

CONCERNING POULTRY



Photo: Russell Parker

THE POSITIVE TRAITS OF NAKED NECK CHICKENS

By Russell Parker (Australia) and the Team of Aviculture Europe

A unique flock of Naked Neck chickens predominate amongst the village chickens on the Solomon Islands, in particular on Ontong Java Atoll. Local oral history says that these Naked Neck chickens were originally brought in from Nukumanu Atoll, 40 km north and on the Papua New Guinea side of the border.

It is said that the Naked Necks were originally imported to Nukumanu on a trading ship many years ago and as the people of both atolls are related, the chickens have been transferred to the Solomon's side of the border through cultural movement of the people between the two atolls.

In the past decade there has been a small number of these eye catching chickens distributed to other islands in the Solomons group by a travelling council officer from Ontong Java and he has started to crossbreed his Naked Necks with broilers & hybrid layers to help increase the numbers and also the size of the bird.

The Naked Neck has been used in France for centuries as a free ranging meat bird and is still used as the basis for their free range and organic meat chicken industry. They have a good reputation for their ability to forage freely resulting in plentiful flesh meat and eggs.

Due to the dramatically reduced numbers of feathers naturally appearing on the Naked Neck chicken it also makes it more suitable than other breeds of chicken for life in the tropics. The many attributes of the Naked Neck make it the most important breed needed for the ongoing improvement and upgrade of village chicken flocks within the Solomon Islands.

However, as regulations regarding chicken importation into the country have become more stringent in recent years due to bird flu, it is virtually impossible to obtain such valuable genetic material as these Naked Necks anywhere else for the Solomons.

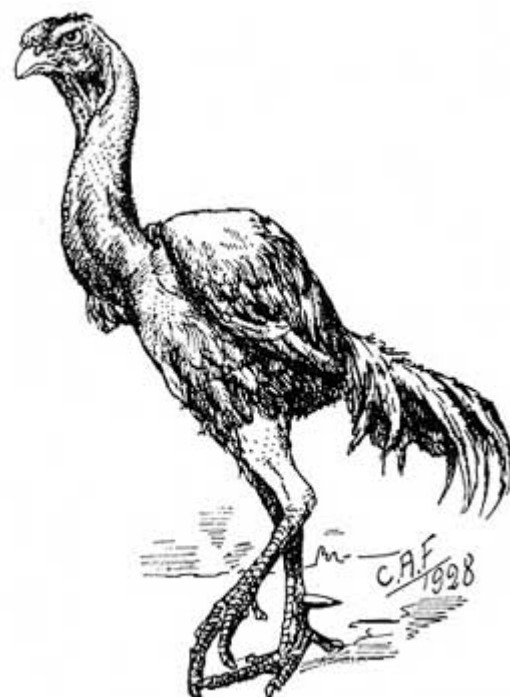
Naked Neck history

The lack of exact information makes any attempt to clarify the origins of this breed very difficult.

According to certain historians and poultry specialists, the first chickens with naked necks were brought from Asia towards the end of the nineteenth century B.C. by Hun conquerors.

It has been known that for centuries naked neck chickens have been bred in south East Asia. They are tall, heavy (game) birds, like for instance the Madagascar Naked Neck (the Malgache) from the island Madagascar, east of the African coast. These chickens are extremely sparsely feathered being only fully in plumage on tails and wings - far less feathers than European naked neck fowl, like the French Cou nu du forez and the Transylvanian Naked Neck.

The latter breed was selected and perfected by breeders located near the towns of Sibiu and Sighisoara who presented it in 1875 as the 'Transylvanian Naked Neck' that could



Naked-neck Madagascar Malay.

be used as a dual purpose breed.

Soon afterwards there were relatively large populations of Naked Necks in Romania, Hungary, Germany and Austria, and the breed was imported to other countries as well. The Germans used the breed to feed their troops in Africa; because of the extreme heat and humidity, only one breed managed to survive there – in the same time producing eggs and quality meat: Transylvanian Naked Necks.



Left: Naked Neck breeding rooster at the Solomon Islands.

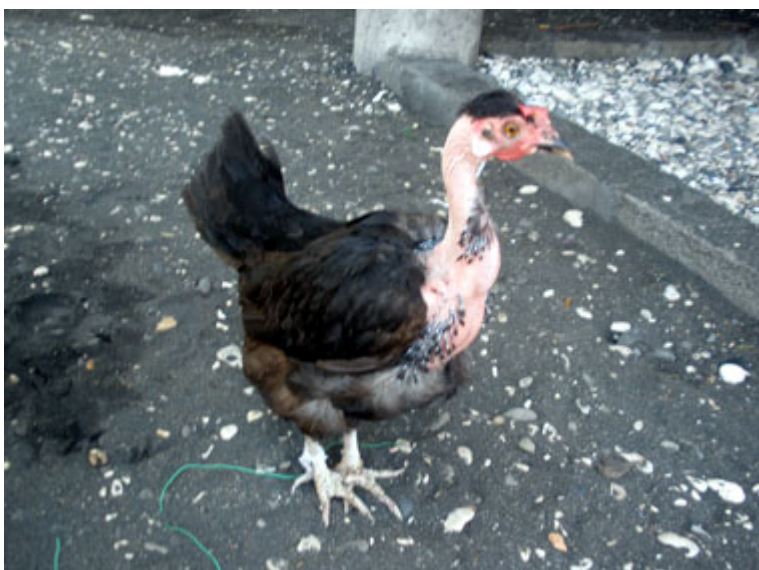
Positive traits

Naked neck chickens have the "Na"-gene, which is an incomplete dominant autosomal gene. There is still much attention paid to this gene and mainly for the purpose of uses in hot climates.

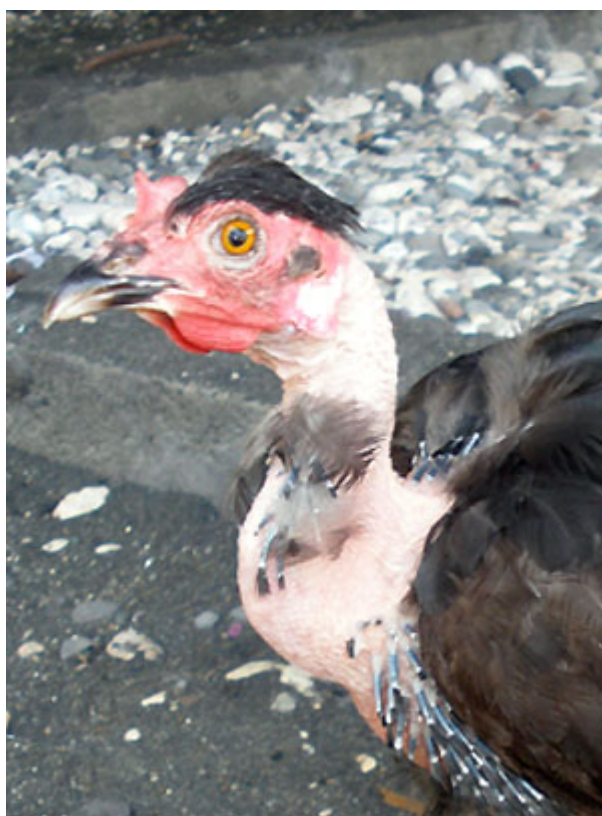
The gene Na / Na (homozygous) or (Na / na) (heterozygous) results in a slightly lower growth and feed efficiency at low ambient temperatures, but higher growth

and feed efficiency in hot climates. There is also a connection between the Na gene and laying capacity. The egg weight always appears slightly higher in carriers of the Na gene, while concerning egg production there is no or only a small negative effect of the Na gene at low temperature regions, but a clear positive effect in hot climates.

The greater weight of the eggs laid by naked neck hens is even noticeable when they are fed low protein feed. This could be explained by the fact that that a larger part of the protein ration is made available to the eggs rather than to feather growth.



Left and below: Black Ontong Java Naked Neck hen at the Solomon Islands.



It is known that long-term heat stress significantly reduces eggshell quality. This is amongst other due to respiratory alkalosis (as a result of panting to resist the rise in body temperature). Since naked neck chickens have better thermo-regulation in dissipating heat stress more efficiently, even the egg shell quality will be better in the regions with hot climates.



Left: Gold pullet from Ontong Java Atoll.

More positive traits

Experiments have shown more positive traits: There is a direct relationship between the presence of the naked neck gene (Na) and the body weight of the birds – that is, the ones carrying this gene tend to be heavier and with less abdominal fat, when compared to the birds without the gene (normally feathered). This observation is especially valid in regions with higher temperatures, where the Na gene carriers utilize food more efficiently, have a better immune

response to diseases and gain body weight faster than normally feathered birds.

Either homozygous or heterozygous they have all the desired qualities as perfect double duty breed for free range. In addition, their meat is touted as extra tasty.

Moreover, observations have shown that less feather pecking occurs in chickens with the Na-gene.

Right: 'Sasso'® Naked neck X44N Breeder cock. SASSO (France) is a world-leading breeder of traditional farm poultry, distributing its breeding stock to countries all over the world. Photo: Archives AE.



One negative trait...

Several studies have documented reduction in hatchability of Na/Na embryos, and therefore the production of homozygous naked-neck chickens is not practical. However, Na/Na or Na/na male and female breeders have a normal reproductivity, and heterozygous naked-neck chicks hatch normally, thus the production of Na/na chickens will be as feasible as that of normal ones.

A very useful gene

So the NA gene appears to be a very useful gene for use in the tropics and subtropics. By the way, 'naked neck' emerges here in many indigenous varieties, and sometimes in a considerable percentage.

Left: A crate full Ontong Java Naked Necks. The white cockerel is a crossbred with a broiler.

Naked Neck roosters or hens can very well be mated with a suitable 'native' chicken. The advantage is that the chicks will have the solid growth capacity of their naked-neck parent, will thrive well in your climate and the usual food, but also they will still taste and look like the native chickens which one is accustomed to, but with a (partially) naked neck. The gene causing the naked neck is namely an incomplete dominant one, meaning not fully dominant and resulting in an intermediate form between the two types of bird. So even when crossed with a 'normally' feathered chicken, the trait will still be present in the first generation of chicks, but the crosses will usually



have an 'extra patch' of feathers on the neck. Pure-bred Naked Necks have absolutely no feathers on the neck, and just some feathers on the top of the head. The crop region is also featherless, and a distinct mark that the bird is a pure-bred. The same naked neck gene causes the plumage to be less dense on the breast and abdomen; another useful trait that makes it easy to prepare as table bird.



Left: Naked Neck hen & chicks at St. Cruz Island.

Naked Necks on the Solomon Islands

These naked necks that are originally from the Nukumanu Atoll are a valuable resource and need to be greatly multiplied in numbers so it can be distributed across the Solomons as a specialist breeding chicken villages. However, rescue of this valuable flock of chickens becomes more urgent every day. Global warming and all its connotations have now directly affected both our chicken world and the Solomon Islands in particular with the tidal flooding of Ontong Java Atoll and Sikiana Island in the far north of that country.



Above: Golden Ontong Java Naked Neck hen.



Apart from the obvious human disaster of flooded food gardens and fresh water supplies, a more urgent threat has arisen with the potential loss of our unique flock of Naked Neck chickens. There is no doubt that flood tides will continue and the atoll will be threatened further. The chickens will not only have to avoid drowning and starvation along with their human companions but also risk becoming more valuable as a food item themselves as the climate threats continue.

Both Ontong Java Atoll and Sikiana Island are some of the most remote locations in the Solomons with communications and shipping being both erratic and infrequent.

We must act now to rescue these valuable chickens and establish them in various locations around the country so they can be both multiplied and preserved more effectively. Your help is welcome, please contact the author Russell Parker at ruster@tpg.com.au

Below: Joel with his Ontong Java Naked Neck chickens.



Note from the editor: While finishing this article we heard the news that there had been two earthquakes and extreme flooding in the capital Honiara on the Solomon Islands, see <http://www.abc.net.au/news/2014-04-07/an-thousands-in-evacuation-centres-as-solomon-islands-counts-th/5371882>

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