

Homeability – Theories, Myths or Fact

By Paul Gibbs

Over the years much has been written and theorised about regarding how homing pigeons navigate and find their way home. Ever since man wonder about this “homing” ability there have been many, including scientists, ornithologists and pigeon fanciers who either through studies, observation and experiments have put their views forward. Many of these theories generally concentrating on only one theory, I for one, and I know I’m not alone, believe that pigeons rely on a myriad of senses that enable them to achieve the miracle we call “homeability”.

As we generally know, migratory birds fly (in some cases) thousands of kilometres each year to breed and escape the winter months. Here in Australia, many sea/water birds such as pelicans, given certain conditions fly to central Australia to breed and rare they’re young. It would seem that many birds are blessed with some sort of not only navigational ability, but also an inbuilt urge to return to places they naturally hold important.

Before we concentrate solely on what “may” drive a homing pigeon to return to its loft or roost, we should not exclude the many other breeds of pigeons, all which posses a natural homing ability. Those that own Fantails, and many racing fanciers do, know that even these have an innate desire to return to the loft. Other breeds kept by “Fancy Pigeon” keepers are also aware that their birds, if released near home will return. Many of these fancy breeds include Helmut’s, Owls, Tipplers and Pouters etc. But what separates them from our homing/racing pigeons with regards homing ability? I believe nothing, other than their physical make up. In other words they are not designed to fly long distances or for long times, but their desire to return to their roosting place is not necessarily any the less.

Besides a natural desire and ability to return to the loft, a homing pigeon (and from here on I will refer to them as “Racing Pigeons”) need much more, especially to survive the rigours placed on them by us when it comes to training and racing, more so when on the wing for many hours.

I don’t mean to tell fanciers “how to suck eggs”, but we first have to start with the basics, as without these, the homing ability of our racing pigeons is severely affected. The first and upmost in my mind is stress. This more than anything else is what I believe affect’s the homing ability of our birds. Stress as we all should know can affect the lives not only of animals but us as well, and I would be very surprised if there were none of us who have never experienced stress in our lives at some time or another.

Stress can manifest itself from a variety reasons and can affect humans and animals in much the same way. It can eventuate from relationships, the environment, diet, weather, and overall health among other things.

If we apply some of the above to our racing pigeons, you should be able to assess if any of these contribute to stress in your loft. Let's look at each one individually and see if any indeed could be a cause of stress in your own loft.

Relationships – with other birds in your loft, over crowding due to the lack of perch and floor space, pairing up either to the same sex if kept separately or opposite sexes if kept together. Relationship with yourself as the owner and/or any other person who enters the loft – are you calm at all times, do you handle them quietly and gently, or are you a “snatch and grab” man especially if basketing for a toss or race.

Environment - loft design, does it allow for adequate ventilation, is it draft free, is it cleaned out regularly to ensure dust is kept to a minimum, does it remain dry with no condensation, do the birds receive adequate sun light, is the water changed regularly each day, are drinkers, food trays and grit bowls kept clean and hygienic, does the location and design of the loft allow for the birds to rest easily without being disturbed by children, neighbours and/or other pets.

Diet – is an adequate amount of feed fed to the birds that meets the demand of loft training, tossing and racing, especially if tossing and racing result in slow velocities brought about by head winds and time on the wing. Is the grain of a high standard with regards quality and nutritional value, containing the correct amounts of protein and carbohydrates and fats.

Weather – weather conditions can play a big part in the affect of stress placed on racing pigeons. As very cold, very hot, high humidity, rain and wind can all play a part in determining stress levels.

Many European fanciers cannot place enough emphasis on the importance that temperature variance within the loft plays. Many believe it should not be allowed to vary more than 5 –7 deg to ensuring that the “form” of their pigeons is not lost. Well as we all know, here in Australia during the race season it is basically impossible to control, mainly due to the fact that we race during the winter months and that depending on where you live the min temperature can be as low as –2 deg in the morning and by early afternoon it can be a mild 22/24 deg. This difference of 20 or more degrees can place stress on the birds, especially at night which a poor diet can also contribute to.

Very hot conditions can also contribute to the race birds being stressed, especially if above 30 deg. And more so under race conditions. High humidity and I don't mean rainy conditions, but humidity associated with cold early morning air and humidity associated with tropical type conditions can affect a pigeons breathing and respiratory system.

Rain of course will affect a racing pigeon's ability to fly fast, affect its sight, and if its plumage is too dry and/or lacking bloom will soon find the going tuff, placing stress

on the bird to keep up, as others that are well conditioned pull away leaving him and others behind.

Last but not least, is the affect that wind has on pigeons "homeability". Head winds, tail winds, cross winds and the dreaded east wind can all place stress on a bird's ability to home to one extent or another. Many birds have been lost due to "over fly" on very fast days in much the same way as for cross /side winds, especially if blowing from the east. Head winds do not seem to pose the same problem with regards to stress, especially if the birds are well conditioned and healthy. Any stress encountered from a head wind will basically come from physical effort over a period of time.

A strong tail wind which causes over fly to occur, may not only confuse the birds once they have discovered that they are no closer to home than when they started, that stress could develop through physical exhaustion when faced with turning into a head wind with accumulated hours being spent on the wing.

Overall health – Do you regularly have the health of your birds checked by a Vet, especially before the start of the toss and race season, do you undertake regular treatment for the basic health problems i.e. worms, cocci and canker.

A single issue with regards the above, or combination of any of the above can contribute to the "homeability" of racing pigeons. A combination can unfortunately contribute to bird losses. Planning, observation and a common sense approach can go along way to solving "Loft Stress" and as with other performance animals such as race horses and greyhounds, there are veterinary supplements available that can to some extent help manage stress, these being the vitamin B range of supplements, many of which are water soluble. There is also the natural supplement "Brewers Yeast" which also contains many other beneficial minerals and protein.

While a supplement given at the correct dosage will always be useful, it would be far more beneficial to address some of the other issues listed above.

Let's now look at, and assess some of the scientific theories and experiments as applied to a racing pigeon's "homeability". In no particular order I will endeavour to outline those that I have read about over the years, some I am sure you yourself will be familiar with.

Magnetism – It has been strongly suggested that a racing pigeon's ability to detect the earth's magnet poles as well as magnetic fields is the main reason that they can navigate and find their way home. Many experiments have been performed using magnets with some surprising and to some degree strong indications that this may be the primary way by which racing pigeons find their way home.

One such experiment was carried out by attaching small magnets to the under side of several pigeons wings, while several others had a piece of copper of the same weight attached to their wings, these ones (from memory) had no problem with

homing, but the ones with the magnets attached were nearly all lost, with one homing after several days.

There have been many other experiments undertaken using magnets to some extent or another with the results strongly suggesting that magnetism does play a large roll.

Constellations and the Sun - Other theories suggest that racing pigeons use the sun as a compass and navigate making continual variations as the sun moves across the sky. On cloudy days theorist also believe that racing pigeons can still figure out the position of the sun, as they are able to see a broader spectrum of light rays, along with ultra violet and polarised light. It has also been suggested they can still see the stars and other celestial consulations during normal daylight which they also use to navigation by.

Sense of smell - another theory is that racing pigeons have an incredible sense of smell, far greater that a dogs and that it can detect the smell of its home locality on the wind from many kilometres away. In fact one top fancier I know told me several years ago that he used cotton wool soaked in aniseed oil then placed in perforated tobacco tins which were located in several areas throughout his loft so as the birds recognised their loft by smell.

Their sense of smell, if used to assist them locate their loft could of course include the smell of the local environment i.e. industrial smells from factory's, chemical plants, power stations, busy roads or a particular cocktail smell of several, peculiar to their region.

Eyesight – we are all aware of how exceptional a racing pigeon's eyesight is. It can see great distances and the smallest of objects. But does it assist in its "homeability"? I believe only when it is in close proximity to it's loft, familiar land marks and local terrain that it has seen many times while loft flying.

Experiments using frosted contact lenses resulted in pigeons returning to a close proximity to their loft landing on adjoining neighbourhood roofs, but not being quite able to find the loft. This may indicate that other senses actually assisted them to return so close to the loft, after all racing pigeons have been known to return to their loft late at night, well after sunset.

Hearing - along with all the other racing pigeon senses, it is reported that they also have an incredible sense of hearing, being able to hear frequencies much the same as a dog, whether they are capable of hearing sounds and/or various frequencies over a great distance is yet to be determined, although many believe this to be the case, and that they can hear the sound of the ocean and wind from many kilometres away.

Again, experiments have been undertaken to see what affect a pigeon's hearing has on "homeability" by blocking their ears with wax and was found to have no adverse affect on their ability to home.

Some observations have resulted in the fact that familiar sounds of a location that pigeons have become accustomed to over a period of time have and do assist a pigeon to recognise it's home, but from what distance does this assist in "homeability" is not certain.

Now I'm going to put up a theory of my own, which I want you to consider and is by no means meant to be a replacement or better theory than those already mentioned, but to add to what I believe is a fascinating study of how our birds navigate and find their way home. Are you ready for it? "Taste", yes you read right. Taste. Along with all the other senses that have been researched and theorised about, the one I believe left out is a pigeon's sense of taste.

We have all at times noticed, that when administering medicines, water additives or placing different additives on their grain that quit often depending on the taste that pigeons will shake their head at the taste and at times avoid what ever it is we are trying to administer.

If we are to believe that racing pigeon's posses a myriad of senses, far more than we either know or understand than I cannot over look the fact that as part of their "toolbox" used to locate their loft is their keen sense of taste.

Taste may be able to be detected in the air they breathe, not only while in the loft, but also when exercising and during short tosses. Things that may be detected in the air by pigeons could include local pollution, sea salt, vegetation and various other elements not detected by us. Taste may play the same basic principles as smell (as mentioned previously).

I believe that racing pigeons utilise all their senses in determining how to "home", there's probably a very good chance that all our theories may be incorrect and it may result in their homing instinct being determined by things we have no knowledge about, but for what its worth the list below, in order of how they find their way home is my theory.

1. Magnetic Fields
2. Position of the Sun and other Constellations
3. Sight/Visual recognition
4. Smell
5. Taste
6. Hearing/Sound

I have listed these in order with regards to a pigeon being released a fair distance from home, and as they get closer the others (lower down the list) take over. For what its worth, that's my theory on "homeability".

An article written on a racing pigeon's ability to home would not be complete without looking at why and/or what may interfere with a pigeon's "homeability". As with what assists them in being able to home, there are many theories on aspects

that affects/prevents them from homing, and each year as technology changes, especially in communications, theories abound as to the affect it has on a pigeon's ability to orientate and find its way home. The most popular being mobile phone use and their transmitting towers.

Others include – an increase in ultra-violet rays in the atmosphere caused by the depletion in the ozone layer, low frequency and digital communication waves, microwaves and changes in the earth's magnetic field to name but a few.

While not being able to dispel or support these theories, mainly due to a lack of real evidence, I personally tend to support the theory which has a bit more theoretical evidence behind it, and that is the effect of happenings in the great "cosmos" the constellations, but more importantly events happening on the Sun.

NASA reports that this year (2011) on the 7th June, satellites detected a flash of X-rays coming from the western edge of the solar disk. On the Richter scale of solar flares, the blast first appeared to be a run-of-the-mill eruption that was until researchers looked more closely.

A solar physicist at the Goddard Space Flight Centre said, "We'd never seen anything like it. Half of the Sun appeared to be blowing itself to bits".

It would appear that this year (2011) will see a dramatic increase in solar flares and sunspot activity, especially during the middle of the year with the intensity being stronger than for the last 50 yrs, in fact 30% – 50% stronger. Apparently sunspot activity occurs on an 11 yr cycle and on the 7/6/11 solar flare explosion activity was recorded as being the most dramatic ever.

Apparently one of the most dramatic Solar Storms on record occurred in 1859 with the blast setting telegraph offices on fire across the country, causing massive disruptions to communications.

To quote part of the NASA web site, "In 2011, if the same occurred the situation would be far more serious. An avalanche of blackouts carried out across continents by long distance power lines could last for weeks to months as engineers struggle to repair damaged transformers. Planes and ships would not be able to trust GPS units for navigation".

The damage cause by such a large event would have a tremendous affect on all of us as communications would go down, computers failing and every day electrical appliances we rely on being affected to some extent or another.

It has been suspected that solar storms have co-insided with racing pigeon losses in the past and with scientific evidence as to how it affects electronics and magnetism here on earth, I am much more convinced that magnetism/earth's magnetic poles and solar activity is the major player in a pigeons "homeabilty".

Inclosing this article, recognition, acknowledgements and credits for exerts contributed must go to the Science at NASA web site.

For those interested in further reading/study re “Solar Activity” you can “Google” the NASA site at www.science.nasa.gov

In closing, I would like to quote a line from a song in the movie “Paint Your Wagon” which in light of this article probably suits our racing pigeons, and that line is –

“I was born under a wondering star, a wondering, wondering star”.