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Synonymy of *Katianna coeruleocephala* Handschin, 1920 (Collembola: Katiannidae) with *Bourletiella viridescens* (Bourletiellidae)

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Katianna coeruleocephala was described by Handschin in 1920 from Poespo, Java. It was collected in December, 1896 by Dr. Zehntner with the collecting details given as rotten "Louv" (leaves?) from live orchard. Handschin (1920) labelled his figures of the species (p. 146) as *Katianna coerulescephala* but the first spelling of the species name (p. 145) has priority. *Katianna coeruleocephala* has never been recollected. The only mention of the species in the literature since 1920 has been by Suhardjono (1989) in a check list for Indonesia and Suhardjono (2012) who listed it as present on Java and provided the main characteristics of the genus *Katianna* Börner, 1923. She stated it was a "new" (translate as endemic?) species in Java with a preferred habitat in cold and damp litter but no comment was made on the taxonomic status of the Indonesian species.

There has previously been some doubt over both the original generic and family designation given by Handschin in 1920 for the species by both Yoshii (pers. comm.) and Murphy (pers. comm.) who believed it was "likely to belong to the family Bourletiellidae". They did not examine the holotype but based their comments on Handschin's (1920) figure of the mucro which shows it having fairly broad and smooth inner and outer lamellae (Fig. 5). The genus *Katianna* always has one, the inner, lateral lamella, distinctly toothed.

The holotype and single specimen from the Basle Museum of Natural History has been examined and the results are reported here.

Redescription of *Katianna coeruleocephala* after Handschin, 1920 (*new information in italics*)

Figs 1–6

Type material. *Slide label: "Katianna coeruleocephala n. sp. Java. Naturist, Museum Basel, III, 242. Eit".*

Dimensions. Length 0.8 to 1.0 mm. Antenna longer than head (1:1.6). Antennal segments ratios: I:II:III:IV=1:2.8:4.6:9. Ant. IV clearly subsegmented with 7 segments, ratio of lengths from basal to distal segments = 5.2:1.4:1.4:1.6:1:2.4.

Size. *Large abdomen distinctly globular,* abdomen V and VI separate, genital/anal segments conical, similar in shape to *Corynephoria*.

Colour. Yellow, slightly orange/yellow. Antennae all violet, vertex (of head) and 'cheeks' the same but somewhat paler.

Chaetotaxy. Chaetae of antennae in whorls. Large abdomen with simple, short, backward-facing bent, upstanding chaetae, slightly longer on anal segments *i.e.* p*osterior portion of abdomen with a field of thicker, curved, spine-like chaeta. Bothriotrix D long, fine.* Genital segment at the base with 2 outstanding long bothriotricha [*not seen*]. Genital field prominent, densely and finely setose, with a single clavate hair pointing towards the anus [*not seen*].

Head and body. Antenna IV subdivided into seven subsegments. Antennal III organ not seen. Ocelli 8 + 8 on a dark black patch. *No spines on the vertex of head, only fine pointed chaetae present.* Segmentation of the body very slightly indicated. *Two* (*three cannot be seen on the type*) *bothriotricha on large abdomen. Coxa III with 4 chaetae. Trochanter without trochanteral organ but with five external chaetae. Tibiotarsi with fairly long thick, pointed spines internally, six*

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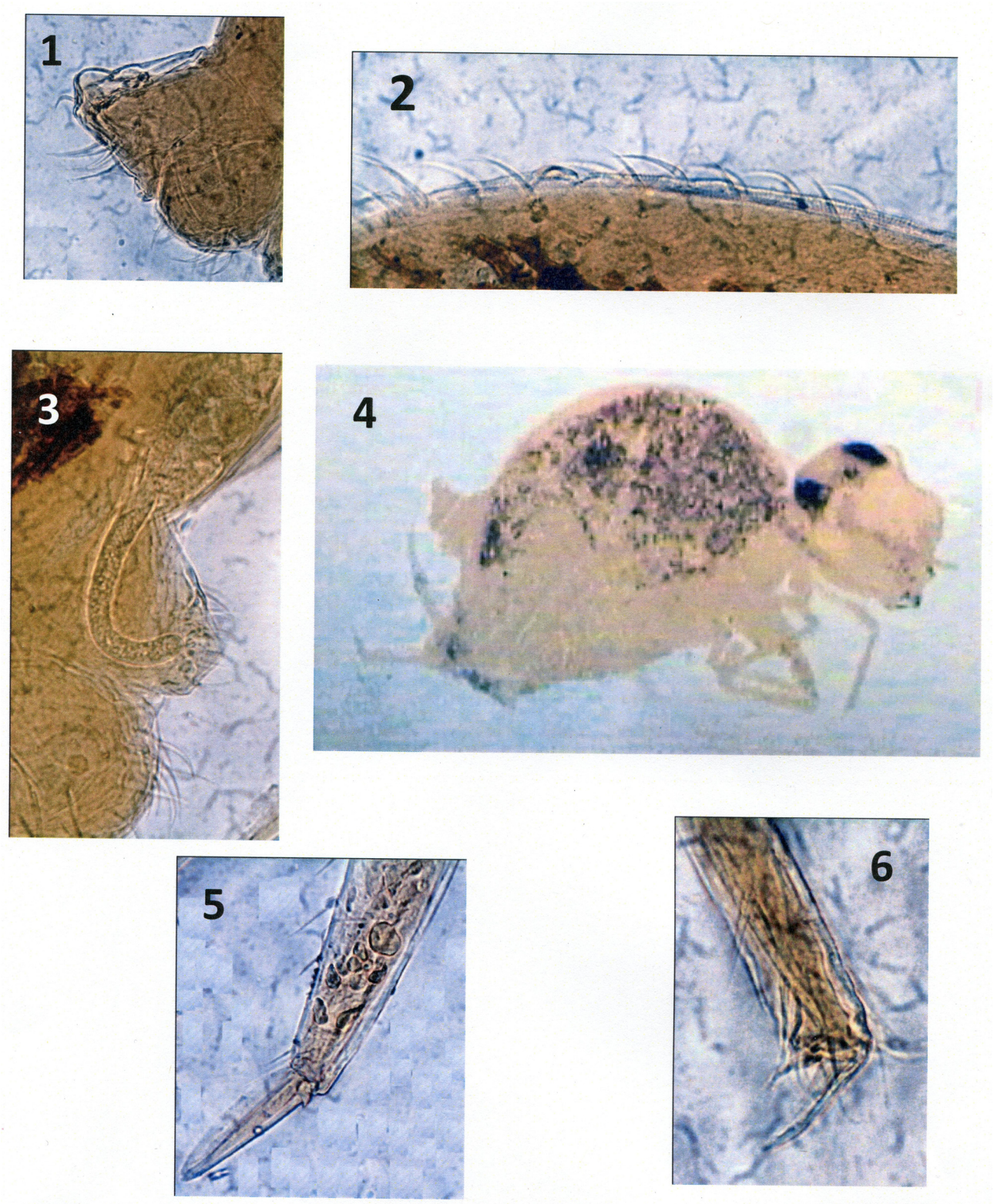
on leg I and ten on leg III. Tibiotarsi with *three distally inflated* clavate tenent hairs *appressed to legs II and III, and two on leg III*. Claw often with small distal inner tooth [*not seen*], empodial appendage lanceollate with very narrow inner and outer lamellae*, broader on legs II and III, and with short, distal spine, longer on leg I. External pretarsal setulae absent but inner one present*. *Ventral tube sacs not seen.*



FIGURES 1–6. Photographs of the Holotype and single specimen of *Katianna coeruleocephala* Börner, 1920 (= *Bourletiella viridescens* Stach, 1920) 1, lateral view of abdomen VI; 2, lateral view of dorsal curved spines on posterior half of large abdomen; 3, male genital plate; 4, whole animal lateral view; 5, lateral view of mucro and distal portion of dens; 6, apex of tibiotarsus and foot complex III.

Rami tenaculum with 3 distal teeth and one large basal tooth-like appendage, one short distal chaeta seen. Neosminthuroid chaeta absent. Abdominal segment VI with two, hoe-shaped bristles (*spines*) dorsally, *one (DL1) larger than the other (DL2), m1 chaeta long and curved. Circumanal chaetae somewhat inflated,* smooth. Mucro boat-shaped, with inner and outer lamellae *lacking teeth,* smooth. Manubrium:dens:mucro ratio= 3:2.5:1. All dental chaetae not differentiated*, smooth, anterior chaetae only 1,1,2,3 seen, most basal one not seen.*

Gut well-filled with pollen, fungal hyphae and spores, even possibly diatoms. A parasite seems to be present on femur of leg II.

Comment. The genus *Katianna* Börner, 1906, with type species, *Katianna mnemosyne* Börner, 1907, has as diagnostic characters: series of three or four erect, spines along the internal margin of each ocellus patch and on vertex, claw often with tunica on at least one pair of legs, finely clavate distal outstanding tibiotarsal hairs, external pretarsal setulae present, ventral tube with long, smooth sacs and mucro broad at base and tapering slightly, with at least one lamella toothed. The significant diagnostic characters of the family Katiannidae that are absent on *K. coeruleocephala* are spines on the head vertex, trochanteral organ, toothed lamella on mucro and outstanding, only slightly clavate, tenent hairs. None of these characters are present on the holotype of *K. coeruleocephala.* Instead, the characters of the claw, tibiotarsus, mucro, trochanter, chaetotaxy of head and male with dorsal spines on large abdomen and abdomen VI put this specimen in the family Bourletiellidae and genus *Bourletiella*. Furthermore, the yellow colour of the body, darker head and antennae, distal anterior chaetotaxy of the dens and arrangement, size and shape of male secondary sexual characters dorsally on abdomen VI identify the specimen as *B. viridescens* Stach, 1920.

As a result, I hereby synonymise, *Katianna coeruleocephala* Handschin, 1920 with *Bourletiella viridescens* Stach, 1920.

Note. The genus *Katianna* was erected by Börner (1906: p. 182) in a key to genera of Sminthuridae, Sminthuridinae: "Genus *Katianna* nov. gen. (Typus: *K. mnemosyne* CB. = *Sminthurus multifasciatus* Parona! nec RT.)".

He gave as characters: anal segment separate, mainly through a saddle joining genital segment and the furcal segment; genital segment being fused dorsally with it; each side with only one bothriotrix; tibiotarsus distally with outstanding, finely clavate, tenent hairs, antennal segment IV clearly subsegmented, dorsal mucronal edges as Fig. 5 (i.e. smooth or lightly toothed). He did not record a type locality nor provide a figure at this time. It was not until the next year that *K. mnemosyne* was formally described by Börner (1907). In this latter publication he marked it as a new species, gave a full description and included a type locality, La Plata, Argentina. It is not clear if Börner had additional material from South America of this species or if his description was based only on material identified by Parona in 1895 as *Sminthurus multifasciatus* from La Plata and not on fresh material. Ellis and Bellinger (1973) accept the type designation as valid.

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