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Some hybrid ducks in the collection of the Zoölogisch Museum, Universiteit van Amsterdam

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and

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ABSTRACT

Hybrids of the following duck species, collected in the Netherlands, are listed and described:

Anas platyrhynchos L. × *Anas acuta* L.

Anas platyrhynchos L. × *Anas penelope* L.

Netta rufina (Pallas) × *Anas platyrhynchos* L.

Netta rufina (Pallas) × *Aythya ferina* (L.)

In each case the hybrid proved to be intermediate between the presumed parents. An aberrant hybrid of *A. platyrhynchos* and *A. acuta* probably arose from a mating of *acuta* with a colour-aberration of *platyrhynchos*.

INTRODUCTION

In recent years the Zoölogisch Museum has received a number of interesting specimens of ducks collected in the Netherlands. All these ducks are in some way intermediate between two duck species. They are considered to be interspecific hybrids, which according to our experience are often of an intermediate character. Of one of the birds discussed below the parentage is known as it was reared in semi-captivity.

From the family Anatidae numerous hybrids have been reported (Gray, 1958) and descriptions of many interesting specimens have been published (for a survey of recent literature see Ogilvie, 1966). In view of the faunistical documentation however it appeared desirable to list the above-mentioned specimens and we decided to make our list more useful by providing concise descriptions in which stress was laid upon comparisons with the presumed parent species. In addition a few old hybrid specimens from the collection of the Zoölogisch Museum were also considered.

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METHODS

All hybrids were carefully compared with birds of the same sex belonging to both presumed parent species. In addition to plumage characters the following measurements were compared: wing length, tarsus, length of bill, and width of bill measured at the widest point in all species except *Netta rufina* where the bill tapers slightly towards the tip. In *Netta rufina* the width of bill was measured at 1/3 of the length from the tip. In the other species the widest point is situated at about 1/3 from the tip.

ACKNOWLEDGEMENTS

Our thanks are due to all correspondents, who have kindly sent to the Museum the hybrid ducks that came into their hands. We wish to thank Maj. Gen. C. B. Wainwright for information on a specimen which he had ringed and Mr. C. W. Mackworth Praed for the specimen from Fordingbridge included in this paper. Prof. Dr. K. H. Voous has greatly obliged us by giving his opinion in a number of cases and for his help in the preparation of the manuscript.

Anas platyrhynchos L. x *Anas acuta* L.

Reg. nr. 3375, ♂ ad, 8 Nov. 1897, Kleine Geest near Tietjerk, prov. of Friesland. Caught in duck decoy. Presented by Mr. H. Albarda to the collection of Baron Snouckaert van Schauburg, now incorporated in the Zoölogisch Museum.

Reg. nr. 3377, ♀ ad, December 1901, Tietjerk, prov. of Friesland.

Reg. nr. 3378, ♀ ad, 28 Jan. 1888, Engwierum, prov. of Friesland.

Reg. nr. 15,226, ♀ ad, December 1954, Netherlands, no exact locality known. Presented by Maison H. van Aken en Zn., poulterers.

Reg. nr. 15,241, ♀ ad, late Aug. or early Sept. 1954, Kampereiland, prov. of Overijssel. Presented by Mr. J. G. van Marle.

Reg. nr. 16,479, ♂ ad, late Sept. 1954, Maasland, prov. of Zuid-Holland. Presented by Maison H. van Aken en Zn., poulterers.

The male hybrid ZMA 3375 is in nuptial plumage. It is a perfect intermediate between adult males of *platyrhynchos* and *acuta*. The head is glossy brownish green, the remainder of the upper parts greyish brown, finely vermiculated light grey. Tip of outer web of scapulars black, but less markedly and with a slightly browner hue than in *acuta*. In *platyrhynchos* these parts are dark brown with dark vermiculations. Central tailfeathers less elongated than in *acuta*, curved upwards, but not forming a curl as in *platyrhynchos*. Upper breast light brown with white feather edges, much lighter than in *platyrhynchos*. Lower breast white, abdomen vermiculated grey. A broad white collar on foreneck shows tendency to continue as two parallel bands along the sides of the hind neck, but is mottled brownish and less extensive than in *acuta*. Wing speculum glossy bluish green, less blue than in *platyrhynchos*, less green than in *acuta*. In *acuta* the speculum is bordered on its proximal side by cinnamon terminal bars on the greater wing coverts. In *platyrhynchos* the greater coverts have broad subterminal white bars and equally wide terminal black bars. The hybrid has light grey subterminal bars on the greater coverts, followed in the outermost ones by a cinnamon terminal bar. On the more medial greater coverts the terminal bar is progressively darker passing through dark grey brown into black in the innermost ones.

Pictures of male hybrids of *A. platyrhynchos* and *A. acuta* have been published in Pough (1951, pl. 7) and Kortright (1957, pl. 36, C and D). Our bird differs from that pictured in POUGH in having no elongated scapulars, a more brownish hue on the back, less white on the sides of the neck, and less green on the head. The wings of our specimen are closely similar to those of 36 C in Kortright, except for a smaller amount of brown in the proximal boundary of the wing speculum. The rest of the body resembles the birds pictured in figure 36 D, but has less white on the neck and more grey on the abdomen.

The female hybrids ZMA 15,226 and ZMA 15,241 are both in moult, numerous blood-quills of body-feathers were found to be present. Both birds and the two old specimens show a mixture of old and new feathers in the plumage. In ZMA 3377 the majority of the feathers on the mantle is worn, in ZMA 3378 and ZMA 15,226 fresh feathers are predominant. Tentatively we suggest that ZMA 15,241 is in moult from nuptial plumage into eclipse plumage, whereas the other birds are moulting from eclipse into nuptial plumage. In ZMA 15,226 and ZMA 3378 the moult is more advanced than in ZMA 3377. According to Witherby c.s. the timing of the moult is different in Mallard and Pintail and our hybrids appear to be more or less intermediate (see table V).

All four females are to be recognised as hybrids of *platyrhynchos* and *acuta* by the wing speculum which is closely similar to that of the male hybrid ZMA 3375. They differ from this bird in having no light subterminal bar on the greater coverts, but only a cinnamon terminal bar which in ZMA 15,226 is partly white and narrower than in the other three. There is no black in the tip of the innermost greater coverts. This can be correlated with the fact that in adult females of *platyrhynchos* the black terminal bar on the greater coverts is much narrower than in males. The remainder of the plumage of the hybrid females is intermediate between the females of both parent species. The dimensions are variable, in ZMA 15,241 the wing is long in comparison to both *acuta* and *platyrhynchos*. The shape of the bill tends more to *platyrhynchos* (see fig. 7). Both ZMA 15,226 and ZMA 15,241 have a very long tarsus (see table I). In this respect it is interesting to note that Harrison (1965) found significantly longer tarsi in hand-reared Mallards as compared to wild-bred ones. So tarsal length seems to be a modifiable character. In the case of these hybrids we ascribe the relatively great length of the tarsus to an effect of heterosis.

The male bird ZMA 16,479 is aberrant and a little puzzling. It is in moult from eclipse into nuptial plumage.

The wing speculum is somewhat smaller but for the rest very much like that of ZMA 3375. The terminal bars on the greater coverts are narrower than in that bird, but show also a preponderance of cinnamon on the outermost and of black on the innermost ones. Forehead and crown are like ZMA 3375, the lores have a little more green. The remainder of the head is still in eclipse plumage, the sides of face resembling very closely those of ZMA 3377. The feathers of chin and throat wear dark brown shaft streaks which are much

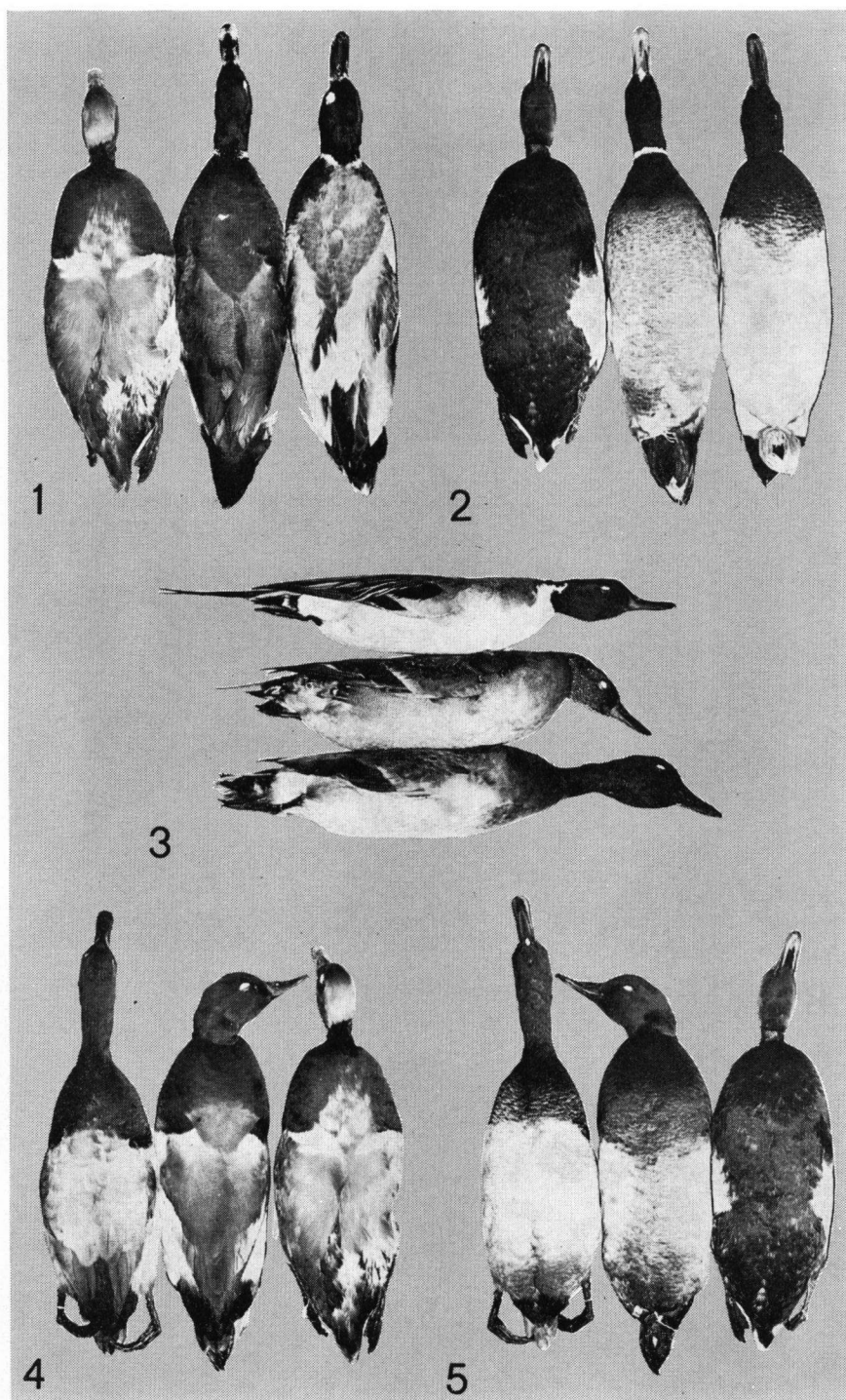
more pronounced than in any of the female hybrids. Mantle and back like ZMA 3375, but vermiculations a little broader. The scapulars are still in eclipse, so it is impossible to tell if they would show the distinctive black parts on the outer webs as in *acuta* and hybrid ZMA 3375. Nevertheless, on account of the features listed above the bird is intermediate between *A. platyrhynchos* and *A. acuta* and could therefore certainly be considered as a hybrid of these two species. The width of the bill points towards *platyrhynchos*, but that is also the case in ZMA 3375 (cf. table I and fig. 6).

TABLE I
Comparison of measurements of *Anas platyrhynchos*, *A. acuta* and
A. platyrhynchos x *acuta* hybrids.

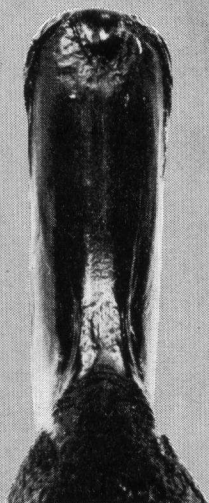
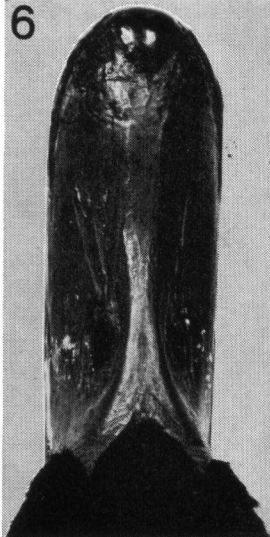
| Males | wing | tarsus | bill from feathers | width of bill |
|-------------------------------|---------------|------------|-----------------------|---------------|
| <i>Anas platyrhynchos</i> | 259-282(7) | 41-47(7) | 51-58(7) | 20-23(5) |
| ditto, Witherby et al. (12) | 260-288 | 40-44 | 50-56 | -- |
| ZMA 3375 | 275 | -- | 52 | 21 |
| ZMA 16,479 | 271 | 46 | 50 | 22 |
| <i>Anas acuta</i> | 265-282(4) | 41, 43 | 49-52(4) | 17-19(4) |
| ditto, Witherby et al. (12) | 262-280 | 39-42 | 48-53 | -- |
| Females | | | | |
| <i>Anas platyrhynchos</i> (5) | 255-271 | 42-44 | 52-54 | 20-22 |
| ditto, Witherby et al. | 240-267 | -- | 43-52 | -- |
| ZMA 3377 | 252 | -- | 47 | 18 |
| ZMA 3378 | 249 | -- | 47 | 18 |
| ZMA 15,226 | 267 | 45 | 52 | 20 |
| ZMA 15,241 | 272 | 46 | 47 | 20 |
| <i>Anas acuta</i> (3) | 242, 261, 262 | 39, 41, 42 | 48, 49, 51 | 16, 16, 18 |
| ditto, Witherby et al. | 242-266 | -- | 45-50 | -- |

The difficult point in this bird is the pattern of the underside which from chest to under tail coverts is entirely vermiculated light grey and white (see fig. 3). This character is not to be found in either normal *platyrhynchos* or *acuta*. In *platyrhynchos*, however, many specimens show variant colour patterns, especially in Holland, where almost every Mallard has some domestic strain in its ancestry. An interesting colour aberration is vermiculated grey on the entire underside with a slight brownish wash on the breast. This type is also mentioned by Phillips (1915) and called by him "freak Mallard". He describes the bird as follows (1915: 90): "There is entire absence of white neck collar and chestnut breast area, the silver colour of the lower parts extending up to the green of the neck, while the speculum is dull black instead of metallic green". By experimental hybridization Phillips could show that the freak condition was dependent on a single recessive genetic factor. Freaks seem to occur only among domestic Mallards and were found "common in the ducks of the London parks, as I (Phillips) have noticed myself" (1915: 91). In ditches and canals in and near Amsterdam similar birds are not infrequently observed.

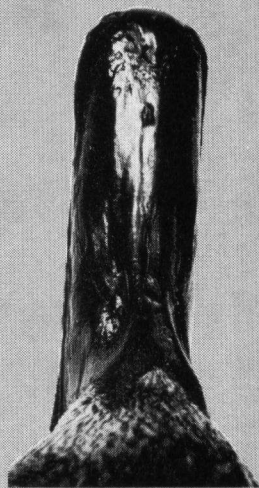
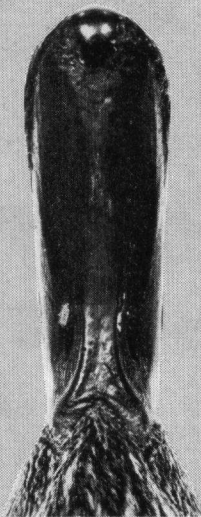
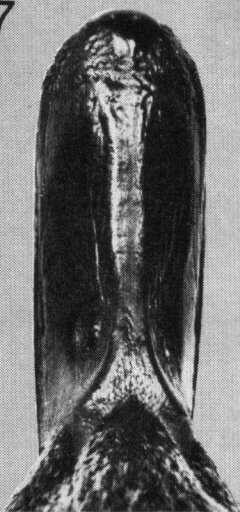
A male specimen of this colour aberration was shot 20 Oct. 1962 at Bicton near Fordingbridge, Hampshire and presented by Mr. C. W. Mackworth Praed to the junior author. It was compared with hybrid ZMA 16,479 and



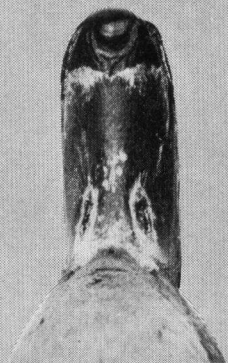
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7



8



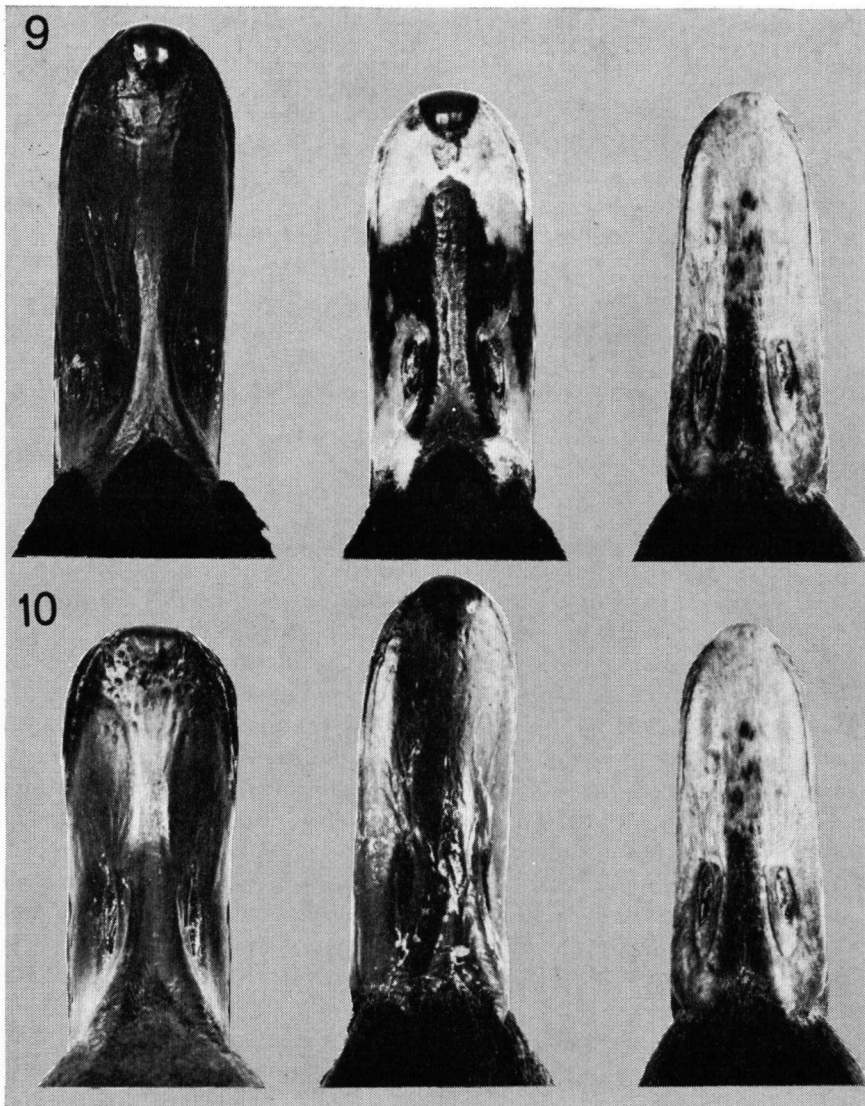


FIG. 1. Dorsal view of males, from left to right: *Netta rufina*, reg. nr. ZMA 3599; hybrid, reg. nr. ZMA 15,337; *Anas platyrhynchos*, reg. nr. ZMA 17,855.

FIG. 2. Ventral view of the same birds as in figure 1.

FIG. 3. Side view of males, from top to bottom: *Anas acuta*, reg. nr. ZMA 15,331; hybrid, reg. nr. ZMA 16,479; *Anas platyrhynchos*, coll. Dr. J. M. Harrison, colour aberration described in text.

FIG. 4. Dorsal view of males, from left to right: *Aythya ferina*, reg. nr. ZMA 4750; hybrid, reg. nr. ZMA 16,382; *Netta rufina* reg. nr. ZMA 3599.

FIG. 5. Ventral view of the same birds as in figure 4.

FIG. 6. Bills of males, from left to right: *Anas platyrhynchos*, reg. nr. ZMA 15,076; hybrid, reg. nr. ZMA 16,479; *Anas acuta*, reg. nr. ZMA 15,331.

FIG. 7. Bills of females, from left to right: *Anas platyrhynchos*, reg. nr. ZMA 4785; hybrid, reg. nr. ZMA 15,226; *Anas acuta*, reg. nr. ZMA 6916.

FIG. 8. Bills of males, from left to right: *Anas platyrhynchos*, reg. nr. ZMA 15,076; hybrid, reg. nr. ZMA 18,085; *Anas penelope*, reg. nr. ZMA 19,223.

FIG. 9. Bills of males, from left to right: *Anas platyrhynchos*, reg. nr. ZMA 15,076; hybrid, reg. nr. ZMA 15,337; *Netta rufina*, reg. nr. ZMA 3599.

FIG. 10. Bills of males, from left to right: *Aythya ferina*, reg. nr. ZMA 4750; hybrid, reg. nr. ZMA 16,382; *Netta rufina*, reg. nr. ZMA 3599.

is shown with it on fig. 3. The under parts of both birds are very similar. Even a slight bay wash on the feathers of the breast is present in ZMA 16,479.

Concluding it can be said that ZMA 16,479 in colour of forehead and crown and in wing speculum resembles a hybrid of Mallard and Pintail, and in colour of the underside an aberrant Mallard as described by Phillips. It does not seem unreasonable to suppose that it originated from a crossing of Pintail with "freak" Mallard.

Anas platyrhynchos L. x *Anas penelope* L.

Reg. nr. 3383, ♂ ad, 16 Oct. 1890, Piaam, prov. of Friesland. Caught in duck decoy. Presented by Mr. A. Coets.

Reg. nr. 18,085, ♂ ad, 1 Febr. 1965, Hofmansplaat, Brabantse Biesbosch, municipality of Made en Drimmelen, prov. of Noord-Brabant. Caught in duck decoy by Mr. J. Reuser, Presented by Mr. J. W. C. Entrop.

Hybrid ZMA 18,085 is in nuptial plumage with a few feathers of the eclipse plumage. Blood-quills of body-feathers are present all over the skin, indicating that it had not yet completed its prenuptial moult.

The plumage is intermediate between *Anas platyrhynchos* and *penelope*. Forehead and centre of crown, which are creamy in the Widgeon and glossy black in the Mallard are mottled light brown and black. Upper breast vinaceous brown with broad creamy feather margins. Abdomen white, lightly vermiculated grey. Wing speculum smaller than in *platyrhynchos* and more greenish, less blue. Median wing coverts light grey. Greater wing coverts light grey with a still lighter subterminal band and a black terminal one. This terminal band is broader than in *platyrhynchos* and narrower than in *penelope*. The very light grey subterminal band corresponds with the white band in *platyrhynchos*. Consequently there is no pure white on the upper wing. Central tailfeathers black, slightly elongated and curved upwards, not curled as in the Mallard.

Specimen ZMA 3383 is in eclipse plumage but has already moulted some feathers on breast, flanks, and abdomen into the nuptial plumage. The moulted feathers on the breast are vinaceous brown as in ZMA 18,085, and indicate the Widgeon ancestry of the bird. The wing speculum is more like *platyrhynchos*, being more blueish than in the other hybrid. The light subterminal bar on the greater coverts is almost white.

In all measurements the hybrids are intermediate between the presumed parent species. This is especially striking in size and shape of the bill (see table II and fig. 8).

A full description of a hybrid of *A. platyrhynchos* and *A. penelope* is to be found in Lundström (1937). The bird described and figured has the lower breast and the abdomen pure white as in ZMA 3383, whereas those parts are creamy ochre in ZMA 18,085. The wings of the Swedish specimen show more white than even ZMA 3383. The sides of the head are browner than in ZMA 18,085.

TABLE II

Comparison of measurements of *Anas platyrhynchos*, *A. penelope*, and
Anas platyrhynchos x *penelope* hybrids

| Males | wing | tarsus | bill from feathers | width of bill |
|---------------------------------------|---------|--------|-----------------------|---------------|
| <i>A. platyrhynchos</i> , see table I | 259-288 | 40-47 | 50-58 | 20-23 |
| ZMA 3383 | 269 | -- | 46 | 18 |
| ZMA 18,085 | 266 | 42 | 43 | 18 |
| <i>A. penelope</i> (5) | 261-272 | 38-40 | 33-35 | 15-16 |
| ditto, Witherby et al. (12) | 254-270 | 35-40 | 33-36 | -- |

***Netta rufina* (Pallas) x *Anas platyrhynchos* L.**

Reg. nr. 15,337, ♂ ad., 25 Feb. 1961, bred during the summer of 1960 in castle-moat at the castle of Heukelum, near Leerdam, prov. of Zuid-Holland.

Parentage: captive ♂ *N. rufina* and wild ♀ *A. platyrhynchos*.

Presented alive to Prof. K. H. Voous by R. A. Baron van Heeckeren van Brandsenburg together with another ♂ and 2 ♀ hybrids, which were kept alive.

Professor Voous made the following notes:

♂: form of head as in *N. rufina*,
diving excellently as *N. rufina*,
displaying as ♂ *A. platyrhynchos*.

♀: much resembling ♀ of *N. rufina*, tip of bill slightly darker, crown and upperparts darker, with faint indications of dark longitudinal streaks.

The ♂ ZMA 15,337 was in excellent condition and wears a completely developed nuptial plumage. Although it is of hybrid origin it is a strikingly beautiful and quite normal looking bird. In life the bill was orange with black spots, the feet were orange.

The entire head is deep purple with a greenish gloss, with the exception of a small white diamond at the chin and two single white feathers on the underside. A broad white collar on the fore-neck is interrupted behind. Hind-neck almost black, interscapular region dark brown with fine white and rufous-brown vermiculations. Scapulars lighter, more distinctly vermiculated white. Outer web of long scapulars black. Rump glossy green. The hybrid is darker above than males of both parent species (see fig. 1). Throat very dark brown, breast vermiculated grey and white with broad drab margins to the feathers, centre of abdomen drab with an irregular white spot on lower belly (see fig. 2). Drab colour almost identical to the tinge of the under parts of an adult male *N. rufina* in eclipse plumage. Sides of breast and flanks vermiculated dark grey and white, darker than in Mallard, sides of breast with a dark brown wash.

Wing speculum intermediate between the white wing stripe of *N. rufina* and the extensive purple-blue speculum of *A. platyrhynchos*. The proximal part of the outer half of the speculum of ZMA 15,337 is very light grey, but not white, shading into dark grey towards the tips of the secondaries. The inner half of the speculum is also dark grey, but the feathers are tinged

TABLE III

Comparison of measurements of *Anas platyrhynchos*, *Netta rufina*, and
an *A. platyrhynchos* x *N. rufina* hybrid

| Males | wing | tarsus | bill from feathers | width of bill |
|---------------------------------------|--------------------------|--------|-----------------------|---------------|
| <i>A. platyrhynchos</i> , see table I | 259-288 | 40-47 | 50-58 | 20-23 |
| ZMA 15,337 | 254+ ¹⁾ | 45 | 47 | 21 |
| <i>N. rufina</i> (2) | 246+ ²⁾ , 255 | 42, 43 | 44, 47 | 19, 20 |
| ditto, Witherby et al. (12) | 256-278 | 40-43 | 48-52 | — |

1) Primaries damaged and worn.

2) Moulting of primaries not completed.

with a faint greenish gloss. The tips of the secondaries form a narrow white line along the speculum as in the Mallard. The tips of the greater coverts are white to light grey with a cinnamon wash. The bill of the hybrid is more or less intermediate in size between those of the parent species (table III). The bill is not tapering towards the tip as in *Netta rufina* being more shaped like the bill of *Anas platyrhynchos* (see fig. 9). The hindtoe wears a lobe of skin which is nearly as wide as in *Netta rufina*.

Netta rufina (Pallas) x *Aythya ferina* (L.)

Reg. nr. 16,382, ♂ ad., 24 Nov. 1961, Vinkeveen, prov. of Utrecht. Presented by Father J. N. van den Brink.

The bird wore a British ring nr. AJ 34,363 and was ringed as an adult on 18 May 1961 at Abberton, Colchester, Essex, England by Maj. Gen. C. B. Wainwright, who identified it as a hybrid between Red-crested and Common Pochard. In a correspondence with Professor Voous, Maj. Gen. Wainwright summarized his opinion as follows: "In my opinion there are two possibilities:

TABLE IV

Comparison of measurements of *Netta rufina*, *Aythya ferina*, and
a *N. rufina* x *A. ferina* hybrid.

| Males | wing | tarsus | bill from feathers | width of bill |
|----------------------------------|------------|----------|-----------------------|---------------|
| <i>N. rufina</i> , see table III | 255-278 | 40-43 | 44-52 | 19-20 |
| ZMA 16,382 | 256 | 44 | 53 | 21 |
| <i>A. ferina</i> | 203-217(5) | 38-40(4) | 44-48(5) | 19-20(5) |
| ditto, Witherby et al. (12) | 211-220 | 35-38 | 45-49 | — |

(a) It was bred in captivity in this country and foregathered with some Vinkeveen true Red Crested and returned there with them.

(b) It was bred at Vinkeveen and, although . . . (it) spent a summer here, it returned to its native land. In either case it is the only real evidence that Red Crested Pochard in England come from the mainland of Europe". He added that every autumn and winter some *Netta rufina* is present on the 1200 acres of water at Abberton. Professor Voous thinks possibility (b) most improbable and is of the opinion that the hybrid was indeed an escape from a duck pond somewhere in England.

The specimen is in complete nuptial plumage and has no blood-quills anywhere on the skin. On receipt the colour of the iris was noted as orange, upper mandible light grey-blue with black nail, lower mandible mottled black and flesh-coloured pink, feet light beige with grey spots and blackish grey joints and webs.

The bird is a very nice intermediate hybrid. The head is entirely cinnamon-chestnut, on the crown much lighter than *A. ferina*, darker than *N. rufina*. Upper half of interscapular region black, lower half drab brown with vermiculations. Base of scapulars light, vermiculated white and grey as in *A. ferina*, shading into drab brown on rest of scapulars as in *N. rufina* (see fig. 4). Rump black, glossed purple. In Red-crested Pochard the rump shows a faint greenish gloss, in the Common Pochard it is dull black. Breast black, lower breast with whitish feather edges. Centre of abdomen dark with broad drab feather edges, approximately of the same tinge as in *N. rufina* x *Anas platyrhynchos*. Flanks vermiculated grey and white, lighter than *A. ferina*, but not white as in the Red-crested Pochard; darker towards thighs (see fig. 5). Wing speculum very light grey, shading to nice dove grey on inner half; intermediate between the white and brownish grey speculum of *N. rufina* and *A. ferina* respectively. In measurements the hybrid tends more to *N. rufina* than to *A. ferina* (see table IV). A. hybrid much resembling the one described above is pictured on plate 5 in Poll (1910). Another wild-living of Common and Redcrested Pochard is described by Jauch (1952). This bird differs from ours in several respects, it has a flamingo-red tinge in the wing stripe and a dark rusty red colour on the breast.

TABLE V

Timing of moult in female ducks according to Witherby et al. (1952).

| | | | | | | | | | | | | |
|---------------------------|--|---|---|----------------|---|---|------|---|---|-----------|---|---|
| | Explanation: n. , pre-nuptial moult; e.n. , end of pre-nuptial moult; p.-n. , post-nuptial moult; J,J,A, etc. Indicate the months June, July, August, etc. | | | | | | | | | | | |
| Moult females | J | J | A | S | O | N | D | J | F | M | A | M |
| <i>Anas platyrhynchos</i> | +--p.-n.--+ | | | +-----n.-----+ | | | | | | | | |
| ZMA 15,241 | | | | p.- n. | | | | | | | | |
| ZMA 3377 | | | | | | | n. | | | | | |
| ZMA 15,226 | | | | | | | e.n. | | | | | |
| ZMA 3378 | | | | | | | | | | e.n. | | |
| <i>Anas acuta</i> | | | | +---p.-n.--- | | | | | | +---n.--- | | |

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