Autolycism in the Foraging of the Grey-headed Green Woodpecker (*Picus canus*)

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ヤマゲラ (*Picus canus*) の採餌にみられる オートライシズムについて

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北海道大学苫小牧地方演習林において、冬期間、ヤマゲラがクマゲラの食こんについて採餌するのがしばしば観察された。ヤマゲラのこの行動はオートライシズムの定義に一致する。一般に、ヤマゲラは、クマゲラが採餌を終えて去った後に、その食こんについて採餌を行なった。しかし、ヤマゲラが大きな羽音をたててクマゲラを追い、その食こんについた例が1度だけ観察された。クマゲラは倒木などにhammeringの方法で大きな穴を開けて採餌するが、ヤマゲラはこの穴をさらにひろげることはなく、通常の採餌と同じ方法であるprobingやgleaningによって採餌した。このようなヤマゲラのオートライシズムは、降雪地域におけるヤマゲラの冬期間の生存に有利であろう。

Autolycism denotes the use that birds make of other species of animals in ways that are not strictly parasitic, commensal, or symbiotic (THOMSON, A.L., ed. 1964. A new dictionary of birds). The following behavior of the grey-headed green woodpecker (*Picus canus*) seems to be a case of autolycism. It was observed on 13th December, 1973 in the Tomakomai Experiment Forest of Hokkaido University, which is located in the south-central part of Hokkaido. The study area mainly consists of natural broad-leaved woods.

A female black woodpecker (*Dryocopus martius*) was opening a large hole on a log by hammering to forage for ants (*Camponotus obscuripes*). As soon as she flew away by the approach of the author, a female grey-headed green woodpecker landed on the log and began to forage by probing and gleaning into the same hole (time 13:30).

The same black woodpecker began to forage on another log about 100 meters away (13:43). A female grey-headed green woodpecker (it was not clear whether she was the same individual as mentioned above) came in flight and landed on a shrub about 2 meters away from the log (13:45). The female grey-headed green woodpecker once went out of sight, but when the

black woodpecker stopped foraging and flew to a tree trunk near the log (14:01), the former returned to the same shrub on which she had perched before (14:02). As the black woodpecker flew to another tree a little farther away, the grey-headed green woodpecker landed on the log immediately and began to forage by means of probing and gleaning (14:03). Then the grey-headed green woodpecker had to leave, since the black woodpecker returned and began to forage upon the same log (14:05).

The grey-headed green woodpecker was found perching on the top of a tree about 30 meters away from the log on which the black woodpecker had foraged (14:15). When the grey-headed green woodpecker flew to the shrub near the log, making louder fluttering sounds than in usual flight (14:17), the black woodpecker flew to a tree trunk 1 meter away from the log and became still, as when a sparrow hawk (*Accipiter nisus*) flew over the woods. The grey-headed green woodpecker landed on the log in a moment and began to forage again (14:18). But she was supplanted when the black woodpecker flew back and to forage on the same log (14:19).

Although this kind of foraging behavior of grey-headed green woodpeckers has often been observed during the winters (November to April)

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of 1973 to 1976 in the Tomakomai Experiment Forest, the above case was the only instance that a black woodpecker was driven away from the foraging site by the unusually loud fluttering sounds of the grey-headed green woodpecker. Furthermore, the author observed a case in which a male grey-headed green woodpecker drove a male white-backed woodpecker (*Dendrocopos leucotos*) away from a foraging site on 17th October 1974.

The foraging sites of both sexes of black woodpeckers were exploited by grey-headed green woodpeckers regardless of sex. Grey-headed green woodpeckers would appear at the foraging sites of black woodpeckers (1) flying together with the latter, (2) when the latter perched in a high tree top before foraging, or (3) while the latter was foraging on the tree trunk or log. In many such cases grey-headed green woodpeckers were foraging or resting on the tree trunks close to the foraging sites of black woodpeckers, or were foraging on the same tree trunk (or log) together with the black woodpeckers until the latter left the foraging site. Usually one black woodpecker was followed by one grey-headed green woodpecker, but the author once observed that three individuals of the latter followed the former, on 22nd January 1976. Then a female grey-headed green woodpecker foraged first at the feeding site of a male black woodpecker, after he left; she was soon supplanted by another female and the latter was easily displaced almost immediately by a male.

According to my observations in this forest, black woodpeckers mainly foraged on logs, stumps, and large dead tree trunks by opening big and deep holes by hammering. On the other hand, grey-headed green woodpeckers chiefly foraged on the bark surface, crevices, tree holes

and other damaged parts of a tree by means of probing and gleaning and, also picked up tree seeds (*Rhus ambigua* and *Schсандra chinensis*, and so on) in winter season. As mentioned above, grey-headed green woodpeckers foraged by probing and gleaning on sites where black woodpeckers had dug and were never observed to widen the hole by pecking or hammering.

An analysis of feces from the winter season showed that black woodpeckers mainly fed on ants (especially *Camponotus* spp.), while grey-headed green woodpeckers mostly fed on tree seeds, ants (including *Camponotus* spp.) and some coleopteran insects (MATSUOKA, unpublished). It is possible that the ants were derived partly from autolytic foraging. It seems to me that autolyticism in grey-headed green woodpeckers, which usually forage by probing and gleaning, is advantageous to their survival in winter in snowy districts, since snowcover will reduce their foraging spaces.

Although this kind of autolyticism among the palaearctic species of woodpeckers has not yet been described (D. BLUME, personal communication), it may be expected between the black woodpecker and the grey-headed green woodpecker (or green woodpecker, *Picus viridis*, which is similar to the grey-headed green woodpecker in foraging behavior). As I have not observed the foraging behavior of the two woodpecker species in the breeding season, it is not clear whether autolyticism in the grey-headed green woodpecker is found throughout a year or only in winter.

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