Redescription of *Troticus ovalis* (Fahringer) comb. nov., its first host record and a note on *T. melamopterus* Cameron (Hymenoptera: Braconidae: Agathidinae)

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Disophrys ovalis Fahringer, 1937 (Hymenoptera: Braconidae: Agathidinae) from Egypt is redescribed and transferred to the genus *Troticus* Brullé, 1846 (**comb. nov.**) with *Disophrys aegyptiaca* Fahringer, 1937, as its junior synonym (**syn. nov.**). For the first time a reliable host record for the genus and for *T. ovalis* is given. The holotype of *Troticus melamopterus* Cameron, 1903 has been examined by the first author and is transferred to the genus *Cremnops* Foerster, 1862 (*C. melamopterus* Cameron, 1903 **comb. nov.**).

Introduction

The genus *Troticus* Brullé, 1846 (Hymenoptera: Braconidae: Agathidinae) is a small Afrotropical genus of which in this paper a South Palaearctic species is reported for the first time. It belongs to a group of two genera that share the distinctly angled prepectal carina, the short vein SC+R1 of the hind wing, the anteriorly more or less truncate middle lobe of the mesoscutum, the robust hind femur and first metasomal tergite, vein M+CU of hind wing about as long as vein 1-M and the propodeum distinctly sculptured. The prepectal carina is similarly angled in the Afrotropical genus *Macroagathis* Szépligeti, 1908, but this genus has vein M+CU of the hind wing much shorter than vein 1-M, vein SC+R1 of the hind wing medium-sized and the sculpture of the propodeum reduced. The second genus in the group is *Protroticus* van Achterberg, 1988, that was reared from Lasiocampidae (van Achterberg, 1988b). It has the metapleural flange absent, vein 3-M of the fore wing straight apically, the marginal cell of the hind wing narrowed subapically, the scutellum with a distinct elevation subposteriorly and the occiput weakly emarginate.

Recently, the junior authors reared parasitoids from *Nadiasa repanda aegyptica* Bang-Haas (Lasiocampidae) in Egypt by, which proved to belong to *Troticus ovalis* (Fahringer, 1937) **comb. nov.** and is the first species of the genus reported from outside the Afrotropical region. *Disophrys aegyptiaca* Fahringer, 1937, proved to be a synonym (**syn. nov.**) and extends the distribution of *T. ovalis* into South Europe. The uncertain record of *Agrotis segetum* (Dennis & Schiffermüller) for *T. segetophilus* Braet, 2001, is

likely incorrect, since in general parasitoids on hairy caterpillars of Lasiocampidae do not attack hardly setose caterpillars as of *Agrotis segetum*.

For the terminology used in this paper, see van Achterberg (1988a, 1993). For the recognition of the subfamilies, see van Achterberg (1990, 1993, 1997) and for the identification of *Troticus* species, see Braet (2001). The colour photographs are made with an Olympus SZX12 motorized stereomicroscope with AnalySIS Extended Focal Imaging Software. The abbreviations of the depositories are: NMW = Naturhistorisches Museum, Wien, Austria; RMNH = Nationaal Natuurhistorisch Museum (Naturalis), Leiden, The Netherlands.

Troticus ovalis (Fahringer, 1937) comb. nov.
(figs 1-7)

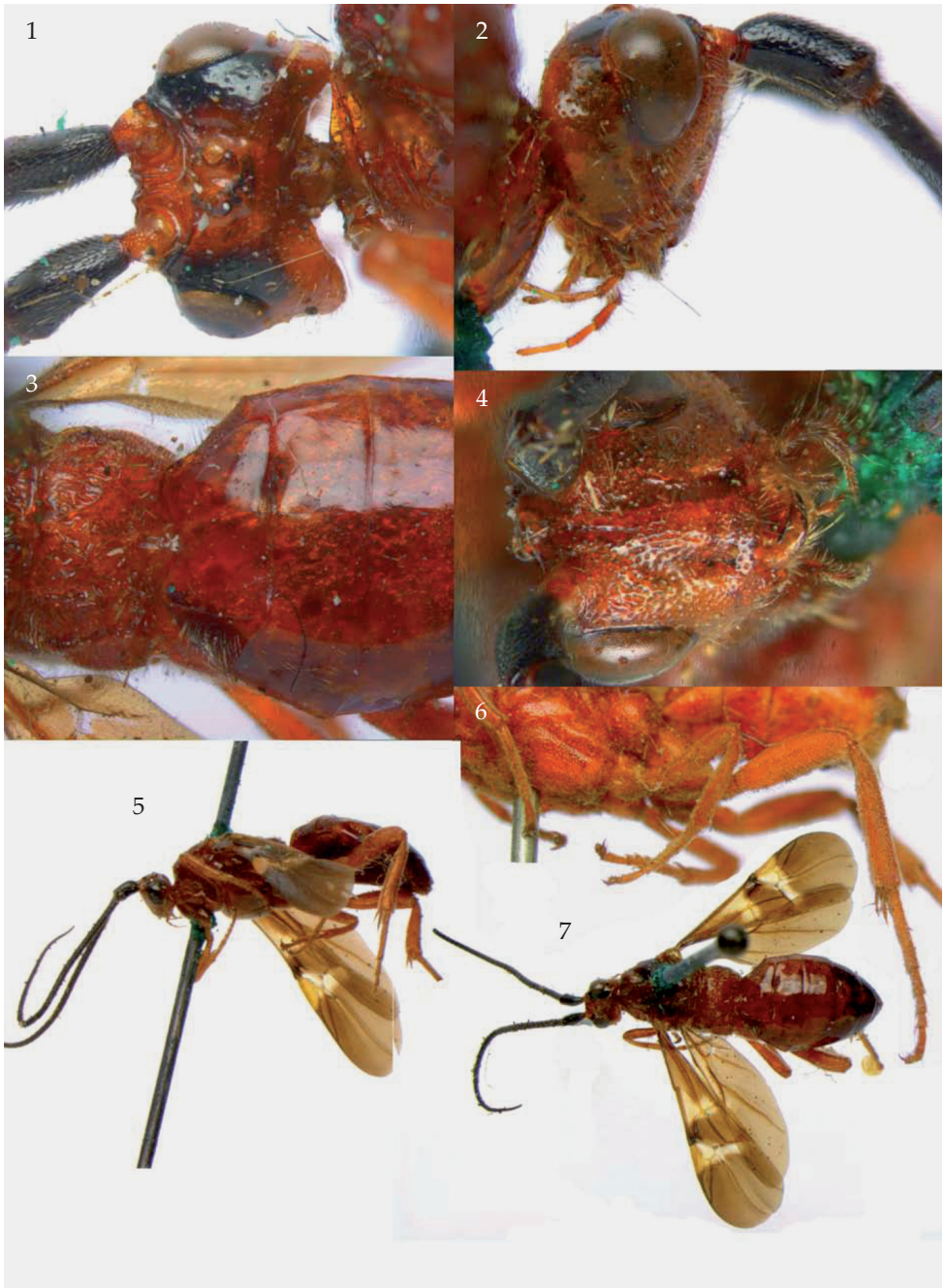
Disophrys ovalis Fahringer, 1937: 428 (key), 439-441; Shenefelt, 1970: 401.
Disophrys aegyptiaca Fahringer, 1937: 428 (key), 430-431; Shenefelt, 1970: 392. **Syn. nov.**

Type material.— Holotype of *D. ovalis*, ♂ (not ♀ as stated in the original description; NMW), "Aegypten" (handwriting of O. Schmiedeknecht), "*Disophrys ovalis* n. sp., Type" (handwriting by J. Fahringer). Paratype, ♀ (not ♂ as stated in the original description; NMW), "Egypt., 1859, Led.[erer]", "*Disophrys ovalis* n. sp., Type, det. Dr. Fahringer". Holotype of *D. aegyptiaca*, ♂ (not ♀ as stated in the original description; NMW), "Aegypten" (handwriting of O. Schmiedeknecht), "*Disophrys aegyptiaca* n. sp., Type" (handwriting by J. Fahringer). Paratype, ♂ (NMW), "[Italy], Sicilia, 1858, Mann", "*Disophrys aegyptiaca* n. sp., Type, det. Dr. Fahringer". Additional material: 2 ♂♂ + 1 ♀ (RMNH) from Egypt, El-Giza Prov., Katameya district, reared from *Nadiasa repanda aegyptica* Bang-Haas on *Casuarina glauca* Sieber, coll. xi.2006, H.H. Karam & H.M. Ramadan. Note.— *Casuarina glauca* Sieber (Casuarinaceae) is an imported tree known as the swamp she-oak in its native Australia. It grows in saline sites inhospitable to many other trees and has been planted in agroforestry systems primarily as a windbreak and secondarily for fuelwood and reserve fodder.

Holotype of *D. ovalis*, ♂, length of fore wing 10.1 mm, of body 11.7 mm.

Head.— Antenna with 51 segments, 1.2 times as long as fore wing, scapus coarsely punctate and robust, partly enclosing pedicellus (fig. 2), length of third segment 1.3 times as long as fourth segment, third, fourth and penultimate segments 2.3, 1.7 and 1.3 times as long as wide, respectively; mouthparts hardly protruding (fig. 2); length of maxillary palp 0.6 times height of head; OOL and laterally frons largely flat and smooth, except for some fine punctures; frons with complete lateral and high crest like carinae (fig. 1), carinae between antennal sockets subparallel-sided, remainder largely smooth; OOL:diameter of posterior ocellus:POL = 26:10:11; vertex near ocelli somewhat depressed; stemmaticum strongly protruding dorsally (fig. 4); face coarsely punctate, with interspaces less than diameter of punctures (fig. 4), weakly convex medially, flattened laterally and medio-dorsally between lamellae with distinct a groove; clypeus finely and densely punctate, ventral margin truncate and thick; length of eye 1.3 times temple in dorsal view; temple slightly concave laterally (fig. 1), moderately punctate but ventrally more coarsely so and most interspaces larger than diameter of punctures; length of malar space 1.9 times basal width of mandible and nearly half as long as height of eye in lateral view; occipital flange weakly developed (fig. 2).

Mesosoma.— Length of mesosoma 1.3 times longer than its height; pronotum with deep triangular sublateral depression and ventrally bordered by carina, medially with



Figs 1-7, *Troticus ovalis* (Fahringer), ♂, holotype. 1, head, dorsal aspect; 2, head, lateral aspect; 3, propodeum and first-second metasomal tergites, dorsal aspect; 4, head, anterior aspect; 5, habitus, lateral aspect; 6, legs, mesopleuron and metapleuron, lateral aspect; 7, habitus, dorsal aspect. 1, 2: 6 × scale-line; 3: 3 ×; 4: 8 ×; 5, 7: 1 × (= 10 mm); 6: 2 ×.

some coarse crenulae and posteriorly coarsely crenulate; mesoscutal lobes convex near notauli, with some distinct punctures, middle lobe raster protuberant, but flattened medially; notauli deep, rather narrow and largely smooth, medio-posteriorly with a smooth longitudinal groove; scutellar sulcus destroyed by pinhole; scutellum slightly convex, with slightly impressed subposterior depression, laterally largely smooth and medially sparsely punctate; posterior half of metanotum with median carina, but absent in anterior depression (fig. 3); prepectal carina rectangularly angled below precoxal sulcus, non-lamelliform; precoxal area completely impressed, coarsely crenulate, but anteriorly narrowly so, area below it densely punctate with interspaces about equal to diameter of punctures; remainder of mesopleuron sparsely punctate; mesosternal sulcus narrow and shallow, only posterior half finely crenulate; metapleuron rather long and densely setose, not obscuring coarse and dense punctation, ventrally mingled with rugae and metapleural flange present (fig. 6); propodeum with short median carina anteriorly connected to an irregular triangular area and a wide posterior area (fig. 3) and its surface largely rugose, no lateral tubercles, spiracle elliptical and lateral carinae strong but not protuberant.

Wings.— Fore wing (fig. 7): r:3-SR:SR1 = 5:9:51; 1-R1 0.6 times as long as pterostigma; 2-SR:3-SR:r-m = 8:9:13; cu-a interstitial, vertical; ramellus absent; m-cu far antefurcal. Hind wing: marginal cell parallel-sided but absent apically, M+CU:1-M:1r-m = 45:43:32; 2-SC+R hardly longer than wide; 6-7 hamuli.

Legs.— Hind coxa densely setose and coarsely punctate; tarsal claws bifurcate, with inner tooth shorter than outer tooth; fore tarsus long setose, fourth segment somewhat longer than wide (but in ♀ with shorter setae and fourth segment about as long as wide); length of femur, tibia and basitarsus of hind leg 3.4, 6.1 and 7.4 times their width, respectively (fig. 6); hind femur largely punctate-rugose and densely setose; apex of hind tibia convex and with 2 pegs near tibial spurs; length of hind tibial spurs 0.4 and 0.5 times hind basitarsus; tarsal segments normal.

Metasoma.— Largely glabrous; only laterally with some setae, smooth; length of first tergite 0.7 times as long as its apical width, strongly widened apically (fig. 3) and shallowly depressed basally; third tergite slightly longer than second tergite; second suture narrow, shallow and straight (fig. 3); valves wide and long setose.

Colour.— Dark reddish-brown; frons and vertex laterally, parastigma and anterior 0.7 of vein 1-M of fore wing black; antenna, wing membrane and veins dark brown, but veins in pale area yellow (fig. 7); below pterostigma and near vein cu-a of fore wing with transverse pale yellowish band and remainder of wing membrane dark brown (fig. 7); pterostigma yellow but slightly darkened apically.

Variation.— Length of fore wing of ♂ 8.3-10.1 mm, and of ♀ 7.8-9.2 mm, of body of ♂ 10.5-11.7 mm and of ♀ 7.9-11.1 mm; antennal segments of ♂ 50 (2) or 51 (1) and of ♀ 49 (1) or 51 (1); notauli largely smooth to finely crenulate; length of hind femur 3.4-3.6 times its width; length of first metasomal tergite 0.7-0.9 times its apical width; length of setose part of ovipositor sheath 0.03 times as long as fore wing and sheath parallel-sided, wide, subtruncate apically and long setose; dark patch on top of head less developed in female; scutellar sulcus finely crenulate; anterior 0.6-0.8 of vein 1-M of fore wing black; palpi more or less infuscate.

Biology.— Parasitoid of *Nadiasa repanda aegyptiaca* Bang-Haas (Lasiocampidae) on *Casuarina glauca* Sieber planted as wind break around an olive orchard 50 km West of

Fig. 8, *Troticus ovalis* (Fahringer), opened cocoon of host to show cocoon of parasitoid.

Cairo. In total 50 host cocoons have been collected from the *Casuarina* trees. Nearly all (48) cocoons contained a cocoon of *Troticus ovalis* (= 96% parasitism; fig. 8); the other two cocoons were parasitized by a tachinid fly.

Distribution.— Egypt, Italy.

Notes.— *Troticus ovalis* (Fahringer) runs in the key by Braet (2001) to *T. segetophilus* Braet, 2001, from D.R. of Congo. However, the latter species has the malar space longer, the scapus more slender, the head (except temple ventrally and face medially) black, the pterostigma dark brown, the fore wing only below the pterostigma subhyaline, the hind tibia about 3.8 times as long as wide and the antenna of the male apically yellowish.

Disophrys aegyptiaca Fahringer, 1937, is a new synonym because it is morphologically identical; only the basal 0.4 of the fore wing membrane is completely pale yellowish (typical *T. ovalis* has it largely dark brown). The original description is confusing, e.g. the hind femur should be slender (but is about 3.5 times as long as wide) as the metasoma (very wide), the metasomal first tergite is 0.7 times as long as its apical width (not about 1.1 times as indicated in the original description), the malar space is 0.6-0.7 times height of eye (about 0.9 times according to original description) and the hind tarsus and tibial spurs are yellowish-brown (infuscate according to the original description).

Cremnops melamopterus (Cameron, 1903) **comb. nov.**

Troticus melamopterus Cameron, 1903: 130-131; Shenefelt, 1970: 424.

Type material.— Holotype, ♂ (not ♀ as stated in the original description; BMNH), "Type", "B.M. Type Hym., 3.c.962", "*Troticus melanopterus* [!] Cam., Type, Borneo" (in Cameron's handwriting), "[East Malaysia, Sarawak], Kuching, Febr. 18, 1902", "Cameron Coll. 1903-121".

Notes.— *Troticus melamopterus* Cameron, 1903, has been the only species of *Troticus* reported from outside Africa and has never been re-examined. The examined holotype belongs to the genus *Cremnops* Foerster, 1862, and *C. melamopterus* (Cameron, 1903) is a new combination. According to Shenefelt (1970) the type specimen could not be the type because it is not a female as stated in the original description. Considering that the specimen belongs to *Cremnops* a female should have a long ovipositor. If Cameron had a female in front of him then he certainly would mention the long ovipositor. Therefore, it is obvious from the original description that he had a male and the type specimen is considered to be the holotype of *T. melamopterus* because it fits the original description. It has the ventral half of the hind femur densely and coarsely punctate, vein SR1 of the fore wing is straight and the hind coxa dorsally with distinct punctures.

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