

A NEW MARTIN OF THE GENUS
PSEUDOCHELIDON FROM THAILAND

KITTI THONGLONGYA

THAI NATIONAL SCIENTIFIC PAPERS

FAUNA SERIES NO. 1

APPLIED SCIENTIFIC RESEARCH CORPORATION OF THAILAND

BANGKOK 1968

598.812(593)

T5

THAI NATIONAL SCIENTIFIC PAPERS

A medium for the publication of results of original scientific research, issued by the Applied Scientific Research Corporation of Thailand as material becomes available, initially in the following series: Biological Series, Fauna Series, Flora Series, and Physical Sciences Series.

Papers may be submitted for publication in these series by authors irrespective of their institutional affiliations. Acceptance of papers is in the hands of an Editorial Committee consisting of AVM M.R. Sukshom Kashemsanta (Scientific Editor), Dr. Pradisth Cheosakul, Mr. Frank G. Nicholls, Dr. C. Lewis Wrenshall, Dr. Rawi Bhavilai, Mr. Tem Smitinand, Dr. James S. Dinning, and Dr. Siribongse Boon-Long.

Papers are accepted only after seeking the advice of specialist referees.

All enquiries and manuscripts should be forwarded to:

*The Scientific Editor, ASRCT
196 Phahonyothin Road
Bang Khen, Bangkok 9, Thailand*

A NEW MARTIN OF THE GENUS
PSEUDOCHELIDON FROM THAILAND

KITTI THONGLONGYA

THAI NATIONAL SCIENTIFIC PAPERS

FAUNA SERIES NO. 1

APPLIED SCIENTIFIC RESEARCH CORPORATION OF THAILAND

BANGKOK 1968



PUBLISHED 31 JULY 1968 BY
APPLIED SCIENTIFIC RESEARCH CORPORATION OF THAILAND
BANG KHEN, BANGKOK

037166

598.812(593)

T5

PRINTED IN THAILAND AT THE ASRCT PRESS, BANGKOK
BY GROUP CAPTAIN SORN SATRABHAYA 1968

- 2 71 A 2555

A NEW MARTIN OF THE GENUS *PSEUDOCHELIDON* FROM
THAILAND

(PASSERIFORMES : HIRUNDINIDAE)

BY KITTI THONGLONGYA*

(Plates 1 and 2)

[Manuscript received 11 June 1968]

Summary

A new species of an aberrant river martin, *Pseudochelidon sirintarae* sp. nov., is described. The specimens were collected from a lake in Amphoe Muang, Nakhon Sawan Province, central Thailand, in January-February 1968. The only other member of this genus is *Pseudochelidon eurystomina* found along the rivers of western Central Africa.

INTRODUCTION

While night-trapping swallows in January-February 1968 at a big marsh on the Chao Phraya River in Nakhon Sawan Province, central Thailand, about 300 kilometres north of Bangkok, nine individuals of a previously undescribed species were taken amongst 6,000 swallows of various species. The new bird has its closest affinities with the African River Martin, *Pseudochelidon eurystomina* Hartlaub of the Congo and Gabon, a bird that is sufficiently aberrant to have been constituted a separate subfamily and indeed ascribed to the Hirundinidae only with reservations. The discovery, over ten thousand kilometres from *P. eurystomina*, of a second species that appears properly to be placed in the same genus and subfamily is of extraordinary zoogeographical interest, not lessened by the fact that it has a remarkably close parallel in *Afropavo congensis*, the sole African representative of the peacocks.

I propose that the new bird be named in honour of Her Royal Highness Princess Sirindhorn Thepratanasuda, the third daughter of King Bhumibol Adulyadej of Thailand, for her gracious interest in the wildlife of the Kingdom.

PSEUDOCHELIDON SIRINTARAE, sp. nov.

(White-eyed River Martin)

Diagnosis

This martin resembles the House Swift, *Apus affinis*, in its black plumage and white rump band. The black feathers have a blue-green gloss and the wing lining

*Curator of Terrestrial Vertebrates, Centre for Thai National Reference Collections (CTNRC), Applied Scientific Research Corporation of Thailand (ASRCT).

is light brown. The enormously broadened bill is bright greenish yellow with a black tip. The eye is white, as are the margins of the lids, which form a conspicuous white ring. The central pair of rectrices extend into long, narrow racquets. The foot and claws are large and robust for an aerial feeder.

Agrees with other swallows in having wing with nine primaries first and second (outer) nearly equal; secondaries reaching to about middle of wing; tail with twelve rectrices; bill flat, broad and triangular when viewed from above; wide gape; smooth-edged mandibles; hinder part of tarsus longitudinally bilaminated, the laminae entire and smooth; sexes alike; immatures similar to adult but with feathers on upper plumage pale-edged.

Agrees with *Pseudochelidon eurystomina* in large size of bill; large size and strength of foot and claws; scutellated front of tarsus; very weak rictal bristles; and silky plumage with metallic sheen.

Differs from *P. eurystomina* in having white rump instead of entirely black plumage; white iris and eye-ring instead of red iris and pink eye-ring; less marked ridge between the nasal apertures; bill more than half as wide again at gape, half as long again, and flatter; bill greenish yellow instead of crimson; feet and claws stronger and more robust; and the two central tail-feathers elongated forming long, slender racquets.

Holotype

Adult female, ASRCT 53-1217; collected at Bung (=Nong=Lake) Boraphet, Amphoe Muang, Nakhon Sawan Province, central Thailand (lat. 15°43'N, long. 100°14'E), 10 February 1968, by Kitti Thonglongya; original number KT 666.

Description of holotype

Head black with glossy bluish green sheen, lores velvet black without metallic gloss; back and scapular paler than head but retaining metallic green gloss; remiges pale brown along the inner webs. Wing long, narrow, pointed, rather sickle-shaped; outer surface black; primaries at rest extending about 20 mm beyond the rectrices (without racquets); nine primaries, the first longest (114 mm) and second nearly equal; secondaries about half the length of the first primary, truncated; largest tertiary slightly longer than the secondaries; axillaries and under wing-coverts light brown; rump silvery white.

Tail 46 mm, rounded, black with metallic green gloss; twelve rectrices; each rectrix narrowly tipped with pale brown; the shaft of each rectrix extends beyond the vanes into a pin point, except the central pair which extend 85 mm beyond the tip of the tail, forming narrow racquets slightly expanded at tip, 2 mm at widest, and 35 mm long. Upper and under tail-coverts black with metallic green gloss, very long and nearly reaching to tip of the rectrices without racquets.

Chin velvet black as lores, remainder of underparts black, glossed with metallic bluish green. Plumage silky.

Bill enormously expanded laterally, with the swollen maxillary region and angle of the jaw flared markedly to bulge beyond the feather coat at the side of the head. (In Chapin's well-prepared skins of *P. eurystomina*, the sides of the mouth are hidden under the feathers.) Both upper and lower mandibles smooth-edged, greenish yellow with decurved black tip on upper mandible. Bill much more compressed than in *P. eurystomina* and very wide at gape; bill from gape to tip 20 mm, and 15 mm wide at gape. Culmen 10 mm, rounded. Rictal bristles very weak. Nostrils larger than in *P. eurystomina*, sub-triangular and naked. Irides pure white with a narrow outer ring faintly pink. Eye-ring of thick white skin extending beyond the curvature of the eye and scalloped around its entire rim.

Feet smooth, large and robust; tarsi short, hinder part of tarsus longitudinally bilaminated, the laminae entire and smooth, front of tarsus scutellated; flesh coloured. Second and fourth toes of same length, claws moderately long, hind claws larger, same colour as tarsi.

Measurements of the holotype

See Table 1.

TABLE 1

MEASUREMENTS OF *PSEUDOCHELIDON SIRINTARAE* SP. NOV. AND *PSEUDOCHELIDON EURYSTOMINA*
(in millimetres)

Specimen	Wing length (chord)	Tail length with racquets	Tail length without racquets	Culmen	Bill from gape	Width at gape	Depth of bill at nostrils	Tarsus	Hind toe with claw
<i>Pseudochelidon sirintarae</i>									
53-1217 Holotype, adult female, skin	114	128	44	10	20	16	5	10	13
53-1218 Immature male, skin	118	—	39	10	21	17	5	10	12
53-1219 Immature male, skin	116	—	41	12	22	16	5	9	12
53-1220 Adult, sex unrecorded, skin	116	114	43	11	21	16	5	12	12
53-1221 Adult, sex unrecorded, skin	112	93	42	11	21	16	5	11	12
53-1222 Immature, sex unrecorded, skin	117	99	39	10	19	16	5	11	12
53-1223 Immature female, skin	114	112	45	11	20	15	5	11	12
53-1224 Adult, sex unrecorded, in spirit	116	92	43	11	21	17	5	12	12
53-1225 Immature, sex unrecorded, in spirit	119	151	45	11	21	18	5	10	12
<i>Pseudochelidon eurystomina</i>									
USNM 329615 Adult female, skin	112	—	54	10	14	10	5	11	12
Brit. Mus. 1931.7.20.2 Adult female, skin	118	—	50	11	15	10	5	11	10

Paratypes

Immature male, ASRCT 53-1218, 28 January 1968; immature male, ASRCT 53-1219, 29 January 1968; adult, sex unrecorded, ASRCT 53-1220, 10 February 1968; adult, sex unrecorded, ASRCT 53-1221, 10 February 1968; immature, sex unrecorded, ASRCT 53-1222, 10 February 1968; immature female, ASRCT 53-1223, 10 February 1968; adult (in spirit), ASRCT 53-1224, 10 February 1968; immature (in spirit), ASRCT 53-1225, 10 February 1968. All paratypes collected by Kitti Thonglongya at type locality. ASRCT 53-1219 and ASRCT 53-1224 will be deposited in the United States National Museum of Natural History, and ASRCT 53-1220 in the British Museum. The remaining paratypes are in CTNRC.

Male

As yet no adult male has been identified positively, but the immature males closely resemble the immature females in size and colouration.

Immature

Similar to the adult but lacking the tail racquets; colour as in adult but head and chin wood-brown instead of black; under wing brownish buff instead of light brown; lores velvet-black. Soft parts as in the type. The head and underparts show moult in varying extent of replacement of brown feathers by black.

Comparative material

Apart from locally available skins of other species of swallows, the following skins of *P. eurystomina* were examined: Adult female, USNM 329615, collected at an island near Sungu, above Lukolela, Congo River, on 10 February 1931 by J.P. Chapin. Adult female, Brit. Museum 1931.7.20.2, collected at the same place on the same date by J.P. Chapin.

Dr. Richard L. Zusi, Curator, Division of Birds, United States National Museum of Natural History, states (personal communication) that the adult male skin in the USNM collection is indistinguishable from the adult female listed above.

DISCUSSION

The type locality is a shallow, marshy, reed-filled lake of 25,000 hectares. The reeds, *Saccharum* spp., *Arundo* spp., and *Sorghum* spp., mature in the period October to April, and thousands of swallows come to the lake each evening to roost on them. Professional bird-catchers work the lake with boats, going slowly into or close to the reeds at dusk or after dark. They throw fish-nets over the reeds, thus trapping the birds underneath. The new birds described above were captured in this way during a programme of swallow banding. They were found amongst migratory flocks of *Hirundo rustica*, *Hirundo daurica*, and *Riparia riparia* as well as other species of migratory birds (*Motacilla flava*, *Motacilla alba*, *Acrocephalus bistrigiceps*, and *Phragamaticola aedon*). More than 10,000 birds (including about 6,000 swallows) were banded during the last week of January and the first two weeks of February when the nine type specimens were taken. No other specimens of the new bird were seen during further banding operations in the first two weeks of March.

The type specimens were the only ones found in banding more than 17,000 birds in this area.

Dr. Joe Marshall, Jr. reports (personal communication) that he saw none of these birds in the area in May 1958, although *Hirundo rustica* and *Apus pacificus* were plentiful at that time.

Despite its apparent rarity, *P. sirintarae* seems to be a regular visitor to this marsh since the local catchers have a name for it, "Nok Ta Phong" (swollen-eyed bird), from its conspicuous eye-rings. Nothing is known of its habits. Flight patterns or actions in the air or among the reeds were not observed. In holding cages used during banding, it was noticed that the birds did not perch, but stood quietly in the corner of the cage, in strong contrast to other swallows which move rapidly from perch to perch calling repeatedly. The stomach of one bird contained parts of a large beetle.

After comparison of specimens of the new bird with skins of *P. eurystomina*, it is clear that the two species are closely related. They agree effectively in the generic characteristics given by Hartlaub (1861) except in relation to the ridge between the nasal apertures, which is lower in *P. sirintarae*, and the further extension of the central pair of rectrices into racquets in *P. sirintarae*. Chapin (1953) and Bannerman (1953) in keys to the swallows and martins indicate that the middle pair of rectrices of *P. eurystomina* protrude slightly beyond the margin of the feathers. The differences in size and shape of bill, the ridge between the nasal apertures, the size and strength of the feet, and the tail racquets, coupled with the geographical separation, might suffice to separate the two species into different genera. However, it seems to me, on the evidence at present available, more in line with current taxonomic trends to assign them to the same genus. Measurements of the two species are given in Table 1.

There has been considerable speculation about the relationship of *Pseudochelidon* to other swallows, and the discovery of the new bird will help to clarify its position. This must await appropriate study by anatomists who have kindly agreed to examine the two spirit specimens currently available. In the meantime it is of interest to note that P. Ames (personal communication) has examined two specimens of *P. sirintarae*, three specimens of *P. eurystomina*, and specimens from numerous species of Hirundininae. He states that the syrinx of *Pseudochelidon* is much larger than that of Hirundininae and that the bronchial rings are all half-rings, with a large internal membrane running the length of the bronchial tubes, instead of the complete rings as in the Hirundininae, and are freer and less bound down to the esophagus than in Hirundininae. His findings on *P. eurystomina* are in line with those reported by Mayr and Amadon (1951). They decided to leave *Pseudochelidoninae* as a subfamily of the Hirundinidae although suggesting that it might belong in a separate family.

The number of wing primaries of *P. eurystomina* is not mentioned in Hartlaub's paper, but in an editorial note to the partial translation in *Ibis*, Dr. Sclater states that Dr. Hartlaub informed him that there were ten. Lowe (1938) in his anatomical

study states that the primaries in both *Pseudochelidon* and the Hirundinidae number ten (9+1), the tenth (outer) being reduced and the ninth being the longest (or in Hirundinidae, ninth or eighth). Bannerman (1953), however, states that the number of primaries in *P. eurystomina* is nine. This agrees with my count during examination of the two skins that were lent to me, and I saw no sign of the tenth primary in either species of *Pseudochelidon*. P. Ames and J. Marshall, Jr. (personal communication) counted nine primaries in *P. eurystomina* and *P. sirintarae*. They recognized a tenth upper primary covert, but found no evidence of a tenth primary under it.

Mallophaga collected from *P. sirintarae* were kindly examined by Dr. K.C. Emerson of the Smithsonian Institution. He reports that they were *Myrsidea*, probably *latifrons*, and *Philoferus excisus*, possibly a new subspecies. Both of these are typical swallow lice and this may strengthen the relationship between *Pseudochelidon* and the Hirundinidae.

Examination of the habits of *P. sirintarae* is clearly required, and plans have been made for field trips for this purpose. *P. eurystomina* digs nests in the sand bars along rivers (Chapin 1931). It will be of interest to examine the rivers north of Nakhon Sawan in the dry season for nests, although the birds could come from some distance away. According to Chapin (1953), *P. eurystomina* moves as far as 500 miles to the west of its breeding place along the middle Congo River.

ACKNOWLEDGEMENTS

His Majesty the King of Thailand, King Bhumibol Adulyadej, has graciously permitted me to dedicate this spectacular and beautiful bird to his daughter, Her Royal Highness Princess Sirindhorn Thepratanasuda.

I wish to express my gratitude to Dr. H.E. McClure, Dr. Joe T. Marshall, Jr., Mr. Alan Tubb, and Mr. Frank G. Nicholls for help in preparing this paper; to Dr. S. Dillon Ripley, Dr. George E. Watson, Dr. Ernst Mayr, Dr. Dean Amadon, the late Mr. H.G. Deignan, Dr. Jean Delacour, Mrs. B.P. Hall, Mr. I.C.J. Galbraith, Mr. Edward Dickinson, and Mr. Ben King for reviewing photographs and descriptions of the specimens collected; to my colleagues Dr. Prasert Lohavanijaya and Mrs. Aye Aye Khaing Fields for advice and support; and to my assistants who participated in capturing and preparing the specimens.

My special thanks are due to Dr. Boonsong Lekhagul for help and guidance over the years and for the magnificent drawings of the new bird for the plates which accompany this paper, to Dr. K.C. Emerson who kindly examined the mallophaga, to Dr. Peter Ames and Dr. Joe T. Marshall, Jr. for their special study of specimens of *P. sirintarae*, and to the Directors of the British Museum and the U.S. National Museum of Natural History for the loan of specimens of *Pseudochelidon eurystomina*.

I am indebted to the Board of ASRCT for permission to publish this paper. The research reported is part of the Migratory Animal Pathological Survey undertaken by ASRCT under U.S. Army Research and Development Group (Far East) Grant No. DA-CRD-AFE-S92-544-67-G84.

REFERENCES

- BANNERMAN, D.A. (1953).—"The Birds of West and Equatorial Africa." vol. 1, p. 76-79; vol. 2, p. 1107-1136. (Oliver and Boyd: Edinburgh.)
- CHAPIN, J.P. (1931).—*Nat. Hist.* 31: 487, 612.
- CHAPIN, J.P. (1953).—The birds of the Belgian Congo, part 3. *Bull. Am. Mus. nat. Hist.* 75A: 728-733.
- HARTLAUB, G. (1861).—Ueber einige neue Vögel Westafrika's. *J. Orn., Lpz.* 9: 11-13 (Translation of part of the section dealing with *P. eurystomina* appears, with editorial comments, in article entitled: "On a new bird from Western Africa" by G. Hartlaub, *Ibis* 1861: 321-323.)
- LOWE, P.R. (1938).—Some anatomical notes on the genus *Pseudochelidon* Hartlaub with reference to its taxonomic position. *Ibis* 1938: 427-437.
- MAYR, E., and AMADON, D. (1951).— A classification of recent birds. American Museum Novitates No. 1496.

EXPLANATION OF PLATES

PLATE 1

Adult female of *Pseudochelidon sirintarae* (left) with immature female of same species (right).

PLATE 2

Figures 1, 2, and 3.—Side, upper, and lower views of head of *P. eurystomina*.

Figure 4.—Tail of *P. eurystomina*.

Figures 5, 6, and 7.—Side, upper, and lower views of head of *P. sirintarae*.

Figure 8.—Tail of *P. sirintarae*.

Figure 9.—Foot of *P. sirintarae*.

Figures 1-4 based on skin on loan from British Museum. Figures 5-9 based on holotype.

A NEW MARTIN FROM THAILAND



A NEW MARTIN FROM THAILAND

