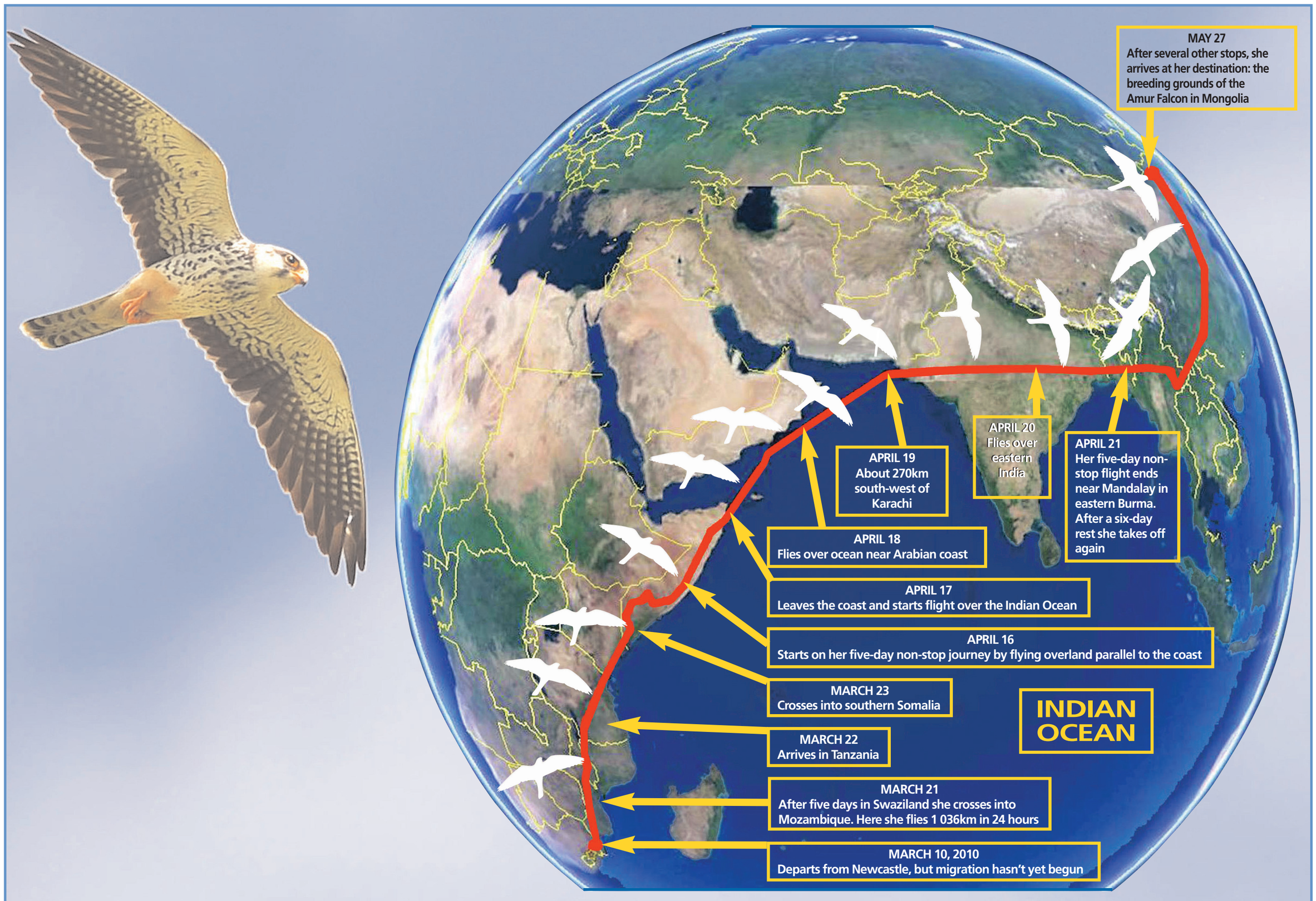

WING AND A PRAYER: Amur Falcons migrate 14 500km to Mongolia every year. This graphic details the journey made by one, 95773, from Newcastle. PICTURE: CHRIS COLLINGRIDGE

TOUCHDOWN

Satellites track Flight 95773, an Amur Falcon, as she flies to Mongolia from Newcastle with a tiny transmitter on her back. She gives her trackers a showstopper they could never have imagined: a non-stop leg 5 912km over 5 days. Then comes the big question: Will she fly home to her roost?

BY SHAUN SMILLIE

HIGH above the Lebombo Mountains on the Swaziland border, she crosses into Mozambique.

The mountains fall away as she flies over the flat mopane forests of western Mozambique.

She pushes northwards, guided by something we don't yet understand.

95773's flight across Mozambique is swift.

For 24 hours she keeps on the wing, covering 1 036km. Her journey cuts northwards at an average speed of 43.2km/h.

For a while she sticks close to the Zimbabwean border before turning slightly east towards Tanzania.

After a night of flight she lands in southern Tanzania.

For the next eight days she slowly makes her way north.

She passes through Tanzania and then Kenya, and on March 30, arrives in southern Somalia.

There she stops for a couple of days.

On April 5 she begins moving again and makes her way slowly into central Somalia.

She stops to refuel, this time for five days.

There she probably fills her crop with insects.

She needs the high protein found in the locusts, flying ants and dragonflies to give her the energy for the hardest and most dangerous part of her journey.

Back in South Africa the scientists wait, too – for the first time they will "witness" the trans-oceanic crossing of an Amur Falcon.

The transmitter will tell us exactly where she is when she strikes out across the featureless blue ocean.

But this still leaves two of the great mysteries unsolved.

The first of these is: how does she navigate?

What is the guiding hand that takes these long-distance travellers over thousands of kilometres to their exact destination?

Somewhere deep inside the Amurs is an invisible compass that scientists have yet to find and understand.

One theory is that they might take their bearings from the sun.

But how then do they fly so accurately through the night?

Dr Craig Symes of Wits University speculates: "They possibly rely on celestial cues, or magnetic fields, or a combination of both.

"It's also possible that different birds use different methods of navigation."

And then there's the second mystery that the transmitter cannot answer: do birds sleep while they fly?

Some biologists believe that migratory birds forgo sleep during these long flights.

Others suspect these birds have an auto-pilot switch that controls their flight and takes over navigation while the rest of the brain sleeps.

On the morning of Friday, April 16, after her five-day rest, 95773 begins a journey scientists call "amazing".

She lifts off and begins flying a course parallel to the Somali coast.

Below her she sees dry scrub land as she passes within a couple of hundred kilometres west of the Somali capital Mogadishu.

Not far from the northern Somali town of Ufeyn the falcon, with a wingspan about the length of an average home PC and weighing a little more than a tin of tuna, leaves the horn of Africa.

Ahead of her is the blue of the sea, the Yemen Gulf and an ocean crossing of more than 3 000km.

The next day, Saturday, April 17, she is tracked flying to the top of Somalia and then she strikes out over the Indian Ocean.

On April 18, near the Oman coast, her compass tells her to change direction and she turns slightly to her right.

The Arab peninsula falls behind her and she flies near to the Arabian coast at 6.46am.

On Monday, April 19, the satellite places her 270km south-west of Karachi, Pakistan, at 5.45am.

Her oceanic crossing is nearly over.

Hours later 95733 is again over land. But she flies on.

95773 has made the sea crossing in two days and five hours.

She is the fastest of the seven remaining birds that continue to be tracked, the first to reach the shores of India.

The next day, at 4.12am, satellites log her in eastern India.

And then on Wednesday, April 21, near Mandalay in eastern Burma, 95773's feet finally touch land, or more likely the branch of a tree.

The non-stop journey of five days takes her an incredible 5 912km at just under 50km/h.

But her journey is not over. After a six-day stop, she continues moving slowly north-east.

On May 8, 95773 reaches her destination.

Her transmitter records that she is in the middle of the Inner Mongolia Autonomous Region of Xilin Gol, about 450km north of the Chinese capital of Beijing.

This is the heart of the Amur Falcon's breeding grounds – 14 560km from home.

Some of the other birds do not make the ocean trip in one go – one male, called 95775, stops over on Socotra Island in the Arabian Sea for a couple of hours.

"Maybe he had a girlfriend there he stopped to visit," laughs Rina Pretorius, the bird lover who had helped trap him and several other Amurs in Newcastle.

His crossing is the longest at two days and 18 hours.

Shortly after 95773 arrives in Mongolia, the German bird lover who sparked the research, Dr Bernd-U Meyburg, and his wife Christina, battle to get a fix on the birds from the weak signals.

So no one knows what 95773 does for the next two months.

Perhaps she finds a mate, and rears a clutch of chicks, as millions of other Amur Falcons are doing in Mongolia.

Now the team has its longest wait. Will she fly home?

They will know only when the transmission improves.

In late October an e-mail lands in Pretorius's inbox.

An excited Meyburg tells Pretorius that 95773 is on the move again.

She and the other falcons are flying homewards and are now in an area where all seven transmitters can beam information to the network of satellites high above.

The wait has ended.

Now science has the opportunity to record the full complete migration of an Amur Falcon.

On October 28, satellites pick up 95773 in Assam, northern India. The large female falcon is the first to leave, again leading the charge.

From Assam 95773 passes over Nagpur and Bombay, then across the Indian Ocean.

This time her ocean passage is shorter, a distance of just over 2 500km, which she covers in two days of non-stop flight.

With landfall comes the acacia scrub land of Somalia, as 95773 turns south, flying through East Africa.

Like before, her journey is a mix of quick sprints and lengthy stop overs.

She cuts her way further inland towards central Africa.

Pretorius follows her progress as she inches closer to Newcastle.

On the evening of November 27 she sleeps over in southern Zimbabwe, just 75km from the border of South Africa.

Twelve days later she crosses into South Africa.

On December 11, she sleeps at Samcor Park in Pretoria and two days later satellites record her in Volksrust.

The Newcastle roost is now just 50km away.

Three days later, Pretorius receives Meyburg's latest e-mail update.

Pretorius grabs her camera and binoculars and rushes to her bakkie.

The e-mail contains co-ordinates and with the help of Google Maps the veteran birdringer gets a fix on 95773.

Her chances are slim that morning.

But she still drives through Newcastle towards the suburb of Lennoxton.

She finds a tall, lone pine tree. Two kilometres away lies the roost where 11 months earlier, 95773 had taken off from a camping chair, carrying some special cargo.

The tree is empty.

"I just wanted to see the bird, I was hoping maybe I would find her sitting on a nearby telephone line and I would identify her from the transmitter on her back," she recalls.

The night before, in the rain, 95773 had landed in that pine tree in Newcastle.

Now she has gone again, and Pretorius has missed her.

Her touchdown ends one of ornithology's greatest mysteries – a team of amateur birdwatchers has mapped the epic flight of an Amur Falcon.

95773 has come full circle.

The falcon has landed.

HIGH HOPES: Avid members of the Amur Falcon Tracking Project prepare the trapping nets at the roost location in Newcastle. PICTURE: CHRIS COLLINGRIDGE