Spawning of *Melanochromis johanni*

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About six months ago I set up an African Rift Lake cichlid tank with species from Lake Malawi and Lake Tanganyika (Fig. 1).Two of the species I included were *Melanochromis johanni* and *Labeotropheus fuelleborni*.

These species occur in Lake Malawi where they live in and around rocks. Cichlids that live in this manner or along the shorelines of Lake Malawi are known as Mbuna, "Em-boon-ah". The Johanni (as the species is commonly called) is typical of many Mbunas in that the male is blue and the female yellow or orange. A range of colour morphs exist where the male's body colour varies from pale blue through to navy blue. A nice male Johanni is in my opinion one of the most striking of all African cichlids, or any cichlid for that matter. Healthy specimens show off their colour with such intensity it rivals many reef marine fish!

Mbuna are generally territorial fish and a large aquarium is essential. Although Johanni are not large, around 12cm, they are sometimes very aggressive and will hold their own against much bigger species. As it turned out, my male Johanni and male Fuelleborni made poor neighbours and it was clear that one of the two would have to be removed. The problem was solved by placing the pair of Fuelleborni in a 3ft tank of their own, in the hope that this may induce them to breed. They however, were not my first African fish to spawn; the Johanni beat them to it.

Back in the community tank the male Johanni was most pleased with being the undisputed king of the tank. I added another female so that he had a choice of mates.With the Fuelleborni out of his hair his interest in the females increased. He frequently chased both females around the tank and presented them with his side profile, quivering rapidly if one of them stopped to show interest. He also began digging a pit which became so deep it exposed the undergravel filter plate. After about a week of this behaviour I noticed one day that the male's spawning tube had emerged. One female was also prepared with her egg opillary protruding in front of her anal fin. It was clear spawning would soon follow.

I unfortunately did not witness the actual spawning but can say from observations of later spawnings that Johanni are typical of most mouth brooding cichlids. After much chasing, circling and quivering by the male, the two approach the spawning site, which is usually a piece of flat rock such as slate. They then form a 'T' position on the rock with the female's mouth close to the anal area of the male; both fish then go into a series of quivers followed by the release of eggs and milt. The female will lay a few eggs then pick them up with her mouth and the ritual of spawning is started all over again. Each time the female assumes the 'T' position her mouth is closed over the genital region of the male. The eggs being in her mouth increase the likelyhood of fertilization as the male releases his milt. The male Johanni has a bright spot on his anal fin that is thought to resemble an egg which the female is in fact trying to pick up, but in doing so she stimulates the male to release milt.

Early in November I found the female had a swollen mouth, full of eggs. She was slowly chewing, which is her way of moving water over the eggs to prevent fungal contamination during incubation. She was left in the community tank for a few days before being moved to an isolation tank of about 20L capacity. During the next few weeks she would be fairly inactive and not eat, so a tank of this size would be adequate.

About 21 days after spawning 13 fry, 10-12mm in length emerged. They were hungry and took well to a liquid fry food for the first few days. After this initial period they were fed frozen newly hatched brine shrimp 3 or more times a day for a few weeks. By this time the fry had developed nicely, had attained a size of 20mm, and were able to take a diet of most dried foods. Johanni are apparently slow growing with young having female colouration until they are 3 months old. Males begin to aquire their adult blue colour after this period.The female was left with the young for about a week and was well conditioned before being returned to the community tank. She spawned again a month later.

From my experiences Johanni are not difficult to breed. Simply provide a pair with a large tank, plenty of caves and hide-outs to protect the female from an over-enthusiastic male. They will probably spawn in a community tank of African rift lake cichlids like they did for me, but I suspect it is better to have a separate breeding tank. The water should be hard and alkaline at about 26-30C. Feed them well on a diet containing items such as bloodworms, tubifex worms, brine shrimp, beef heart and some vegetables. Do all this and you can be almost sure they will spawn.

Figure 1. Map showing position of Lakes Tanganyika & Nyasa (Malawi) in relation to the African continent.