Young Barn Owl *Tyto alba* fed to a sibling[1]

By E Kniprath & S Stier-Kniprath

Introduction

Several times it has been reported in the literature that feeding on siblings by young barn owls or that the ♀ feeds one of them to the other siblings could be a method of brood reduction in times of adverse prey availability. So we read in the German handbook (GLUTZ & BAUER 1989: 257): "starved or downy pulli reacting no more (not exceeding 20 days of age) fed to their siblings at food shortage"; in EPPLE (1993: 70; observation in captivity): "They are – hardly ever reacting – seized and swallowed by the siblings fumbling on the nest-ground for prey."; in BRANDT & SEEBAß (1994: 121): "Frequently dead or dieing pulli are fed to their siblings (kronism) or eaten by these themselves (kainism)."; in MEBS & SCHERZINGER (2000: 61; for all owls): " may be killed by elder siblings or even fed by the female to the siblings (kronism, syngenophagy)"; (p. 127 for the barn owl): " Cannibalism is not rare and concerns predominantly handicapped runt (kronism, kainism)." Already in the "Handbuch" of Niethammer (1938: 123) we can read: " … in prey poor years no broods at all… or indeed the young – if already hatched – are eaten." From this formulation we could derive that indeed entire broods would be extinct by the parent birds. BUNN et al. (1982) collected many circumstantial proofs and accentuate that the concerning statement in the literature mostly don't be real observations but logical derivations. In a captivity-brood these latter authors obviously prevented the killing of an own chick by quickly feeding (p. 143). Besides these more summary statements in the handbook and in monographies (where in this case mostly there are no citations) in original papers we find few concrete observations. From video observations of captivity broods EPPLE (1985: 69) describes with several examples the killing and partial or total consumption of differently aged young by the mother. Neither the following feeding to the siblings nor cainism is described there. In a table BAUDVIN (1986: 83) indicates that out of 2369 hatched young 30 certainly and 376 more probably had died by cannibalism. At page 90 in that paper five cases are listed in which parts of young had been found in otherwise intact broods. Besides that (p. 90) remains of young are mentioned which had been found in the pellets of the siblings. Already in an earlier paper BAUDVIN (1978) had declared that such cases are correlated with the precipitation during the months of elevation. WUNTKE (2003) cites PLATZ (1996) „7 owl chicks, the youngest of which at an age of 10 days was eaten by the siblings". For this statement a video had been analysed. Outside the nesting site SHEFFIELD (1994) found a dead, partly eaten chick with its father aside. WUNSCHIK (1998) probably observed an infanticide: A not personally identified owl (WUNSCHIK is convinced that it was one of the parent birds) seized the weakened, youngest sibling and carried it away. This interpretation of WUNSCHIK in part was discussed by KNIPRATH (1999) and completed by WUNSCHIK (1999). BIRRER & HÜSLER (2003) describe a case of infanticide ascertained by the identification of the acting adult owl.

As direct observations are as scarce we decide to communicate another one. This communication in so far is preliminary as there is a certain perspective to get the whole video.

Material

The web-team of the Computing Division of the university of Tel Aviv offered the total sequence of a barn owl brood in the internet (http://video.tau.ac.il/General/birds/). (We

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are obliged for being informed to HANS-DIETER MARTENS, Neuwittenbeek.) On 3.5.2009 the brood consisted of seven young which were brooded by the ♀. The youngst sibling was only a few days old. The brood took place in Israel. The following has been recorded by memory.

Terms: cannibalism = killing and eating of an conspecific individual; syngenophagy = eating a conspecific individual (not necessarily including the kill); infanticide = killing of the descendant; cronism = killing and eating the descendant; cainism = killing a sibling (without eating it; mostly indeed this is included in the sense of the term)

Observation

Already on May 5th we had the impression that considering the young age of the chicks the ♀ brooded rarely. Temporarily also during the night she only loosely stood above the young. Beginning with May 6th it seemed to us that at least the youngest didn't develop well. When the young were fed this one – as well as the next older sibling – obviously didn't get its portion. This was not due to lack of prey as mostly remnants of mice or birds were lying around. During our days of observation the ♀ after dust astonishingly long was absent. An indication of the exact time is not possible as the absence already lasted when we met with the broadcasting.

When we switched on May 8th at about 15 h (German summertime) it seemed as if the ♀ was rendering some greater portion, which was whitish and looked like a part of a chick, to one of the older siblings. This one swallowed immediately. The exact observation was hindered by the fact that the ♀ stood with its back towards the camera and the young were sitting close together. Later we only succeeded to count six pulli. This number is somehow uncertain as the young mostly were sitting closely together or even one upon the other.

In the evening of the same day at about 22.30 h the situation for observation was much more favourable. Seen from the observer the ♀ was behind the young. Before the usual warming pyramid of the young there was a very small one. It did not – as usually – try to creep beyond the siblings. It moved only very little and – by the movements of the siblings – soon came into the supine position. It made no effort to leave this position. We here could not hear the whimpering "vivivivivi" of the "deserted" chick we had heard at other occasions. Minutes later one of the middle old siblings approached during its seek for food. After having tested with its beak some particles laying around it also contacted its younger sibling. After some testing nibbling it stopped. The "prey" had reacted only weakly by moving once its wing and by opening and closing several times the beak.

Some more minutes later the mother began to look for prey on the nest ground. Thereby she soon met with the mostly motionless chick which again reacted only with weak motions of the beak und which made not the most modest sound. Without any hesitation she seized it like all other prey items at its neck, fixed it by her talons and tried to tear off its head. At that time the chick still showed some movement of the beak. Seizing off the head indeed seemed to be very difficult: At first she didn't succeed. The following vigorous efforts succeeded in removing smaller parts of the cuticle of neck and head. Then she succeeded in totally tearing off the integument of the head. At that time any more movements of the "prey" could be observed. Then after some more efforts the ♀ managed to separate the head totally and rendered it to one of the great siblings. This one swallowed immediately.

Subsequently the ♀ separated the entire body into smaller fragments and fed them mostly to a single one of the middle aged siblings. From "finding" the prey up to the

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consumption of the last fragment some 20 minutes passed. All the scene could be observed well as the ♀ stood mostly free. From meeting with the broadcast to the end of the scene about one hour passed.
Already that evening and again the following day we succeeded in exactly counting the still remaining fife siblings. Thus the first observation of an eventual consumption of the chick nr. 7 got at least in indirect proof.

Discussion

The situation and the schedule of the end of chick nr. 6 described here (as the observation was to uncertain the fate of nr. 7 here not will be taken up again) at least prove as much: The ♀ looking for prey remnants no more recognized the silent, dieing chick as her descendant. For her it fitted only the schema “prey deposited” and was treated accordingly. So she killed her chick soon before this one would have died by itself. An otherwise usual killing act so as a bite into the skull here indeed was lacking. So the notes in the literature cited in the introduction – as far as they are concrete enough – are proven in that that already the motionlessness of a chick suffices for no more recognizing it as own child (BAUDVIN 1978; GLUTZ & BAUER 1989: 257). Then feeding it by the ♀ to the other siblings is merely consequent. In this case indeed it seems not, as GLUTZ & BAUER (1989: 257) write, as if general lack of prey was responsible for the lethal weakening of the young owl, nor as if being part of the causal chain for feeding it at all: There often not consumed prey was present. BAUDVIN (1978) too had ascertained that the cause of death of the young is insignificant.
In other owl species scenes like this may be observed: In his movie on the Wrangel Island UWE ANDERS showed in the NDR3 (North German Broadcasting 3) the following scene: In a Snow Owl brood an adult (the ♀?) occupied with an obviously dieing young. Unfortunately the movie ended there. Our question to the NDR (ANDERS per mail) produced that the crucial scene is lacking by technical reasons. In the afternoon indeed the weak chick had disappeared, but the older one had a well filled stomach. So for the real action there are neither witness nor figures.

Summary

Following a video that appeared in the internet, a description is given of how a female Barn Owl tore up a dying nestling, which could hardly move and made no sound, and fed it to a sibling.
Key words: Barn Owl *Tyto alba*, infanticide

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