NOTES ON THE TAXONOMY OF COPSYCHUS SAULARIS, WITH SPECIAL REFERENCE TO THE SUBSPECIES AMOENUS AND JAVENSIS

by

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1. On the validity of *Copsychus saularis javensis* Chasen & Boden Kloss and the subspecific identification of the populations of this Robin in the Sunda Strait area.

The difference in plumage between the subspecies *musicus* from Sumatra and *javensis* from Java indicated by CHASEN & BODEN KLOSS (1930) that males of *javensis* are distinctly darker on the underside of the wing, could just be accepted by me in the series examined. There is, however, much individual variation in this respect. There is apparently also some racial difference in the measurements of wing and bill, as is borne out by the figures given below, but the difference is very small too, and *javensis* seems therefore to be a rather weak subspecies.

After examination of a male bird from Krakatau Island (Sunda Strait) CHASEN (1937) concluded that it belonged to "the Sumatran, not the West Javan, subspecies". This bird, which I have also examined, has a wing of 105 and a bill (exposed culmen) of 18.5 mm. These measurements are perhaps no exceptions in males of *javensis*. In addition, the tinge of the underwing coverts and axillaries seemed closer to those found in *javensis* than in *musicus*. Two females secured on Krakatau Island have a bill (exposed culmen) of 16.8 and 18.6 mm, respectively, and it is on account of the long bill in one of these birds that it seems justifiable to include both of them into *musicus*.

Among our fresh skins of male birds originating from the island of Sebuku (Sunda Strait) there are three with wings of 107 — 109, and two of 101 and 104 mm, respectively. They show an exposed culmen of 18.0 — 21.1 mm. The coloration of the underwing coverts and flanks varies considerably; two specimens are intermediate between *musicus* and *amoenus* because of their dark under parts. Two males from Udjung Kulon (Java's most western peninsula) have a wing of 103 and 104 mm, and an exposed culmen of 16.7 and 17.9 mm, respectively; likewise, in these specimens, the colour of the underside of the wing and of the flanks shows a considerable difference.

On account of the somewhat longer bill and wing I have included the Sebuku birds into *musicus*, and those of Udjung Kulon because of their

smaller size into *javensis*. However, the measurements given below show that the differences are far from being spectacular. A female bird with a short bill (16.8 mm) secured on Prinsen Island, quite close to the Krakatau Group, was classified by me as *javensis*, also on account of a short wing.

Examination of material originating from the islands in and around the Sunda Strait does not justify the inclusion of this area into the ranges of either *musicus* or *javensis*. Instead it is necessary to consider the populations inhabiting these islands as a mixture between *musicus* and

TABLE 1

MEASUREMENTS OF *Copsychus saularis* (IN MM)

MALES

WING

West Java (*javensis*): 102, 102, 103, 104, 105, average 103.2.
Udjung Kulon, West Java (*javensis*): 103, 104, average 103.5.
Sebuku Island, Sunda Strait (*musicus*): 101, 104, 107, 108, 109, average 105.8.
Krakatau Island, Sunda Strait (*musicus*): 105.
Sumatra (*musicus*): 105, 106, 107, 107, 109, average 106.8.

TAIL

West Java: 92, 93, 94, 97, 100, average 95.2.
Udjung Kulon, West Java: 94, 101, average 97.5.
Sebuku Island, Sunda Strait: 92, 95, 95, 99, 100, average 96.2.
Krakatau Island, Sunda Strait: 99.
Sumatra: 90, 92, 94, 97, 98, average 94.2

BILL (exposed culmen)

West Java: 17.2, 17.5, 17.8, 18.2, 19, average 17.9.
Udjung Kulon, West Java: 16.7, 17.9, average 17.3.
Sebuku Island, Sunda Strait: 18, 19, 21.1, average 19.5.
Krakatau Island, Sunda Strait: 18.5.
Sumatra: 18, 18, 18.6, 19.6, 21.3, average 19.1.

FEMALES

WING

West Java (*javensis*): 94, 96, 98, 98, average 96.8.
Prinsen Island, Sunda Strait (*javensis*): 95.
Krakatau Island, Sunda Strait (*musicus*): 95, 97, average 96.
Sumatra (*musicus*): 95, 96, 96,98, 99, average 96.8.

TAIL

West Java: 83, 86, 87, 89, 90, average 87.0.
Prinsen Island, Sunda Strait: 85.
Krakatau Island, Sunda Strait: 80, 88, average 84.
Sumatra: 82, 84, 84, 86, 87, average 84.6.

BILL (exposed culmen)

West Java: 16.8, 16.9, 17, 17, 17.3, average 17.0.
Prinsen Island: 16.8.
Krakatau Island, Sunda Strait: 16.8, 18.6, average 17.7.
Sumatra: 16.8, 18, 18, 19, 19.1, average 18.2.

COMPILED FROM THE LITERATURE

Sumatra (*musicus*): 15 ♂♂, wing 101 — 109, average 104.6.
7 ♀♀, wing 95 — 101, average 98.9.

javensis, provided of course that the rather obscure features which differentiate *javensis* from *musicus* indeed can be accepted as constant subspecific characters.

2. On the distribution of the races *javensis* and *amoenus* in Java.

One of the male birds (wing 104 mm) from the island of Sebuku mentioned above shows much black on its sides and under parts, which makes it resemble an intermediate between *musicus* and *amoenus*. A second specimen from the same island (wing 101 mm) is almost identical, though somewhat less strikingly showing the *amoenus* characters on the lower under parts. I have never seen another specimen from Sumatra with an equally large amount of black on the under parts.

On previous occasions (HOOGERWERF 1947, 1948) I have asked attention for similar intermediate specimens originating from the central part of West Java (Mount Tjikurai, southern Garut), whereas other authors have established the presence of such birds from Bantam (SNOUCKAERT VAN SCHAUBURG 1926) and Wijnkoopsbay (ROBINSON & BODEN KLOSS 1924) in West Java, and from Karangbolong (CHASEN & BODEN KLOSS 1930) and Purwokerto (VOOUS 1948) in Central Java. On the other hand representatives of the white-bellied subspecies *javensis* have been found in the neighbourhood of Surabaya, which is clearly within the range of *amoenus* (BARTELS, SR. 1902).

Among five specimens (4♂, 1♀) recently secured in Central Java (Japara, Gundih, Gedangan, all close to Semarang) one is as dark on the under parts as true *amoenus*, three are a trifle lighter though darker than in the skin from Mt. Tjikurai indicated above, whereas the fifth bird is considerably lighter, showing much white on the belly, but here the light and dark parts are not well defined as is usually the case in true *javensis* in which the light and dark areas border along a sharp margin. A bird in the Bogor Museum originating from the surroundings of Cheribon (eastern part of West Java) resembles *javensis* and there are similar specimens from that locality in the Leiden Museum. Two distinct intermediate birds in the Leiden Museum originate from Bandjaran, south of Bandung in central West Java and from Semarang. Especially the latter bird is very close to true *amoenus*.

From these particulars it is evident that it is hard to consider *amoenus* as a subspecies inhabiting East Java, and *javensis* as a race from West Java (CHASEN 1935). It seems equally impossible to look upon Mid Java as an area where these populations mix or even to consider East and

Central Java as the range of the subspecies *amoenus*, all of which having been proposed by various authors. It is impossible to fix the distribution of the intermediates on a map; therefore the validity of two different races of *Copsychus saularis* on Java seems rather doubtful. It is true that from Borneo too, numerous intermediate specimens of other, rather similar races of *Copsychus saularis* are known (e.g. *niger* × *problematica* and *pluto* × *problematica*). But — as far as I know — in these cases the intermediates have been found exclusively in areas where two races meet or overlap. This is apparently a different situation than is the case on the island of Java where the influence of *amoenus* extends as far as the Sunda Strait and where *javensis* penetrates into the surroundings of Surabaya.

More than half a century ago HARTERT (1910) wrote: "I consider that in Java one race lives, in which the abdomen varies from black to white, and this race must be called *amoenus*". Much later STRESEMANN (1924) suggested to look upon *amoenus* as a mutation of *musicus* (at that time Java's population was still considered identical with Sumatra's *musicus*). Some years later, when separating *javensis*, CHASEN & BODEN KLOSS (1930) rejected STRESEMANN's conception because both *amoenus* and *javensis* "can be interpreted by a diagnosis and a map". However, so far as the map is concerned the separation seems extremely difficult, as I have tried to prove above.

Originally I was inclined to agree with the possibility suggested by CHASEN & BODEN KLOSS (1930) that "*amoenus* spreads to the west along the south coast, and the *musicus* form to the east along the north coast of Java", but at present I think this is not true because it is evident from the new material available that specimens with distinct *amoenus* characters are scattered all over the island. They are known from Bogor (HOOGERWERF 1950) and from the most western parts of Java (Bantam; SNOUCKAERT VAN SCHAUBURG 1926) and even from Sebuku Island, which is still more to the west; in addition from the central part of West Java (Mt. Tjikurai and Bandjaran, close to Bandung). On the other hand apparently pure representatives of the subspecies *javensis* are known from Cheribon (HOOGERWERF 1947), Tegal (VOOUS 1948) and Surabaya (BARTELS, SR. 1902). In accordance with KURODA (1933) BARTELS recorded both forms from Kediri (East Java) where he found *javensis* fairly common, and from Surabaya.

Because East Java, the greater part of Central Java, many regions of Java's south coast and of Bantam (West Java) are the areas of relatively little rainfall, one should be inclined to assume the development of

dark-plumaged specimens of *Copsychus saularis* to be stimulated by a dry climate, but the occurrence of such birds on Sebuku Island, Mt. Tjikurai, Bandjaran, and in the well forested regions around the Wijnkoopsbay is no indication into that direction as none of these localities can be called really dry.

The conservative conception of *amoenus* as the race from East Java, *javensis* from West Java, whereas Mid Java is looked upon as a region of intergradation, is maintained by PETERS (1963). VOOUS (*in litteris*) has the opinion that in this way the situation is well characterized and that the fact that "pure" representatives of both these subspecies penetrate as far into each other's territories as apparently is the case here needs not to form an objection against upholding the present view. Because a similar situation in other species of birds in Java is not known to me I have given the alternative explanation of considering *amoenus* as a dark colour phase, probably showing a preference for some kind of dry climate. At all events I have thought it important enough to publish these notes, from which it is evident that the influence of *amoenus* beyond its restricted range is considerably larger and that *javensis* extends its range much further eastwards than was generally supposed.

SAMENVATTING

Ofschoon de schrijver het niet onmogelijk acht, dat de ondersoort *javensis* van de op Java zo gewone lijster *Copsychus saularis* in afmetingen gemiddeld iets kleiner is dan de van Sumatra bekende subspecies *musicus*, kan naar zijn mening aan dit geringe verschil nauwelijks subspecifieke waarde worden toegekend. Hetzelfde geldt t.a.v. de tint van de ondervleugel dekveren en van de lichaamsflanken, zodat *javensis* als een zeer zwak ras moet worden

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EXPLANATION OF PLATE VII

Fig. 1. 1—2 . *Copsychus saularis amoenus* (Horsf.): Surabaya, north coast East Java.
3—4 . *Copsychus saularis javensis* Chasen & Kloss: Bogor, central West Java.
5. *Copsychus saularis javensis* (Horsf.): Cheribon, north coast West Java.
6—7 . *Copsychus saularis javensis* ≷ *amoenus*: Semarang, north coast Central Java.

Fig. 2. 8—9 . *Copsychus saularis javensis* ≷ *amoenus*: Japara, east of Semarang, Central Java.
10—12. *Copsychus saularis javensis* ≷ *amoenus*: Tjikadjang, south Garut, West Java.
13. *Copsychus saularis javensis* Chasen & Kloss: same locality as 10—12.

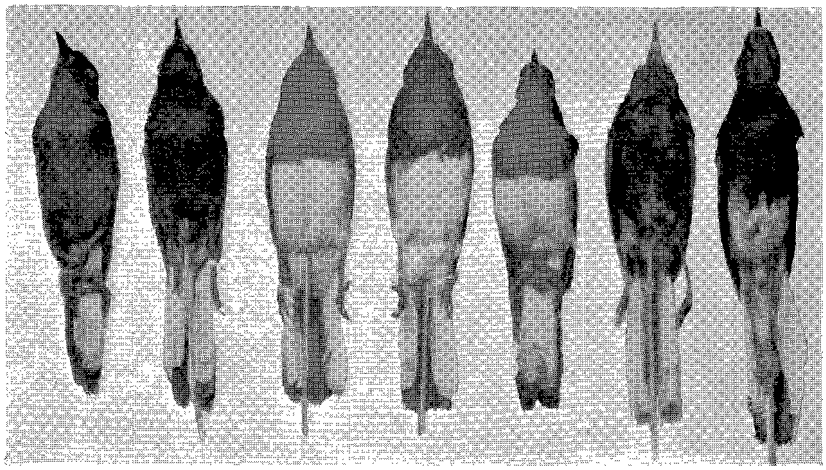

Fig. 1. *Copsychus saularis*
Explanation on opposite page.

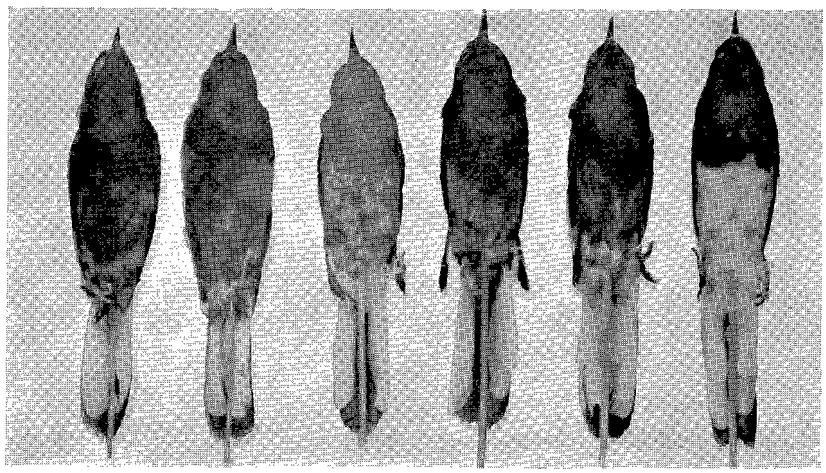

Fig. 2. *Copsychus saularis*
Explanation on opposite page.

beschouwd. Aan de hand van in en rondom Straat Sunda verkregen materiaal, wordt het aannemelijk gemaakt, dat dit areaal als een intermediaire zone mag worden gezien.

In verband met het feit, dat op Java op zeer uiteenlopende plaatsen — tot in het Straat Sunda gebied — exemplaren van *Copsychus saularis* werden aangetroffen welke een duidelijke *amoenus* inslag vertonen, ofschoon dit ras tot Oost Java en Bali beperkt zou zijn, terwijl anderzijds de West Java vorm *javensis* van Kediri en Surabaya in Oost Java bekend is, acht schrijver de huidige situatie waarbij *amoenus* als de subspecies van Oost Java, *javensis* die van West Java, en Midden Java als een intermediaire zone wordt beschouwd, weinig bevredigend.

Omdat aan HARTERT's mening als zou Java slechts door een enkel ras — *amoenus* — worden bewoond, waarin de kleur der onderdelen variëert van zwart tot wit, en ook de veronderstelling van STRESEMANN als zou *amoenus* als een mutant van *musicus* moeten worden gezien, door latere onderzoekers hoegenaamd geen aandacht werd besteed, acht schrijver het niet overbodig mededeling te doen van latere ontdekkingen van donkervederige vertegenwoordigers van *Copsychus saularis* in West- en Midden Java. Schrijver is van oordeel, dat deze vondsten een aanwijzing vormen in de richting van een hypothese als vroeger door HARTERT en STRESEMANN gesuggereerd.

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