Ralbhaudyna amamiensis, an ultimate homage to the memory of Dr. J. Ralph Audy (Acarina: Parasitengona)*

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Abstract: The switching of a group of larval mites, arranged till now in the Johnstonianidae family, to the tribe Chyzeriini is explained; also the necessity to change the taxonomical status of the subfamily Trombellinae sheltering the tribe Chyzeriini. In that latter tribe, a new genus, *Ralbhaudyna*, is created for the new species *amamiensis*.

In 1972, one of us (V-G.) redescribed two of Womersley's species, *Nothotrombicula deinacridae* and *Grossia onychia* (1954); placing them with the two *Pteridopus* in the subfamily *Lasseniinae*, among the Johnstonianidae.

Since that time it has been proven by rearing, that larvae of the same aspect and facies as the above cited larval mites possessed, when molting to nymphs, the same aspect and facies as genuine members of the tribe *Chyzeriini*. The result of that discovery

is the necessity to reconsider the systematical position of several genera, and to face the erection of a new family to shelter, at least, four subfamilies in which the following genera should be arranged: *Chyzeria*, *Nothotrombicula*, *Grossia*, *Parachyzeria*, *Parawenhoekia*, *Pteridopus*, plus two new genera "I" and "M", and finally the present new genus, *Ralbhaudyna*. That new system will be treated in a separate publication, now in MS.

During the general survey of arthropods of medical and veterinary importance in the Nansei Islands, Japan, one of us (H.S.) collected unnamed trombidoid larvae, which will be described in this paper as *Ralbhaudyna amamiensis*, n. gen., n. sp., from the soil under an olden tree cave on the middle slope of Mt. Yuwan-dake situated at 28° 18' N and 129° 20' E on Amami-oshima Island.

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The site of the collection was approximately 500 m above the sea level and surrounded by the virgin forest composed mainly of latifoliate trees belonging to the Beech family, such as *Pasania* spp. and *Castanopsis* spp.

Preliminary observations

1) The larvae, as well as the nymphs and adults of the *Chyzeria*, *Nothotrombicula*, and *Grossia*, are characterized by a scutum carrying only two sensillae (trichobothria) and four peripheral barbed setae, the anterior scutal margin bearing a long, pointed nasus, or none. Except for the always present dorso-apical microspurs on anterior and mid-genu, never any nude genuala on any leg. Next to them is the new genus "I" which possesses a pair of additional but short anteromedian setae.

2) The *Parachyzeria*, *Parawenhoekia*, *Pteridopus*, and the new genus "M" possess in their three mobile stages, two pairs of sensillae and four peripheral barbed setae, the scutum being provided with a nasus or none. Only one nude genuala on each leg.

3) The genus *Ralphaudyna* carries, in addition to the four thick peripheral barbed setae, one pair of long sensillae and two anteromedian thin setae which can no longer be considered as ordinary setae and not quite yet as sensillae ("presensillae") it thus constitutes a link between the two groups *Chyzeria* (2 sensillae) and *Parachyzeria* (4 sensillae). The scutum itself resembles that of *Podotrombium* and *Neotrombidium*, as it is provided with a very wide nasus. Several nude genualae on each leg.

Genus *Ralphaudyna* n. g.

(Larval Stage)

GENERIC TYPE SPECIES

Ralphaudyna amamiensis n. sp.

DESCRIPTION OF LARVAL INSTAR

Chyzeriini of relatively small size, $Ip = \pm 1040$; triangular scutum with unusually enlarged nasus resembling that of the *Neotrombidium*; carrying four peripheral barbed setae, a pair of long, thin, finely barbed sensillae in the center, and two anteromedian "presensillae". Two eyes with paired corneae on a sclerous plate. Dorsal and

pygosomal setae with thick shafts, finely barbed, inserted in circular platelets (Figs. 1 and 2); pro-uroporal setae shorter, not on platelets. Large urstigma between anterior and mid pedicoxae. Palpotarsus with six branched setae and two terminalae (or sub-terminalae), $fT = 6B.2T$; like all the other chyzerins. Unlike all other chyzerins, chelostyle smooth (not scrobbinate) and palpal pilous number, $NPp = 2.1.3$ not $1.1.3$ (presence of a thin internal palpopfemoral seta). Also unlike other chyzerins, palpotibial claw bifid (as in *Neotrombidium*)*. Finally, each pedogenu bearing several nude setae (genualae).

The legs are all 7-segmented; anterior and posterior telofemurs with one nude femorala; tarsi, all thick near the base, tapering till the apex; empodia foliate, contrary to the other groups where the claws show foliation, not the empodium (Figs. 4, 5 and 6); sub-terminala and parasubterminala present on anterior tarsus (Fig. 6); nude pretarsala, solenidia, and famulus on both anterior and mid tarsus; two tibialae on anterior and mid tibiae, one on the posterior; anterior tibia and genu (Fig. 6), and mid genu (Fig. 5), each with one apicodorsal microspur (vestigial seta), as shown in Fig. 7. Ordinary barbed leg setae tabulation, or LST (see species' synoptic diagnosis). Anal porous with two pairs of thin, short setae, as in all chyzerins.

***Ralphaudyna amamiensis* n. sp.**

(Larva, Figs. 1-7)

A. ECOLOGICAL DATA

1) *Distribution*

Host: Unknown.

Locality: In a tree hole of Uken-Vill., Mt. Yuwan-dake, Amami-oshima Isl., Kagoshima Prefecture (Japan).

Date: 19 August 1973.

Collector: Dr. H. Suzuki.

2) *Type material*: Holotype, N° 129-c, in the G. W. Hooper Foundation, San Francisco.

* It is interesting to recall that the palpotibial claw of the *Podotrombium* is always simple.

Ralphaudyna amamiensis

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B. TAXONOMICAL DATA

1) *Synoptic diagnosis*

$$\text{SIF} = 6\text{B}.2\text{T}-\text{N}''-2-4331.000 \begin{matrix} 1 \\ 0 \\ 1 \end{matrix}$$

$$\text{fPp} = (\text{B})\text{B}-(\text{B})-(\text{B})(\text{B})\text{N}$$

$$\text{fsp} = 7.7.7$$

$$\text{fCx} = 2\text{B}. \text{B}. \text{B}$$

$$\text{fSt} = 0.2\text{B} \quad \text{Eyes } \phi : 20 \text{ \& } 12 \mu$$

$$\text{LST} : \begin{matrix} a & m & p \end{matrix}$$

$$(\text{ST}, \text{pST}, \text{PT}', \text{PT}'') = \text{N}$$

$$\text{fSc} : \text{PL} > \text{AL} > \text{AM}$$

$$\begin{matrix} \text{T} & 28 & 22 & 14 \end{matrix}$$

$$\text{fD} = 2\text{H} + 4.6.6.4.2 = 24$$

$$\left. \begin{matrix} \text{NDV} = 42 + (2+2) \text{ uroporal setae } (26 \text{ \& } 20 \mu) \\ \text{fV} = 4.4.4.4.2 = 18 \end{matrix} \right\}$$

$$\begin{matrix} \text{t} & 6 & 6 & 6 \end{matrix}$$

$$\text{fV} = 4.4.4.4.2 = 18$$

$$\begin{matrix} \text{G} & 4 & 4 & 4 \end{matrix}$$

$$\begin{matrix} \text{F} & 6 & 7 & 6 \end{matrix}$$

2) *Biometry* : of the holotype :

	AA	AW	PW	SB	ASB	PSB	SD	AP	AM	AL	PL	S	H	D	P	V	pa	pm	pp	Ip
HT :	76	58	114	19	48	48	96	52	44	50	74	108/104	90	48/78	70/75	35/57	386	358	396	1040

C. REMARKS AND SPECIFIC DESCRIPTION

Robust chyzerin, of relatively small size, Ip=1040; with sturdy leg and rostral appendages; presenting the typical facies of the other chyzerins (Figs. 1-7). Scutum roughly an equilateral triangle with wide and solid nasus, four thick, tapering, and lightly barbed peripheral setae; a pair of central lightly barbed and thin sensillae, and one pair of anteromedian presensillae (Fig. 1). Eyes: paired corneae on a sclerotized plate. Body setae like those of scutum, thick near base, then tapering and covered with thin, almost inconspicuous barbs; the dorsal and perianal all on sclerotized platelets, anteroventral setae shorter, not on platelets; the humerals the longest (90 μ), the pygosomal between 70 and 80 μ . Uropore with two more or less crescentlike plates, each bearing two short, barbed setae (26 and 20 μ). Two pairs of supracoxalae on gnathobase and anterior pedicoxa. Gnathobasal and pedicoxal setae stumpy and runcinate with a subterminal swordlike branch (Figs. 1 and 3). Galeala (protorostral seta) short with few inconspicuous barbs; spiniform deutorostral. Legs all 7-segmented and as described under the generic diagnosis; anterior genualae, ga=4, mid and posterior genualae, gm and gp=3. Typical mushroomlike microspurs on anterior tibia and genu and on mid genu (Figs. 5, 6 and 7); one dorso-apical nude femorala on anterior (Fig. 6) and posterior telofemur (Fig. 4). LST as shown above.

Dr. Jack Ralph Audy passed away at the age of 59 on 19 March 1974. From his thirty-six year medical and scientific career, he devoted fifteen years to the study of scrub typhus and its acarine vectors. His premature death leaves a considerable gap among the leaders of medical sciences. As a small group of specialists, we want to give here a tribute of our admiration and an ultimate homage to his memory.

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摘 要

ケダニ類の新属新種 *Ralphaudyna amamiensis*

—J. Ralph Audy 博士への
追悼の念を込めて—

ケダニ上科のケダニ科・ジョンストンダニ科などに属するダニ類の大部分は節足動物寄生性であるが、同上科のツツガムシ科のダニ類に似た形態的特徴を持つために、しばしば混同されることがある。本稿では、さきに著者のひとり Vercammen-Grandjean によってツツガムシ科のアポロン亜科からジョンストンダニ科に移籍された *Nothotrombicula*, *Grossia* の2属に、その他の既記載属6属とここに記載する新属 *Ralphaudyna* を含めて、合計9属が互いに近縁であり、少なくとも Trombellinae 亜科の従来の定義を拡大して、その Chyzeriini 族としてこれら9属を取り扱うべきこと、さらに独立科の新設の必要性などについて予報を行ない、新種 *R. amamiensis* を命名記載した。本種は奄美大島湯湾岳中腹において恙虫類の調査中、著者のひとり鈴木により土壤中から採集されたものである。また新属名 *Ralphaudyna* は、永年にわたる恙虫病および恙虫に関する研究によって、衛生動物学の発展に多大の貢献をされた Jack Ralph Audy 博士の死を悼み、同博士を追慕する思いを込めて捧げられた。