



**Fig. 2.** Worker of *Martialis heureka* foraging in a subterranean tunnel. This drawing depicts *M. heureka* in its assumed natural habitat as inferred from its external morphology. Please see the *Inferred Biology* section for a more detailed discussion of the species' biology. (Scale bar: 1 mm.) Color pencil drawing by Barrett A. Klein.

apomorphic conditions are marked by an asterisk. (1) Prementum partly visible with closed mouthparts, not entirely concealed behind the broad labrum and stipites; (2\*) clypeus highly reduced; (3\*) eyes absent; (4) frontal lobes absent; (5\*) antennal sockets fully exposed and distant from each other, positioned at anterior margin of clypeus and projecting anteriorly beyond it; (6\*) toruli raised vertically, forming cups to hold condylar bulbs; (7) antennae 12 segmented; (8) promesonotal suture present and flexible; (9) propodeal lobes absent; (10) metapleural gland orifice slit shaped, dorsal orifice margin projecting slightly forward, but not overhanging or concealing opening; (11\*) metacoxal cavity closed, with a complete cuticular annulus surrounding the cavity; (12) metasternal process absent; (13\*) petiole tergosternally fused, without a trace of a suture between tergite and sternite; (14\*) abdominal segment III broadly attached to segment IV but distinctly smaller than the latter, tergosternally fused; (15) helcial tergite well developed, posterior part with a girdling constriction; (16) abdominal segment IV not tergosternally fused, posttergite broadly overlapping abdominal segment V; (17) stridulitrum on presclerite of abdominal segment IV absent; (18) spiracles of abdominal segments I–IV exposed, of V–VII concealed by preceding postsclerites; (19) pygidium (tergite of abdominal segment VII) well developed, simple, neither armed with teeth or setae nor heavily sclerotized nor otherwise modified; (20) sting present; (21) metatibial gland absent; (22) tarsal claws simple, without preapical teeth.

Queen, male, and larva are unknown.

***Martialis* Rabeling & Verhaagh, gen. nov.**

Type and only known species: *Martialis heureka* Rabeling & Verhaagh, sp. nov. (described below).

Worker diagnosis: including the characteristics of the subfamily description given above. (1\*) Mandibles elongate, slender, forceps-like, not crossing at rest (although doing so in dried condition), without differentiated basal and masticatory margins; (2) labrum broad with a U-like insertion at apical margin; (3\*) clypeus reduced to a narrow strip at the sides, with a small trapezoidal median portion between antennal sockets, densely covered with a brush of setae; (4) metanotal groove distinct; (5) propodeum evenly rounded at the transition from basal (= dorsal) to declivitous face; (6) propodeal spiracle orifice not enlarged and nearly equally distant from basal and declivitous face of propodeum and the anterior part of metapleural opening, with circular orifice directed posteroventrally; (7) petiole with short peduncle, tergosternally fused, without a trace of a suture

between tergite and sternite; (8\*) presclerite of abdominal segment IV well developed, posterior part with a girdling constriction, forming the posterior constriction of a weakly defined postpetiole; (9) sting present, but small; (10) mesotibial spur present, simple; (11) metatibial spur present, shortly pectinate.

***Martialis heureka* Rabeling & Verhaagh, sp. nov.**

Worker description (holotype and only known specimen). Measurements: HW 0.65 mm, HL 0.62 mm, SL 0.46 mm, FL 1.03 mm, ML 0.90 mm, WL 1.02 mm, PW 0.40 mm, PEW 0.19 mm, PEL 0.27 mm, PPW 0.34 mm, PPL 0.30 mm, HFL 0.60 mm, HTL 0.57 mm, CI 105, MI 145, SI 72, DI 45 (See [Table S1](#) for definitions and abbreviations of morphometrics). Including the characters of the subfamily and genus description given above: small (HW 0.65, WL 1.02), pale yellow, and blind, integument in dried condition partly translucent. Very long, slender, forceps-like mandibles (ML 0.90, MI 145) inserted on outer anterior margin of head capsule, projecting straight forward to  $\approx 5/7$  of its length, then curving slightly mesally. Inner margin bearing a tiny sudmedian tooth at  $\approx 2/5$  of its length, measured from the base and a group of 3 subapical teeth at  $\approx 5/7$  of its length: a median larger tooth and a somewhat smaller tooth to each side of it. The subapical teeth and the sharply pointed mandibular tip frame an oval space. Mandibles crossed in dried condition (Fig. 1), not crossing in live individual (Fig. 2) or while stored in 80% EtOH. Head capsule bulbous in lateral view, narrowing toward posterior margin. Clypeus reduced, narrow strip between lateral head margin and wider between antennal sockets, covered with at least 20 setae that project forward, beyond the margin of antennal sockets, resembling a brush. Antennal scape relatively short (SI 72, DI 45), 1st and 2nd funicular segment  $3/4$  and  $1/4$  longer than 3rd funicular segment. Funiculus more than twice as long as scape. Mesosoma long and slender. Promesonotal suture present, pronotum and mesonotum presumably capable of movement relative to each other. Pronotum forming a slender cervix. Front legs enlarged: procoxae twice as long and wide as meso- and metacoxae; profemora and tibiae also enlarged. Petiole sessile with a short anterior peduncle; petiolar node rounded, smooth, with a short sloping posterior face; no teeth or projection ventrally. Metasoma (abdominal segment IV–VIII visible) laterally compressed, drop shaped in lateral view. Head, pronotum, and legs densely covered with erect to suberect hairs and sparsely with longer erect setae; mandibular pubescence dense, consisting of short suberect hairs. Inner margin with two rows of at least 18 long straight setae, which are arranged pair wise. Propodeum without any hairs; petiole with few suberect setae on dorsal surface of node and abdominal segment III–VIII with irregularly spaced long erect setae. Dense appressed pubescence absent from entire body. Only few body parts bear distinct sculpturing: neck, mesonotum, propodeum, and ventral surface of petiole punctate; lateral surface of propodeum faintly striate.

**Holotype and Locality.** Brazil: Amazonas, Manaus. Headquarters of Empresa Brasileira de Pesquisa Agropecuária (EMBRAPA)-Amazônia Ocidental, located at kilometer 28 of highway AM 010; 2°53'S, 59°59'W; elev. 40–50 m; 09 May 2003; col. C. Rabeling; ex leaf litter at dusk, primary tropical lowland rainforest. The holotype is deposited in Museu de Zoologia da Universidade de São Paulo, Brazil (MZSP).

**Etymology.** The genus name refers to the unknown combination of aberrant morphological characters, which led Stefan P. Cover and Edward O. Wilson to the conclusion that this ant has to be from the planet Mars; hence, the genus name *Martialis* (gr.: “of Mars” or “belonging to Mars”). The species epithet *heureka* (gr.: I found it!) epitomizes the troubled story of the species' rediscovery. Five years after two workers were discovered by M. Verhaagh in a soil sample and subsequently lost, a single worker,