 30th + 40 Ardea sp on the 29th), Purple Herons Ardea purpurea (15 on the 20th and 4 on the 25th), Chinese Pond Herons Ardeola bacchus (4 on the 25th), Black-crowned Night Herons Nycticorax nycticorax (26 on the 25th and 2 on the 29th). In addition, these species were seen as arounded migrants: Striated Heron Butorides Bittern Ixobrychus striatus (the 20th). Yellow sinensis (the 20th) and Schrenck's Bittern I. eurhythmus (the 29th). A Chinese Egret Egretta eulophotes was seen in the harbour on the 25th.

Very small numbers of geese were seen on the 28th: one unidentified and seven Tundra Bean Geese *Anser serrirostris*. Of other *anatids*, Mandarin Duck *Aix galericulata* was observed: 1 (the 25th), 4 (the 29th) and 6 (the 30th), Mallard *Anas platyrhynchos* 4 (the 29th) and 20 (the 29th), Falcated Duck *Anas falcata* 3 (the 29th), unidentified duck 12 (the 29th) and 40 (the 30th), Eastern Spot-billed Duck *Anas zonorhyncha* flocks of 8 and 10 (the 30th).

The only flock of White-throated Needletail *Hirundapus caudacutus* was one of 16 birds flying past towards the south on the 26th, singles were seen on two additional days. Pacific Swift *Apus pacificus* was seen only on five dates, of which seven on the 20th was the largest count.

Short-earted Owl *Asio flammeus* migrated on the 29th. Unidentified Cuckoos *Cuculus* were seen on three days. Oriental Turtle Dove *Streptopelia orientalis* occurred in some numbers at the tip, but the migration was not very concentrated. The birds were flying low and mostly in northerly directions. The total count was 145 and the best day was the 26th with 33 individuals. Spotted Dove *Spilopelia chinensis* was seen on the 29th. Hoopoes *Upupa epops* were seen on three days.

Resting migrants

Nearby trails (Figure 1, forest trail and sea trail) were checked on most days, but only after the morning migration or later, and no comprehensive count was tried. In Table 1 there are general comments on the number of passerines seen in the area of the terraces and along the two trails. Only our own observations are presented here. Several additional species were seen by the other observers. It seems that the numbers of grounded

passerines were higher when the visible migration the observations may well be classified as active of larger species was poorer.

common were The most species Phylloscopus warblers, Dusky Warbler P. fuscatus, Thrush Zoothera sibirica (28th), two unidentified Radde's Warbler P. schwarzi and Yellow-browed (28th), Red-throated Thrush Turdus ruficollis (1 on Warbler P. inornatus, which were seen on most 29th and 2 on 30th). days. In addition, Arctic P. borealis, Eastern Crowned P. coronatus, Pale-legged (or Sakhalin) P. Japanese Quail Coturnix japonica were seen on tenellipes (or borealoides) and Pallas's Leaf many days, on the best of them possibly as many Warblers P. proregulus were observed. On some as 10 different birds were flushed, a maximum of mornings, active movement of Yellow-browed four at the same time. Oriental Scops Owl Otus Warblers was seen, low over the bushes in a sunia was observed on the 30th, Eurasian northerly direction.

Thick-billed Warbler Iduna aedon and Black-browed Warbler Acrocephalus bistrigiceps were seen on several days in low numbers. Lanceolated Warbler Locustella lanceolata was reasonably common, but not observed daily. Several Baikal Bush Warblers Locustella davidi were also seen, but only one Pallas's Grasshopper Warbler Locustella certhiola.

Steineger's Stonechat Saxicola steinegeri was one of the commoner species, present in variable numbers every day. A remarkable event happened on the morning of the first day, the 20th. About ten birds were present in a small area of maize fields close to the path. Then more individuals started to arrive from south or southeast, they dropped from the sky and landed for a while in the same area of Seabirds cultivation. From there, Stonechats maize continued low in a northerly direction. A total of 50 birds were counted at that time.

Single Zitting Cisticolas Cisticola juncidis were seen on some days.

None of the flycatchers were numerous. The species most often observed were Asian Brown Muscicapa dauurica and Taiga Flycatchers Ficedula albicilla, while Dark-sided Muscicapa sibirica and Mugimaki Flycatchers Ficedula mugimaki were less common.

Black-faced and Little Buntings were present in good numbers, while only singles of the following were identified: Yellow-throated Bunting Emberiza elegans, Yellow-browed Bunting E. chrysophrys, Chestnut-eared Bunting E. fucata, Chestnut Bunting E. rutila, Meadow Bunting E. cioides.

Shrikes were all uncommon: Brown Shrike Lanius cristatus (2), Bull-headed Shrike L. bucephalus (3) and Chinese Grey Shrike L. sphenocercus (2).

Thrushes were also uncommon - of which some of

migration. An unidentified (the 20th), one of ruficollis - naumanni group on the 21st, one of Eye-browed three Thrush Turdus obscurus - type on the 21st, Siberian

> Woodcock Scolopax rusticola on the 29th and Baillon's Crake Porzana pusilla on the 29th.

Mostly resident landbirds

Common Pheasant Phasianus colchicus, Eurasian Tree Sparrow Passer montanus, Japanese Tit Parus minor, Vinous-throated Parrotbill Sinosuthora webbiana. Great Spotted Woodpecker Dendrocopos major, Beijing Babbler Rhopophilus pekinensis and Rock Dove Columba livia were present in the area. There really seemed to be some movement of Eurasian Magpies Pica pica with flocks of about 50 birds seen on several occasions flying around the point.

Gulls were attracted by the fishing harbour and fishing activities outside it. The most common species was Black-tailed Gull Larus crassirostris. but also Vega Gull Larus vegae (possibly both mongolicus and vegae) and Lesser Black-backed Gull Larus fuscus (of taimyrensis type) occurred in some numbers. Only singles of other gull species were seen: Mew Gull Larus canus (probably the same adult in the harbour on many days), Glaucous Gull Larus hyperboreus (second-year bird in the harbour on 26th) and Black-headed Gull Larus ridibundus. In addition, Streaked Shearwaters Calonectris leucomelas were observed over the sea on two days: 140 on the 22nd and 10 on the 23th. Cormorants Phalacrocorax sp. were always distant, one was seen on the 28th and 3 birds twice on the 30th.

Ideas for the future

A migration count covering the whole migration period would be extremely useful in helping us understand the migration patterns. It might also help if other alternative watch points could be found



Photo 10. A flock of White-cheeked Starlings Spodiopsar cinereus, September 29th.

assess how many individuals are lost out of sight rengastuksen perusteella. Tringa 41:1. during the warmest hours of the day.

Acknowledgements

Without the great help of Tom Beeke and Paul Holt, as well as all the information they provided us with in advance, the trip would not have been possible. Tom and Paul as well as several other observers were also of help in the field. A special thanks to Wang Qingyu for her help in ordering great food and concerning sim card payments.

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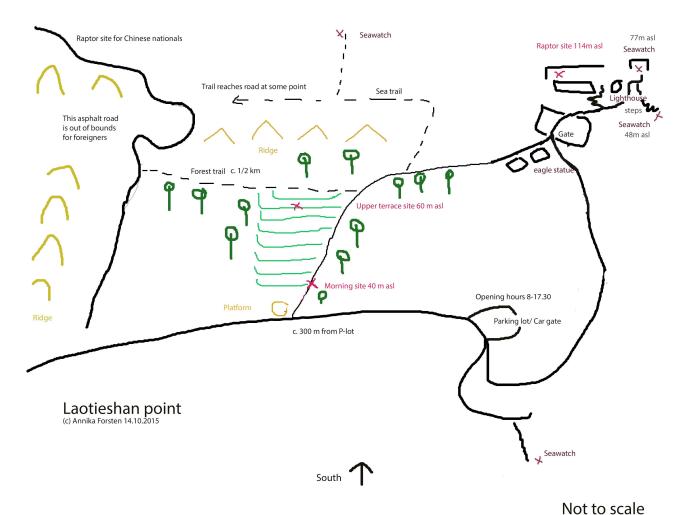


Figure 1. Map of the area.



Photo 11. Oriental Honey-buzzard *Pernis ptilorhynchus*, September 28th. First-year bird, a very dark individual. It seems to be missing some tail-feathers. Feather damages were quite common in raptors at Laotieshan. We agreed that they were commoner than usual, but we gathered no data.