

THE AZURE-WINGED MAGPIE *Cyanopica cyanus* ANTHROPOMORPHIC AND CLIMATIC FACTORS IN ITS DISTRIBUTION

by Brian A. G. Hill

Natural History

My observations of Azure-winged Magpies during the summer of 2002, in Beijing, China - that August the venue for the 23rd International Ornithological Congress - showed them spending most of their time in the crowns of large trees, from which they made their presence known by their calling, whilst both in the trees and also when in flight, sometimes several together flying from one tree to another. Early in the morning, though a little later than the Tree Sparrows *Passer montanus*, they called from the tall poplar trees just across the street and directly opposite my window, probably whilst searching for insects and/or other invertebrates.

Their calls, the sibilant “*tschreee*” (Goodwin, 1986), their tone and utterances whilst well hidden in the canopy, sounded very like one of the calls of Golden Oriole *Oriolus oriolus* - but not of course its more familiar, beautifully imploring whistle. Not that I heard or saw Golden Oriole in Beijing, but I did wonder if there could be antagonism between them where both occur in China. Tall, mature poplar trees are favoured also by Golden Orioles.

In Beijing Azure-winged Magpies ranked second to Tree Sparrows, as the most frequently heard and seen birds. Magpies *Pica pica* and feral pigeons ranked joint third. There were few other birds. Only once did I see Azure-winged Magpies on the ground, that was on the lawn in the park of Beijing University. They were not feeding, just gathering there and were soon disturbed by too close an approach by people and traffic.

It was quite apparent from what I saw of this species in Beijing during the summer of 2002, that there it is a co-habitant of man, equivalent to those other Eurasian corvids - the Carrion Crow *Corvus corone corone*, Hooded Crow *C. c. cornix*, Rook *C. frugilegus*, Jackdaw *C. monedula*, Magpie *Pica pica* and Jay *Garrulus glandarius* - which have adapted to city life. It is able to subsist, if not actually nest (I was in Beijing when its nesting season had passed) even away from parks, wherever there are a few big trees, separated by no more than a few hundred metres (a few hundred yards) from the next lot of big trees, in streets and quandrangles which from mid-morning to late at night are much frequented by many people and vehicles. In the parks, some of which have controlled access it would, with plenty of cover and undisturbed, be able to nest.

Of the above corvids, in Beijing it was only the Azure-winged Magpie

and Magpie which were, quite apparently, co-inhabitants with the human population. Because there the only other corvid I saw was the Jungle Crow *C. macrorhynchos*. I heard it and then spotted it a few times high above the city. Only on one occasion, at Beihei Park near the city centre, did I see this corvid as low as the tree-tops, when I saw two resting on the roof-ridge of a traditional style building.

In winter the Azure-winged Magpie in Beijing may when searching for food have to behave very much like a European city inhabiting corvid, though in Beijing it will be competing, amongst other corvids, at most only with the Magpie. Or, it may disperse to the nearest rural areas, which are intensively cultivated. Alternatively it may migrate to Oriental China, that is the basin of the Yangtse-Kiang and further south. I would be interested to know, preferably based on first-hand experience, how the Azure-winged Magpie subsists during the long winter in Beijing. I think that the attitude towards it there is generally benign. I have been told by Chinese acquaintances that it is regarded as a "lucky bird", though I do not know enough yet of Chinese lore to know in which sense it is regarded as lucky.

Eurasian corvids are generally regarded as comparatively unpalatable, and I do not know of any country in which they are now taken much for eating.

It was hot most days for the two months, mid-July to mid-September 2002, I was in Beijing, though the sky was either completely overcast, or at best with just a scattering of blue breaks between the dense looking clouds. Several days there was heavy rain, each of many hours duration. Almost nowhere in urban but leafy Beijing did the soil look other than moist.

The Azure-winged Magpie evidently needs at least a goodly scattering of big trees, infested with insects and such-like invertebrates, in the humid warmth of spring and the heat of summer, in which to feed and nest. During the spring and summer, as I observed, its arboreal habits suggest it is then primarily an insectivore. However, because the Azure-winged Magpie is non-migratory, in the sense that there is no mass movement from Palearctic China - that part of the country north of the Yangtse-Kiang river, which is the major part of its range - southward into Oriental China, some major changes in its diet and foraging habits must occur, perhaps even before the brief Chinese autumn. As a corvid, this it can do, presumably then going on to eat more in the way of seeds, berries, fruits, nuts and such-like vegetable matter, both wild and discarded in a processed form by humans (Goodwin, 1986). I would like to make my own observations of it during the Chinese autumn and winter, or failing that get information from Chinese acquaintances, ornithological and otherwise.

It was evident from my observations in Beijing that the Azure-winged Magpie can cohabit with man in China, and presumably has throughout

China's history. Because of its familiarity with man and its ability to subsist alongside man, this bird would have been a suitable candidate for introduction, such as to Iberia (Spain and Portugal).

In Iberia

I saw the Azure-winged Magpie for the first time in the wild whilst driving through a stretch of typical Extremadura country in south-west Spain. I saw several, quite remote from any village. I saw small groups in flight, from one clump of trees to another, and heard their calls; as I would five years later in China.

Cooper and Voous (1999) displayed again the recent map compiled by Rufino, 1989 and Purroy, 1997 of the distribution of the Azure-winged Magpie in Iberia. It showed it to be distributed south of about 42°N and almost entirely west of longitude 4°W.

It is in accordance with my assessment of this species' need for the most humid as well as warmest country, especially in the spring and summer breeding season. Where are most of the main rivers in Iberia, and the humid influence of the Atlantic - not anywhere along the Ebro, the other major river, which however flows across the comparatively even drier, in summer, western Spain eastwards to its outfall in the Mediterranean. I did not see Azure-winged Magpies in Madrid. Not in the Parque de Retiro, with its lake and magnificent stands of various deciduous trees, nor in the much more extensive Casa de Campo, huge as parks go, and seemingly good habitat.

Had the Azure-winged Magpie been introduced into Iberia, surely the core of its population then and even now, could reasonably be expected to have very similar habits and occupy equivalent habitat, in association with man, to that which it does in China, at least from what I saw of it in Beijing.

So, to reiterate, in south-west Iberia I saw it in country remote from villages, but failed to find it even in Madrid's extensive parks, which had what appeared to be ample good habitat. The general characteristics of introduced birds have recently been described (Goodwin, 2002 & pers. comm.). Suffice to say here that the Azure-winged Magpie in Iberia does not show those characteristics of behaviour and distribution consistent with it having been introduced there.

There is for example - albeit just within the past 30-35 years - the introduction of the House Crow *C. splendens* at Durban, South Africa (McLachlan & Liversidge, 1978). Even if the House Crow has by now spread beyond Durban - in addition to frequenting that city, not instead of - it presumably will be in territory in which there is not insuperable hostility towards it from indigenous predators, including man.

Distribution of the Azure-winged Magpie in relation to the climate

The present huge geographical disjunction in the distribution of the Azure-winged Magpie has long been well known. Perhaps less well known to those interested in this species' world distribution, but not having been fortunate enough to have made even brief visits to both Iberia and China, as I have, are the marked differences in the climate of the two, even when comparing just that part of its range in China, in Beijing and its environs, with, for example, Barcelona and Madrid, all of which are at about the same latitude, 40°N.

Mediterranean countries, most relevantly Iberia, present to the casual visitor (the holidaymaker) in summer a parched appearance (Compared to northern Europe, i.e. north of about 45°N dry-bulb air temperature means and extremes during May-October are much higher, consequent on the higher insolation.). Though actually relative humidity is not low, as measurable by comparing the wet-bulb air temperature to that of the dry, then referring to tables or a nomogram.

However, precipitation in summer is meagre: typically as brief lightning and thunderstorms, punctuating many days - for several weeks some summers - of scorchingly hot weather. There is very little precipitation as dew. The Iberian winter may have days of extremely low temperatures, cold and dry or cold and wet, depending on the location and altitude, but typically mild and wet, at least in lowland Iberia, which is the part most relevant here.

The climate of south-west Iberia is very different from that of the parts of China over which the Azure-winged Magpie now ranges (Goodwin, 1986), though in extreme northern and western parts of its of range, viz. Transbaikalia and Mongolia perhaps less so than in southern and eastern parts. Overall the summer is long, hot and humid, being more hot and humid towards the south, than in the Amur basin, the northern limit of the Azure-winged Magpie's range. A more emphatic disparity occurs of course in the winter: Manchuria having a very cold winter, with not much precipitation, and as snow rather than rain. Winter in the extreme south is no more severe than cool. The Azure-winged Magpie's "northern limit nowhere crosses the July isotherm of 68°F" (Voous, 1960).

Now, only extreme north-west Iberia is possibly just a bit cooler than the 68°F July isotherm, so it seems that the lower humidity in summer at present, compared with China in summer at present, is the factor which has restricted the Azure-winged Magpie to only a fraction of Iberia that has adequate tree cover for it.

Since prehistoric times the humidity, though not the heat, has declined to account for the disjunction. Only at present in south-west Iberia is there enough humidity, and even there the climate is sub-optimal. Hence at present there is a population which lacks the dynamics to extend its range even into

apparently suitable habitat more generally in Iberia.

I have yet to experience a typical Beijing winter, which is preceded, so I have been told, by a delightfully sunny though brief autumn. Heresay has it that the winter is long and cold but mostly dry. Such precipitation that does occur is in the form of snow rather than rain. So, there is not only geographic disjunction but also the equally abrupt disparity in the climate of lowland Iberia and lowland China. The climate disparity also would not, of itself, be insuperable to the Azure-winged Magpie having been introduced to Iberia hypothesis.

There is the example cited earlier of the House Crow in Durban. Although by the Indian Ocean, Durban is south of the equator, whereas all of the Indian subcontinent is north of it. Hence the climates of the two although having much in common, such as overall heat and humidity, are out of phase.

Had the Azure-winged Magpie been treated by the expatriate Portuguese and Chinese in anyway comparable to that of the expatriate (presumably essentially Hindu) Indians in European-African Durban in their treatment of the there introduced House Crow, surely as a fellow corvid it would have shown similar adaptation.

Cooper & Voous (1999) in their review of the literature, most pertinently that of Iberian authors, apparently did not find any reference to the Azure-winged Magpie being a frequent and familiar bird in Iberian city parks, as it now is in China, at least in urban but leafy Beijing, as witnessed by me in the summer of 2002.

The above paper contains skilfully taken photos by Kevin Carlson in Portugal in May 1988, compared alongside those taken by Colin Bradshaw in China in May 1993 and by T. Ishi in Japan (undated), which show the Chinese form to be paler overall than the Iberian form, and also to have whitish tips to its tail feathers, which the Iberian form lacks. Although not much of a morphological difference, it is noticeable in the field, to anyone - such as me - who has seen both forms in the wild. The photos show-off the restrained beauty of this bird.

This morphological difference would not be incompatible with the introduction hypothesis (Goodwin, 1986). The citation given by Goodwin for the Azure-winged Magpie was Pallas, P. S. 1776, *Reisen durch verschiedene Provinzen des Russischen Reiches*, 3, p.694. According to the account given by Stresemann (1975), Pallas' expedition of 1768-1774 was from St Petersburg and travelled east to somewhere between Lake Baikal and Ulan Bator, Mongolia, nowhere going much south of 50°N. So, presumably the type specimen is of a Russian form, but I have yet to discover from precisely where.

Cooper & Voous (1999) in their review of the literature could find no reference to documentary evidence that the Azure-winged Magpie was in

fact introduced to Iberia, supposedly “by sixteenth-century Portuguese sailors returning from voyages in the Far East”. Nor was an earlier review (Goodwin, 1986) able to quote such evidence.

Yet the Azure-winged Magpie could have been introduced to Iberia in the sixteenth century. It was an era during which the Turkey *Meleagris gallopavo*, 1525-1530, and the Muscovy Duck *Cairina moschata*, about 1540, had been introduced from Central and South America respectively (*Gallus gallus*, destined to become the domestic chicken, had been introduced much earlier); and the outstandingly beautiful parrot *Amazona leucocephala* had been brought to Europe, “probably by Columbus into Barcelona, mid-April 1493” (Stresemann, 1975, an English translation from the original 1951 German edition).

The Portuguese made their first appearance at Canton in 1516 (Davis, 1857) and by 1557 Lisbon had a trading station on Macao (Moore et al. 1981). The Azure-winged Magpie is a bird that would have been suited to introduction to Iberia from China, and this could have been done even in the sixteenth century, despite the long distance involved and the length of time such a voyage would have taken. However, the bird’s current behaviour and distribution in Iberia do not support this. There is an hypothesis that it may have merely been a recitation of Henry Seebohm’s nineteenth century assertion that, because of the disjunction in its range, it was “simplest to assume the Azure-winged Magpie had been introduced into south Iberia”.

Paleontology

Fossilised bones believed to be of this species, found in a cave in Gibraltar (The current range map does not show the Azure-winged Magpie as occurring there now, nor even in the province of Cadiz, of which Gibraltar is geographically part of) and dated at least 44,000 years old cast doubt on the hypothesis that this bird was introduced to Iberia (Cooper, 1999, 2000). She also suggested that even then there was something symbiotic about the Azure-winged Magpie’s association with man in Iberia; and doubtless then also in China, from what I know so far (but hope to learn more) of its lore from Chinese acquaintances. These findings and analyses are consistent and supportive with those from the bird’s natural history.

Microbiology

According to Koon et al. (2003): “from the first molecular analysis of the Azure-winged Magpie, screening individuals (using museum specimens that were over 100 years old) and incorporating representatives of all currently recognised sub-species: the Iberian population is genetically distinct from all Asian forms at a basal position in the phylogenetic tree, indicating that the west European enclave (i.e. Iberian form) is indigenous there.” Again,

these analyses are consistent with and supportive of those from the bird's natural history.

Nomenclature

Their recent paper (Koon et al. 2002) and an article in *World Birdwatch* (Vol.24, No.4) went on to recommend that the two populations could be treated as separate species, with the Asian population remaining as *C. cyana* (sic) and the European population becoming *C. cooki*, with the suggested English name of Iberian Magpie.

Unless it can be shown that the Iberian and Far Eastern forms are significantly different in their vocalizations, behaviour and ecology, I would not go along with these recommendations. That would mean to alternate from one extreme - the Azure-winged Magpie in Iberia being regarded as having been merely shipped-in within historical times and thereby liable to having an extermination campaign whipped-up against it - to being given full specific status. I would suggest that until more comparative data is assembled, that the present use of trinomials remains appropriate, though I would prefer it if the trinomial indicated the range of the subspecies. At least two of its vernacular names, Azure-winged Magpie and *Blauelster*, reflect its appearance as does its scientific name. Any change would be confusing and even silly and, in my view, unnecessary.

Past climates and past distribution

I envisage a scenario emerging from this work and earlier conjecture (Goodwin, 1986), whereby following the Pleistocene glaciations the Magpie recovered its range much more readily than the Azure-winged Magpie. Because the former is and presumably always was a corvid that inhabited the sort of country which would emerge after such glaciation, viz. extensive open tracts of land, with the merest scattering of trees and bushes sufficing for roosting and in which to lodge its domed nests, different from the open nests of the colonial nesting Azure-winged Magpie which, according to Voous (1960), ranges as far north as the 50° July isotherm. However, in the latitudinal belt which contains the present range of the Azure-winged Magpie there was then the warm-hot, humid spring and summer it seems to need. Since then the humidity, though not the heat, has declined to account for the disjunction.

Summary

We can now say with a high degree of confidence that the Azure-winged Magpie was not introduced to Iberia from China by man. There is though a further outstanding problem, viz. to show that in prehistoric times intermediate longitudinal zones in the latitudinal belt suitable for the Azure-winged Magpie became too dry in spring and summer, hence this is why

there is now such a vast disjunction in the world distribution of the Azure-winged Magpie. Its solution will require the combined efforts of paleo-climatologists zoogeographers, ornithologists and aviculturists.

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BREEDING THE YELLOW-BELLIED SEEDEATER

Sporophila nigricollis

by Robin Restall

The Yellow-bellied Seedeater *Sporophila nigricollis* is a small finch that is widespread throughout most of Central America, the Lesser Antilles of the West Indies, and South America east of the Andes and south to northernmost Argentina. The male is unmistakable, it has the entire head black, the upperparts are olive-green and it is pale yellow below. It is a cheerful songster, but does not have a sufficiently powerful voice to make it attractive to the bird trappers, and so is seldom kept in cages in South America. Also, being common and comparatively easy to catch, it is of low commercial value, which also demeans it in the eyes of the trappers. The female is an attractive, greenish-olive above and a pale, buffy-yellowish below and has a horn-coloured bill.

It is normally a resident, particularly in riparian and marshy areas that are wet all year round. It is very responsive to periods of extended drought, when the grasses drop their seeds and die. When this happens it will wander and follow trails and clearings through woodland up to the subtropical zone. I have found it on grassy trails along the Cordillera del Norte of Venezuela at a higher altitude than any other *Sporophila* spp. It has been recorded up to 2,300m (approx. 7,500ft). I have usually found it in smallholdings and truck gardens, and it may often be found in areas that were once cultivated but which have become overgrown with grasses, especially the tall Guinea Grass *Panicum maximum*.

Yellow-bellied Seedeaters are usually encountered in pairs or small groups. The presence of a single adult male with several females in these groups suggests they are family parties, but I have often seen such groups at the beginning of the breeding season. Also, most successful nestings seem to produce a single fledgling, occasionally two, and a group of six or more birds would obviously be more than a single family. As it may take immature males more than a year to moult into adult plumage, it is likely that these groups are composed of several pairs and some juveniles foraging together, with some males still in cryptic, intermediate plumage.

During a heavy downpour one August in Caracas I watched an irruption of flying ants. A considerable number of our garden birds, mostly Tropical Kingbirds *Tyrannus melancholicus*, Blue-grey Tanagers *Thraupis episcopus* and Black-faced Grassquits *Tiaris bicolor*, were hawking the insects with equal skill. What impressed me at the time was the unexpected appearance of at least a dozen (12) or more Yellow-bellied Seedeaters; at one time I thought there were 20 of them. They too were hawking the alates. While I



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