

# A new species of woodcock (Aves: Scolopacidae) from the Philippines and a re-evaluation of other Asian/Papuasian woodcock

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A new species of woodcock, *Scolopax bukidnonensis* Bukidnon Woodcock, known from central and northern Luzon and from four mountains on Mindanao is described. Specimens of this new taxon obtained in the 1960s from Dalton Pass, Nueva Vizcaya Province, Luzon, were incorrectly identified as the Eurasian Woodcock *S. rusticola* and it was not until it was sighted and heard on Mt. Kitanglad, Bukidnon Province, Mindanao in February 1993, and a specimen obtained from Mt. Kitanglad in January 1995, that the species involved was recognized as distinct. Bukidnon Woodcock occurs in montane and montane mossy forests and in adjacent clearings, usually above 1,000 m, and appears to be locally common. Its display, vocalizations, habits and breeding behaviour are summarized. Since earlier records (specimens were destroyed during World War II) of the Eurasian Woodcock were of birds collected in the lowlands of Luzon, this migratory species is retained on the list of Philippine birds. However, there are no recent records of the Eurasian Woodcock in the Philippines. Other Asian/Papuasian woodcock are also reviewed, leading to confirmation of the validity of the two recognized subspecies of the Sulawesi Woodcock, *S. c. celebensis* and *S. c. heinrichi*, and to the conclusion that the two formerly recognized subspecies of *S. saturata* should be considered full species, *S. saturata* Javan Woodcock and *S. rosenbergii* New Guinea Woodcock.

## INTRODUCTION

### Summary of the genus *Scolopax*

Currently there are six recognized species of woodcock in the world (Hayman *et al.* 1986, van Gils and Wiersma 1996). Two of these are well known migratory species with broad ranges. The first of these, the American Woodcock *Scolopax minor* breeds from south-eastern Canada to central and south-eastern United States and migrates to the south-eastern United States, with a few reaching north-eastern Mexico (American Ornithologists' Union 1998). The other is the Eurasian Woodcock *Scolopax rusticola*, which breeds from the Azores in the Atlantic Ocean across Eurasia to Japan and migrates to southern Europe, north Africa to South-East Asia and southern China (Sibley and Monroe 1990). The remaining four are poorly known non-migratory species with restricted ranges. One of these, the Amami Woodcock *S. mira* is found in lowland subtropical evergreen broadleaf forest only on four islands in the central Ryukyu or Nansei Shoto Islands, Japan (Brazil and Ikenaga 1987, BirdLife International 2001). The other three occupy montane moist or mossy forest usually above 1,000 m. The Sulawesi Woodcock *S. celebensis* is restricted to the mountains of north, north-central and central Sulawesi (White and Bruce 1986, Coates and Bishop 1997). The Rufous Woodcock *S. saturata* has two highly disjunct races, *S. s. saturata* recorded from two mountains in Sumatra and three mountains in Java (MacKinnon and Phillipps 1993), and *S. s. rosenbergii* confined to the highlands of New Guinea (Beehler *et al.* 1986). Finally, the Moluccan Woodcock *S. rochussenii* is known only from eight specimens from two relatively small islands in the

Moluccas, seven from Obi and one from Bacan (Coates and Bishop 1997, BirdLife International 2001).

### Woodcock in the Philippines

Dickinson *et al.* (1991) summarized the published Philippine records of the Eurasian Woodcock, which at the time they believed was the only woodcock known from the Philippines. McGregor and Manuel (1936) reported two specimens, both obtained in the lowlands of Luzon, the first on 4 December 1929 from Santo Tomas, Pampanga Province, and the other on 18 September 1931 from Fort William McKinley [now Ft Bonifacio, Makati (Kennedy *et al.* 2000)], Rizal Province. These presumed Eurasian Woodcock specimens were deposited in the Bureau of Science collections [later to become the National Museum of the Philippines (NMP)], but were destroyed when the National Museum was bombed during World War II. McClure and Leelavit (1972) provided banding records from Dalton Pass, Nueva Vizcaya Province, Luzon (Figure 1), of four other woodcock captured and released, two in 1966, one in 1967, and one in 1969. DuPont (1971) simply noted that the Eurasian Woodcock "winters on Luzon from Asia" yet the illustration of the species in Plate 23 of his book was based on a specimen (DMNH 3453) from Dalton Pass obtained in August 1969; this specimen was not a Eurasian Woodcock. Since the previous specimens of "Eurasian Woodcock" have been destroyed, no confirmatory evidence exists regarding which species the earlier woodcock records represent.

On 18 February 1993, Harrap and Fisher, along with other members of a Birdquest tour, flushed a woodcock from a trail in a relict patch of forest at c. 1,600 m on Mt. Kitanglad (Figure 1) in Sitio Kinubalan, Barangay

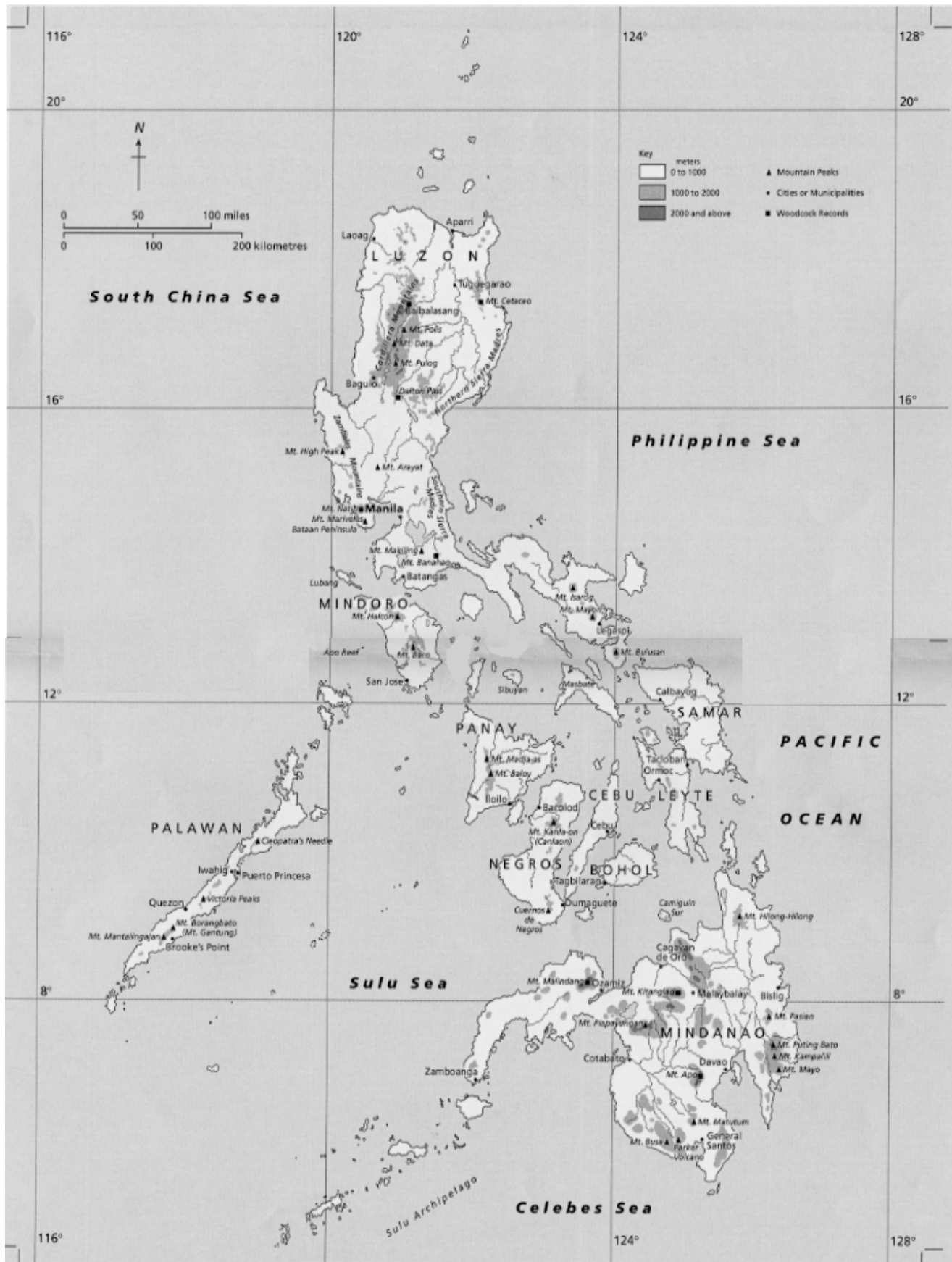


Figure 1. Map of the Philippines showing the distribution of localities mentioned in the text, and the distribution of land above 1,000 m (shaded grey) and above 2,000 m (shaded dark grey).

Dalwangan, Municipality of Malaybalay, Bukidnon Province in north-central Mindanao (Harrap and Fisher 1994). On 19 and 20 February 1993, the party both sighted and heard the woodcock during the dawn twilight hours performing roding (courtship) behaviour and concluded that it must be a resident population but was not the Eurasian Woodcock. During subsequent trips to the area in 1993 and 1994, Fisher, Harrap, Ben King, Peter Morris and others made additional sightings and recorded the unique calls of the birds.

As part of the National Museum of the Philippines/Cincinnati Museum of Natural History (NMP/CMNH) Philippine Biodiversity Inventory, Fisher and Kennedy returned to Kinubalan and observed the woodcocks at dawn and dusk during the period 18 to 22 January 1995. On the morning of 22 January at 05h30, shortly before the birds normally stop roding and calling, they captured an individual in a mist-net set over a ploughed field between patches of forest. The bird was darker and more richly coloured than the Eurasian Woodcock and very similar to the Delaware Museum specimen from Dalton Pass that they had examined prior to visiting the site.

Since the capture of the 1995 specimen, three more specimens have been obtained from Mt. Kitanglad, one in 1996 by researchers from the Nordic Agency for Development and Ecology (NORDECO)/Department of Environment and Natural Resources field team (but not yet housed in a museum), and two in 1999 by Dale H. Clayton and Sarah Al-Tamimi (specimens in Field Museum of Natural History). In addition, one specimen was obtained on Mt. Kimangkil northeast of Mt. Kitanglad on Mindanao in 2000 by Franelyn J. Saguindang (specimen in Natural Science Museum, Mindanao State University-Iligan Institute of Technology), one on Mt. Malindang, Mindanao in 2000 by the CARE (Cooperative for American Relief Everywhere) Philippine-AWESOME (Agencies Working for Ecological Sustainability of Mt. Malindang's Environs) Project biodiversity survey team, and we located one older specimen of this woodcock (NMP 8175 identified on the label as *Scolopax rusticola*) collected on 3 June 1985, from Dalton Pass, Luzon. Comparison of the two specimens from Luzon and six from Mindanao with specimens of all other woodcocks confirms that the resident populations of woodcock in the Philippines represent a new species, which we name

***Scolopax bukidnonensis*, sp. nov.**  
**Bukidnon Woodcock**

**Holotype**

Skin with detached spread right wing (CMNH 37639 to be deposited in NMP; Figure 2), adult male with left testis measuring 19 x 12 mm. It was mist-netted in a cleared field adjacent to montane forest (Figure 3) on 22 January 1995, at an elevation of 1,530 m, c. 8° 08.58'N 124°58.88'E, 6.5 km east, 2.9 km north of the peak (2,938 m) of Mt. Kitanglad in the Sawaga (alternate name Lalawan) River drainage, Sitio Kinubalan, Barangay Dalwangan, Municipality of Malaybalay, Bukidnon Province, Mindanao, Philippines. It was collected by the NMP/CMNH Philippine Biodiversity Inventory Team, prepared by Renato E.

Fernandez and Jeffery C. Brown and given the field number Robert S. Kennedy 3532. The fluid-preserved body and alcohol-preserved tissue remain CMNH 37639.

**DESCRIPTION OF HOLOTYPE**

Supraloral, malar and chin Pale Pinkish Buff 121D (colour names in capitals and numbers from Smithe 1975, 1981), all but chin feathers closest to base of bill with Dusky Brown 19 centres or shafts. Lores and stripe below eye on cheek Dusky Brown. Forehead, forecrown and stripe on nape light Olive-Brown 28 with feather tips Dusky Brown. Beginning on crown and extending down hindneck, four broad Dusky Brown bars, delineated by narrow Cinnamon-Rufous 40 bars. Mantle, scapulars and lesser coverts Dusky Brown, mottled with dark Pale Pinkish Buff on mantle and dark Cinnamon-Rufous on scapulars and lesser coverts; scapulars further marked by Pale Pinkish Buff shafts, outer webs light Olive-Brown edged with an inner line of Dusky Brown and outer line of Pale Pinkish Buff, the combined effect of the shafts and outer webs forming two light-coloured parallel lines down back. Lower back and rump Olive-Brown, feathers tipped or edged with Pale Pinkish Buff. Uppertail-coverts mottled or diffusely barred with Dusky Brown, Pale Pinkish Buff and light and dark Cinnamon-Rufous. Tail Dusky Brown; above notched with Cinnamon-Rufous on webs, mottled with Brownish Olive 29 that forms two or three broad bars at end of tail; below, notches are Pale Pinkish Buff, some subterminal barring, and tipped (about last 8 to 10 mm of tail) with silvery grey. Upperwing-coverts and flight feathers pale Dusky Brown with dark Cinnamon-Rufous notches on outer webs, paler notches on inner webs; median coverts variably barred with Pale Pinkish Buff and Olive-Brown. Underwing-coverts and flight feathers Olive-Brown, lesser wing-coverts barred Cinnamon 123A, median coverts barred with Cinnamon and Drab-Gray 119D, greater coverts barred with Drab-Gray, flight feathers notched with Cinnamon; notches are darker on outer webs. Throat and breast Cinnamon finely barred with Dusky Brown. Broad vertical Dusky Brown bar extends from side of neck midway across breast, bar bordered by Cinnamon-Rufous. Belly and undertail-coverts dark Pale Pinkish Buff barred with Dusky Brown, barring fainter and more diffuse in centre of belly. Kennedy described the soft-parts colours of the living holotype as "Bill pearly grayish horn flesh with light tan tip; eye dark brown; skin of eye-ring and patch behind eye blackish/grayish brown; legs, feet and nails pearly gray; gape and tongue pink." Wing-point formula:  $9 \geq 8 > 10 \geq 7$ . See Plate 1 and Figure 2.

**Measurements of the holotype**

Measurements (in mm) taken from dried skin: Wing chord 170, tail 65.6, tarsus length 40.3, culmen length from base of skull 81.0, width of upper mandible at widest part of tip 3.8, bill width at base at feather line 9.0, height of upper mandible at feather line 8.9, length of longest toe including nail 41.7, total length (from fresh specimen) 310, weight 216 g.



Figure 2. The holotype of *Scolopax bukidnonensis* shortly after it was captured on Mt. Kitanglad. Photo by R. S. Kennedy.



Figure 3. The type locality of *Scolopax bukidnonensis* on Mt. Kitanglad on 22 January 1995, the day the holotype was captured. Photo by R. S. Kennedy.



### Paratypes

FMNH 392226 male, FMNH 392227 female, collected by Dale H. Clayton and Sarah Al-Tamimi on 27 April 1999 at elevations of 1,457 m and 1,463 m respectively, on Mt. Kitanglad, 8°11'20"N 124°55'20"E, 10.7 km south, 2.9 km west of Sumilao Municipality center, Barangay Lupiagan, Municipality of Sumilao, Bukidnon Province, Mindanao.

### Paratypic variation

The other adult male specimen is virtually identical to the holotype in all plumage characteristics and in wing formula. The female specimen varies in plumage from the holotype by having less contrasting and duller Cinnamon-Rufous edges and/or notches in the feathers, by the bands on the hind-crown and nape, and in the feathers of the mantle, wing-coverts and flight feathers, giving the upperparts an overall duller appearance. The underparts of this specimen are likewise duller, with slightly narrower and duller Dusky Brown barring from throat to undertail-coverts, and generally paler Cinnamon throughout the underparts. In addition, the Dusky Brown loreal stripes are narrower. Wing formula equals that of the holotype.

### Other specimens

DMNH 3453 female, collected by Nicandro Icarangal, Sr in August 1969, elevation 1,070 m, at Dalton Pass, Nueva Vizcaya Province, Luzon. The Luzon female differs from the holotype by having darker supralorals and forehead and lighter forecrown showing less distinction between the two. Cinnamon-Rufous areas on the upperparts are generally brighter. Secondaries are paler Dusky Brown with less contrast and with Cinnamon-Rufous notches. Uppertail-coverts are brighter, tail is more distinctly barred and tipped with more reddish Brownish Olive. Lower throat and breast brighter Cinnamon. Belly is lighter Pale Pinkish Buff. Barring on underparts from lower throat to undertail-coverts paler, with bars from throat to belly narrower, both similar to the Mindanao female. Undertail-coverts are richer reddish Pale Pinkish Buff. Wing-point formula differs from the holotype as follows:  $9 = 8 > 7 > 10$ . Combining measurement data of the Luzon specimen to that of the Mindanao female and comparing males to females, we found that differences between sexes were not significant in any measurement taken (*t*-test, Wilcoxon test,  $P < 0.05$ ). A second Luzon specimen (NMP 8175, sex unknown), collected by Manuel Celestino on 3 June 1965, elevation 1,070 m, at Dalton Pass, Nueva Vizcaya Province, was in a foxed, mouldy and damaged condition. Other specimens examined by one of us, but not available during the description of this species include: one female collected by the Nordic Agency for Development and Ecology/Department of Environment and Natural Resources field team on 4 September 1996, elevation 2,750 m, on Mt. Dulang-dulang in the Mt. Kitanglad Range, Sitio Bulogan, Barangay Sungko, Municipality of Lantapan, Bukidnon Province, Mindanao; one male collected by Blas R. Tabaranza, Jr and Renato E. Fernandez of the CARE Philippines-AWESOME biodiversity team on 2 May 2000, elevation between 1,750 and 1,850 m, 8°14'23"N 123°37'18"E, 1.8 km west, 2.8 km north of the peak of Mt. Malindang, Sitio Patagan, Barangay Lalud, Municipality of Don

Victoriano, Misamis Occidental Province, Mindanao; and one male (Natural Science Museum, Mindanao State University-Iligan Institute of Technology, field number 0026) collected by Franelyn J. Saguindang on 23 May 2000, elevation 1,200 m, on Mt. Kimangkil, Sitio Nasandigan, Barangay Hagpa, Municipality of Impasug-ong, Bukidnon Province, Mindanao. (Notes: the Mt. Dulang-dulang and Mt. Malindang specimens will eventually be deposited in the NMP; the location of Mt. Kimangkil is not marked in Fig. 1)

### Diagnosis

**Plumage** — *Scolopax bukidnonensis* differs from the most similar species, *S. celebensis*, in having the notches in the flight feathers darker Cinnamon-Rufous (almost Pale Pinkish Buff in *S. celebensis*); by the less extensive Pale Pinkish Buff mottling on the wing-coverts; by the throat and breast Cinnamon and belly dark Pale Pinkish Buff (throat, breast and belly are bright cinnamon Clay Color 123B in *S. celebensis*), with broader barring on the lower throat, breast and flanks, and having barring on the centre of belly and undertail-coverts.

From both taxa of the next most similar species, *S. saturata*, *S. bukidnonensis* differs in having the two Pale Pinkish Buff parallel lines down the back better defined, and in having prominent Cinnamon-Rufous notches in the primaries. The Dusky Brown lores, stripe below the eye and vertical bar on the side of the breast are strongly defined in *S. bukidnonensis* and, although present in both populations of *S. saturata*, are usually narrower and less defined. *S. bukidnonensis* lacks the white malar spots and supraloral spots that are well developed and conspicuous in *S. s. rosenbergii*, but less so in *S. s. saturata*. The underparts of *S. bukidnonensis* are much lighter, more uniformly coloured, and barred with Dusky Brown, while *S. s. rosenbergii* has a white chin, Dusky Brown throat, breast and belly with narrow Cinnamon bars on throat and breast, white barring and feathers tipped white on lower breast and belly, and some narrow Drab 27 bars on the flanks and mixed in with the white on the belly; *S. s. saturata* has a Pale Horn Color 92 chin, throat, breast and belly finely barred and/or mottled with Dusky Brown and Drab, and a white band between the breast and belly. The undertail-coverts of *S. bukidnonensis* are paler Cinnamon and more heavily barred than in both populations of *S. saturata*.

*Scolopax bukidnonensis* differs from the wide-ranging and variable *S. rusticola* and the restricted *S. mira* in having darker and narrowly patterned upperparts (*S. rusticola* and *S. mira* have Dusky Brown confined to the lores, stripe below eye, bars on crown and hindneck, and to the centres of a few feathers on the mantle and scapulars). The Pale Pinkish Buff spots associated with the Dusky Brown centres that form two parallel lines running down the scapulars in *S. bukidnonensis* contrast strongly with the rest of the upperparts, less so in *S. rusticola* and *S. mira*. The rest of the upperparts in *S. rusticola* and *S. mira* range more or less from pale Cinnamon-Rufous to Drab and are finely barred with Dusky Brown to Olive-Brown. The underparts of *S. bukidnonensis* are generally more uniform, and darker and more heavily barred than in *S. rusticola* and *S. mira*. Both the latter have a Pale Horn Color chin and upper throat and pale Buff 124 breast and belly finely barred with pale Dusky Brown to Olive-Brown, and both have

**Table 1.** Measurements ( $\bar{x} \pm \text{SD}$ , with [ $n$ , range] in parentheses) of *Scolopax bukidnonensis* and other woodcock species

Measurement (mm)	<i>Scolopax bukidnonensis</i>	<i>Scolopax celebensis</i>	<i>Scolopax (s.) saturata</i>	<i>Scolopax (s.) rosenbergii</i>	<i>Scolopax mira</i>	<i>Scolopax rusticola</i>	<i>Scolopax rochussenii</i>
Wing chord	171.3 $\pm$ 9.6 (6, 162 - 188)	189.2 $\pm$ 4.1 * (5, 184 - 193)	145.6 $\pm$ 4.1 * (14, 136 - 151)	151.9 $\pm$ 3.9 * ** (29, 142 - 160)	188.4 $\pm$ 4.6 * (9, 182 - 195)	186.8 $\pm$ 5.1 * (29, 177 - 197)	195.2 $\pm$ 6.2 * (4, 190 - 204)
Tail	63.2 $\pm$ 3.0 (5, 59.8 - 66.8)	68.4 $\pm$ 2.0 (5, 65.6 - 70.3)	51.2 $\pm$ 3.3 * (13, 45.7 - 58.4)	58.4 $\pm$ 2.5 * ** (27, 53.5 - 63.2)	69.7 $\pm$ 5.0 (9, 62.6 - 78.8)	76.2 $\pm$ 4.6 * (28, 69.1 - 83.3)	70.8 $\pm$ 5.2 (4, 63.4 - 74.8)
Tarsus	40.5 $\pm$ 1.4 (6, 38.1 - 41.9)	44.2 $\pm$ 1.1 * (4, 43.3 - 45.8)	35.0 $\pm$ 0.9 * (14, 34.0 - 36.8)	36.9 $\pm$ 1.4 * ** (29, 33.8 - 39.6)	45.5 $\pm$ 1.4 * (9, 42.2 - 46.6)	37.7 $\pm$ 1.3 * (28, 35.8 - 41.7)	48.9 $\pm$ 0.2 * (2, 48.8 - 49.1)
Culmen chord	82.7 $\pm$ 6.4 (6, 72.3 - 91.4)	88.3 $\pm$ 6.0 (5, 81.3 - 93.1)	75.8 $\pm$ 4.6 (13, 69.9 - 83.1)	84.9 $\pm$ 5.7 * ** (29, 73.4 - 93.4)	87.1 $\pm$ 4.6 (9, 80.3 - 95.1)	80.0 $\pm$ 2.8 (29, 74.7 - 84.8)	100.8 $\pm$ 3.9 * (2, 98.0 - 103.5)
Bill tip width at widest part	4.1 $\pm$ 0.2 (5, 3.8 - 4.4)	4.3 $\pm$ 0.2 (5, 4.1 - 4.6)	3.3 $\pm$ 0.1 (11, 3.1 - 3.6)	3.4 $\pm$ 0.1 (29, 3.2 - 3.8)	4.3 $\pm$ 0.1 (8, 4.2 - 4.5)	3.7 $\pm$ 0.2 (14, 3.1 - 4.0)	4.8 $\pm$ 0.0 (2, 4.7 - 4.8)
Bill width at feather line	8.9 $\pm$ 0.7 (6, 8.1 - 9.8)	9.6 $\pm$ 0.6 (5, 8.8 - 10.4)	8.0 $\pm$ 0.3 (12, 7.3 - 8.5)	8.1 $\pm$ 0.7 (29, 6.7 - 9.3)	9.6 $\pm$ 0.8 (8, 7.9 - 10.5)	7.9 $\pm$ 0.7 (14, 7.0 - 9.4)	11.5 $\pm$ 2.0 (2, 10.1 - 12.9)
Bill height at feather line	8.2 $\pm$ 0.6 (5, 7.6 - 8.9)	8.4 $\pm$ 0.5 (5, 7.9 - 9.1)	6.9 $\pm$ 0.4 (12, 6.0 - 7.5)	6.7 $\pm$ 0.5 (29, 5.5 - 7.8)	8.3 $\pm$ 0.5 (8, 7.6 - 9.0)	6.9 $\pm$ 0.5 (14, 6.1 - 7.8)	8.7 $\pm$ 1.1 (2, 7.9 - 9.5)
Longest toe length	43.0 $\pm$ 1.6 (5, 41.1 - 45.1)	42.2 $\pm$ 2.3 (3, 41.1 - 45.7)	41.0 $\pm$ 2.3 (13, 37.8 - 44.9)	39.1 $\pm$ 2.4 (25, 35.1 - 43.9)	46.3 $\pm$ 2.2 * (8, 43.8 - 50.4)	42.3 $\pm$ 2.4 (29, 37.5 - 48.4)	48.7 $\pm$ 1.6 * (2, 47.6 - 49.8)
Wing-point	9 $\geq$ 8 > 10 $\geq$ 7 (2) 9 $\geq$ 8 $\geq$ 10 > 7 (1) 9 $\geq$ 8 > 7 > 10 (1)	9 = 8 > 10 > 7 (2) 9 = 8 > 7 > 10 (2) 9 > 8 > 7 > 10 (1) 9 $\geq$ 8 > 7 > 10 (1)	9 > 8 > 10 > 7 (3) 9 > 8 > 7 > 10 (2) 9 = 8 > 10 > 7 (2) 9 > 8 = 10 > 7 (1) 9 > 8 > 10 $\geq$ 7 (1) 8 > 9 > 7 > 10 (1) 8 $\geq$ 9 $\geq$ 7 > 10 (1)	9 > 8 > 7 > 10 (7) 9 > 8 > 10 > 7 (2) 9 $\geq$ 8 > 10 > 7 (2) 9 = 8 > 10 > 7 (2) 9 > 8 = 10 > 7 (2) 9 > 8 > 10 $\geq$ 7 (1) 9 = 8 = 10 > 7 (2) 8 > 9 > 10 > 7 (2) 9 > 8 > 10 $\geq$ 7 (1) 9 = 8 > 7 > 10 (1) 9 > 8 > 7 $\geq$ 10 (1) 8 > 9 > 7 > 10 (1) 8 $\geq$ 9 > 7 > 10 (1) 8 > 7 = 9 > 10 (1)	9 > 10 > 8 > 7 (2) 10 > 9 > 8 > 7 (2) 10 = 9 > 8 > 7 (2) 10 $\geq$ 9 > 8 > 7 (1)	10 > 9 > 8 > 7 (10)	9 > 8 > 10 > 7 (2)
Weight (g)	238.3 $\pm$ 43.9 (4, 193 - 310)	No data	No data	No data	No data	No data	No data
Wing-point difference	2.2 $\pm$ 0.8 (5, 1.3 - 3.5)	5.2 $\pm$ 1.5 (2, 4.1 - 6.2)	3.9 $\pm$ 1.3 (9, 1.8 - 5.1)	5.1 $\pm$ 0.1 (2, 5.0 - 5.2)	6.9 $\pm$ 0.8 * (2, 6.4 - 7.5)	15.5 $\pm$ 2.4 * (9, 12.2 - 19.4)	No data
Total length	314.8 $\pm$ 16.6 (4, 301 - 343)	No data	No data	No data	No data	335.7 (5, 299 - 354)	No data

\* Differs significantly from *Scolopax bukidnonensis* (pairwise differences between species at 95% simultaneous confidence intervals for specified linear combinations, by the Tukey method).

\*\* Pairwise differences between *S. (s.) saturata* and *S. (s.) rosenbergii* at 95% simultaneous confidence intervals.

darker throats and upper breasts, which may form a band; in *S. rusticola*, the band is variable, ranging from Cinnamon to pale Dusky Brown, while in *S. mira*, it is typically Dusky Brown and very broad.

**Wing-point formula** — The wing-point formulae of woodcock fall into two general categories (Table 1): those with pointed wings (*S. rusticola* and *S. mira*) having wing-point formula P10>P9>P8>P7; and those with rounded wings (the remaining species) having P8 or P9 the longest. The wing-point formula for *S. bukidnonensis* is most similar to that of *S. celebensis* in that P9 is the longest, yet the formula for *S. celebensis* was distinct in three of the four specimens for which it was determined. Although *S. bukidnonensis* shares rounded wings with both populations of *S. saturata*, the latter is highly variable with P9 the most frequent longest feather followed by P8. Wing-point formula for *S. rochussenii* P9>P8>P10>P7 follows the general pattern for the majority of *S. bukidnonensis*.

**Mensural differences** — *Scolopax bukidnonensis* differs significantly (pairwise differences between species and subspecies at 95% simultaneous confidence intervals for specified linear combinations, by the Tukey method) in wing chord and tarsus length from all species and subspecies (Table 1), in tail length from *S. s. saturata* and *S. rusticola*, in culmen chord from *S. rochussenii*, in length of longest toe from *S. mira* and *S. rochussenii*, and in wing-point difference (distance between longest and shortest of primaries 7 to 10) from *S. mira* and *S. rusticola*. For each variable measured, the mean of at least one species/subspecies differs significantly (ANOVA,  $P < 0.01$ ) from the mean of at least one other species or subspecies (Table 1), whether or not the sexes are pooled or compared separately.

### Etymology

We are pleased to name this remarkable new species after the collective name for all of the local tribes of people inhabiting the Mt. Kitanglad Range, and for whom the Province of Bukidnon, Mindanao is named.

The Visayan word *bukid* means “mountain” and the word *bukidnon* means “of the mountain.” The English name Bukidnon Woodcock thus means “woodcock of the mountains” and in the broad sense is an accurate description of the habitat of this species, i.e. montane forests and clearings usually above 1,000 m, throughout its known range on the Philippine islands of Luzon and Mindanao.

## DISTRIBUTION AND HABITAT

In addition to the specimen records of the Bukidnon Woodcock from Mt. Kitanglad, Mt. Malindang and Mt. Kimangkil on Mindanao and Dalton Pass in Nueva Vizcaya Province, Luzon, there are tape recordings, and sight and auditory records from these and other localities on these islands (Figure 1).

*Mindanao* — On Mt. Apo, Kennedy obtained tape recordings of the call of the Bukidnon Woodcock at 05h12 on 25 January 1995 and again at 18h02 and 18h09 on 26 January 1995 at the Mt. Apo Geothermal Site, in Barangay Ilomavis, Municipality of Kidapawan, North Cotabato Province, Mindanao, at 2,200 m in montane mossy forest. The original tape-recordings are deposited in the Cornell Library of Natural Sounds.

*Luzon* — On Luzon there have been several sightings of what was probably this species. On Mt. Cetaceo in Cagayan Province, at about 17°42'N 122°02'E, Danielsen *et al.* (1994) reported sighting a woodcock on three occasions in montane mossy forest between 1,400 and 1,650 m in May 1992.

On Mt. Banahao, Barangay Lalo, Municipality of Tayabas, Quezon Province Diesmos sighted or heard the woodcock on two separate occasions. One bird was flushed from a row of dense undergrowth surrounding a natural clearing (landslide) in upper montane forest at 1,700 m near the summit in June 1996 at about 10h00. In addition, Diesmos heard one or more birds call in flight five times between 05h00 and 06h00 at Pinageneralan, Mt. Banahao from 30 April to 5 May 2000 at 1,400 m in upper montane forest. He described the call as follows: “The call was in two parts: the first part sounded like a high-pitched trill *pratatatatat*. . ., which is similar to the call of the Colasisi *Loriculus philippensis* or Guaiabero *Bolbopsittacus lunulatus*; this was followed immediately by a snort-like *ngork-ngork-ngork*. . .”

On Mt. Natib, Sitio Banati, Municipality of Orani in Subic-Bataan Natural Park, 15.5 km west of Municipality of Balanga, Bataan Province, 14°43.12'N 120°23.8'E, Diesmos, as part of the NORDECO-DENR field team, sighted woodcocks three times, twice in the morning and once in the afternoon, in May 1996 at about 1,000 m in a 2 ha clearing in lower montane forest.

In April 2001 in the Cordillera Mountains in Barangay Balbalasang, Municipality of Balbalan, Kalinga Province, in an area locally called Am-licao, 17°26'30"N 121°04'15"E, Dan Davison, Blas Tabaranza, Renato Fernandez and Diesmos heard woodcock on several occasions at dusk (17h30 to 18h00) and pre-dawn (04h00 to 05h00) at 1,900 m. Davison and Fernandez also flushed what they believed was a

woodcock from a small clearing on a ridge at about 1,900 m at 22h00.

Despite these Luzon records, Fisher, Harrap, Kennedy, Ben King and many others have birded montane mossy forests along and off the road on Mt. Polis above Banaue, Mountain Province, Luzon, from pre-dawn through dark on numerous occasions from January to April over the past 20 years without seeing or hearing the Bukidnon Woodcock.

*Other islands*:—Although the possibility exists that the Bukidnon Woodcock occurs on other Philippine mountainous islands with montane mossy forest above 1,000 m, none has been encountered thus far. During a biodiversity survey of Mt. Kanla-on (Canlaon) on Negros in 1998, Kennedy spent dusk to dark on 23 and 24 February and pre-dawn to dawn on 25 February at 1,900 m in montane mossy forest at an old volcanic crater, Harding sang Balo, listening for the woodcock without success.

In summary, the Bukidnon Woodcock appears to be widespread in central and northern Luzon and on Mindanao in montane and montane mossy forest, with or without clearings, from as low as 900 m (Fisher sighting, 24 June 2000 on Mt. Kitanglad at Kalenganan, San Vicente, Baungon) to near mountain summits at 2,750 m.

## HABITS

### Daily Rhythm and Roding Behaviour

The Bukidnon Woodcock has occasionally been flushed in or near forest patches during the day; indeed, the first sighting on Mt. Kitanglad was of a bird flushed (Harrap and Fisher 1994). Most observations are of birds in aerial display or roding flights similar to those performed by Eurasian Woodcock. At dusk, woodcock have been seen emerging from small relict forest patches, flying rapidly and giving a “rattle” call (see below), but they have also been flushed at dusk from cleared areas overgrown with a dense cover of bracken *Pteridium*.

The Bukidnon Woodcock undertakes roding flights both at dawn and at dusk. It is remarkably regular in the time of its appearance, particularly at dusk, when it starts its roding flights and begins calling when the light is such that humans can see objects, but can barely discern colours. The authors have, between them, seen or heard the woodcock more than 100 times, Fisher alone having seen or heard them on 70 occasions from 1993 to 2001, mostly at the Philippine Eagle Eco-lodge at Dalwangan on Mt. Kitanglad between 1,400 and 1,650 m. In general, roding lasts about 30 minutes in the morning but may last up to 1.5 hours, particularly on clear bright nights. In the evening roding is generally shorter, usually about 10 to 20 minutes, but has lasted as long as 30 minutes. The Bukidnon Woodcock appears less active during rainy conditions. The following are a few examples of roding times. From 19 to 22 January 1995 on Mt. Kitanglad, Fisher and Kennedy noted the woodcock starting dawn calling and roding as early as 04h48 and ending by 05h46. The holotype was captured on 22 January at 05h30 as it was calling and roding. At dusk on 19, 20 and 21 January, woodcock started calling

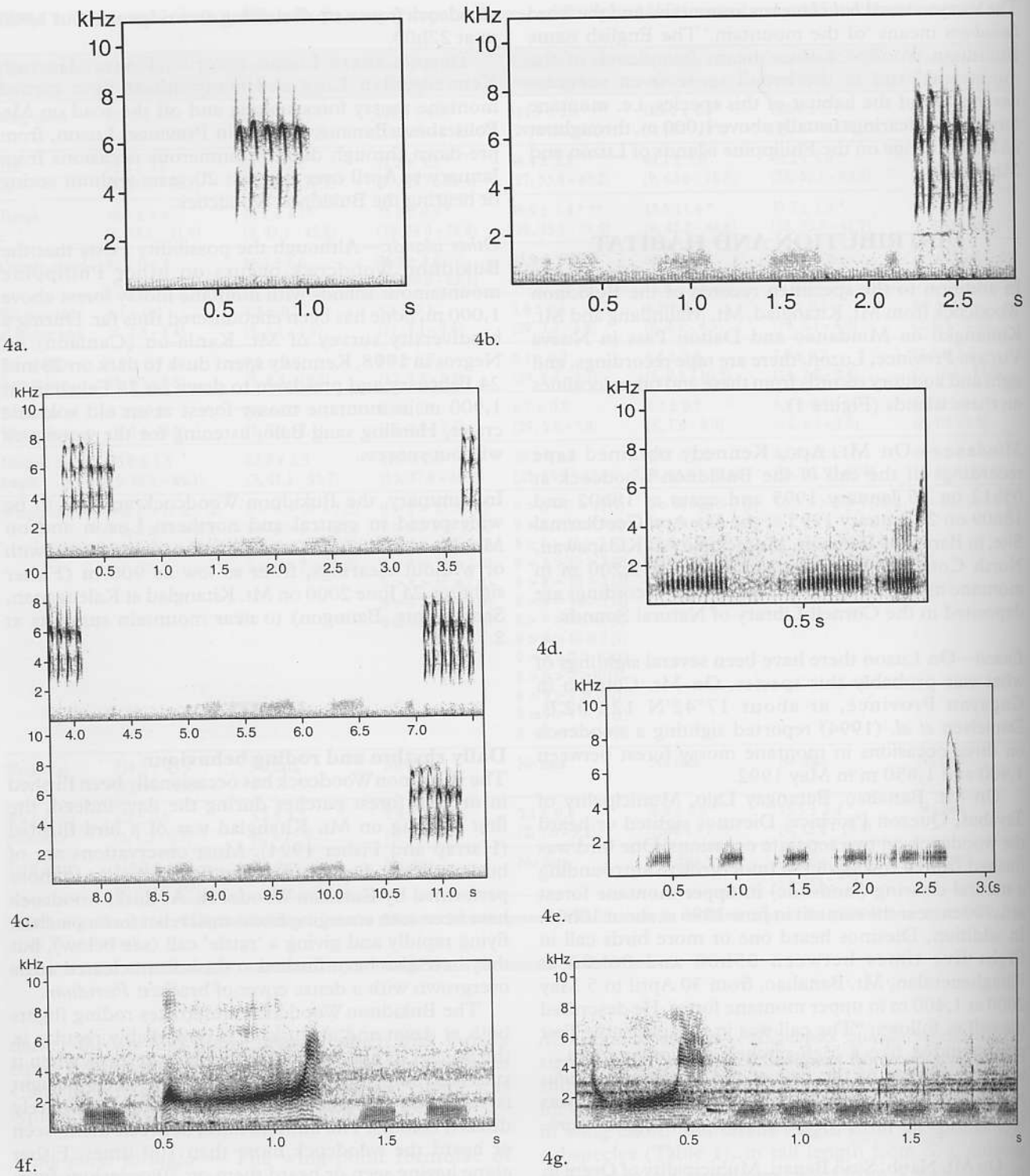


Figure 4.

- 4a. **Sonagram 1** - *Scolopax bukidnonensis*: Roding over forest, Mt. Kitanglad, Mindanao, *c.* 1250 m, February 2000. Detail of rattle phrase. Recorded by S. Harrap.
- 4b. **Sonagram 2** - *Scolopax bukidnonensis*: Roding over forest, Mt. Kitanglad, Mindanao, *c.* 1250 m, February 2001. Grunt and rattle phrases. Recorded by S. Harrap.
- 4c. **Sonagram 3** - *Scolopax bukidnonensis*: Roding over forest, Mt. Kitanglad, Mindanao, *c.* 1250 m, February 2001. Extended sequence of grunt and rattle phrases. Recorded by S. Harrap.
- 4d. **Sonagram 4** - *Scolopax rusticola*: The snore phrase showing the banded structure. From Roché (1990).
- 4e. **Sonagram 5** - *Scolopax rusticola*: Snore and sneeze phrases together. From Kettle and Ranft (1992).
- 4f. **Sonagram 6** - *Scolopax saturata rosenbergii*: 21 or 22 September 1974, Wau, Morobe District, Papua New Guinea. The nasal whooshing *chuuwi* phrase showing the structure as in an inverted comma. Recorded by T. Pratt (Cornell Library of Natural Sounds).
- 4g. **Sonagram 7** - *Scolopax saturata rosenbergii*: Roding over forest, Gunung Idong, 2,100 m, Mokwam, Irian Jaya, 8 October 1995). Whooshing and grunt phrases combined: *chuuwi...quorr-quorr-quorr-quorr-quorr...* Recorded by D. Gibbs (British Library, National Sound Archive).



at 18h00, 18h01 and 18h01 respectively, with calling ending on the 19th at 18h15. Harrap on Mt. Kitanglad on 18 February 2001 noted roding at 05h25 and 05h36 and then at 18h10, 18h15 and 18h25. In relation to other crepuscular species, at dusk the woodcocks typically do not start roding until after Great Eared Nightjars *Eurostopodus macrotis* and Philippine Nightjars *Caprimulgus manillensis* have begun to call, but a little before Philippine Frogmouths *Batrachostomus septimus* give their dusk calls.

It may be assumed that there are seasonal variations in the intensity of the roding displays, and there certainly seem to be variations from year to year. Fisher has observed roding at the Eagle Camp on Mt. Kitanglad from 15 December to 24 June during his visits there. Diesmos and Manamtam sighted or heard them roding from 2 to 8 September 1996 at elevations from 2,000 to 2,760 m on Mt. Dulang-dulang in the Mt. Kitanglad Range. Generally the intensity of roding has been about the same during the periods observed, yet there have been times, particularly in February 1994 (Fisher and Harrap), February 1998 (P. Morris, Fisher and Kennedy) and February 1999 (Fisher and Harrap) when the activity was reduced or almost lacking.

Roding flight generally takes place at about 10 to 20 m above ground level, and the birds take a roughly oval or circular route (hence passing a stationary observer every 3-5 minutes) over both relict forest patches and open areas with cultivation or bracken *Pteridium*. This route probably encompasses an individual's range, which may be 400 to 600 m in diameter or the length of the oval. On one occasion, Fisher placed himself between two roding circuits and, although the birds never met, their boundaries touched but did not overlap.

Typically roding birds use distinctive fluttery wingbeats, and may dangle their legs below the body. Fisher and P. Morris have seen two individuals following each other closely in roding flight, with one or both birds noted as calling. Birds are easily tracked in flight due to their loud and distinctive vocalizations.

### Other Breeding Information

While working for NORDECO, R. Fernandez located a presumed nest of the Bukidnon Woodcock, containing two nestlings (see cover), on about 5 September 1996 on the Anlagan Plaza, a plateau at 2,600 m near the summit of Mt. Dulang-dulang in the Mt. Kitanglad Range on Mindanao. The plateau is generally open with a few scattered montane trees and many standing pools of water. The ground is carpeted with thick layers of moss, interspersed with ferns and soft low grasses. The putative nest, where Fernandez caught an adult and nestlings (which were photographed and then released), was a slight depression in the moss with a layer of dead and live grasses and ferns, not unlike the nest of *S. saturata* (van Gils and Wiersma 1996).

Gonad data were taken from four specimens, including the holotype. The males collected on 22 January and 27 April had enlarged gonads measuring 19 x 12 mm and 20 x 5 mm respectively. The females obtained on 27 April and 4 September also had enlarged ovaries, measuring 18 x 8 mm (with the largest ovum measuring 5 x 5 mm) and 17 x 9 mm respectively.

## VOCALIZATIONS

Bukidnon Woodcock *S. bukidnonensis* gives a loud and distinctive vocalization during roding display (Harrap and Fisher 1994, Kennedy *et al.* 2000). Other vocalizations may be given, but none has been recorded. The roding-call of the Bukidnon Woodcock consists of a hard, metallic, rattled or staccato phrase, comprising 4-6 motifs, each motif given at intervals of 0.05 sec (Figure 4a, also figure in Harrap and Fisher 1994). This rattle phrase may be written as *ti'ti'ti'ti'ti* or as Kennedy *et al.* (2000) described it *pip'pip'pip'pip'pip*. Each motif (Figure 4a) has a distinctive structure, being comprised of a distinct pulse (*c.* 3 kHz rising to *c.* 5 kHz) connecting with a concurrent higher-pitched curled syllable (*c.* 6 kHz rising to *c.* 7.2 kHz and falling to 5.7 kHz). On the sonagram these combine to form a trace (like a walking stick). The rattle phrase is given at intervals of 2.4-3.0 sec, sometimes up to 5.5 sec, and is interspersed by much lower-pitched growling or grunting phrases, which are generally given in groups of 2-3 and sometimes up to 6 phrases, with another rather shortened phrase immediately preceding the next rattle. These grunts comprise a series of simple units, *c.* 0.75-1.25 kHz, repeated every *c.* 0.01-0.13 sec in a phrase that last 0.25-0.30 sec (the shortened phrase preceding the rattle lasts *c.* 0.1 sec). On the sonagram the grunts appear as a distinctive series of short, closely spaced vertical bars or bands (Figure 4b). These grunts may be represented in words as *burp burp burp* or *gro-a gro-a gro-a*, and thus the roding song as *TI'TI'TI'TI'TI.....burp burp burp.... TI'TI'TI'TI'TI.....burp burp burp.... TI'TI'TI'TI'TI...* or another interpretation *PIP'PIP'PIP'PIP'PIP.....gro-a gro-a gro-a.... PIP'PIP'PIP'PIP'PIP.....gro-a gro-a gro-a.... PIP'PIP'PIP'PIP'PIP* (Figure 4c). Notably, the rattle is much louder than the grunt phrase and may be heard at a greater distance.

The known vocalizations of other Old World woodcock species compare as follows to those of the Bukidnon Woodcock.

*Scolopax rusticola* — The roding song of the male is made up of 2-5 slow but accelerating deep croaking phrases (the "snore" notes, main energy *c.* 1 kHz, but showing harmonics at *c.* 3 kHz and 5 kHz), comprised of simple units repeated at *c.* 0.02 sec intervals showing again as closely spaced bands (Figure 4d), uttered with the bill shut and air sacs inflated. The snore notes are closely followed by a sudden loud shrill sneeze motif ("sneeze" note, main energy *c.* 4-12 kHz, duration *c.* 0.1 sec and showing as an inverted "V" on the sonagram), given with the bill open. Each complete sequence is mechanically repeated after intervals of 2-2.5 sec, e.g. *quorr quorr-quoroPIETZ...quorr quorr-quoro-PIETZ...* (Figure 4e). The snore notes are only audible at close range, and the sneeze notes often sound disyllabic at longer ranges ("chissick"). The song may be individually recognizable, and although usually of a constant composition, birds may add or subtract snore notes. Imperfect songs may be given at the beginning and end of the breeding season (Cramp and Simmons 1983).

*Scolopax saturata* — We have been unable to locate recordings of the vocalizations of nominate *saturata* from Sumatra and Java. In the taxon *rosenbergii*, from New Guinea, the roding song consists of a single motif with a distinctive nasal “whooshing” quality, showing as an inverted comma on the sonagram, starting at *c.* 3 kHz, dropping to *c.* 1.5 kHz and then rising to *c.* 7 kHz (Figure 4f). The motif lasts *c.* 0.8 sec and can be written *chuuwi*. These *chuuwi* motifs are repeated every *c.* 2–2.5 sec and are interspersed with a series of lower-pitched grunting phrases, given in a series of 3–8 motifs, each phrase *c.* 0.3 sec long and comprising simple units, main energy *c.* 1 kHz, given every *c.* 0.01 sec). On the sonagram they display a banded pattern (Figure 4g). Thus the phrase may be written *chuuwi...quorr-quorr-quorr-quorr-quorr...chuuwi...quorr-quorr-quorr-quorr-quorr...*

*Scolopax mira* — This species evidently does not perform a roding flight or give a roding call (Brazil and Ikenaga 1987, M. A. Brazil *in litt.* 2000). A call of this species has very recently been published (Kabaya and Matsuda 2001) but, in our view, is not a roding call and it is, therefore, not discussed further here.

*Scolopax celebensis* — This species makes short flights over the treetops at dusk, but its vocalizations are unknown (Coates and Bishop 1997, K. D. Bishop *in litt.* 2000).

*Scolopax rochussenii* — Vocalizations unknown. This species is known from just eight specimens.

The three species of Old World *Scolopax* known to give vocalizations in roding flight and for which data are available clearly show close similarities. *Scolopax bukidnonensis*, *S. rusticola* and *S. saturata rosenbergii* all have a low-pitched (main energy *c.* 1 kHz) grunt phrase of remarkably similar structure (simple, rapidly repeated elements showing as a banded pattern on a sonagram) interspersed with a higher-frequency, louder and more complex rattling, sneezing or whooshing motifs. The grunt vocalizations thus appear to be more primitive for woodcock, whilst the higher-pitched calls are probably of more recent origin. Despite the similarity of the grunt call, all three species are nevertheless clearly distinct vocally. However, recordings of the roding calls, if these exist, are still needed for *celebensis*, *rochussenii* and nominate *saturata*.

## CONSERVATION STATUS

The Bukidnon Woodcock appears to be locally common above 900 m on the mountains on which it has been recorded. Apparently it had been overlooked because of its crepuscular roding behaviour and nocturnal feeding habits or because it was assumed to be the Eurasian Woodcock, if seen when flushed, it had simply not been identified. For example, this clearly seems to be the case on Mt. Kitanglad where relatively recent expeditions (Salomonsen 1953, Ripley and Rabor 1961) did not collect or observe the birds. In addition, earlier collectors, mainly using guns to obtain specimens, would have had a difficult time shooting the birds when they

burst from the forest floor and flew off out of range in the dense montane forest. The earlier specimens, all from Dalton Pass, Luzon, were caught at night with large dip nets, as the birds were attracted to and dazzled by bright lights. All other specimens, except those caught by the skilled hand of R. Fernandez, were mist-netted. Now that the call, roding habits, and habitat of the species are known, we expect that the species will be found on other mountains on Luzon and Mindanao, and perhaps on other islands.

Forests throughout the Philippines have for the most part been cleared or disturbed below 1,000 m. Above 1,000 m, except in parts of the Cordillera Mountains of Luzon and selected flatter slopes or plateaus elsewhere, the montane and montane mossy forests are in reasonably good condition. For the most part these forests are in extremely rugged terrain that is not conducive to farming, and they have few commercial trees for logging. Although the Bukidnon Woodcock has a restricted range (in terms of area of occupancy), we do not therefore believe that it is immediately threatened or of conservation concern in the foreseeable future.

## REMARKS

Combining plumage, mensural, vocalization and behavioural differences with its isolation in the Philippines from other species, also with very restricted ranges, we conclude that the Bukidnon Woodcock has a unique evolutionary history and should be recognized as a distinct species. We are well aware of the recent debates over the “species concept” (Snow 1997, Zink 1996, among others) and regardless of which concept one follows, i.e. biological or phylogenetic, we believe that this species would be recognized. Frozen tissues of the Bukidnon Woodcock are available at the Cincinnati Museum of Natural History for those who wish to pursue phylogenetic studies of this species.

## EURASIAN WOODCOCK IN THE PHILIPPINES

As noted earlier the two previous records of the Eurasian Woodcock were of specimens obtained in 1929 and 1931 and lost when the National Museum of the Philippines was destroyed during World War II. There are no recent records of this species from Philippines. The fact that the Bukidnon Woodcock is now known to be widespread on Luzon and Mindanao, casts doubt on the identity of the two earlier records. However, the earlier specimens were obtained in the lowlands of Luzon and there is no evidence that Bukidnon Woodcock frequent the lowlands. In addition, the measurements of the 1929 specimen, taken from McGregor and Manuel (1936), were as follows: wing 195 mm, tail 83 mm, tarsus 35 mm and culmen length 75 mm; these accord much better with *S. rusticola* than with *S. bukidnonensis*. We therefore recommend that the lowland-dwelling Eurasian Woodcock remain on the list of Philippine birds as a rare migrant.

## SYSTEMATIC NOTES ON OTHER WOODCOCK

As we compared all the other species and subspecies of woodcock to the Bukidnon Woodcock, we began to see unique or similar characters in each species or subspecies. In fact, in our analysis of the mensural data for each species/subspecies, we found that we could match each specimen to its correct taxonomic unit based on measurements alone.

We agree with the widely accepted recognition of *S. rusticola*, *S. mira* (Brazil and Ikenaga 1987) and *S. rochussenii* as full species. Also, we agree with Stresemann (1932, 1941) and Greenway (1978), *contra* White and Bruce (1986), that the two populations of *S. celebensis* be recognized subspecifically based largely on differences between them in culmen chord (*S. c. celebensis* culmen chord in mm - mean 92.7, SD  $\pm$  0.3, n = 3, range 92.4 - 93.1; *S. c. heinrichi* - mean 81.7,  $\pm$ 0.4, n = 2, range 81.3 - 82.2).

However, we do not agree with the treatment of *S. saturata* as one species with two subspecies. Rather we believe that each subspecies should be recognized as monotypic species *S. saturata* and *S. rosenbergii* and base our conclusions on the following differences:

**Mensural Differences** — (see Table 1) *S. saturata* is similar to *S. rosenbergii* in bill height and bill width at feather line, width of bill at tip, length of longest toe, and wing-point difference. *Scolopax rosenbergii* is significantly ( $P < 0.05$ ) larger than *S. saturata* in wing chord, tail length, tarsus length and culmen chord.

**Plumage Differences** — *S. rosenbergii* differs from *S. saturata* by having the Dusky Brown upperparts mottled with Cinnamon Rufous much darker and loosely barred; by having the white malar spots and supraloral spots well developed and conspicuous; by having a white chin, darker Dusky Brown throat, breast and belly with narrow Cinnamon bars on throat and breast, white barring and feathers tipped white on lower breast and belly, and some narrow Drab bars on flanks and mixed in with the white in the belly. *S. saturata* has the chin Pale Horn Color, and the throat, breast and belly finely barred and/or mottled with Dusky Brown and Drab, and a white band between breast and belly.

**Distribution and Habitat** — All five of the Asian/Papuan woodcock share similar habitats and altitudinal ranges. They all appear to be sedentary, with little movement outside of their habitat and altitudinal range. The unique plumage, size and highly restricted range of *S. rochussenii* clearly demonstrate this. The fact that two subspecies of *S. celebensis* occupy different mountain areas but on the same island also demonstrates this. The distance between suitable habitat of *S. rosenbergii* on New Guinea and *S. saturata* on Java is no less than 2,500 km. Clearly the amount of gene flow between these sedentary populations is likely to be nil or so close to nil that it would not matter. For all intents and purposes they are isolated populations of woodcock

Combining the differences in plumage and measurements, and taking into account the distance between the populations, we consider them unique evolutionary units. We suggest that *S. saturata* be called

the Javan Woodcock, and that *S. rosenbergii* be known as the New Guinea Woodcock in keeping with the geographical names of all the other known species of woodcock.

## SPECIMENS EXAMINED

- Scolopax bukidnonensis* (Luzon and Mindanao) — 1 male (CMNH); 1 female (DMNH); 1 male, 1 female (FMNH); 1 male (MSU-IIT); 1 unknown (NMP); 1 male, 1 female (to be deposited in NMP).
- S. c. celebensis* — 1 male, 1 unknown (AMNH); 1 unknown (USNM); 1 male (UBMN).
- S. c. heinrichi* — 1 male (AMNH); 1 male (UBMN).
- S. mira* — 4 males, 3 females, 1 unknown (AMNH); 1 male (MCZ); 1 unknown (USNM).
- S. rochussenii* — 1 female, 1 unknown (AMNH); 2 females (USNM).
- S. rosenbergii* — 18 males, 5 females, 5 unknown (AMNH); 1 male (BM).
- S. rusticola* (Japan and China) — 6 males, 6 females, 2 unknown (AMNH); 2 males, 2 unknown (MCZ); 4 males, 4 females, 5 unknown (USNM).
- S. saturata* (Java and Sumatra) — 1 male (AMNH); 1 male (MCZ); 5 males, 5 females (NNM); 1 male, 1 female (USNM).

We are pleased to dedicate this paper to our friend and field colleague, Renato E. "Boying" Fernandez, who has seen, heard and identified the Bukidnon Woodcock on Mt. Kitanglad and Mt. Malindang on Mindanao, and at Balbalasang and almost certainly Dalton Pass on Luzon; and to the late Mrs Eugene Farny, a silent friend to Philippine conservation through her support of Kennedy's efforts in the Philippines for more than two decades. Both of these extraordinary people have helped Philippine conservation in two dramatically different ways.

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