Zusammenfassung

Mönchsrobben sind die einzigen wirklich tropischen Flossenfüßer, und unter den drei Species ist die Laysan-Robbe die zuletzt und erst spät entdeckte. Ihre Verbreitung, Geschichte und derzeitige Populationsgröße werden gezeigt. Eine kurze Beschreibung der Robbe, ihrer Lebensweise und ihrer verwandtschaftlichen Beziehungen wird gegeben.

References

Allen, G. M. (1942): Extinct and Vanishing mammals of the Western Hemisphere; Special Publ. No. 11. Am. Comm. Int. Wildlife Protect. 620 pp. — Bailey, A. M. (1952): The Hawaiian Monk Seal; Mus. Pictorial, Denver. 7:1–32. — Blackman, T. M. (1941): Rarest Seal; Nat. Hist. N. Y. 47:138–139. — Bryan, W. A. (1915): Natural History of Hawaii; 1–596 pp., pl. 117, Honolulu. — Kenyon, K. W., and Rice, D. W. (1959): Life History of the Hawaiian monk seal; Pacific Science, 13:215–252. — King, J. E. (1956): The monk seals (genus *Monachus);* Bull. Brit. Mus. (Nat. Hist.) Zool. 3 (5):203–256. — King, J. E., and Harrison, R. J. (1961): Some notes on the Hawaiian monk seal; Pacific Science. 15:282–293. — Matschie, P. (1905): Eine Robbe von Laysan; Berlin Sitz. Ber. Ges. Naturf. Freunde. 254–262. — Rice, D. W. (1960): Population dynamics of the Hawaiian monk seal; Journ. Mamm. 41:376–385. — Svihla, A. (1959): Notes on the Hawaiian monk seal; Journ. Mamm. 40:226–229. — Wahlert, G. von (1956): Die Typen und Typoide des Überseemuseums Bremen. 4: Die Laysan-Robbe, *Monachus schauinslandi* Matschie, 1905; Veröff. Überseemuseum Bremen. A. 2: Heft 6. 365–366. — Wetmore, A. (1925): Bird life among lava rock and coral sand; Nat. Geogr. Mag. 48: 77–108.

Anschrift der Verfasserin: Judith E. King, British Museum (Natural History), Cromwell Road, London, S. W. 7

Archaic pattern in the horse and its relation to colour genes

By H. Huitema

Eingang des Ms. 19. 5. 1963

Amongst horses in pre-war Holland it was very uncommon to encounter animals with colours other than black, brown, bay, chestnut, roan and grey. Only occasionnally some less common colours could be seen in imported horses, as for example on Russian ponies.

The scarcity of these uncommon colours may be the reason why until I came to Indonesia I had seen only a few horses with a backbone stripe and never yet the so-called zebra markings or tiger stripes on the legs. In Indonesia, especially on the isle of Timor, I noticed very often that horses with a yellowish or buffy bay coat colour combined with a black mane, tail and points, had a black eel stripe along the backbone. In addition they had the tiger striping on the legs, namely the transversal dark stripes across the back of the fore-arm and on the inside, but occasionnally also on the outside of the tarsal joint.

Later I noticed that the same pattern could also occur in mouse coloured horses in Indonesia. Once my interest had been roused to this phenomenon, I gradually became aware of the fact that this tiger striping is well known not only in the wild horse *(Equus przewalskii),* but also in the "reconstituted tarpan" and moreover it is rather a common trait in dun coloured horses.

Personally I saw it in Europe in the Highland Garron, the Norwegian fjord pony, in a few Welsh and Islandic ponies and an indication of it in a few Shetland ponies.

I have also seen it several times in the Netherlands in the small horses imported from East-European countries for delivery work, once in a Canadian horse and once in a Dutch horse of the Groningen breed. The fact is that the pattern occurs in the wild horse, is frequently seen in the more primitive breeds, whilst a similar coat pattern can be met in the Abyssinian wild ass (striped legs) and in the Nubian wild ass (eel stripe and shoulder cross) and its domesticated descendants (eel stripe, shoulder cross and sometimes as well striped legs). It also of course occurs in the zebra. This has led me to suggest the expression "archaic pattern", to indicate a sort of common ancestry for the above mentioned species. An advantage of the use of the word "pattern" is, that it emphasizes a difference from what are correctly called "markings", namely the irregular white patches on the head (star, blaze) and on the legs (white pastern o. s. o.). All the horses in which the pattern was clearly seen, had one character in common, namely that the coat colour denoted the presence of the colour gene D (dun), which dilutes the original colour to a lighter shade. Not every dun coloured animal however shows the pattern, and even when present the extension and shape of the dark patches and stripes vary considerably. In addition, I saw the pattern in horses with a coat colour which did not at first sight indicate the presence of the dun gene. Although the pattern is variable, I would regard the following as the main characteristics:

Abb. 1

On the head. Here we can sometimes find a round black spot in the masseter area. (Fig. 1 a and b). I have seen it only thrice and only in blue and mouse dun Highland Garrons. Among these three animals there happened to be an unbroken three year old, so the patch can not be due to harness pressure.

On the front leg. a. Here stripes run across the back of the leg. These vary in number, can be narrow or broad and close together or farther apart. Usually they are horizontal, but sometimes more oblique. In one of the Przewalski stallions of the Rotterdam Zoo a stripe runs almost vertical along the inside of the leg and encircles the chestnut. b. Sometimes a black patch is seen on the outer front side of the fore-arm, situated rather high. In horses where this patch was present, I found that it always had approximately the same shape and occupied the same site. Fig 2 a, b, c, d, e and f.

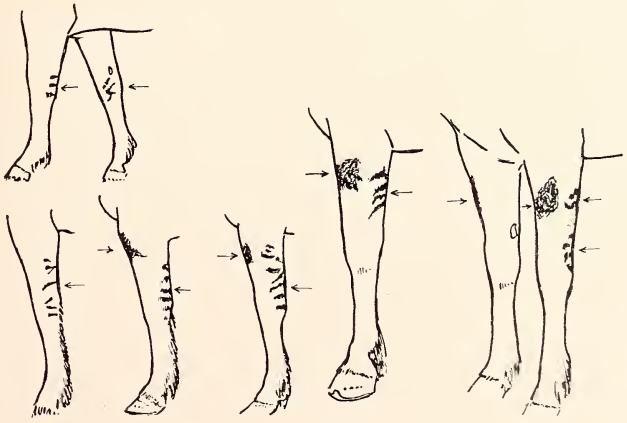

Abb. 2

On the hind leg. The striping here is somewhat less distinct and extensive than on the front leg. Often it is only seen at the inner side of the tarsal joint, less common also on the outside. The striping is irregular in shape, number and distance between the stripes. Fig. 3 a, b, c.

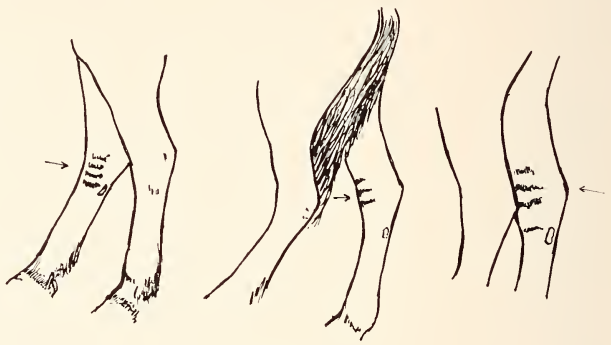

Abb. 3

On the withers. In some horses there occurs a smaller or larger dark patch on the withers. This is usually much less well defined and broader than the shoulder stripe of the ass and is also shorter and not always connected with the backbone stripe. In a cream dun of the Highland Garron breed I saw it once very distinctly as a triangular black patch. In a mouse dun of the same stud it was rather large and in front of this patch on the withers there was another large one on the neck. Fig. 4 a and b.

On the backbone. When the backbone stripe is complete it runs from mane to tail and can be regarded as an elongation of the dark middle part of the mane running backwards and being still visible at the root of the tail. In many cases it is however incomplete, very narrow or hardly discernable even in animals who have otherwise distinct leg striping.

Abb. 4

Once I saw in a Highland Garron that the rather broad backbone stripe had short transversal offshoots, simulating the upper ends of real zebra stripes on the body.

Dr. Erna Mohr was so kind to send me some photographs of horses with a similar pattern on the croupe and the root of the tail. In one of these cases the real backbone stripe was replaced by a short longitidunal chain of dark patches in this area. Fig. 5 a and b.

Although I have sometimes seen an indistinct backbone stripe in bay coloured hunter type horses and even once weak striping across the back of the forearm in such an animal, it can generally be assumed that the described pattern is only well developed in dun coloured horses. Whether the dun gene was really absent in these animals is unknown to me.

Abb. 5

To procure the mouse – or blue dun colour the following genes have to be present: C (colour), B (black) and D (dun).

If the gene I (inhibition) is also present, then we get yellow and cream duns. It should be noted that when the gene I is present in horses together with genes C and B, the black is restricted to the mane, tail and end parts of the legs.

It is not sure yet whether there are one or more genes D, nor exactly what is the result of the presence of the D gene in heterozygotic or homozygotic form. There is rather a wide variation in shade especially among the yellow duns, whereas on the other hand the yellowish bay tinge, in which the described pattern is often very distinct, occurs in quite a number of animals, for instance in Timorese ponies.

The fact that Norwegian fjord ponies are always lighter or darker yellow dun but never bay coloured, might be explained by the assumption of two dun genes. For one of these genes then this breed would be homozygotous, whereas the other gene could be present either in homozygotic or heterozygotic form or even be absent.

I mentioned already that the pattern can also be seen in animals in which the coat colour does not at once suggests the presence of the D gene. In a stud of Highland Garrons I noticed a number of animals with peculiar colour shades. These horses were definitely greys but with a creamy, buffy or mud coloured tinge, whereas the older animals were less white than is usually the case with greys. I wondered which gene conformation could be responsible for these colours, until closer examination revealed the described pattern, here visible as a rather indistinct backbone stripe and with sometimes weak, sometimes more distinct leg striping. Inquiry into the descent of these horses showed with certainty that a muddy tinged grey with a backbone stripe and weak but still clearly discernable leg striping had an ordinary grey dam but a mouse dun sire.

It seems very probable that indeed the dun gene plays a role in the formation of these peculiar shaded greys and the colour could then very well be described as grey dun.

These horses then presumably possess the genes CBGD or CBIGB.

Acknowledgments. – Thanks are due to Dr. Erna Mohr for the sending of the photographs of peculiar backbone stripes on the croupe and root of the tail and to Professor S. G. Wilson for the correction of the English text of this paper.

Summary

Described is, what is called the archaic pattern in horses. This pattern occurs frequently in the wild horse and the more primitive breeds, whilst similar coat patterns can be met in asses. As belonging to the pattern can be regarded tiger striping on the legs, backbone stripe — sometimes complemented with short transversal offshoots simulating the upper ends of real zebra striping on the body — and occasionally a black patch on the shoulder. Attention is drawn to the fact that the pattern is usually only clearly seen when the coat colour denotes the presence of the gene for dun. These animals can be either yellow or mouse-dun but also grey-dun.

Zusammenfassung

Es wird beschrieben, was man bei Pferden „archaic pattern", altertümliche Muster nennt. Diese Muster kommen häufig bei Wildpferden und den primitiveren Zuchtrassen vor, während man ähnliches bei Eseln treffen kann. Es zählen dazu Streifen an den Beinen, der Aalstrich — bisweilen vervollständigt durch von ihm abzweigende kurze Transversalstreifen, die dem oberen Ende von richtigen Zebra-Körperstreifen ähneln — und gelegentlich ein schwarzer Schulterfleck. Das Muster ist gewöhnlich nur dann deutlich zu sehen, wenn die Fellfarbe das Vorhandensein des Gens für dun zeigt. Diese Tiere können entweder yellow oder mouse-dun, aber auch grey-dun sein.

Anschrift des Verfassers: Dr. H. Huitema, Tierarzt, Heemraadsplein 4b, Rotterdam -6

Beobachtungen zur Kreuzung zwischen Schwarzrückenducker, *Cephalophus dorsalis* Gray, 1846, und Zebraducker, *Cephalophus zebra* (Gray, 1838)

Von Hans Frädrich

Aus dem Zoologischen Garten der Stadt Frankfurt am Main
Direktor: Prof. Dr. Dr. h. c. B. Grzimek

Eingang des Ms. 10. 4. 1963

In der Literatur sind nur wenige Angaben zur Bastardierung zwischen Ducker-Arten zu finden. Bisher wurden folgende Kreuzungen beschrieben (Bigalke, 1932; Gray, 1954):

Schwarzrückenducker ♂	×	Blaurückenducker ♀
Cephalophus dorsalis Gray, 1846		*Cephalophus rufilatus* Gray, 1846
Rotducker ♂	×	Kronenducker ♀
Cephalophus natalensis Smith, 1834		*Sylvicapra grimmia* (L., 1758)
Blaurückenducker ♂	×	Schwarzrückenducker ♀

Gefangenschaftsbastarde mit der auffälligsten Ducker-Art, dem westafrikanischen Zebraducker (*Cephalophus zebra* Gray), sind offenbar bisher noch nicht gezüchtet worden, da Zebraducker nur einige wenige Male in zoologischen Gärten gezeigt wurden. Nach dem ersten Transport, der 1903 in den alten Hamburger Zoo gelangte, erhielt erst 55 Jahre später der Frankfurter Zoo zwei Weibchen, die als Jungtiere in Liberia gefangen worden waren und sich gut eingewöhnten. Trotz zahlreicher Bemühungen gelang es nicht, für sie ein männliches Tier zu beschaffen, denn statt eines erwarteten Paares trafen im Dezember 1962 erneut zwei junge Weibchen ein.

Seit 1961 bewohnten die beiden 1958 importierten Zebraducker ♀♀ mit einem Schwarzducker (*Cephalophus niger* Gray) ♀ und einem Schwarzrückenducker ♂ ge-