

Local knowledge of the Bornean Peacock-pheasant *Polyplectron schleiermacheri*: a critique of O'Brien *et al.* (1998a)

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In a recent study, O'Brien *et al.* (1998a) sought to provide a better understanding of the distribution and status of the Bornean Peacock-pheasant *Polyplectron schleiermacheri* in Central Kalimantan, Indonesia, based on an analysis of questionnaires and semi-structured interviews with local inhabitants. This was the first scientific contribution concerning this species after the launch of the Conservation Action Plan for Pheasants (McGowan and Garson 1995). Although the authors of this study acknowledged and discussed the limitations of the questionnaire approach and some of the anomalies in the replies they received, we still feel that the questions posed in this survey may have been phrased in such a way as to invite slight biases in the answers, and that some of the analyses of the replies may have created further biases. We therefore feel it may be helpful to review these uncertain areas in order to help improve questionnaire surveys in future fieldwork. Two of us (I.S. and A.P.S.) helped conduct the surveys in question, and all of us have experience of galliforms in Kalimantan.

We occasionally refer to additional information concerning the survey which was presented in another publication (O'Brien *et al.* 1998b).

The questionnaire survey

The questionnaire involved the distribution of 950 survey forms in 97 villages. These forms contained colour pictures of male and female Bornean Peacock-pheasant, a male Bulwer's Pheasant *Lophura bulweri* and a female Hoogerwerf's Pheasant *L. hoogerwerfi*, the latter, a Sumatran endemic, being included as the control to test familiarity with Bornean pheasants. The peacock-pheasant pictures were centred and to a slightly larger scale than the other birds. On the reverse side was a request for help in learning about Bornean Peacock-pheasant, with a conservation message about these threatened birds. The questionnaire itself consisted of six multiple choice questions (five of them about the peacock-pheasant, allowing two to four possible answers), and were collected several days after their distribution.

The "request for help in learning" and the "conservation message" (O'Brien *et al.* 1998a: 374, 1998b: 4), read:

Bantulah kami! Salam sejahtera dari rekan-rekan pecinta burung untuk Saudaraku di Kalimantan.

Kalimatan [sic] merupakan pulau yang sangat besar dan dikenal kaya akan satwa

liar. Burung Kuau Melayu atau disebut pula Kuau Kerdil, Kuau Merak Kerdil, Manok Balang, Manok Maton adalah salah satu jenis burung khas Kalimantan. Hingga saat ini baru 22 catatan/laporan perjumpaan yang telah diketahui.

Banyak sekali yang ingin diketahui mengenai burung ini, untuk itu kami ingin mencoba mendapatkan informasi dari Bapak-bapak. Kami yakin bahwa Bapak-bapak dari suku Dayak yang biasa hidup di hutan sangat pandai mengenali burung ini serta keadaan hutan di Kalimantan.

Kami mengharapkan bantuan informasi dari Saudaraku di Kalimantan dengan cara mengisi dan memberi tanda silang pada kotak jawaban di bawah ini serta sedikit waktu untuk berbicara langsung dengan Bapak-bapak. Kami akan mengumpulkan informasi ini dan berusaha untuk mengetahui keberadaan burung ini di Kalimantan.

Atas informasi, bantuan dan kerjasama Bapak-bapak dan Saudaraku di Kalimantan, kami ucapkan terima kasih yang sebesar-besarnya.

Translated this reads:

Help us! Happy greetings from bird-loving friends for my brothers in Kalimantan.

Kalimantan forms an island which is very large and known for its richness in wild animals. The *Kuau Melayu*¹, also called *Kuau Kerdil*², *Kuau Merak Kerdil*³, *Manok Balang*⁴ or *Manok Maton*⁵, is one of the bird species unique to Kalimantan. Up to now just 22 notes/reports of encounters have become known.

There is much to be known about this bird; therefore we want to try to get information from you gentlemen. We are convinced that you gentlemen from the Dayak tribe, who are used to living in the forest, are very capable of identifying this bird as well as the state of the forest(s) in Kalimantan.

We hope that we get assistance with information from my brothers in Kalimantan by means of filling in and cross-marking the answer boxes below, as well as by a few moments talking directly to you gentlemen. We will collect this information and try to find out about the bird's existence in Kalimantan.

We express our greatest gratitude for the information, assistance and co-operation from you gentlemen, and my brothers, in Kalimantan.

There were, we feel, several hidden dangers in the formulation of this questionnaire that may have served to filter or moderate the responses given. To begin with, the size and centrality of the image of the pair of peacock-pheasants, and the absence of questions about the other species illustrated, possibly gave the species too much emphasis. The use of five names for it, and none for the other two, may have done the same thing (some of the names actually refer equally to other pheasants, which is a further problem). We find that villagers in Kalimantan are greatly predisposed to give answers whether they have good information or not, so that in order to gauge the quality of their knowledge it is essential to take an oblique approach to the main subject. Any immediate emphasis on it runs the risk of eliciting a great deal of unreliable evidence. More-

¹ "Malay Argus"; also used for Great Argus *Argusianus argus*.

² "Pygmy Argus".

³ "Pygmy Peafowl-argus".

⁴ "Striped Chicken"; also a the local name for Crestless Fireback Pheasant *Lophura erthrophthalma* (R.S. unpubl. data).

⁵ "Ocellated chicken".

over, asserting that "you gentlemen from the Dayak tribe . . . are very capable of identifying this bird" might predispose respondents against saying they have never seen it (which might be felt to imply that they are not Dayak), while priming them with the information that there have only been 22 previous reports might inhibit them from replying that they have "often" seen it. To assert further that people living in the forest will be able to identify both the species and the state of its habitat, clearly suggests that the bird lives in the same areas as the respondents, and indeed in forest.

We find that the potential for bias persisted in the written questions. Question 4 (concerning the habitat in which respondents had observed Bornean Peacock-pheasant) was supposed to allow for the possible answers "near a river, in swamp forest, near a lake or in lowland forest", i.e. four choices (O'Brien *et al.* 1998a). However, the original Indonesian reads: "near a river; swamp; lake; forest", which may be interpreted as only two choices, i.e. forest near a river, or in forest because, as forest was suggested earlier as the species's habitat, swamp and lake would not be expected to feature in answers to the question.

Question 5 (concerning the number of birds seen at one time) was expressed differently in Indonesian, where it asked for total number of birds (ever) encountered, so that the four possible answers (an individual, a pair, a small group, a large group) did not allow the respondents to answer satisfactorily: a respondent who had seen a single peacock-pheasant on several occasions could not give a proper reply.

Moving now to the answers and their interpretation, we see a continuing pattern of assumption that may not fully reflect the intentions of the respondents. Concerning question 1, it is surprising to us that as many as 96% of respondents in 90 villages reported observing the Bornean Peacock-pheasant directly, whilst a fairly common and conspicuous species such as Bulwer's Pheasant (Smythies 1981, pers. obs.) was identified by only 65% of the respondents in 90 villages. The fact that 63% in 58 villages identified Hoogerwerf's Pheasant as a Bornean species is to us another sign that the peacock-pheasant claims needed to be treated more cautiously. Certainly the view that respondents (689 in 90 villages) accurately identified the Bornean Peacock-pheasant "because they could describe the bird's size and thick plumage accurately, and because the respondents used at least five names that referred to the bird's double spur" is not one we share, for the following reasons. (1) The questionnaire already referred to the species's size ("Pygmy Argus"). (2) At R.S.'s suggestion, I.S. and A.P.S. specifically asked about the thick plumage (as a possible extra clue to confirm the species's identity), so this was not unprompted information as suggested in the quotation above. (3) Both the bird's size and thick plumage are shared by Bornean Ground-cuckoo *Carpococcyx radiatus* and certain partridges (e.g. Long-billed Partridge *Rhizothera longirostris*, Crested Wood-partridge *Rollulus rouloul*). (4) The double spur is a feature shared with Crimson-headed Partridge *Haematortyx sanguiniceps*. (5) The local names referring to the spurs all represent minor variations of a single name ("telenjet tandas") communicated to O'Brien *et al.* by R.S. (*in litt.* 30 June 1996) and used in the interviews as an additional test of respondents (so again this was not unprompted information). In addition, Great Argus is locally sometimes called peafowl ("merak"), and the large male and much smaller female are sometimes seen as different species. Therefore, the use of the names "Pygmy

Argus" and "Pygmy Peafowl-argus" might have prompted locals to answer the questions intended for Bornean Peacock-pheasant with information on *A. argus*, which is a well-known and common species in the area.

Of those who positively identified Bornean Peacock-pheasant and were subsequently included in the analysis of the questionnaire, a significant proportion had also identified the female Hoogerwerf's Pheasant and the male Bulwer's Pheasant as species as diverse as: Bornean Ground-cuckoo, Crested Woodpartridge, Long-billed Partridge, Emerald Dove *Chalcophaps indica* and "ayam hutan" (used for any pheasant or partridge). Furthermore, a number of people who identified the Bornean Peacock-pheasant "correctly" also identified either the male Bulwer's or the female Hoogerwerf's as a peacock-pheasant. As these people seemed to possess only modest knowledge of pheasants, we speculate whether it would have been prudent to omit them from the analyses.

Concerning question 2 we note that, despite the inhibiting effect of disclosing the rarity of the target species to the audience, no fewer than 236 respondents in 41 villages claimed the bird was "often" encountered (table 2); yet O'Brien *et al.* (1998a) converted this to modal responses of villages, reducing the number of villages which claimed the bird was "often" encountered to 28. In the five other questions the percentages of respondents were used as the sampling unit. This is *contra* the assertion that, owing to the impossibility of preventing several people filling out a form together or comparing answers, "we treated the information from each village as a single sampling unit". Concerning question 4, we note a small but significant shift of assumptions concerning the habitats the respondents are supposed to describe. Thus, the result of 96% of the respondents claiming forest to be the bird's habitat is presented in table 2 as "96% of the respondents claiming lowland forest" (p. 378); an earlier publication of O'Brien *et al.* (1998b) stating a result of "96% of the interviewed people claiming lowland forest", is here presented as "96% of respondents claiming lowland primary forest" (p. 379).

The semi-structured interviews

O'Brien *et al.* interviewed 295 people in 50 villages who indicated that they had knowledge of Bornean Peacock-pheasants. The surveys were carried out in areas dominated by lowland forest in Central Kalimantan. Moreover, the Dayaks of northern Central Kalimantan primarily hunt in forests. Consequently the fact that 96% of respondents claimed that the Bornean Peacock-pheasant is found in lowland forest is not a particularly significant result.

The caption to figure 3 is slightly inaccurate. O'Brien *et al.* (1998a) stated that "Most respondents claimed that the bird was found within a day's walk of the village (64%)", in other words "usually less than 20 km", which implies an area of 1,256 km² around the village. However, figure 3 is captioned as if the villages represent the records, so the areas in question appear more restricted than they should. In addition, the respondents who answered the original question "how many days of travelling from the village did you encounter this bird", did not mention walking, and could also have referred to travelling by means of "klotok" (motorized canoe; average travelling dis-

tance *c.* 70 km per day, pers. obs.), thus increasing the distance to the encounter and size of the area significantly.

To account for "year of observations" (question 4), O'Brien *et al.* (1998a) used villages as their sampling unit, and referring the reader to table 3, found that (people from) 17 villages reported the peacock-pheasant in the period 1995–1996, nine villages from 1990 to 1994 and 17 villages before 1990. However, table 3 does not show these figures. We find this puzzling, as in all other results the percentage of respondents are used, and in one previous case (question 2 of the questionnaire) modal responses of villages. A careful study of this table also reveals that only 31% of all respondents saw the peacock-pheasant in the period 1950–1990 (93 records in 40 years), while almost 70% of the respondents saw it in the period 1990–1996 (207 records in six years). Even accepting that the number of respondents must decrease with distance back in time, this still appears to contrast with the results of question 7 ("changes in encounters over time"), where 85% of respondents are stated to have replied that the species is less common than in the past, and with the comments that "populations may be declining" (summary), and "Most respondents believe . . . that populations are declining". It seems to us that O'Brien *et al.* (1998a) may have emphasized the results of question 7 (based on merely 62 [21%] respondents) while undervaluing those from question 4 (based on all 304 responses). Given the rate of habitat destruction in Kalimantan, in all likelihood populations of Bornean Peacock-pheasant are declining (McGowan and Garson 1995), but the data presented by O'Brien *et al.* are not incontrovertible.

Finally here we should make two brief comments on content. First, the interviews contained 14 questions, not 13. Questions 10 ("How is the bird trapped?") and 11 ("During which month is it very easy to trap this bird?") have been replaced by one of four questions dealing with breeding. We should clarify that during and after the interviews some data on breeding biology were indeed collected, but this was on an informal basis only. The information gathered on breeding biology was too little for any serious analysis and not convincing enough to be presented as a formal component of the interviews; moreover, from what we know from other sources (e.g. the clutch consists of a single egg: Raethel 1988, Smythies 1981, pers. obs.) it is unlikely to be reliable.

Second, we would simply observe that, in treating calls and local knowledge as unconfirmed records, O'Brien *et al.* (1998a) only determined four sites at which they confirmed records of the peacock-pheasant (where locals provided feathers of the species), and that it would be very helpful to future studies if these sites were publicly identified.

Concluding remarks

Given all the above, we are concerned that the results of O'Brien *et al.*'s (1998a) project may be less clear-cut than they appear. As these form the basis of a GIS analysis, inferences on habitat preference, and conservation recommendations, we are inclined to question these exercises as well. Although much useful information can be extracted from this survey, we feel that the results of rapid assessments of this type are best used to identify suitable sites for subsequent

research. Interviewing local people can provide important information, but if actions are then merely based on what people say, the interviews and analyses need to be as rigorous as possible to avoid biased or erroneous information (see Rabinowitz 1994, Hart and Upoki 1997).

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References

- Hart, J. A. and Upoki, A. (1997). Distribution and conservation status of Congo Peafowl *Afropavo congensis* in eastern Zaire. *Bird Conserv. Internatn.* 7: 295–316.
- McGowan, P. J. K. and Garson, P. J. (1995). *Pheasants: status survey and conservation action plan 1995–1999*. Gland: IUCN.
- McGowan, P. J. K., Dowell, S. D., Carroll, J. P. and Aebischer, N. J. (1995). *Partridges, quails, francolins, snowcocks and guinea fowl: status survey and conservation action plan 1995–1999*. Gland: IUCN.
- O'Brien, T. G., Winami, N. L., Saanin, P. M., Kinnaird, M. F. and Jepson, P. (1998a). Distribution and conservation status of Bornean Peacock-pheasant *Polyplectron schleiermacheri* in central Kalimantan, Indonesia. *Bird. Conserv. Internatn.* 8: 373–385.
- O'Brien, T. G., Winami, N. L., Saanin, P. M., Kinnaird, M. F. and Jepson, P. (1998b) Distribution and conservation status of Bornean Peacock-pheasant (*Polyplectron schleiermacheri*) in central Kalimantan, Indonesia. Bogor: PHPA/WCS-Indonesia Program/BirdLife International Indonesia Programme (Technical Memorandum 3).
- Rabinowitz, A. (1994). *Field research and conservation training manual*. New York: Wildlife Conservation Society.
- Raethel, H. S. (1988). *Hühnervögel der Welt*. Neudamm: Neumann.
- Smythies, B. E. (1981). *The birds of Borneo*. Third edition. Kota Kinabalu and Kuala Lumpur: The Sabah Society and the Malaysian Nature Society.

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