

Père David's males, late autumn, Nan Haizi

More than 70 years ago Père David's deer died out in their native China. Now, they have been reintroduced with great success. Invermay research scientist Tony Pearce travelled last year to Nan Haizi – an idyllic corner of China – where he found a placid and contented deer, unlike the uptight Père David's found in New Zealand

NAN HAIZI, Beijing – the Chinese Imperial hunting park until the late 19th century – has always been a focal point in the fascinating story of the rescue of Père David's (Milu) deer. Zoologist and Lazarist priest Father Armand David first saw what was then the only live collection of these unusual animals here. He arranged for a few to be taken to zoos in Berlin and France.

A herd was later established by the Duke of Bedford at Woburn Abbey. This act saved the breed from a fate of being known only through legend and fossil records.

Through flood, misadventure and their use as food during the turbulent early 1900s, the herd vanished from Nan Haizi. They disappeared as a breed in China in 1917 when the last zoo specimens died out.

At the World Deer Congress, Lady Tavistock spoke with justified pride of the great effort that successive Dukes of Bedford have made with the breed, culminating in 1985 with the reintroduction to China of 15 females and 5 males at Nan Haizi, followed in 1987 by another 18.

Considering Invermay's involvement in the breed since 1984, with our animals also coming from Woburn Abbey, it was a highlight of a recent Chinese adventure to visit the park and meet the herdkkeepers and researchers involved in the breed's re-establishment.

Equally fortunate is Invermay's association with Li Chunyi, whose contacts in deer science in Beijing allowed the travel, communication

and access to occur.

Nan Haizi, some 25 km south of Beijing, lies amid an extensive agricultural region – growing rice, corn, wheat and myriad root crops and brassicas – on the northwest corner of the Great China Plain.

The site was chosen for Milu's reintroduction because of its historical significance and proximity to China's major government and scientific institutions.

The modern park covers 60 ha, fully enclosed behind a 4 m high brick wall, and is a tree studded, undulating, grass- and lake-filled vastness that contrasts with the hustle of villages and intense agriculture surrounding the park.

Entrance to the manned security and quarantine gates was by way of an intricate clay and brick track detour, since the main road was closed for autumn and winter by a sea of fresh corn drying in the open.

We negotiated mountains of cob, whole grain and carrots before being received, welcomed, washed and inspected at the gates that proudly proclaimed 'the Beijing Milu Ecological Research Centre'.

The Park has become a focal point of animal conservation for Beijing, and intense interest is shown in the success of the project by dignitaries including vice premier Wan Li and other leading Chinese politicians and business groups.

It was with some trepidation and substantial respect, then, that we met Director Wang Zongyi and his wife Professor Yang Rong Sheng,

who manages the day-to-day events of Milu management. Our welcome was extremely warm and over tea we learnt of the astonishing success of the re-establishment project, particularly in light of the frustrating and sad New Zealand experiences.

Nan Haizi now hosts a herd of 180 head, including the 43 calves born in 1992, run as a single group and unrestrained by internal fencing.

As our visit was in November we had missed one of the great features of park management. All low-lying areas of the park – up to 30 per cent of its area – are artificially flooded during late spring.

There is also a system of sprinklers that allow the animals access to water all the time. Milu will spend much of the day lying in the water for relaxation and play, with very defined patterns of grazing and long rest periods.

The park has been heavily over-sown with alfalfa and other legumes as well as native grasses and brushwoods. Alfalfa and legumes are preferentially grazed, though Milu graze 180 of the 214 species of plants present in the park.

The deer are very gentle on the mature willows and poplar and plane tree species that border the low-lying swampy areas, and tend to preserve tall grasses and bushes for calf protection and resting areas.

Introduced plant species that are preferentially grazed are not surviving as grazing pressure increases. We estimated the park to be stocked at 9.5 stock units per ha – heavy by

Père David's
new
dawn

New Zealand standards – and this may be linked to the first signs of difficulties in productivity.

Females are considered sexually mature at 15 months and breed at rates of 95 to 98 per cent calving following a 280-day gestation. All successfully bred in 1990.

However, of the 54 calves born in 1992, 11 did not survive winter. Deaths were mainly among male calves, which were either stillborn or deserted shortly after birth.

Natural herd increase is accelerated by a high proportion of female calves born during the very compact calving season, which runs from late March to mid April, though a very late calf from a yearling was recorded in August.

While the herd is not farmed as we define it, calving is monitored closely. Births are recorded by Professor Yang and her team who live in daily contact with the herd.

Births are predominantly a casual affair, with the hind standing at the birth after seeking cover and isolation from the herd.

Calves hide for up to three days, then easily follow the herd in and out of water.

Hinds return for calf feeding twice daily during the hiding period. At birth, body weight, leg length and ear size are measured, sex is recorded and close behavioural observations are made.

Breeding is strongly hierarchical. The dominant stag – peaking at an estimated 320 kg pre-rut – holds the female herd as a single harem for a 16 to 21 day period from early June.

During this time he will lose up to 40 per cent of his bodyweight.



Milu park staff

Left to right: Milu Ecological Park director, Professor Wang Zongyi, Li Chunyi and Milu Project Manager Professor Yang Rong Sheng

Researchers estimate that all mature females and most yearlings conceive. At the end of this period the subordinate mature males will take over the harem duties while younger animals spar and display.

Professor Yang believes that this dominance hierarchy is preserved without contest or dispute all year, at least among this settled group. Females were estimated at between 140 and 180 kg at peak weights.

This information and discussion, freely given via the overworked Li Chunyi (who could never relax), was given by the professors in the VIP reception room. The room was highlighted by the golden symbol of the Milu in full antler, set-off by rows of the cast antlers of the dominant and next ranked herd sires.

Antlers are characterised by dense, heavy bone. The backward-sweeping tynes and their various hooks, scurs and irregularities grow up to 1.2 m long. The main beams reach up in a combination of branches and tynes.

Antlers are shed in late November and most males are in velvet growth by the end of December. I fell straight into the trap of asking "what's the velvet antler like?", and was greeted with absolute horror.

In fact, the Milu antler has two large, central blood vessels which would make any removal potentially difficult, and may indicate the need for extreme care in our New Zealand hybrid animals. The antlers are covered with thick, long (up to 5 mm), grey hair, giving the impression of tremendous bulk.

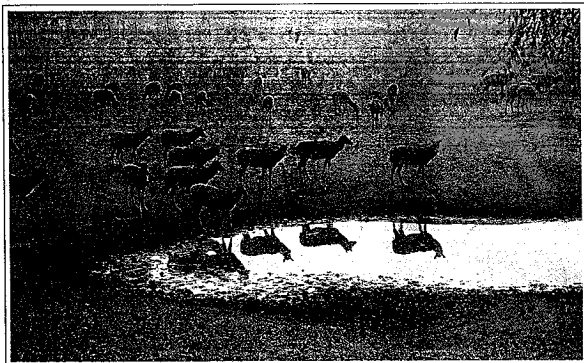
Growth until stripping is around 120 to 130 days and from this time, particularly in rut, it is common to see stags with bundles of vegetation decorating the antlers – adding to the bulk and dominant appearance of the senior animals.

The most often repeated observation during this fascinating conversation was that the deer were extremely gregarious.

Strong social contact at all times of the year was considered critical, with the dominant adult males only leaving the herd for a short time during antler casting.

With this social nature in mind it was time to walk among the herd and the enclosure.

The research complex involves a series of brick compounds and feed storage areas. Passing through these, within large exercise areas and indoor housing, were groups of many other species – large white Fallow (75-85 kg liveweight!), Meihualu (Sika), two hand-reared Milu calves, Malu (Asiatic Wapiti), Axis, (Hog deer) and, in the park itself, a lone Sambar male and eight White-



Père David's (Milu) deer caught in the setting sun's glow at Nan Haizi

lipped or Thorolds deer from the high plains and mountains of Tibet.

In addition, just in from the United Kingdom, a spirited collection of the rare and similarly endangered Przewalski Ponies, once natives of Tibet, was in quarantine at the start of another reintroduction project.

In effect the Park maintains a full

quarantine, a fact not lost on researchers looking for chances to extend Père David's work both in China and New Zealand.

However, beyond these, through more brick walls and gates, caught in fiery glow of the setting sun and appearing and disappearing in the smoky haze that seems to characterise the villages of China, the tan shapes of the Milu drifted.

The herd spends long periods just standing or lying and seemed unconcerned at our presence. We were inspected from a distance of about 20 m by the dominant male before he quietly, with the distinctive clicking of hooves, rejoined 10 older males that occupied the most sunny and highest ground.

The bulk of nursing females and calves were at one end with juvenile females in attendance. Between both groups, young males engaged in sparring and posturing.

As we walked, the herd slowly roused and moved quietly away, casually splashing through the remnants of the flooded areas, swishing their long black tails and turning to peer mournfully and disdainfully at the visitors.

The contrast between this casual, relaxed behaviour and the frantic activity and apparent panic we have observed at Invermay is quite disconcerting. The deer looked great, and there was evidence of a close relationship between the researchers and animals.

In this dry and cold climate Milu's thick coats equip them well to withstand winter and snow. Early winter feeding had just begun with a menu of corn, fed in troughs and on the ground with carrots.

High-quality dried roughage is fed

in the form of dried leaves and shoots of sweet potato and yam, as well as the 20 per cent protein from virtually freeze-dried autumn leaf fall collected and stored by local villagers.

Green feed comes from stacked Chinese cabbage varieties that seem to store fresh and moist almost like a cold fermentation process.

A final reflection of this very contented herd, standing – themselves reflected in the still area of water, against a huge blood-red setting sun – was one of extraordinary achievement and success and the close social nature of the herd, embodied by their relationship with the researchers and deer handlers of Nan Haizi. This success has now been enhanced by the successful reintroduction of Milu at DaFeng Nature Reserve, where the youngest fossil remains of the deer have been found.

This reintroduction into the last known natural refuge of Père David's deer has been associated with the development of a national monument to the breed.

The monument, which records the mythology and history of the animal, has as its centrepiece a huge statue of a Milu stag, hind and calf.

At each of the four corners is a statue of the four other species that contribute to the meaning of Milu – the four unlikes: the Meihualu Sika deer (head and antlers), the ox (feet), the donkey (tail) and the horse (gait and body). This reserve, some 400 km north of Shanghai, lies on the flat coastal plains north of the Yangtze river and is a combination of flat swamp and grasses, bamboo groves and slightly higher ground, with long grass cover and trees.

The areas are set apart by meandering, open mud and water which serve as deer track areas and water for recreation.

In late autumn the light browns and red tans of the grasses were a perfect match in colour for the Milu. Though staying in their social group, the deer kept some distance away and would alternately merge with the background and reappear to stand and gaze at the curious rabble of visiting Western scientists.

The project area, currently 374 ha, has the potential to expand to occupy the whole 7,000 ha reserve. The Milu live essentially undisturbed there but under close behavioural observation through Professor Liang and his team. This project will be of great significance to the re-establishment of endangered species and should be a highlight of any deer related visit to China. □