

February—March 2022

[www.akakoi.com.au](http://www.akakoi.com.au)

# AKA Reporter



## **RUSSIE KOI WA INTRODUCES**



DracoDrum  
**TO AUSTRALIA**

DracoDrum has continued to increase market share and we thank our customers for their accolades and kind comments.

- The Solum 16 and 25, models continue to be the trend setters and they now have a bio chamber available.

This can be quickly attached to the drum in less than 1 hour.

The unit is then complete with a small footprint, providing excellent water quality, with zero historic filter cleaning.

- The exciting news: 'Big Bertha' is to be released as we go to print, having successfully completed a 12month operational trial period.

This larger unit but essentially the same design will cater for pump capacity to 50,000lph. It opens up a whole new world to those who have a larger than average fish pond.

DracoDrum is positioned very competitively in the RDF market without compromising on quality

Why consider a DracoDrum RDF over cheaper mechanical filtration methods?-

- Removes particles down to 58microns (less than the width of a human hair)
  - Vastly reduces maintenance and cleaning - you can go away and not worry about your filter clogging up
  - Would you like to eliminate brush and jap matt cleaning?
  - Indeed, would you like to eliminate almost any filter cleaning?
  - Like superior water quality and clarity - that polished effect?
- Be able to 'drop in' a DracoDrum into a current filter chamber, Nexus or vortex?
  - Fit the DracoDrum as a 'stand alone' to an old or new build pond
- It is designed to self clean with mains water pressure, no high pressure pump unit. On standby the unit uses less than 12 watts/hr and in full wash mode, 35 watts.

To find out more on the DracoDrum contact the Australian agent-

**0419987973**

**[WWW.RUSSIEKOIWA.COM.AU](http://WWW.RUSSIEKOIWA.COM.AU)**

**[WWW.DRACODRUM.COM](http://WWW.DRACODRUM.COM)**

**RUSSIE KOI WA ABN. 53 148 014 588**

# AKA Reporter



February–March 2022

Administrative members and contact details _____	2
President's Report _____	3
Meeting Notices and Agendas, News, New Members, Auction Dates _____	4–5
AKA Auction Notice _____	6
AKA Mid Northern Region: Handy references by <i>Gavan Gribble</i> _____	7
The Sydney Koi Show 2022 _____	8
Basics of koi assessment during judging (Part 2) by <i>Bernie Woollands</i> _____	9
Exploring Kawarimono A (multiple colours or moyomono) by <i>Kate McGill-Andrews</i> _____	13
Summer feeding <i>Courtesy of Rupert Bridges, Tetra UK</i> _____	19
Membership application/renewal _____	21
How to select tosaï for male or female by <i>Chai Taevanitcharoen</i> _____	22
AKA supplies _____	Inside back cover

## Thank you to our advertisers...

Aussie Koi WA _____	Inside front cover
The Pond Man _____	24
AllCare Ponds _____	Back cover

For all advertising enquiries please contact Gordon Kilborn 02 9153 9012 or 0429 664 916

Our cover this month shows a 'Koba' or 'Kojo' koi developed by Narita Koi Farms Japan in the 1990s. (See Kate McGill-Andrews' article on Kawarimono A in this issue).

---

AKA Reporter is published by the  
Australian Koi Association Inc.  
ABN 91 669 147 584

Advertising enquiries:  
Gordon Kilborn 02 9153 9012 or 0429 664 916  
Newsletter production [www.petergibson.com.au](http://www.petergibson.com.au)

All correspondence to:  
The Secretary, Australian Koi Association,  
17 Westmore Drive, West Pennant Hills NSW 2125

## Disclaimer

The opinions expressed in this magazine are those of the authors, and do not necessarily represent those of the Australian Koi Association or its management. Nor does the Association accept responsibility for the claims made by advertisers or members in respect of any service or items offered for sale herein.



Scan this tag with your phone  
[www.akakoi.com.au](http://www.akakoi.com.au)

© 2022 Australian Koi Association Inc.

# The Australian Koi Association Inc.

---

Patron: Professor Simon Chapman AO PhD FASSA

## Bankstown Branch

President	Ian Andrews	0418 255 897
Vice President	Paul Miglionico	0415 834 529
Secretary	Adam Holden	0419 165 782
Treasurer	Judi Rea	0418 290 084
Public Officer	John Rhodes	0415 134 652

## Committee Members

Show Coordinator	Paul Miglionico	(02) 9862 0472 / 0415 834 529
Show Support Group	Graham and Lee Fameli	0400 615 977
	Joe and Rita Borg	(02) 9832 9676
	Shayne Murray	0400 936 267
	John Zammit	0419 019 125
	David Chu	0402 032 750
	Mark Robinson	0427 236 385
Membership Officer	Heinz Zimmermann	0428 478 594, zimmo55@yahoo.com.au
Supply Officers	North West Sydney—Anthony Waring	0418 617 627
	South West Sydney—Gordon Kilborn	0429 664 916
	Eastern Suburbs—John Rhodes	0415 034 652
	Western Suburbs—Phil and Judy Rea	0418 996 226
Auction Coordinator	Heinz Zimmermann	0428 478 594
Auction Assistant	Joe Borg	0416 545 882
Membership Liaison	Lee Nguyen	0435 219 885
	Ron and Max Farrugia	0403 029 533
Webmaster and Facebook	Graham Fameli	0400 615 977

## AKA Reporter

Editor	Kate McGill-Andrews	(02) 9871 2483
Photography	John Ling	0411 156 648
Advertising/Distribution	Gordon Kilborn	(02) 9153 9012 / 0429 664 916

## Committee Support Panel

Publicity	Alf Mizzi	0417 248 052
Librarian	Heinz Zimmermann	0428 478 594
Catering	Vacant	
Social Secretary	Dorothy Miglionico	0424 133 698
Sizing and Assets	John Rhodes	(02) 9661 4735
Table Show Registrars	Paul and Dorothy Miglionico	0424 133 698

## AKA Mid Northern Region

Chairman	Gavan Gribble	0430 930 936
Dep. Chair	Peter Hemmings	02 6567 7576
Secretary	Robyn Brierley	0438 441 914
Treasurer	Pooney Pun-Gribble	0409 675 673
Event Coordinator	Peter Colgan	0407 182 709
Membership Coordinator	Robyn Brierley	0438 441 914

Website [www.akakoi.com.au](http://www.akakoi.com.au) Facebook [www.facebook.com/AustralianKoiAssociation](http://www.facebook.com/AustralianKoiAssociation)

## Life Members

Ethel Allen\*; Ian Andrews; Jack Cohen\*; Mary Cohen; Max Farrugia; Ron Farrugia; Barbara and Bryce Hough; Arthur Johnston; Gordon Kilborn; Yvonne Louis; Betty and George Ludbrook; Kate McGill-Andrews; Dorothy Miglionico; Paul Miglionico; Ken Newton; Dave Pogson\*; John Rhodes; Arthur Robinson; Alan Walter\*; Barbara Walter\*; Harry Watson\*; Robert Wood\*; Heinz Zimmermann. \*Deceased

## All correspondence

Australian Koi Association, 17 Westmore Drive, West Pennant Hills NSW 2125

# President's Report



Welcome back to another year, let's hope 2022 will start to see a return to our more normal koi activities. Our last-minute decision to hold an AKA Christmas Party at the Marconi Club (pictured below) turned out to be a really good night despite the

obvious trepidations surrounding the Omicron variant. Thirty AKA Members enjoyed a beautiful Chinese banquet in a private room with silver service. So good as such it was suggested we return again for our next Christmas function.

I recently emailed those AKA Members who are on our email list an update with regards to our AKA Auctions:

'At our last AKA Monthly Meeting in January, it was decided that whilst we had not heard back from Fairfield Council re our Auction dates, we should make every effort to at least run a February Auction.

'As such we contacted Auburn Council and have subsequently booked Auburn Gardens (our old site) for SUNDAY 13 February 2022.

'So, if you are wanting (like me) to reduce your koi numbers would you please contact Heinz 0428 478 594 to book your Auction Bins ASAP.

'Following this February Auction at this stage I can confirm that Fairfield Council has at last requested paperwork (a good sign) for our April and June Auctions to return to Fairfield Showground.

We have submitted this paperwork and await formal confirmation for our April and June Auctions.'

This summer has so far been fairly kind, wetter than usual but without much in the way of extreme weather and Kate and my young kujaku babies are progressing nicely.

It is now time to look towards our Sydney Koi Show 2022, scheduled for Sunday 29 May at the Sydney International Equestrian Centre. We are hopeful that we will be able to host international ZNA Judges this time and I will keep you informed of this as we confirm.

Show set up will be on Friday 27 May to put the show vats into position and Saturday 28 May to complete the show site with all the decorations, plants, notice boards, etc. I hope to see as many helpers as possible. Your koi entered into the show will need to be in their allocated bins before 8.30 am on the Sunday.

Entry fees of \$5 per fish, up to a maximum of \$50 per exhibitor. First-time exhibitors can enter their koi without an entrance fee in an effort to attract new exhibitors. Breakfast will also be supplied on the Show morning to exhibitors and helpers.

Show Entries can be made via [www.akakoi.com.au](http://www.akakoi.com.au) using our online Show Entry Portal. The portal will be open for your entries on 1 April. For those members who do not use computers please post your entries and photos to me at 17 Westmore Drive West Pennant Hills 2125 and I will complete the entries for you.

*Yours in koi*  
*Ian Andrews*  
*President, AKA* ■



# AKA News and Events

---

## Meetings of the AKA

---

Our monthly meetings will be held at the Georges Hall Community Centre. Meetings take place on the second Monday of each month with the exception of December where no meeting will take place. Details of all our meetings are also now on AKA's Facebook page.

Remember all members and visitors must register, preferably using the QR code via the Service NSW app, as AKA is now a registered COVID Safety Plan business. ■

## Meeting of the AKA, Monday 14 February 2022

---

The February meeting of the AKA will be on Monday 14 February 2022 at the Georges Hall Community Centre 188 Birdwood Rd, Georges Hall, 7.30 pm.

1. Welcome to members and guests
2. Apologies
3. Confirmation of minutes of previous monthly general meeting.
4. Raffle
5. Reports
6. General Business
7. Raffle Draw

Note that any COVID-19 lockdowns will cancel any meeting. ■

## Meeting of the AKA, Monday 14 March 2022

---

The March meeting of the AKA will be on Monday 14 March 2022 at the Georges Hall Community Centre 188 Birdwood Rd, Georges Hall, 7.30 pm.

1. Welcome to members and guests
2. Apologies
3. Confirmation of minutes of previous monthly general meeting.
4. Raffle
5. Reports
6. General Business
7. Raffle Draw

Note that any COVID-19 lockdowns will cancel any meeting. ■

## Koi food

---

It is hoped that we can continue to provide as necessary any koi food requirements from our four outlets. We will require payment upfront or similar, and with no direct contact—our suppliers (see advertisement in this magazine) can arrange for food orders to be left out ready for pick up, having nil face-to-face contact.

Have you tried AKA's [Sinking Koi Pellets](#) yet? Seems that many of our more experienced koi keepers have given this food a big tick and are getting great results feeding it to their koi. It's best to feed one lot of floating and next feed give them the sinking. Give it a try and I'm sure you will see the improvements in your koi. ■

## New members

New members are always assured of a friendly welcome when attending the AKA's monthly meetings. Help and advice is available if required and our Supply Officers can provide you with koi food and accessories at favourable prices. Call our membership officer (details on page 2).

We welcome the following new members:  
Peter and Jennifer Peeters ■

## AKA's banking details

*Australian Koi Association,  
NAB BSB 082 343  
A/C 8525 90813.*

*Please always enter your  
name on the transaction.*

## AKA Auction Dates



Held at Fairfield City Showground (bottom of markets) Commencing at 10.00 am. Quality fish at reasonable prices! Food and refreshments available. Fish

food and other fish keeping supplies also available.



Bankstown City  
NSW Chapter  
Zen Nippon Airinkai

**Sunday 13th Feb 2022**

Tentative dates only

**Saturday 30th April 2022**

**Saturday 4th June 2022**

**Saturday 6th Aug 2022**

**Saturday 24th Sept 2022**

**Saturday 12th Nov 2022**

Current COVID-19 restrictions as administered by NSW Government means that all these dates are tentative and will be confirmed or cancelled at a date closer to the auction date.

## IMPORTANT TEMPORARY CHANGE TO AKA AUCTION VENUE

The Sunday 13 Feb 2022 Auction will be held at our old venue at Auburn Community Picnic Ground, Auburn Park, Auburn. See map on following page. We expect that subsequent auctions will be held at Fairfield Showground.

## AKA Koi News

We will endeavour to keep all AKA members up to date in-between the publications of our bi-monthly *AKA Reporter* magazine.

When it becomes necessary we will send an update information *AKA Koi News* via email.

Unfortunately, not everyone's email addresses are up to date. If you have NOT recently received an *AKA Koi News* email from us, could you please send your correct email details to Heinz Zimmerman at zimmo55@yahoo.com.au

It is very important that we can contact those members who have email to let everyone know about auctions and meeting changes, etc., especially in times like these.

## KSA Auction Dates

Saturday March 5th 2022

Saturday April 9th 2022

Saturday July 2nd 2022

Saturday September 3rd 2022

Saturday October 8th 2022

Saturday December 3rd 2022

Current Covid-19 restrictions as administered by Fairfield Council means that all these dates are tentative and will be confirmed or cancelled at a date closer to the auction date.

New venue for KSA auctions is Fairfield City Showground (bottom of markets), Smithfield Road, Prairiewood

**AKA**



# KOI AUCTION SUNDAY 13th FEBRUARY

Auburn Park, Auburn  
Enter via Killeen Street

**JAPANESE  
GARDEN**



**KOI  
AUCTION**





# AKA Mid Northern Region, Coffs Harbour

## Handy references

### *Gavan Gribble*

Having recently put together a series of articles on pond water, its importance, how to obtain optimum results and how to manage those outcomes (gradually released to club members over the next several meetings) has meant research and lots of it and led me to several publications that I have reviewed below.

#### *The Secrets of Koi*

*Unravalled* by Joss Aben  
Not easy to acquire (likely to be out of print) but you may find it on the net as second-hand at around \$100+. Approximately 240 pages.

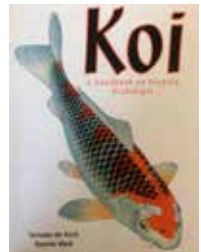
I give it a five star rating. It is a must-have reference. Comprehensive, beautifully photographed with research that is exceptional. The virtual construction of a perfect koi, focusing on very precise anatomical and physiological detail—not only as it is exhibited on a young fish but also as that fish ages.

An exceptional hobbyist—worth the effort of finding — outstanding!



koi, anatomy and physiology, varieties, water quality, chemistry and biological factors, feeding (protein, carbohydrates, lipids, vitamins, minerals and colour enhancing). A further excellent section examines health care to include a wide range of relevant issues.

An extremely important manual but pitched somewhat ahead of the beginner. Likely cost to be around \$40 second hand. Worth looking for, particularly for entry level as well as advanced hobbyists. Great value to have on your koi shelf.



#### *Essential Book of Koi: a Complete Guide to Keeping and Care*

Authored by eight persons all with outstanding qualifications, internationally recognised and all from the UK.

Published by TFH (USA) in 2007.

I give this reference four stars. This book has a strong emphasis on varietal standards, health diagnosis and treatment; for those two topics alone it is a should-have on your koi shelf.

The reference seems to be aimed at a level just beyond entry and assumes some knowledge/skill in understanding, for example, disease identification and treatment regimes, both of which it describes very well.

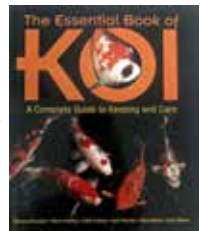
You will need to search the net and the book will probably cost around \$60 second-hand.

A reference that you will find extremely rewarding.

Good luck in your searching.

Of course there are numerous, hundreds of sites/forums on the net that are current, well-informed and happy to share both information and experiences with you; equally it would be remiss of me not to mention your fellow club mates in AKA—what a great source and one that is there for you at any time.

Our next Mid Northern Region club meeting is on February 20 Sunday at 10 am, Botanic Gardens, Coffs Harbour. ■



#### *Nishikigoi Mondo* by Satoru Hoshino and Shuji Fujita.

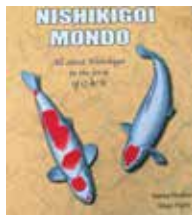
This is a coffee table tome (392 pages) but exceptional. It is also very difficult to obtain and you will have to go online to locate a used version.

I have given this a five star rating. It is again a must-have reference.

A remarkable publication in which 18 leading experts answer more than 2,000 questions about Nishikigoi (koi).

First printed in English in 2009 and published by Shin Nippon Kyoiku Toshō Co Ltd of Japan.

Highly recommended, extremely hard to find and likely to be well over \$100 (second-hand).



*Koi—A handbook on keeping Nishikigoi* by Servaes de Kock and Ronnie Watt.

Published by Firefly Books (UK) in 2006.

I give this publication four stars. It examines

# The Sydney Koi Show

29 May  
2022

9 am – 3 pm

Sydney International  
Equestrian Centre  
Saxony Road  
Horsley Park NSW

Just off the M7

Celebrating over 40 years  
of Koi shows in Sydney

Japanese Koi  
Koi equipment

Plants, bonsai, cactus, orchids  
Rabbits, birds and reptiles

FREE ADMISSION



Sponsored by



Hosted by  
Australian Koi Association  
Koi Society of Australia



# The basics of koi assessment during judging

## Part 2: Quality (skin)



Bernie Woollands  
ZNA Certified Judge and BKKS Judge

### Background

I am going to begin this article in the series with some background information. It has no relevance to judging or even koi appreciation. But it can explain how the colours of our Nishikigoi came about.

Within the skin of the common carp, our Nishikigoi ancestor, there are cells known as chromatophores. These cells provide the colour pigment and also the shine. There are several types of these 'phores' and each provide the pigment for a single colour, for example:

- Erythrophores = red
- Xanthophores = yellow
- Leucophores = white
- Melanophores = black
- Cyanophores = blue

In addition, there are iridophores, sometimes known as guanophores. These are the entities responsible for reflecting the light. These provide the essential lustre called *teri* for the non-metallic koi and the

mirror like skin of the metallic varieties (*hikari*).

If you were to take all those colours individually and mix them up you would end up with a brown colour; the colour of the common carp. Interestingly, common carp have an ability to adjust those colours to suit their environment. It's a camouflage mechanism to thwart aerial predators. This trait is still apparent in some koi varieties, most notably in the *sumi* (black). Many koi hobbyists will have experienced the sight of fading *sumi* on a koi in a light blue bowl.

Selective breeding over the years has exploited these factors. Nishikigoi have been bred with just particular colour 'phores' present giving rise to the varieties we have today. Selective breeding has also increased the number of these 'phores' within the skin and this is responsible for the improvement to skin quality that can be seen when comparing the fish of today to those from the previous century.

If you have taken the trouble to read all of the above you can now file it away as 'nice to know' and continue with this element of koi appreciation. The only word I need you to remember is *teri*.

### Appreciation

That selective breeding, or genetic manipulation, has contributed to the creation of different varieties of koi is a given. It has also accounted for the element of appreciation I am going to discuss next—skin quality.

In the previous article we likened Nishikigoi to a painting. Following on from that analogy we must consider skin the equivalent of the painting's canvas, the foundation for the pattern and the finish.

The key word we must always accompany the word skin with, is 'quality'. To view this objectively, we must almost ignore all other aspects of the koi and look at it in isolation. Later on in this series we will assess the koi as a whole where we will reassemble all of the other aspects. The two basic commodities for this element are depth of colour and lustre.

There are some good analogies here—'layers of paint' for depth of colour and 'silk versus cotton' for lustre. From now on I will only refer to lustre by its Japanese term *teri*.

## Key points

Thanks to *teri*, good skin will appear silky. This effect must be consistent all over the koi.

Patches of dull, inconsistent skin are a fault and can be severe depending on degree.

Good *teri* will provide a lustrous appearance to the colours and a youthful appearance to non-metallic koi.

Good skin should be clean and free of blemishes. Any colours should be homogenous and consistent, i.e. only one shade.

For non-metallic koi good skin should give the impression of being able to look into it, i.e. visualise the depth of colour. For metallic koi it is the complete opposite. Their skin should be highly reflective *hikari*, like a mirror.

## Sashi and kiwa

To complete the appearance of the colour *dans* (pattern step), the edges of each dan should be sharp and demonstrate a clean border between the opposing colours. At the leading edge this is called *sashi* and at the trailing edge *kiwa*. *Sashi*, (in my extremely well-worn Japanese–English dictionary presented to me in 1984), is translated as ‘face to face’, which fits the definition well. To understand the complexity of this we have to bear in mind that the skin has overlapping scales. So when considering *sashi*, (on a Kohaku for instance), at a leading edge pattern interface, facing the tail, white scales will overlap red. In immature and unfinished fish the underlying portions of the red scales can sometimes be seen through the white giving a slightly blurred appearance. This generally vanishes on finished, mature koi but complements the overall quality appearance of the skin on young fish, if evenly placed and no more than one scale width in advance of the red pattern element. Unrefined, uneven, excessive *sashi* is a demerit.

*Kiwa* is almost the opposite of *sashi*. Here the trailing edge of a pattern element benefits from the overlapping nature of the scales for the transition from one colour to another. *Kiwa* comes in two main forms. (There is another type of *kiwa* mentioned in the literature called *Hanzome kiwa*, almost a hybrid of the other two. The colour edge is in the middle of the scale but not in a straight line.) *Kamisori* (razor edged) *kiwa* is where the change of colour occurs as a straight line, across scales, and *Maruzome* (round, circular) *kiwa* where the colour transition runs around trailing scale edges. Good *kiwa* demonstrates a clean edge, regardless of type and is a definite merit point.

## Summary

The function of the skin in koi appreciation is to provide a consistent canvas throughout the body to underpin any pattern or scale formations.

## Doitsugoi

Much of this article has focused on the effect that the scales have on skin quality. Obviously this cannot apply to Doitsugoi but nevertheless their skin contains all the components that the chromatophores bring but lack the reflective surface that the scales bring. With no overlapping scales to contend with, both *sashi* and *kiwa* should be absolutely clear cut and free from blurred edges.

Not all Doitsugoi lack scales. Most of the doitsu types feature at least some scales and these can demonstrate the additional *teri* that scaled koi (*wagoi*) can have. To this end I have attached an annex focusing on the scalation of Doitsugoi at the end of this article.

## Koi and the camera

To assess skin quality you really need to see the koi in the flesh—a good reason to attend koi shows. Koi in photographs rarely convey skin quality reliably. Cameras rely on reflected light to create the image. The light reflecting off the body has the benefit of the reflective quality of the iridophores in the scales. The head, having no scales, lacks this and very often the camera interprets it differently. I suspect you’ve all seen photos of koi with beige heads. Of course tools like Photoshop can compensate for this, but then you are never certain how many other manipulations have been made. At koi shows not only can you see the koi in its natural state you can also find similar koi and make comparisons.

## Japanese terminology

Koi keeping is an international hobby and the chapters that make up ZNA speak a variety of languages. A significant contribution to our hobby is the koi show, occurring around the world under the umbrella of ZNA as well as a few other koi societies. While many of the Japanese terms used in koi appreciation can be translated into the local language there are many that cannot, without causing some considerable confusion. Therefore, within the koi show environment Japanese terms are used throughout.

As this series unfolds I will identify any of these terms in the text by the simple use of italics. At the end of each article I will list these terms each with a simple interpretation.



Photo A (courtesy of Rene Gerritzen): As I've said, it is difficult to convey skin quality in a photograph. However, this photo taken of a controversial koi circa 2008 was one of those few that demonstrate the point very well. The lustrous skin (teri) is there for all to see.

Focus on the white skin (shiroji). This photo clearly shows the teri in all its glory. In the flesh, the rest of the colours illustrate that same quality, with the exception of the sumi mark on the cheek; dull in comparison.

This koi was known as Diablo and won several GC awards in Belgium, Germany and Holland during the first decade of this century.

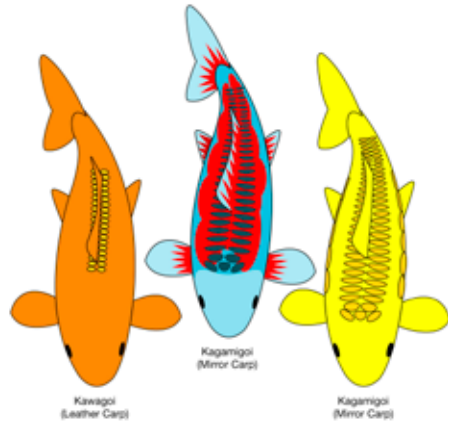
## Doitsugoi scalation

There are three defined types of doitsu scalation with the difference being the amount and the location of the scales. They go under different Japanese names. Each name can be equated with the terms used by UK anglers.

Koi with no scales at all, or just a very few running along each side of the dorsal fin are called Kawagoi which equates to what is known in angling terms as a leather carp.

Koi with scales running completely along the dorsal ridge alone, or including a row at each lateral line are called Kagamigoi—equating to a mirror carp.

The final type with irregular and often large scales, all over the skin, are called Yoroigoi or armoured carp.



Koi (1) on the left is a Kawagoi. Koi (2) and (3) are Kagamigoi

In the book *Modern Nishikigoi* by Takeo Kuroki the subject of Yoroigoi is described thus: 'Scales other than along the dorsal ridge or lateral line are distracting. Koi with such scales are called Yoroigoi. They are valueless, even if their colours and patterns are beautiful'. A bit later on he states 'For Doitsugoi, the neat rows of scales are the most important factor'. This latter sentence is more pertinent today than his first.

Doitsugoi that fit the Yoroigoi description are appearing regularly where the armoured scalation is quite uniform all over the koi. Some are being marketed under the term Aragoke, which may lead to confusion. That term has been in use for some time. You will find a definition in Kate McGill's book, *Koi Appreciation—the First Step* as 'Large armoured scales'. However, the modern koi utilising this name go beyond that with their uniformity. ■



Photo B: Armoured koi courtesy of Johan Leurs Koi Zanmai. Armoured for sure but the scales are quite uniform.



Photo C: Godzilla. Bred by Toshinobu Ikarashi of the Ikarashi Yoriyo. Clearly a Doitsugoi, clearly having armoured scales and equally clearly a balanced arrangement of scales.

#### JAPANESE TERMINOLOGY USED IN THIS ARTICLE

<b>Dan:</b>	A block of pattern
<b>Kamisoni Kiwa:</b>	Sharp edged Kiwa
<b>Kiwa:</b>	Trailing edge of a block of pattern
<b>Hanzome Kiwa:</b>	In between Kamison and Maruzome
<b>Hikari:</b>	Literally gleam, meaning shiny (used as a prefix for the 3 metallic Show Classes)
<b>Maruzome Kiwa:</b>	Round edge Kiwa
<b>Sashi:</b>	Leading edge of a block of colour
<b>Shiroji:</b>	White base colour
<b>Sumi:</b>	Black
<b>Teri:</b>	Lustre
<b>Wagoi:</b>	A fully scaled Koi

# Exploring Kawarimono A (multiple colours or moyomono) Part 2 Cross-bred koi

*Kate McGill-Andrews*

## Introduction

Kawarimono or Kawarigoi is an enormous 'catch-all' group of non-metallic koi with several recognisable sub-categories, the single colours (Kawarimono B) and the multi-coloured varieties of which the largely black and white Karasugoi form another useful and easily recognisable sub-group of Kawarimono A (discussed previously).

Our third and final group (also Kawarimono A) is the most difficult; including all cross-bred koi. Some of these are real 'oddballs', koi almost impossible to recognise their likely parent varieties (see photos 26 and 27). Kin-gin-rin examples occur within this group (see photos 7 and 11 for examples), but remember, they are classified for show purposes as Kin-Gin-Rin B.

Additionally, regular variety koi like Utsurimono and Go-Sanke (Kohaku, Sanke, Showa) can be classified in this group when

scaling patterns are unusual—*kage* or *kanoko* (see below).

## Basic appreciation requirements for multi-patterned Kawarimono

Beyond the obvious requirement of an excellent shape (including a broad head, smooth lines along the flanks with the widest part of the body at the shoulders and leading to a well-muscled tail area or peduncle—compare photos 1, 2 and 3), appreciation points for multi-patterned Kawarimono are a little more complex. We have patterns to contend with, although these can vary widely, given that this group is so diverse.

However, the basic requirement of clear pattern edges applies to all, especially trailing edges of the pattern on a fully scaled koi and all edges on doitsu koi (photos 4 and 5).

Skin quality is always the next most important appreciation point, not easily described. We are always looking for clarity and brightness; good skin should have a gloss to it—



(1) A neatly patterned Ochiba with a good conformation.



(2) An imperfect shape, small head with a too wide girth.



(3) The head is offset to the left on this Kin-Gin-Rin Ochiba.



**(4) Neat trailing pattern edge on this fully scaled Ochiba.**

---



**(5) A clear edged strongly patterned, doitsu Ochiba.**

---



**(6) Beautifully finished, clean Ochiba, just slightly short of pattern on the body.**

---



**(7) A fascinating almost Tancho Gin-Rin Ochiba with excellent skin.**

---



**(8) This Ochiba lacks base colour on the head. The pattern is too heavy.**

---



**(9) This Ochiba lacks contrast.**

---

remember the old comparison 'silk as opposed to cotton', it is just as useful when examining unusual Kawarimono. Colour, especially that of pattern elements as opposed to the base colour, should look thick and generally contrast clearly with the base (photos 6 and 7). When features like *kanoko* (dappled fawn scaling) or *kage* (shadowed scaling) appear; they should look properly focussed to each scale area, not

smudged.

Because the cross-bred group is so diverse, it is best to examine some of the most well-known examples individually.





(10) Strongly contrasting pattern on a rather dark base for this Kin-Gin-Rin Ochiba.

---



(11) A bright Kin-Gin-Rin Ochiba lacking pattern on the head.

---



(12) a good example of a doitsu Ochiba.

---



(13) A rather dull base on this Ochiba, but note the clear reticulation.

---



(14) A possible Koba.

---



(15) Satin or pearl Ochiba. A unique koi.

---

## Looking at individual cross-bred Kawarimono

### (1) Ochiba Shigure

'Autumn leaves on water' is a good analogy for this almost standalone variety with Kawarimono A. Well known since the 1980s, pale grey



**(16) A clean finish for this young Kage Shiro Utsuri.**

---



**(17) Note the attractive shiny rim to each scale area on this Kage Shiro Utsuri.**

---



**(18) Rare indeed, a Gin-Rin Kage Shiro Utsuri.**

---



**(19) A memorable Kage Hi Utsuri.**

---



**(20) Kage can look very messy.**

---



**(21) An example of a Kanoko Ochiba.**

---

contrasts beautifully with sienna brown or almost orange patterns, ideally in the Kohaku style (white koi with red patterns). To expand on this, pattern on the head ideally leaves some pale grey base colour visible and markings on the body follow an attractive stepped format. Too often Ochiba Shigure show a completely orange/brown head and/or, either too much or too little

pattern on the body with unbalanced markings (see photos 6 and 8). Additionally, the contrasting colours may not contrast enough (photo 9), or the base is too dark to be appealing. In Australia, Ochiba Shigure tend to look their best in winter, usually turning very dark in summer (photo 10).

Related to Chagoi (brown koi) and Sorogoi (grey koi) Ochiba Shigure usually grow well and



(22) A Kanoko Kohaku.



(23) A rather messy Kanoko Kohaku.



(24) A Chautsuri. Note the sumi is very undeveloped.

achieve a good final size. We successfully bred Ochiba Shigure from a Sorogoi / Kohaku cross two years ago—along with many other interesting offspring! Kin-gin-rin and doitsu Ochiba Shigure occur (photos 11 and 12). Lastly, not always seen but very attractive is a black netting pattern over the grey skin (photo 13), sometimes including a fine black picotee edging to fins.

In Japan in the 1990s, a similar koi was bred by the Narita Koi Farm—the ‘Koba’ or ‘Kojo’. This koi has a paler grey/cream/ivory base with yellow patterns superimposed (photo 14) and was originally described as an albino Ochiba (*Bachmann–Koi 2*). I have seen a few examples but would not describe the koi seen as eye-catching. Lastly, and truly impressive, another apparent offshoot of the Ochiba is a koi I saw twice at the Tokyo shows and have remembered ever since. I called it a ‘satin’ Ochiba because the skin was very lustrous but not truly metallic (photo 15). Quite unique and coupled with excellent body conformation, colour and pattern produced a koi in a million.

## (2) Kage Utsuri or Kage Showa

When white (or red, yellow for Utsurimono) skin has a shadowed finish due to a reticulated grey overlay it is called kage. Since a key appreciation point for both regular Utsurimono or Shows is a clean, uniform base colour, obviously it is difficult to compare a kage example in the same class—hence they are judged as Kawarimono. A Kage Showa is quite different to a Boke Showa where some or all of the black (sumi) patterns are undeveloped. Kage Showa has the shadowy overlay on all white skin.

If the shadowing is clearly marked on each scale area these koi can look quite stunning (photos 16, 17 & 18); indeed, many years ago a Kage Hi Utsuri took reserve Grand Champion at a South African national show (photo 19). Unfortunately, a clearly developed reticulated effect is the exception rather than the rule and poorly defined markings make for a very messy and unattractive koi (photo 20).

## (3) Kanoko koi

Dappled fawn patterns can theoretically occur on any patterned koi (photo 21). Colour, instead of



**(25) This Chautsuri is too dark.**

appearing in blocks, develops on single scale areas. Mixtures of block pattern and kanoko can and do occur on the same koi (photo 22). Kanoko is interesting but again depends on clarity of finish for excellence. Sometimes, partial kanoko appears when red patterns are beginning to break down—not an attractive look (photo 23). However, a true and very unusual kanoko patterned koi is very memorable.

#### **(4) Sanke-Shusui or Showa Shusui**

With such a potentially complex pattern it is not surprising that good examples are very rare. We are looking for an obvious Shusui with light blue/grey base colour and darker dorsal doitsu scales. With this you would hope to see clear Sanke or Showa red (*hi*) and black (*sumi*) patterns in a recognisable format. Additionally, some Shusui style red patterning may also occur around the head and along the flanks. Generally this is too much for any koi to achieve creditably but I have seen two quite nice examples over very many years.

#### **(5) Chautsuri**

Although this variety looks like a combination of



**Photo (26) Rather a disaster, is it a Utsuri Ochiba cross or a partial Kanoko Showa?**



**(27) Same kind of koi as photo 26 but a beautiful neat finish.**



**Photo (28) Very rare, a good example of a Sanke Shusui.**

Chagoi and Utsurimono, apparently it is a sport of a pure Chagoi line, developing sumi markings like those of an Utsuri. As with all patterned koi, if the light brown base is clean and the sumi markings coal black, well placed and neatly finished the result will be quite appealing. However, on most examples I have seen the base colour is dull and greyish and thin or the impression too dark—not at all attractive (photos 24 and 25).

#### **(6) Koi difficult to classify**

Some koi placed in Kawarimono are almost impossible to classify at all. Take a look at photo 26, not a particularly attractive koi but an interesting one simply because it really is very difficult

to make a guess as to what it actually is. The basic koi looks like a Shiro Utsuri, but is the additional colour pale red or light brown? It is almost a kanoko pattern but the koi could either be a very poor Kanoko Showa or an Ochiba/Utsuri cross! You decide. Compare it to photo 27, the same type of koi but what a difference in quality! ■

# Summer feeding

*Courtesy of Rupert Bridges, Tetra UK*

Because fish are ectothermic (i.e. their body temperature closely follows that of their environment), their metabolic rate and food intake is strongly influenced by water temperature. This is because the various biochemical reactions that constitute metabolism speed up as the temperature increases.

This is described by 'Q10' (temperature coefficient) theory, which predicts that for every 10°C increase in temperature, the metabolic rate will roughly double. Values for Q10 do vary from species to species, and in fish biochemical reaction rates have been found to increase by 1.65 to 2.7 fold for every 10°C increase (Halver & Hardy, 2002).

What this means for our koi is that they require more nutrients and energy to satisfy their increased metabolism, and in addition they have the ability to build new body mass at a greater rate. To keep them healthy, and to take advantage of their increased capacity to grow, we need to adjust their feeding regime accordingly.

## Summer feeding

There are two ways of delivering more nutrients and energy to your koi in the summer months. You can either feed more of a staple diet, or switch to a growth food that contains more protein and energy. In reality you will end up feeding more of whatever diet you choose, but the important difference is what performance you get for that additional quantity.

To get the same results from a staple diet you would need to feed more than a growth food. Because of this, more waste will be added to the pond. It is therefore more efficient to feed a growth food in the summer, unless of course you are overfeeding. In addition there may be practical limitations to how much more you can feed of a staple food, as time constraints may not allow an increase in the frequency of meals (unless you have an automatic feeder of course). Because of this, a growth food is usually the best option for building additional body mass when the fish are on a restricted feeding regime.

Growth foods are characterised by a higher protein content, as protein is a key nutrient for building new body mass. During digestion proteins are broken down into their component

amino acids, which are then absorbed into the blood stream and delivered to various parts of the body. These are then recombined to build new tissues. It is very important that growth foods also contain additional levels of non-protein energy, as otherwise a large quantity of the amino acids will be broken down to supply the fish's increased energy demands. Oil is the best source of non-protein energy, so a good growth food will normally have higher levels of both protein and energy. Additional vitamin E may also be added to protect the extra oil against oxidation.

## Example analysis

	Staple Koi Food	Growth Food
Protein (%)	31	43
Oil (%)	5	9.5
Ash (%)	7	7
Moisture (%)	7	8
Fibre (%)	2	2
Vitamin E (mg/kg)	195	592

## How much to feed

Once you've chosen a good quality growth food, you then have to decide how much of it to feed. Food intake is often measured as the percentage of their bodyweight that a fish consumes in a day (% bwt/day). In some cases, for example in aquaculture or in experimental feed trials, the required amount of food can be precisely determined based on the growth and health of the fish. For example, one experimental feeding regime suggests a feeding rate of 1.5% bwt/day at 15°C, rising to 4% at 25°C.

The problem with % bwt/day is that it has to be worked out quite specifically for a particular diet under a particular set of conditions. This makes generalised statements about % bwt/day quite unreliable. For example, two diets with different protein levels will obviously produce different results when fed at the same %bwt.

For most situations it is therefore sufficient to rely on the fish to adjust their feed intake. At each feed only offer as much as they can consume within a few minutes. If they are very active then more food will be consumed. If this is a growth food, the net result will be greatly improved growth. You can also feed more frequently during the summer if it is practical, or perhaps employ an automatic feeder to do it for

# Top tips for summer feeding

- 1. If you want your fish to grow well during the summer, use a specially formulated growth food.**
- 2. Oxygen is needed for efficient growth, so provide good aeration.**
- 3. Growth rates can be increased by more frequent feeding in the summer, only offering as much as the fish can eat within a few minutes at each meal.**
- 4. Add variety to your koi's diet with treat foods, but these should not constitute more than 5% of their overall diet.**
- 5. Use the best quality food you can afford, as this will minimise waste production and deliver more nutrition.**
- 6. If oxygen levels are low, restrict feeding until they can be improved. Ideal levels are above 6mg/l.**
- 7. Use a diet containing carotenoids, to improve and maintain the colour of your koi.**
- 8. Because fish are consuming more food and producing more waste in the summer, regular water testing is essential.**
- 9. If using automatic feeders, be sure to check daily that the food is being eaten properly.**
- 10. Although koi will eat a lot during the summer, avoid buying bulk bags of food that will last more than a couple of months. Once opened, food begins to deteriorate and essential vitamins may be lost.**

you. However, don't rely on the automatic feeder – if oxygen levels or temperatures fall, it may overfeed the fish leading to uneaten food and water pollution. Check them regularly.

## Word of warning

Remember that oxygen levels are lower in warmer water, and that feeding increases the fish's oxygen demands. During very hot periods it is possible that fish will go off their food if oxygen levels fall. Healthy growth therefore depends on a good supply of oxygen to the water. This is critical during the summer, and

especially at night in planted ponds. In addition, if you experience an oxygen shortage or a water quality problem, cut back on feeding levels. This will reduce the fish's oxygen consumption and help to protect them against further damage. It goes without saying that any problems should be rectified as quickly as possible, so a normal feeding regime can be resumed. ■



# Membership application/renewal

All details are kept confidential and will only be used by the AKA for the purpose of keeping in touch with you.

### Tick appropriate box:

- New member application for Sydney branch.....
- New member application for Mid-Northern branch.....
- Membership renewal (due 1 July every year).....

### Fees:

- Membership (includes your family) ..... \$30.....
- Junior (under 16) ..... \$15.....
- Total ..... \$\_\_\_\_\_

### Your details:

First name \_\_\_\_\_

Second name \_\_\_\_\_

Name of spouse or partner \_\_\_\_\_

Postal address \_\_\_\_\_

Postcode \_\_\_\_\_

Phone \_\_\_\_\_ Mobile \_\_\_\_\_

Email address \_\_\_\_\_

Occupation \_\_\_\_\_

*I apply for membership and agree to abide by the regulations of the Australian Koi Association*

Signature \_\_\_\_\_ Date \_\_\_\_\_

Please send a copy of this form to:

AKA Membership Officer  
 Heinz Zimmermann  
 Mobile 0428 478 594  
 Email zimmo55@yahoo.com.au

EFT Details:  
 Australian Koi Association  
 BSB 082 343, Account 852 590 813  
 (Please add your name)

# How to select tosai for male or female

*Chai Taevanitcharoen*

No one can select tosai for male or female 100% of the time. Some tosai will show the characteristics of male or female 100%, but some won't, and some may be neutral fish. As your knowledge improves you will have better percentage of selecting male or female. These are some guidelines when you are selecting male or female tosai. ■

Male	Female
1. 80% of males develop colour early (finished) early.	1. 80% of females won't develop colour early (finished).
2. The beni and shiroji are rough, yellowish.	2. Beni and shiroji soft and shiny, the shiroji is even from the tip of the mouth, head, cheek to the tail. If the fish have all of the above, 90% chance they are female.
3. The pectoral fins are thicker. The primary and secondary bone look darker white colour. If you have 20/20 eyesight you may see in colour and won't have little stars in the little stars in pectoral fins. If you're good at this this technique, it would be almost 100% male selection.	3. The pectoral fins are thin, look translucent. The primary and second bone look lighter in colour and won't have little stars in the pectoral fins. If you're good at this this technique, you'll get almost 100% female selection.
Note: Nisai pectoral fins look different but still have little stars.	
4. Anus looks tear drop, looks long and sinks in. Possible 90% chance is a male. sink in.	4. Anus round and rise up, it does not sink in. Possible 95% chance is female.
If you master all 4, you will be able to select male or female 95% or more of the time.	





Young female



Mature female



Young Male



Mature Male

# The Pond Man



Specialising in design, construction and maintenance of any water feature.

Any size from small domestic ponds to large lakes.

Over 50 years combined experience building water features.

**Ricardo Moral, The Pond Man**

**Mobile 0414 075 398 [www.pondman.com.au](http://www.pondman.com.au) [info@pondman.com.au](mailto:info@pondman.com.au)**



# Supplies available to AKA members

## FOOD

Flake-Tropical	1 kg	\$35.00
Fry Food	1 kg	\$20.00
No.1 High-protein Crumble	1 kg	\$20.00
No.2 High-protein Crumble	1 kg	\$20.00
No.3 High-protein Crumble	1 kg	\$20.00
No.4 High-protein Crumble	1 kg	\$20.00
Baby Koi Pellets	1 kg	\$20.00
Pond Sticks (great in winter)	4 kg	\$50.00
AKA Growth Food	5 kg	\$40.00
AKA Growth Food (small pellet)	5 kg	\$40.00
AKA 42.5% Hi Protein Sinking	5 kg	\$60.00
Orca Quick Grow Medium	10 kg	\$85.00
Orca Quick Grow Small	10 kg	\$95.00

## MEDICINE

Malachite Green	20 gms	\$30.00
Methylene Blue	18 gms	\$30.00
Clean Fish CF 50	1 litre	\$45.00
Condy's Crystals	200 gms	\$30.00
Oil of Cloves	100 ml	\$30.00
Hydrogen Peroxide	600 ml	\$10.00

## PUMPS

HIBLOW 20 litre/hour	\$366.00
HIBLOW 40 litre/hour	\$420.00
HIBLOW 60 litre/hour	\$500.00
HIBLOW 80 litre/hour	\$530.00
Aquarium Air Pump	\$25.00

## WATER

Sodium Thiosulphate	1 kg	\$15.00
Extra Water Purifier	500 ml	\$10.00

## MISCELLANEOUS

Carbonate hardness raising	2 kg	\$6.00
'Virkon S' broad spectrum disinfectant	250 g	\$25.00
Air Tubing Clear (roll)		\$50.00
Plastic Bags (large) each		\$2.00
AKA Club Baseball Caps		\$20.00

## NETS

6' Nets	\$5.00
10' Nets	\$7.00

## TEST KITS

Ammonia Test Kit	\$20.00
pH Test Kit	\$20.00
Carbon Hardness Test Kit	\$20.00

Please Note: Members' orders for supplies for delivery at the monthly meetings are to be in the Tuesday prior to the meeting.

Members ordering supplies for postal delivery should send money order or cheque payable to Australian Koi Association to PO Box 6222 Dural DC 2158.

For postal orders email Anthony Waring at [anthony@personalautomotive.com.au](mailto:anthony@personalautomotive.com.au) with your order and address, and Anthony will calculate delivery costs.

## Supplies by appointment, phone:

**North West Sydney**  
Anthony Waring  
0418 617 627

**South West Sydney**  
Gordon Kilborn  
0429 664 916

**Eastern Suburbs**  
John Rhodes  
0415 034 652

**Western Suburbs**  
Phil and Judy Rea  
0418 996 226

# AllCare Ponds

Pond builders, all work guaranteed

Specialising in pond construction, after care maintenance, fibreglassing on site

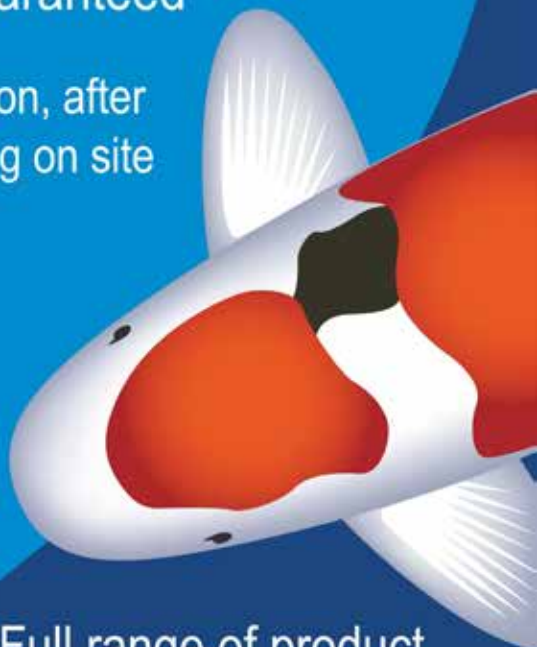
**Tel** 02 9610 0383

**Fax** 02 8786 0281

**Mob** 0409 749 454

**Email** [allcare@bigpond.net.au](mailto:allcare@bigpond.net.au)

LIC No. 159135C  
ABN 11065879598



Full range of product  
now available direct

## FILTERS

Nexus, Easy, Pressure filter, custom made and many more.  
Filter media's, bio mats, K1, bio balls and more.

## PUMPS

Mebner, Continental, Sequence and many more.  
Air pumps from 15 lts - 200 lts. Airline, stones and bottom drains.

## KOI FOOD

Hikari, Fujikawa, Sakura, Nobori, Medicarp, Yamato,  
Clay products and Refresh.

## UV LIGHTS

To suit any size pond.

(NSW AGENTS FOR AUSSIE KOI)

Check out the website: [www.aussiekoi.com.au](http://www.aussiekoi.com.au)