THE BLACK MALTESE: A MEDITERRANEAN, LIGHT BREED OF POULTRY

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Summary

The Black Maltese is a nearly-extinct light breed of non-sitting, egg-type chicken, present in the Maltese Islands. Formerly widely reared under backyard conditions for its abundant, white eggs, it has now been entirely replaced by intensely-reared synthetic strains of poultry. This breed is also absent from the remaining backyard flocks in Malta, having been replaced by Rhode Island Red commercial strains. The Black Maltese survives in dwindling numbers as a curiosity and show-bird for poultry shows. The current spatial distribution and breed population size were determined, and breed standard was established. Suggestions on safeguarding this breed were also discussed.

Key words: Genetic resources, Chicken, Malta

Introduction

Mediterranean breeds are also known as "light breeds", referring to their relatively low weight and slender appearance. They are characterised by a well developed, single comb, and prominent white ear lobes. The males have a large, arched tail with prominent sickles, and the hens are non-sitting and lay white-shelled eggs. These specific characteristics distinguish them from Asian "heavy breeds". The most frequent colour of contemporary Mediterranean breeds is black (Brown, 1906); he further comments: "It is interesting to note the remarkable uniformity of type found along the northern shores of the Mediterranean Sea, extending from Spain to the Balkan States, and perhaps as far as Greece. The Spanish fowls, the La Bresse (France), Leghorn, Ancona, Valdarno (Italy), the common fowls of Austria, and the Magyar (Hungary) have a remarkable resemblance, varying in minor details as well as colour of

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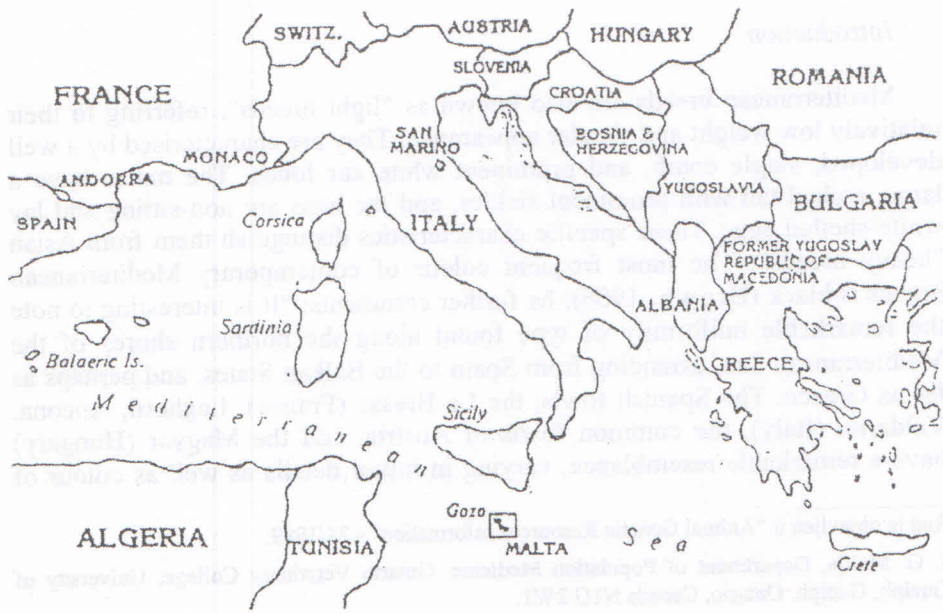
plumage, but with uniform characteristics and qualities". However, recent selection has frequently focused on relatively few phenotypic characteristics, often to the detriment of their production characteristics. Selection was directed at "perfecting" several breeds for exhibition. For example, the Minorca was selected for a very prominent comb and large white ear lobes, possibly compromising its egg-laying qualities (Anon, 1997). Likewise, the (black) Spanish was selected for the extensive areas of white skin in the face, and the Andalusian for its blue, laced feathers (Brown, 1906). The Maltese population of black poultry has largely escaped such "improvements" for show purposes, as it is virtually unknown outside its country of origin; it may therefore represent a relict population of relatively unselected poultry that formerly were characteristic of the Mediterranean.

Unselected Mediterranean poultry is probably better adapted for egg production under challenging (non-industrial) management conditions in hot and dry climates.

The principal aims of this study were to collect information regarding the Black Maltese, to quantify the present population, to establish breed standards and to explore possible similarities with poultry breeds from adjacent regions of the Mediterranean.

Figure 1. - THE POSITION OF MALTA IN THE MEDITERRANEAN SEA



Materials and Methods

Participants for the study were recruited through the use of client records of a local veterinary feed mill; these included a representative cross-section of farmers from all parts of the island for both layer and broiler chickens from January 1991 to January 1992. Persons calling the feed mill for nutrition or veterinary advice were also invited to participate (Table 1). All participants were visited on the farm-site, and a questionnaire in Maltese was orally administered, collecting information on breed characteristics, uses, and anecdotal information. The same questionnaire was administered to six further participants in May 1996; these were recruited from lists of exhibitors participating at annual animal exhibitions in the period 1993-1995, and by word of mouth. A version of the questionnaire is reported in English in table 3. Specimens of Black Maltese fowl were measured, weighed, and photographed.

Results

Specimens of a breed of chicken known by the Maltese as "tigieg suwed" (=black chickens, Maltese vernacular), and as "black Maltese chickens" by the English speaking population, were identified and described. It is the only breed of poultry associated with the Maltese islands, and was also uniformly black, as are most breeds in other Mediterranean countries; written records or illustrations describing it were not available. The position of Malta in the Mediterranean is shown in figure 1.

The Black Maltese had morphological characteristics that are typical of the Mediterranean light breeds of poultry (Figures 3 and 4). The body was broad shouldered, with a fairly long back sloping slightly to the tail and a broad breast; the wings were long and carried closely to the sides, with broad flight feathers. The plumage is close fitting, black, and with a green sheen in some males, usually localised to the tail coverts; the skin was white. The tail was prominent in both sexes, with prominent and markedly curved sickles in the male. The angle of tail with back ranged from 70° to 90°. The comb was single, with four or five points and upright in the male, bright red, smooth textured and folded over to one side without obstructing the eye in the female. The ears were white and with a single, central, longitudinal infolding; they were well demarcated from the red facial skin. The wattles were bright red, pendulant and very fine textured, the eyes were amber and prominent, and the beak was slate and horn in colour. The legs were slate and free of feathering. The carriage was upright, alert and active and they were strong fliers. The females were all non-sitting, and produced between 200 and 250 white-shelled eggs

produced per annum. Other phenotypic characteristics of the breed, based on the 27 specimens (12 males, 15 females) identified in this study, are summarised in table 1.

Table 1. - MEAN ± S.D. OF TRAITS MEASURED

Male[1]	Min.	Max.	Mean ± S.D.[2]
Height at base of neck (cm)	31.0	32.0	31.5 ± 0.18
Weight (kg)	2.0	2.4	2.13 ± 0.15
Height of comb (cm)[3]	4.0	4.75	4.10 ± 0.41
Ears, length (cm)	3.0	3.5	3.28 ± 0.20
Ears, width (cm)	1.0	1.75	1.48 ± 0.25
Wattles, length (cm)	5.0	6.0	5.64 ± 0.37
Wattles, width (cm)	3.0	3.5	3.31 ± 0.18
Tail (cm)[4]	35	42	39.08 ± 2.02
Female[5]			
Height at base of neck (cm)	23.0	26.0	24.86 ± 0.79
Weight (kg)	1.1	1.5	1.28 ± 0.13
Height of comb (cm)[2]	2.0	2.75	2.39 ± 0.25
Ears, length (cm)	1.5	2.5	1.88 ± 0.40
Ears, width (cm)	0.5	1.0	0.77 ± 0.18
Wattles, length (cm)	1.5	2.5	2.10 ± 0.21
Wattles, width (cm)	2.5	2.7	2.58 ± 0.08
Tail (cm)	13.0	17.5	14.97 ±1.25

[1] based on 12 specimens
[2] standard deviation
[3] the base of the comb to the base of the spikes
[4] length of sickles
[5] based on 15 specimens

Domestic fowl with some of these Mediterranean or light characteristics were already present in Greece and Etrusca (central Italy) in the 6th century BC, as exemplified by representations of the domestic fowl on several terracotta utensils from this period (Mallia, personal observations, 1998). All the fowls represented had a light body structure with close-fitting feathering, single combs, and well-developed tails with prominent sickles in the male. The plumage of most birds was depicted as pure black, although some fowl with wild-type feathering were present. Therefore the presence of the black phase and genes for white ears in the Mediterranean goes back to over two milleniums.

Figure 2. - THE SPATIAL DISTRIBUTION AND CLUSTERING OF BLACK MALTESE FOWL

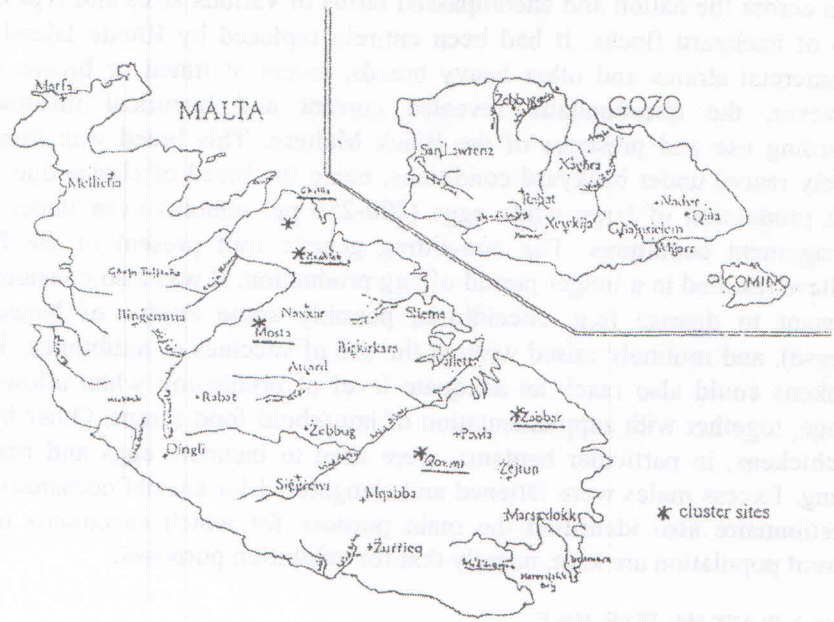


Table 2. - POPULATION DATA FOR THE BLACK MALTESE

Owner I.D.	Location	Males (count)	Females (count)	Housing
1	Maghtab	3	5	backyard flock
2	Mosta	1	2	pen
3	Ghallis	1	1	exhibition cage
4	Qormi	3	3	backyard flock
5	Qormi	3	3	exhibition cage
6	Zabbar	1	1	pen

The status of the Black Maltese is critical, as few as 30 specimens were identified. The distribution of these specimens is summarized in table 2. Of the six separate groups of poultry that were identified, the Maghtab and Ghallis specimens are closely related, as are the Mosta and Zabbar specimens. Therefore this population census identified only four separate genetic pools of Black Maltese. The spatial distribution and clustering of Black Maltese fowl are shown in figure 2.

Despite the 100% participation rate of the 138 poultry growers initially visited in the questionnaire (Table 3), the Black Maltese was not identified in

any of the sites visited. This was surprising as the sample included persons from across the nation and encompassed farms of various sizes and types, and also of backyard flocks. It had been entirely replaced by Rhode Island Red commercial strains and other heavy breeds, layers of tinted or brown eggs. However, the questionnaire revealed current and historical information regarding use and presence of the Black Maltese. This breed was formerly widely reared under backyard conditions, being the breed of choice due to its high production of large white eggs (200-250 per annum) even under poor management conditions. The non-sitting genetic trait present in the Black Maltese resulted in a longer period of egg production. It was also considerably resistant to disease (e.g. coccidiosis, possibly some strains of Newcastle disease), and routinely raised without the use of vaccines or antibiotics. These chickens could also reach an adequate level of production when allowed to forage, together with supplementation of household food scraps. Other breeds of chickens, in particular bantams, were used to incubate eggs and rear the young. Excess males were fattened and slaughtered for special occasions. The questionnaire also identified the main purpose for which specimens of the present population are kept, namely that for exhibition purposes.

Figure 3. BLACK MALTESE; MALE.

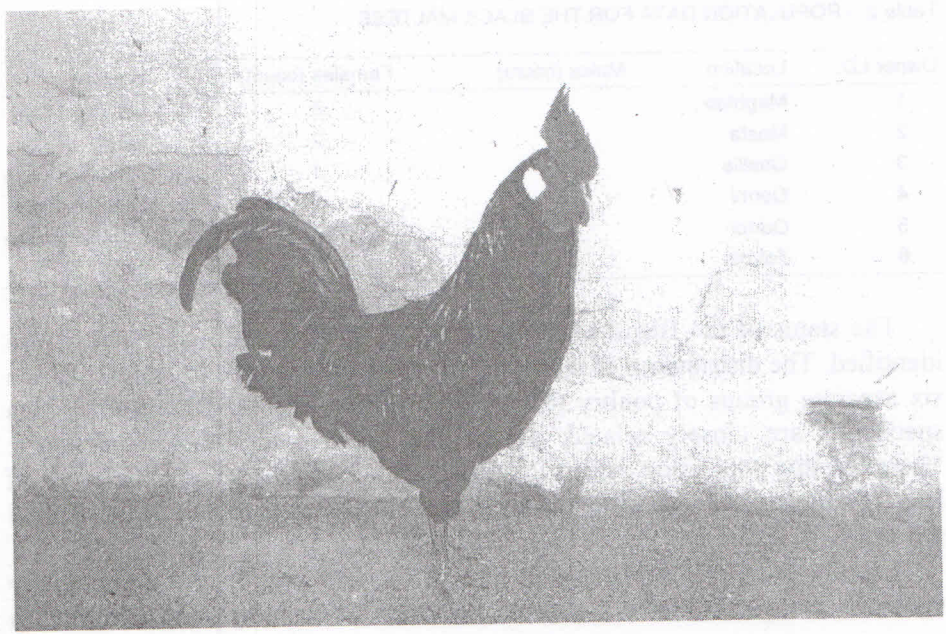
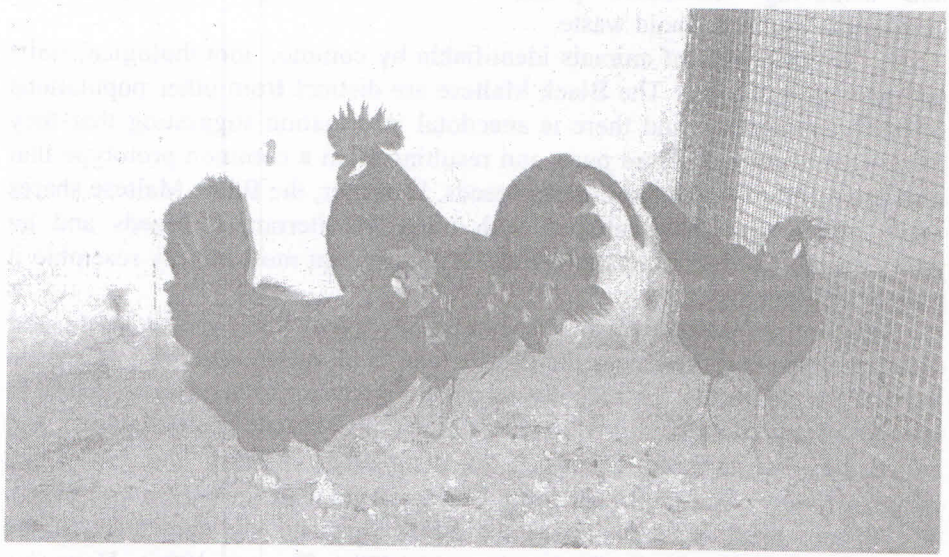


Table 3. - BLACK MALTESE QUESTIONNAIRE

Owner I.D.	Locality

1) Do you keep any black chickens? Yes _. No _. (If not, proceed to question 9)
2) Do you have any other chickens (i.e. not black)? Yes _. No _.
3) What is the purpose of keeping the black chickens? Eggs _. Meat _. Hobby/exhibition_.
4) How many black male and female chickens do you presently own? Males _. Females _.
5) Do you breed the black chickens with chickens of other colours? Yes _. No _.
6) Do you breed black chickens with varying physical characteristics? Yes _. No _.
7) What colour are the eggs from the black hens? white _.brown / tinted _.
8) Do the black hens go broody if the eggs are left with her? Yes _. No_.
9) Do you know of local black chickens? Yes _. No _. (If yes, proceed to question 10)
10) In what context do you know of the local black chickens?
(Tick more than one answer if necessary)
Have heard mention of them _. Have seen them on broiler and/or egg farms _.
Have seen them at aviculture shows _. Other, please specify _.

Figure 4. BLACK MALTESE; TRIO WITH A MALE AND TWO FEMALES



Discussion

The Black Maltese merits classification as a separate breed as it qualifies for all three definitions of a breed (Brock, 1987):

1. "Selection within a population, resulting in uniform, genetically transmissible characteristics that identify it from other groups of the same species". The Maltese Islands formerly shared close cultural and political links with Spain and southern Italy for several centuries, encouraging the movement of poultry from these territories. The current population of Black Maltese is rarely outbreed, and is a very homogeneous group of poultry with regard to body type, plumage colour and type, comb and facial characteristics and other genetically transmitted characteristics. The breed was selected for its rusticity, and production of large white eggs even in the challenging hot, arid climate that characterises the Maltese Islands.

2. "A group of animals associated with a particular geographical area and/or farming system". The Black Maltese has been isolated from other Mediterranean populations possibly as early as the 1500s, when the Maltese Islands passed from Charles V of Spain to the Knights of St. John, but certainly by the early 1800s when the islands became a British protectorate. The Black Maltese has since been selected for local backyard production systems, in pens or free-range, requiring no vaccinations or pharmaceuticals, and achieving reasonable production levels through scavenging and consumption of household waste.

3. "A population of animals identifiable by common morphological traits and historical origins." The Black Maltese are distinct from other populations of backyard poultry, and there is anecdotal information suggesting that they have been historically bred pure, and resulting from a common prototype that also produced other Mediterranean breeds. However, the Black Maltese shares many phenotypic characteristics with other Mediterranean breeds and an overview of the Mediterranean breeds of poultry that most closely resemble it may be appropriate.

Many of the present Mediterranean breeds are of fairly recent origin. For example, "Spanish fowl" was the name given to all unselected fowl present in the Iberian peninsula, as recently as 1800 (Brown, 1906). Successively, a breed with a predominantly white-eared face (and not red) was developed, and called the "white-faced Spanish", to distinguish it from the "red-faced Spanish", which had white ear lobes but a red-skinned face (Brown, 1906). The former breed was known as the Black Spanish, and the latter as the Minorca (or "Portugal fowl") by the mid-1800s' (Brown, 1906). However, much of the selection for the development of these two breeds may have occurred in Spain, and Burnham (1877) suggests that the Black Spanish was brought to the USA from Holland and England. The Black Spanish illustrated by Burnham (1877) show the characteristic white face of the contemporary

specimens. However the illustrations in "The American Fowl-Breeder" (Anon, 1850), published 27 years prior, show the Black Spanish with fairly "generic" Mediterranean features: "light" body structure, single comb, black close-fitting plumage, and a prominent tail with markedly curved sickles. An old illustration of the Minorca, dating to 1810 (Brown, 1906) also shows this breed having similar generic Mediterranean features. However the contemporary illustration by Brown (1906) depicts the Minorca with characteristics that are virtually identical to the present-day breed. By the late 1800s', "blue Minorcas" were already considered to be separate breed from the Minorca, and called "Andalusians" (Brown, 1906). Brown (1906) also states that the Castillian, although similar to the Minorca, is the type from which the Minorca was derived: the former is distinguished from the latter only in that it has a smaller comb and a more upright body posture. All the fore-mentioned Spanish breeds have slatecoloured legs; the Valdarno being the only Italian breed with this characteristic. Other Italian breeds such as the (black) Leghorn and Ancona have yellow legs.

To summarise, poultry with "generic" Mediterranean features was already present in Greek and Etruscan times, and until the mid 1800s' relatively unselected, non-standardised "Spanish fowl" were present on the Iberian peninsula, and possibly southern Italy. The Castillian and Black Maltese possibly represent the contemporary gene pools closest to the older, unselected (now extinct) "Spanish fowl". Breed standards have been developed for the Castillian and this report has gathered the remaining known specimens of Black Maltese with the aim of establishing breed standards. Although the Black Maltese currently survives as an exhibition bird, no attempts appear to have been made to "perfect" it for shows, other than maintain plumage colour and type, comb type etc. It is likely that the original breed production characteristics and rusticity of the Black Maltese have therefore been maintained.

The small number of specimens recorded probably represents a census of the surviving population, as all known owners of Black Maltese were contacted. The rapid decline of this breed parallels that of other backyard breeds formerly present in Malta; for example the "Egyptian chicken" (probably the gold phase of the Fayoumi) is now locally extinct. Scavenging and backyard poultry are no longer of importance to the local population, and as from the 1960's, commercial laying hybrids with a high production potential and raised on balanced mash or pelleted diet replaced them in a short space of time. Poultry is currently only raised under industrial conditions by relatively few, specialised individuals. It is therefore unlikely that attempts to encourage

the reintroduction of Black Maltese in backyard systems of management will meet with any success. Furthermore, few details are known of the actual production potential of the remnant population, and changed consumer trends have now resulted in the domestic market preferring brown eggs from free-range and backyard flocks. Historically, the Maltese population consumed exclusively white eggs; the word for "egg" in the Maltese language is "baydah" (= white), as all eggs produced were white.

As its present use is that of an exhibition bird, *in-situ* conservation is likely to be successful by targeting activities that centre around these activities. Hence, breed standards for the Black Maltese should be circulated around local poultry clubs. This may create an awareness of this local breed's specific characteristics, and inclusion of the characteristics given in this study with the guidelines for the judging of Black Maltese. *Ex-situ* conservation may be involved in the maintenance of breeding groups overseas since its appealing morphological features lend well to its use as an exhibition bird (Figures 2 and 3). *Ex-situ* conservation may also be achieved by the involvement of the Malta Government Farm (Ghammieri) in maintaining a breeding flock, and possibly assess the performance of this breed. Although the Black Maltese is unlikely to find use as a layer in Malta, it may be useful in other xyrothermic tropical and subtropical conditions, as does the Fayoumi (Hossary and Galal, 1994). Immediate action is necessary to safeguard the Black Maltese, as less than 30 specimens are currently known. For example, the Valdarno, formerly considered extinct (Giauarini, 1983), has been successfully revived and had reached a population size of 200 in 1994, with an increasing population trend (FAO, 1995). It is hoped that the information gathered in this study, and particularly the establishment of breed standards and a census for the Black Maltese, will be the first step in safeguarding this critically endangered breed.

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CRNA MALTEŽANKA: MEDITERANSKA LAGANA PASMINA PERADI

Sažetak

Na Malteškim otocima crna Maltežanka je gotovo izumrla pasmina kokoši nesilica, koja ne leži na jajima. Ranije se u velikoj mjeri uzgajala u dvorišnim uvjetima zbog obilja bijelih jaja a sada su je potpuno nadomjestili intenzivno uzgajani sintetski sojevi peradi. Ova je pasmina također nestala iz preostalih dvorišnih jata na Malti jer su je nadomjestili komercijalni sojevi Crvene kokoši s Rodosa. Crna Maltežanka održala se u smanjenom broju kao kuriozitet i izložbeni primjerak na izložbama peradi. Utvrđeni su današnja prostorna rasprostranjenost i veličina pasminske populacije te pasminski standardi. Raspravlja se i o prijedlozima za zaštitu ove pasmine.

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