time for me to identify the source of the call. I took the riding elephant to near the call, where one bird was seen. Its large, thick, parrot-like bill, black patches on head-sides and throat and the extensive black area on its upper breast were conspicuous. The rest of its body was uniform brownish-rufous. I spent 15 minutes in the area and could see 4–6 birds on the left bank of the shallow, 50 m wide river. I obtained video footage for a few minutes. I also played back the prerecorded call (kindly given by Desmond Allen) and at least one bird responded and came nearby twice. At around 17h10, while still observing this group, another group started calling from the opposite bank of the river, c.150 m from the first group. With the help of a pair of binoculars, I could see two birds and a lot of grass movement, indicating the presence of more birds. While returning after these observations, one more group was encountered c.1 km south of the first group, on the right bank of the river at around 17h30. This group could not be seen as they stopped calling when we were close and possible rain forced us to rush for the range headquarters. These sites are marked respectively A, B and C on the map (Fig. 1). That particular day was extraordinary for grassland birds, as on a three-hour elephant ride I observed six (possibly seven) threatened and two Near Threatened birds in the area (Choudhury 2007).

On 15 November 2009, while mist-netting for the elusive Manipur Bush Quail *Perdicula manipurensis*, also in the Bhuyanpara Range area of Manas National Park but in a easterly location near Kanchanbari Forest Camp, I heard calls to the east at around 09h30 (c.26°45′N 91°06′E). There were several birds (at least three as surmised from their calls). After a short while, another group started calling from the south. These sites are marked D and E on the map (Figure 1).

On 3 April 2010, I again visited the site on the banks of the same river (formed by the Doimari and Rabang *nullahs*). To my utter surprise I found that the habitat had changed: the *Arundo donax* has been replaced by *Sachharum spontaneum* and the riverbed had become dry. This was because of a natural diversion of the river towards the east. At Kanchanbari Forest Camp there was no sign of the parrotbills as the entire grassland had been burnt as part of the park's management. There was no suitable habitat in the form of tall grass at that time in the area. However, while returning to

Bhuyanpara, I heard a call from a small patch of tall grass at 17h15 (c.26°44′N 91°06′E) (marked F on the map; Figure 1).

The sites where the parrotbills were seen and heard were dominated by *Arundo donax* grass. During January–February every year, the bulk of the grassland is burnt as part of the park's management, and the parrotbills vanish temporarily from these sites. This must be a major limiting factor for the species and I have requested that the local ranger burns the grass in patches so that areas dominated by such reeds may be left out.

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Acrobatic copulatory display in the Black-crowned Barwing *Actinodura sodangorum*

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The Black-crowned Barwing Actinodura sodangorum is a recently described species of babbler from the highlands of central Annam, Vietnam (Eames et al. 1999), and is currently listed as IUCN Vulnerable (BirdLife International 2011). On 27 April 2008 JdH, Uthai Treesucon and a local Vietnamese guide tape-lured a pair of Black-crowned Barwings at Loxo Pass, Annam, Vietnam, 15.187175°N 107.74601°E, elevation c.1,000 m, in scrubby roadside vegetation amidst a mosaic offarmland and secondary woodlots. The first response was from the presumed male (hereafter 'male'), who came into the open and replied to the taped song with his own rendition of it, a mellow whistled wididididid-dyüüüürrr-dyuuuurrr. Soon he was joined by a presumed female (hereafter 'female'), and the pair then hopped and flew about together, in and out of view, at the edges of dense low vegetation.

The taped song was only played a couple of times initially, to stimulate a response from the birds in the wild, but after their first appearance nearby the pair continued to react to the now silent 'intruder' not in an overtly aggressive way but rather with behaviours which presumably reinforced the bond between them. They moved together between small branches in the shrubbery, perching close to or up against each other, the male frequently raising his crest and

half-fanning his wings and tail (in the manner of a fantail), the female remaining sleeker, never raising her crest and less frequently opening her wings, but often leaning steeply forward over her perch, sometimes with tail raised, as if ready to drop to a lower position. At the same time, both birds briefly and very rapidly preened, allopreened and pecked lightly at each other, changing position with each other in an animated (but not agitated) fashion, the male once hopping over his mate in a leap-frog that involved landing for a split-second on her back.

In one sequence of this behaviour the pair apparently copulated, or almost copulated, in a fast, intricate movement that involved both birds swinging in a full circle around a branch. The sequence began with the female pecking at the male, who then swung head-first below the perch and came up on the other side of her in a smooth, rapid movement. Then immediately both birds swung head-first below the perch and up again, this time rather more haltingly, with the female slightly ahead of the male, both birds twisting their upperparts away from each other so that their tail-bases briefly crossed and apparently touched, possibly with cloacal contact, in the course of the downward manoeuvre. The female (her momentum



Plate 1a–d. 'Perch-swing' copulatory movement in Black-crowned Barwing *Actinodura sodangorum*: stills taken from video sequence (others too blurred to be informative). (a) Female (left) slightly precedes male in initiating forward loop. (b) Female begins upward swing just after bases of tails appeared to make contact. (c) Female finishes movement, male commencing upswing (note his right foot almost gripping hers). (d) Pair on perch after the display, male with crown and throat feathers erect, wings slightly fanned.

unchecked) continued through the loop to return immediately to the normal perch position while the male hung for a split second upside-down before also, with a scrambling effort, bringing himself upright to perchagain beside her. This sequence was caught on video and can be viewed as one of a series taken at the time and posted at ibc.lynxeds.com/species/black-crowned-barwing-actinodura-sodangorum, but JdH witnessed at least two other such 'perch-swing' copulatory movements while watching this pair. Videograbs show key points in the display sequence (Plate 1a–d).

Apparent copulatory display of this type appears to be unreported in barwings (genus *Actinodura*) and indeed among the babblers more generally. However, there is a record of a captive male Black-chinned Yuhina *Yuhina nigrimenta* completing a song by rotating forwards and downwards on his perch, wings and tail fully spread, hanging upside down, then swinging back up in a full circle (Painter 1965; also Collar & Robson 2007: 122). This suggests that 'perch-swinging' may be a commoner component of sexual display in the Timaliidae than has been documented to date.

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