

A new remarkable species of *Trirogma* Westwood (Hymenoptera: Ampulicidae) from Lombok Island, Indonesia

Новый примечательный вид рода *Trirogma* Westwood (Hymenoptera: Ampulicidae) с острова Ломбок, Индонезия

M.V. Mokrousov*, M.Yu. Proshchalykin**

М.В. Мокроусов*, М.Ю. Прощалькин**

* Institute of Biology and Biomedicine, Lobachevsky State University of Nizhny Novgorod, Prosp. Gagarina 23, Nizhny Novgorod 603950 Russia. E-mail: sphecid@inbox.ru

* Институт Биологии и Биомедицины Нижегородского государственного университета им. Н.И. Лобачевского, пр. Гагарина 23, Нижний Новгород 603950 Россия.

** Federal Scientific Center of the East Asia Terrestrial Biodiversity, Far East Branch of the Russian Academy of Sciences, Prosp. 100-letiya Vladivostoka 159, Vladivostok 690022 Russia. E-mail: proshchalykin@biosoil.ru

** Федеральный научный центр биоразнообразия наземной биоты Восточной Азии ДВО РАН, пр. 100-летия Владивостока 159, Владивосток 690022 Россия.

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Ключевые слова: тараканьи осы, роющие осы, таксономия, Ориентальная область.

Abstract. A new species of cockroach wasps, *Trirogma leleji* sp.n. is described and illustrated, based on male from Lombok Island, Indonesia. The number of species of the genus *Trirogma* has been increased to ten.

Резюме. Приводится описание и иллюстрации самца нового вида роющих ос *Trirogma leleji* sp.n. с острова Ломбок, Индонезия. Общее число известных видов рода *Trirogma* увеличено до десяти.

Introduction

The present paper is a continuation of the ongoing research of the Aculeate Hymenoptera fauna from Lombok Island (Indonesia) collected by first author in 2012 [Zryanin, Mokrousov, 2015; Lelej, 2024].

Ampulicidae is a group of monophyletic, predatory and cleptoparasitic wasps that use cockroaches as the exclusive food for their young. These wasps are widely distributed in all zoogeographical regions, but the highest diversity occurs in the tropics. With more than 200 species from two subfamilies and six genera [Pulawski, 2026], this group is the most primitive sphecid wasp taxa and represents a distinct clade in the phylogeny of sphecid wasps and Hymenoptera.

The genus *Trirogma* Westwood, 1841 is a small group of species, numbering ten, when this publication is taken into account, and is widely distributed in the South Palaearctic and Oriental regions. The single Palaearctic species, *Trirogma caerulea* Westwood, 1841, is distributed from the Arabian Peninsula in the west to Taiwan in the east and is known as far north as Uzbekistan (3♀♀: Karshi, 38.8699°N 65.8294°E, 7, 23.IX.2017; Mubarek,

39.26157°N 65.166°E, 20.IX.2017 [MMC]). The other species are found in the tropical regions, from India to Indonesia. The Indian species were revised by Girish Kumar and Sheela [2018]. Liu et al. [2024] provided a key to species worldwide.

Material and methods

This paper is based on the material deposited in the Zoological Institute, Russian Academy of Sciences (St. Petersburg, Russia) [ZISP] and personal collection of M.V. Mokrousov (Nizhny Novgorod, Russia) [MMC].

Photographs were taken with a digital camera Canon M200 attached to a Carl Zeiss Stemi 508 stereomicroscope. Final images were produced by stacking multiple photographs taken at different focal planes using Helicon Focus 8. All images were post-processed for sharpness, contrast and brightness using Adobe® Photoshop® v. CC 2017 (×64).

Morphological terminology generally follows Bohart and Menke [1976]. We have used the following abbreviations: F — flagellomere; S — metasomal sternum; T — metasomal tergum. Body length measurements are rounded to 0.1 mm, the measurement ratios are rounded to 0.01. General distributions of species follow Pulawski [2026]. When quoting labels of type specimen, a single slash (/) separates lines on one label, and a double slash (//) separates different labels.

The present work is registered in ZooBank (www.zoobank.org) under urn:lsid:zoobank.org:pub:7F2E0B27-73CA-4A59-B296-C1D90B97633A

Taxonomical part

Trirogma Westwood, 1841

Trirogma Westwood, 1841: 152. Type species: *Trirogma caerulea* Westwood, 1841, by monotypy.

Trirogma leleji Mokrousov et Proshchalykin, sp.n.

Figs 1–7, 9.

<https://zoobank.org/NomenclaturalActs/A45B1B07-15CB-44CC-A3F7-D92811390858>

Type material. Holotype: ♂, Indonesia, Lombok, / near Senggigi, / 09.05.2012 / leg. Mokrousov M.V. // forest, ≈450 m / S 8°28,531, / E 116°02,983 // Holotype ♂ *Trirogma leleji* Mokrousov / et Proshchalykin [ZISP].

Diagnosis. The new species differs from male of other species by the following features: body metallic blue (black at *T. nigra* Cameron, 1903; bluish green at *T. narendrani* Madhavikutty, 2004; mesosoma brilliant green at *T. prismatica* F. Smith, 1858); mandible on basal half black (ivory or white on basal half at *T. regalis* Krombein, 1979 and *T. prismatica*); front above lobe without groove (front immediately above lobe with a deep, transverse bisinuate groove at *T. regalis*, *T. kohima* Girish Kumar et Sheela, 2018, *T. narendrani*); frontal lobe simple (basal margin of frontal lobe extended on both sides, forming curve, folded lobe-like projections at *T. lobusicurva* Liu et Li in Liu et al., 2024); lateral margin of frontal lobe thin, keel-like at base (lateral margin of frontal lobe massive, does not thin out towards the base at least at *T. caerulea*, see Fig. 9 vs Fig. 10); vertex in lateral view unusually elevated (see Fig. 7 vs Fig. 8); setae on scape predominantly brownish (white

at all other species); notaulus strongly crenulate, consist of several pits, hardly stands out from adjacent punctation anterolaterally (notaulus distinct, groove-like or weakly crenulate at *T. regalis*, *T. prismatica*, *T. narendrani*, *T. balaensis* Pu et Zhou, 1989); scutellum evenly convex without projection at middle (with a cone-like projection at middle at *T. caerulea* Westwood, 1841, *T. kohima*, *T. narendrani*, *T. regalis*, *T. prismatica*); upper mesopleural groove crenulate and sternalus lacking (upper mesopleural groove simple and sternalus lacking at *T. regalis*, *T. prismatica*, *T. narendrani*).

Description. Male (Figs 1–7, 9). Body length 12.9 mm.

Coloration. Mandible (predominantly) and flagellomeres black; palpi, labrum and claws brown; scape, pedicel, mouthparts, head, mesosoma, metasoma and legs metallic blue; wings slightly infumate, veins and stigma dark brown. Body with white long setae; setae on scape predominantly brownish.

Head. Eyes not converging above (Fig. 6), least interocular distances above and below subequal and 1.18 times as long as F1. Clypeal lobe rounded laterally, anterior margin slightly emarginated (Fig. 6); labrum narrow and elongated (Fig. 6). Lateral margin of frontal lobe thin, keel-like at base (Fig. 9). Front immediately above lobe not grooved, closely pitted; frontal line lacking; ocellar triangle with a deep pitted posterior groove. Vertex in lateral view unusually elevated (Fig. 7). Occipital carina present. Mandible with large bilobed inner tooth, base lobe large and sharp, proximal lobe blunt and small (Fig. 6). F1–F3 subequal in length. Vertex with small to midsize, sparse punctures; gena densely punctate.

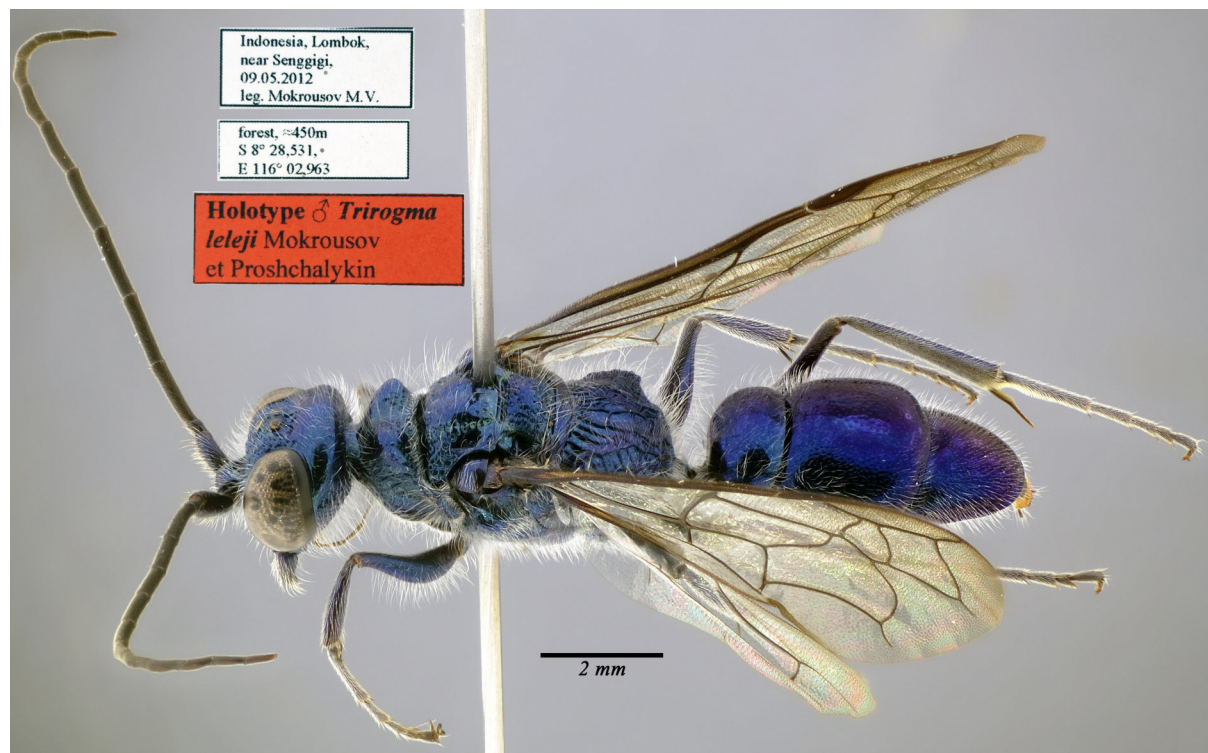


Fig. 1. *Trirogma leleji* Mokrousov et Proshchalykin, sp.n., holotype, male, habitus and labels.

Рис. 1. *Trirogma leleji* sp.n., голотип, самец, внешний вид и этикетки.



Fig. 2–6. *Tricrogma leleji* Mokrousov et Proshchalykin, sp.n., holotype, male. 2 — mesosoma, dorsal view; 3 — mesosoma, dorso-lateral view; 4 — metasoma, ventral view; 5 — head, dorsal view; 6 — head, frontal view.

Рис. 2–6. *Tricrogma leleji* sp.n., голотип, самец. 2 — мезосома сверху; 3 — мезосома дорсолатерально; 4 — метасома снизу; 5 — голова сверху; 6 — голова спереди.

Mesosoma. Pronotum with midsize dense punctures basally and laterally, disk medially almost impunctate; posterolateral tubercles short cone-shaped; lateral surface with several distinct carinae. Scutum median area with sparse, large punctures; anterolateral part with dense deep pits; notaulus strongly crenulate, consist of several pits, hardly stands out from adjacent punctation anterolaterally (Fig. 3). Mesopleuron with sparse, small, irregular punctures; area close to omaulus with parallel weakly crenulate groove; upper mesopleural groove crenulate; sternaulus present, weakly crenulate. Scutellum evenly convex without projection at middle, with small to midsize, dense punctures. Metanotum with small, sparse punctures. Propodeal enclosure approximately triangular, shiny and smooth, medially with two strong, longitudinal carinae, laterally with several strong, oblique, longitudinal rugae (Figs 2, 3). Posterior and lateral surface of propodeum with large areoles.

Wings and legs. Fore wings with three submarginal cells, vein *M+Cu* diverging before crossvein *cu-a*; hind wings with vein *M+Cu* diverging after crossvein *cu-a*. Hind coxa with sharp tubercle dorsally.

Metasoma. S2 with a lateral bisinuate groove widely interrupted by median elevation (Fig. 4). T1–T3 clear punctate. Lateral parts of S2 and S3 with very fine punctation, medial part with larger punctures (Fig. 4).

Female. Unknown.

Origin of name. The species is named after a well-known Russian entomologist Prof. Arkady S. Lelej (Federal Scientific Center of the East Asia Terrestrial Biodiversity, Far East Branch of the Russian Academy of Sciences, Vladivostok, Russia) on the occasion of his 80th birthday.

Habitat. In montane rainforest (Fig. 11).

Distribution. Lombok Island (Lesser Sunda Islands, Indonesia).

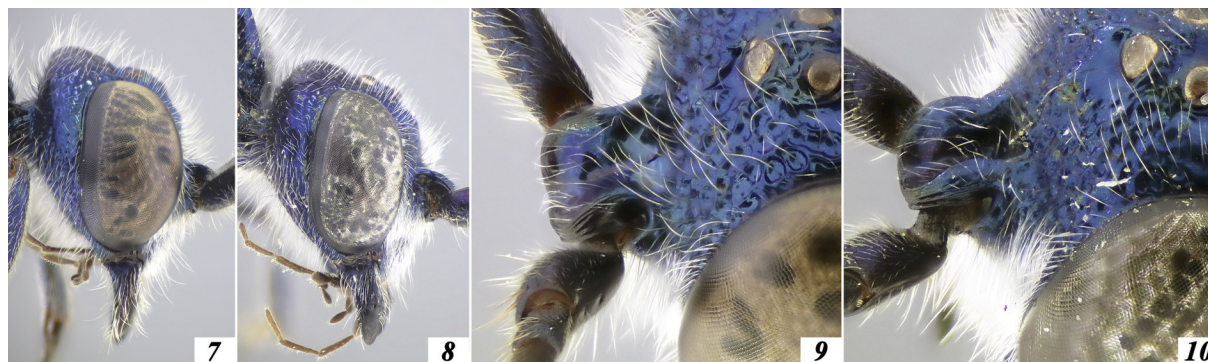


Fig. 7–10. *Tricrogma leleji* Mokrousov et Proshchalykin, sp.n., holotype, male (7, 9) and *T. caerulea* Westwood, male from The United Arab Emirates (8, 10). 7, 8 — head, lateral view; 9, 10 — frontal lobe, dorso-lateral view.

Рис. 7–10. *Tricrogma leleji* Mokrousov et Proshchalykin, sp.n., голотип, самец (7, 9) и *T. caerulea* Westwood, 1841, самец из Объединенных Арабских Эмиратов (8, 10). 7, 8 — голова сбоку; 9, 10 — лобный вырост дорсолатерально.

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Fig. 11. Habitat of *Trirogma leleji* Mokrousov et Proshchalykin, sp.n. in Lombok Island, Indonesia.

Рис. 11. Местообитание *Trirogma leleji* Mokrousov et Proshchalykin, sp.n. на острове Ломбок, Индонезия.

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