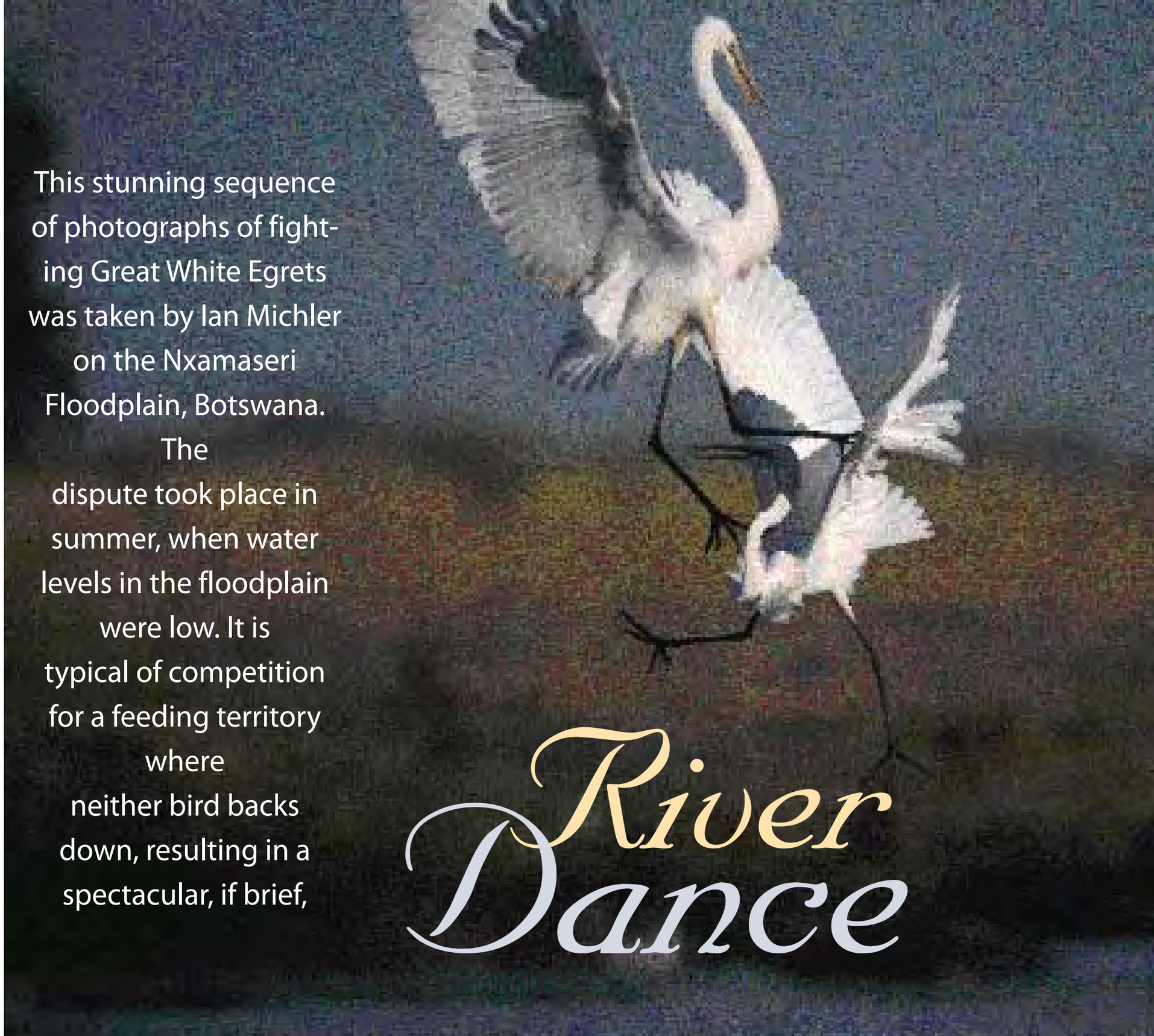
River Dance



This stunning sequence of photographs of fighting Great White Egrets was taken by Ian Michler on the Nxamaseri Floodplain, Botswana. The dispute took place in summer, when water levels in the floodplain were low. It is typical of competition for a feeding territory where neither bird backs down, resulting in a spectacular, if brief,

Despite breeding and roosting communally, Great White Egrets *Egretta alba* spend most of their time feeding alone, either waiting for prey to come to them, or walking slowly along with the neck craned. At moderate prey densities, this foraging technique works best if the birds are well separated. Having another bird feeding nearby can adversely affect your fishing success. This dispute may have been triggered in part by the relatively low water levels which caused the birds to be more crowded than they preferred, or it could merely have been a fight over a particularly good fishing area.

But Great White Egrets are not always solitary feeders, forming small flocks and joining other wading birds when prey densities are high. In the Everglades, they spend up to 10 per cent of their time robbing fish from other wading birds that are the same size or smaller than themselves. However, an analysis of the relative costs and benefits of robbing other birds found it was three times more rewarding to fish for oneself. Robbers obtained larger prey, but they took longer to obtain them, and expended more energy chasing other birds.

As this thievery implies, Great White Egrets can be active foragers at times. Like most herons and egrets, they have a wide variety of feeding techniques. They occasionally attempt to flush or perhaps even attract prey by stirring a foot or bill in the water, and have even been recorded following cattle in the manner of Cattle Egrets, and feeding in association with foraging otters. Great White Egrets also actively pursue prey in the shallows, but they are rather cumbersome compared with Little Egrets, which use this technique much more frequently. There are even records of Great White Egrets plunging after fish from the air, and this technique was used to catch one of the largest fish taken by this species – a whopping 35 centimetres long!

We know that these birds in the photographs are not fighting over access to mates. At the start of the breeding season, males do compete vigorously for breeding sites, but these disputes normally take place at the colony, and seldom involve aerial clashes. Also, these birds are not in nuptial plumage. During the advertising period, when males establish breeding sites, they have black bills, lurid emerald-green facial skin and brilliant red irises. The black bill in breeding plumage is characteristic of the African race, appropriately called melanorhynchos. Interestingly, the red eye is only retained for a few days while the males advertise for mates. The facial skin also starts to fade to its usual dull olive-green once nest building starts.

There has been considerable debate over the relationship between the Great White Egret and the 'true' herons of the genus Ardea on the one hand, and the egrets, Egretta, on the other. This is because it shares similarities with both. Some authorities have skirted the problem by placing the Great White Egret in its own genus, *Casmerodius*. ▷

Although currently placed in *Egretta* on most lists, the evidence based on analyses of displays, skeletal structure and genetics clearly suggest that it is a heron and belongs in *Ardea*. In fact, the genetic evidence suggests that *Egretta* and *Ardea* are not even particularly closely related!

If in fact the Great White Egret is a heron, why is it white like an egret? Large wading birds have few predators, so crypsis is important only to reduce their visibility to their prey. Being white below is the best colour to avoid being detected by aquatic prey. This has been shown experimentally: fish are more likely to occur close to a model bird that is white below than one that is dark below. Being white above makes birds highly conspicuous from the air when standing against a backdrop of water or vegetation. Experiments with pale and dark models have shown that a wide variety of wading birds are attracted by white plumage. It thus seems likely that white plumage in wading birds has evolved in part to enhance feeding aggregations, which makes sense for the many pale-coloured wading birds that feed communally, herding schools of fish. It makes less sense for Great White Egrets, given their preference for solitary feeding. However, one could argue that being conspicuous helps birds space themselves, and thus reduce the need for territorial fights.

Speculating about bird coloration almost inevitably leads to a confusion of contradictory and typically untestable ideas. Whatever the reason for its white plumage, the Great White Egret is a highly successful bird, with one of the largest ranges of any wading species.

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