NOTES ON *AGRILUS PANNONICUS* PILL. & MITT. (COL.: BUPRESTIDAE) IN 1985

By A. A. ALLEN *

Mr. A. P. Foster's extremely interesting rediscovery of this fine and rare *Agrilus* (=*biguttatus* F.) on Hampstead Heath two years ago (Foster, 1987) prompts some further remarks largely arising out of two visits to the site which I made in the following year, 1985. It will be seen that in most respects my experience agrees fully with his, whilst in one or two there appear to be noteworthy differences.

Having arrived on the spot around noon on 3rd July, I made a thorough inspection of the oak stump (prostrate and several feet in length) and the two logs, without seeing a single *Agrilus*; nor could any be swept, or seen in flight. The reason soon became clear: despite the hot sunshine, some very tall lime trees not far off were shading the stump, and the beetles for some reason seemed uninterested in the logs even with the sun full on them – none being seen on or near them either that day or the next. Accordingly I left the site, returing in about two hours when the stump would be in direct sunlight. It may here be mentioned that the common hoverfly *Xylota segnis* L. was so abundant on both days about the stump and logs as to be a nuisance, constantly catching the eye and distracting attention from the matter in hand in a most annoying fashion. However, with the stump now well insolated, it was not long before a flash of vivid blue, vanishing as suddenly as it had appeared, announced the presence of the desired insect.

Though this one immediately flew off again and was lost to sight, a second soon appeared as if from nowhere, and was successfully 'stalked' and secured. It took some two hours to obtain three specimens, two being missed through uncertainty as to the best way to set about capture. This I found to be not to try to use the net, but to wait for the beetle to settle (which fortunately seemed always to be upon the horizontal surface of the bark) and then to stalk it with the utmost stealth by hand, bringing down smartly over it a glass-topped specimen-box from which it could then be tubed. Like Mr. Foster I failed to capture an example either on the wing or by sweeping the surrounding vegetation. One, perhaps alarmed (understandably!) by my attempts to net it, appeared to fly straight upwards; otherwise on rising from the stump they veered off sideways out of sight. It is clear that to catch this wary insect in the field considerable patience is essential, even when it is present in numbers; when that is not so, it may well not be seen at all. I did not experience its habit of dropping to the ground simply because I never saw it settle on a vertical surface.

*49 Montcalm Road, London, SE7 8QG.

The remarkable 'flashing' behaviour observed by Foster was witnessed by me also on this occasion. It seems to occur only on alighting, and, I believe, in both sexes; the elytra were opened and closed several times, but I never saw it lasting for some minutes as noted by Foster in the two partly deformed individuals. Perhaps, therefore, as he suggests, it was in this instance associated with failed attempts to fly, but in the ordinary way I think his second suggestion – that its function is sexual signalling – is probably correct. The smooth lustrous peacock-blue abdominal tergites are highly reflective, far more so than the rugose surface of the pronotum and elytra. This is also the case with *A. sinuatus* O1., though they are there scarcely such a bright blue. I do not remember having noticed similar behaviour in that or the other British *Agrilus* species.

I was back at the spot next day, which was almost equally sunny and hot. This time *A. pannonicus* was not seen on the wing, but a further three were found, all sitting quietly on the stump towards the root end, and were captured with little trouble. They gave the impression of having just emerged from the bark, not least because all three had more than a trace of wood-dust at each side of the pronotum – in one, quite a conspicuous patch – and in each case a fresh-looking exit hole was at hand. Two were found within a minute of my arrival, and not in full sun; after the third no others appeared, even though I kept a sharp look-out for a further two hours. It is a little difficult to account for such a marked difference in the beetles' activity on the two successive days.

To see whether further specimens would emerge I brought home some pieces of thick bark showing a number of exit holes and secured them in a clear polythene bag. Rather to my surprise, a good series of the *Agrilus* emerged in a fairly steady 'trickle' until 28th July; as with the free-caught examples, the sexes were in similar numbers. The bred individuals were sluggish and were never seen to attempt to fly, thus conforming to the behaviour of those encountered in the field on 4th July. About mid-June, my friend Prof. J. A. Owen had similarly bred out a few from a piece of bark off the trunk of a large healthy oak in Windsor Great Park heavily infested on one side by *A. pannonicus,* with scores of exit holes. I had visited this tree with him on 27th June, but the weather turned out to be not in our favour, and not a single example could be found but a few subsequently emerged from pieces of bark brought home. Prof. Owen had earlier discovered traces of the beetle's recent presence on portions of other oaks or oak logs in the same part of the Park – not very far from where the late Mr. G. Shephard had taken the first Windsor specimen in 1972 (Allen, 1973) – and since then more widely and numerously. For the first record from the Forest, as opposed to the Great Park – a single individual in flight – see Godfrey, 1987.

Beating and sweeping (which we tried at Windsor) normally fail to yield this Buprestid, apart from the occasional chance individual. There are, however, exceptions, due most likely to unusually favourable weather conditions; for Mr. J. A. Parry tells me that on an evening visit to Windsor last summer he was so fortunate as to obtain it in some plenty by general sweeping in the vicinity of the aforementioned oak. No doubt some abnormally favourable combination of factors caused the insects to sit about on the herbage at a time when they would ordinarily have been in concealment.

It is worth pointing out that *all* my 1985 specimens – both captured and bred – were free from deformity of any kind, whereas at least three of those found at Hampstead by Mr. Foster were deformed. This may of course be fourtuitous, but alternatively it does seem possible that some obscure cause was operating in 1984 to increase the deformity rate. It is curious, too, that Foster's latest date for adults in the field was 14th July, whilst in captivity mine were emerging up to a fortnight later.

The average colour-difference in the sexes of *pannonicus*, though not large, is quite definite in that all the bluest examples are males, and all the decidedly green or coppery-green ones females. (In *A. viridis* L. it is far more striking – cf. Allen, 1951). There is some overlap in the middle of the colour range. As in the other species, males are smaller and narrower with the body more steadily tapering than females, the larger of which attain a length of 13 mm.

Recent finds in three new localities may be briefly mentioned. Within the last decade, two examples have been met with in different years at Kingspark Wood, Plaistow, in the north of West Sussex (information from Mr. P. J. Hodge) – of interest in connection with Stephens's old record from Cuckfield, though the two places are widely distant in the county. In June 1984, one was obtained by Mr. P. M. Hammond from a large oak tree in Richmond Park by the technique known as fogging. Though the locality is eminently suited to the species it has never before been reported therefrom, and the capture is a new record for Surrey. Finally, at Ashstead Common in the same county, workings were found in large numbers in the trunks of mature and old oaks, many of them injured by fire. This interesting discovery was made in late 1986 or early 1987 by Prof. Ian Menzies, who later confirmed the beetle's identity by digging out the remains of one from a burrow.

The current upsurge in the fortunes of this fine species, for long so rare here that it seemed almost to be dying out, is very remarkable and gratifying. It prompts the question: how can an insect that is neither small nor obscure persist unseen for a century and a half in a much-frequented locality such as Hampstead Heath, without being encountered? The fact that *A. pannonicus* is fugacious and shy, only showing itself, normally, in hot weather, may be one

part of the answer; while Foster's interesting suggestion, that during its protracted periods of scarcity or apparent absence it may be able to survive at a low density in the tree canopy, may perhaps be another. Moreover the mode of life of the early stages tends to ensure that they are seldom met with. The lack of an early Windsor Forest record, in fact right up to 1972, is truly surprising since it is barely credible that the insect was not present there in earlier days. It would seem to be by the merest chance that it succeeded in altogether eluding such energetic collectors in the area as the Griesbachs, Desvignes, and (nearer our time) Donisthorpe. And there is but a single specimen known from the still more intensively worked New Forest (Allen, 1973: 14) – unless, indeed, it has just recently recurred there too, which would be far from strange. Nor would it be astonishing were the beetle found to have revived in its old Kentish stronghold, Darenth Wood; whilst it would be interesting also to know the present state of the Sherwood Forest population.

Acknowledgement

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DOLICHARTHRIA PUNCTALIS D. & S. (LEP.: PYRALIDAE) IN PEMBROKESHIRE – on 28.viii.1987, a single specimen of this very local moth visited our m.v. light at Dale Fort Centre (SM 8205). Goater (1986) *British Pyralid Moths*, gives the distribution of this essentially coastal species as extending to Cornwall and Scilly in the west, and thus its occurrence in Pembrokeshire is not entirely unexpected. G. L. & M. A. FINCH, 14 Thorndale, Ibstock, Leicester LE6 1JT.

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