Paramigas oracle, new species
(Figs. 3C–D, 21C–D, 25C, 27A–D, 40A–B, 41A–G, 42A–D, 43A–D, 65, 68)

Type.—Holotype female collected in primary forest at ca. 1200 m at Vatoharanana (21°16.7'S, 47°26.1'E), Parc Nationale Ranomafana, Fianarantsoa Province, Madagascar, on 29 April 1998 by C. E. Griswold, deposited in CASC. Paratype female, also from P. N. R. at Talatakely (21°14.9'S, 47°25.6'E) ca. 900 m elev., collected on 27 April 1998 by D. Ubick, deposited in CASC.

Etymology.—The specific name thanks the Oracle Foundation, whose support made possible the 1998 California Academy of Sciences' expeditions to Madagascar.

Diagnosis.—Distinguished from all other *Paramigas* that have a dense vestiture of long, silky hairs beneath patellae-metatarsi I and II (Fig. 41B) by (contra *P. goodmani*) having slender setae rather than thorns at the apices of metatarsi I and II (Figs. 27A–C, 41B) and (contra *P. perroti*) by having the spermathecae short with large heads, length less than 1.67 × head diameter and head diameter greater than 2.14 × diameter stalk (Figs. 40A–B, 41C–D).

Description.—Female (holotype): Total length 11.0. Carapace dark yellow-brown with yellow-brown striae extending along lateral margins of caput and a dark band rebordering carapace (Fig. 41A); ocular area and clypeus dark, black surrounding AME and extending between these and ALE, PLE and PME; sternum, coxae, and trochanters light yellow-brown gradually darkening to orange-brown on pedipalpal coxae and labium; legs and pedipalpi dark yellow-brown fading to orange-brown on tarsi; patella IV yellow-white dorsally; abdomen dark purple-brown, venter and spinnerets paler.

Carapace 4.5 long, 4.1 wide, height at thoracic fovea 0.29 × carapace width; smooth. Caput inclined, height 1.6 × that at thoracic fovea, width 0.70 × carapace width; anteromedian ocular seta present with a pair of setae situated anteriad to this; clypeus length 0.38 × length OAL, margin straight. Thoracic fovea recurved and tripartite, width 0.18 × that of carapace, 1.6 × wider than long, prefoveal setae absent (Fig. 41A).

Ocular area width 0.52 × caput, 1.96 × wider than long; AER 1.5 wide, 1.07 × width PER. Ratio of eyes: AME: ALE: PME: PLE: 1.0: 0.76: 0.84: 0.53, diameter AME 0.32; AME separated by 0.38 × their diameter, PME by 1.81 × their diameter. Ocular quadrangle 1.96 × wider than long, posterior width 1.17 × anterior.

Sternum 3.0 long, 1.32 wide, widest behind coxa II and narrowed anteriorly, setose along margin and sparsely setose on surface; sigilla shallow, oval, adjacent to coxa II, width 0.15 × width sternum, distance between 0.61 × distance from margin. Labium 0.42 long and wide; labium with 25 and pedipalpal coxae with 36–37 cuspules; pedipalpal coxae 0.8 long, 0.5 wide, apex produced to a blunt point. Chelicerae 1.2 long, fang with prolateral flange, promargin of fang furrow with 3 teeth, retromargin with 4 teeth interspersed with a denticle (Fig. 41F).

Femur I 0.82, tibia I 0.47, femur IV 0.81, and tibia IV 0.48 × width carapace. Ventral surfaces of patellae, tibiae, metatarsi, and tarsi of legs I and II densely covered by long filiform setae (Fig. 41B). Spination: pedipalpus: tibia p 1-0-0, tarsus p 1-1-1, r 0-1-1; leg I: tibia p 1-1-1-1a, r 3-2-3a; metatarsus p 1-1-2-1-1-3a, r 2-2-2-1a; tarsus p 2-1-1, r 2-0-0; leg II: tibia p 2-2-1-2a, r 3-2-3a, metatarsus p 2-2-2-1a, r 2-2-2-1a, tarsus p 1-1-1-1, r 1-1-0; leg III: patella with approximately 45, tibia with approximately 59, metatarsus with approximately 20, and tarsus with 5 spinules; leg IV patella with approximately 70 slender spinules. Femur II with row of 5–6 stout proximal ventral setae, retrodorsum of legs I and II with dense patches of stout, smooth, procumbant setae: 13–18 apical on tibiae, 20–24 basal on metatarsi. STC teeth (pro-retro): I, II (2-2), III, IV (1-1); ITC simple, pedipalp claw with 1 multidentate tooth (Figs. 3C–D, 41G). Leg measurements (Femur + Patella + Tibia + Metatarsus + Tarsus = [Total]): I: 3.4 + 1.9 + 1.95 + 1.5 + 0.95 = [9.7]; II: 3.0 + 1.85 + 1.55 + 1.4 + 1.1 = [8.9]; III: 2.55 + 1.5 + 1.55 + 1.25 + 1.15 = [8.0]; IV: 3.35 + 1.95 + 2.0 + 1.7 + 1.35 = [10.35]; pedipalpus: 1.95 + 1.10 + 1.15 + (absent) + 1.15 = [5.95].

Abdomen 5.3 long, 4.3 wide, sparsely covered with short setae. Spermathecae with broad head and short stalk, length spermathecae 0.67 × distance between them and 1.37 × head diameter, diameter head 3.0 × diameter stalk, head length 1.28 × length stalk (Figs. 40B, 41C).

Variation (N=3).—Total length 8.8–11.0; height at fovea 0.29–0.34 × carapace width. Caput 0.70–0.77 × carapace width, height 1.2–1.6 × that at fovea; diameter ALE 0.61–1.0 × AME, PLE 0.72–1.0 × PME; clypeus length 0.33–0.44 × OAL; thoracic fovea width 1.25–1.6 × length, pre-foveal setae absent or reduced to a single seta. Sternal sigilla width 0.071–0.15 × sternum width; labium with 20–42 and pedipalpal coxae with 16–40 cuspules (Figs. 43C–D); retromargin of fang furrow with 4–5 teeth (Figs. 41E–F). Metatarsus I with 5–7 retrolateral spines; tibia II with 5–7 and metatarsus II with 5–7 prolateral spines, pedipalp claw with 1–3 teeth. Spermathecae length 0.67–1.05 × distance between them and 1.33–1.67 × head diameter, diameter head 2.14–3.0 × diameter stalk, head length 1.0–1.28 × length stalk.

Natural History.—Specimens from Vatoharanana and Talatakely were taken from nests on the trunks of small trees or large vines in forest understory. Three nests observed have the same form: they are oval, oriented vertically on the substrate, and with a single wafer type door at the upper end. The nest of the holotype is 29 mm long, 13 mm wide, and 9 mm deep; the door is 10 mm long and 12 mm wide (Figs. 21C–D). All nests are made of fragments of bark and lichen woven together with silk.

Distribution.—Central to south-central Madagascar (Fig. 68).

Additional Material Examined.—MADAGASCAR: Fianarantsoa: Parc Nationale Ranomafana: Talatakely, 21°14.9'S, 47°25.6'E, 5–18 April 1998, C. E. Griswold & D. H. Kavanaugh (1 fragmentary female, CASC), 30 October–21 November 1998, V. Lee & K. Ribardo (1 female, CASC). Antananarivo: 3 km 41° NE Andranomay, 11.5 km 147° SSE Anjozorobe, 18°28.4'S, 47°56.6'E, elev. 1300 m, montane rainforest, 5–13 December 2000, CAS/PBZT Spider-Ant Class (1 female, CASC).

FIGURE 40. Spermathecae of *Paramigas* spp., dorsal. A. *P. oracle*, Talatakely, Madagascar. B. *P. oracle*, holotype (SS foreshortened in this view). HS – spermathecal head, SS – spermathecal stalk. Scale bars: = 0.3 mm.

[From Griswold, C. E. & J. Ledford, 2001. A monograph of the migid trap door spiders of Madagascar and review of the world genera (Araneae, Mygalomorphae, Migidae). Occas. Pap. Calif. Acad. Sci. 151: 90].

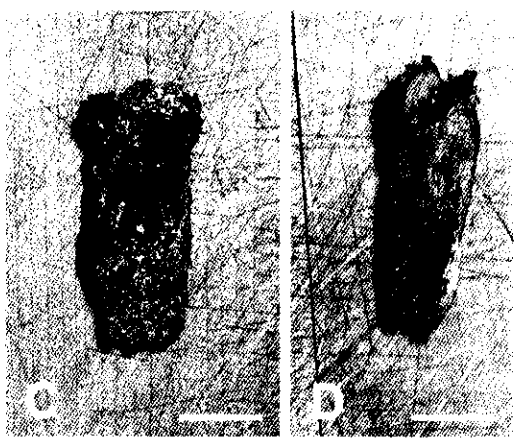


FIGURE 21. Nests of *Paramigas*. C, D. *P. oracle*, new species, holotype. C. Outer. D. Lateral. Scale bars: = 1 cm.

[From Griswold, C. E. & J. Ledford, 2001. A monograph of the migid trap door spiders of Madagascar and review of the world genera (Araneae, Mygalomorphae, Migidae). Occas. Pap. Calif. Acad. Sci. 151: 71].

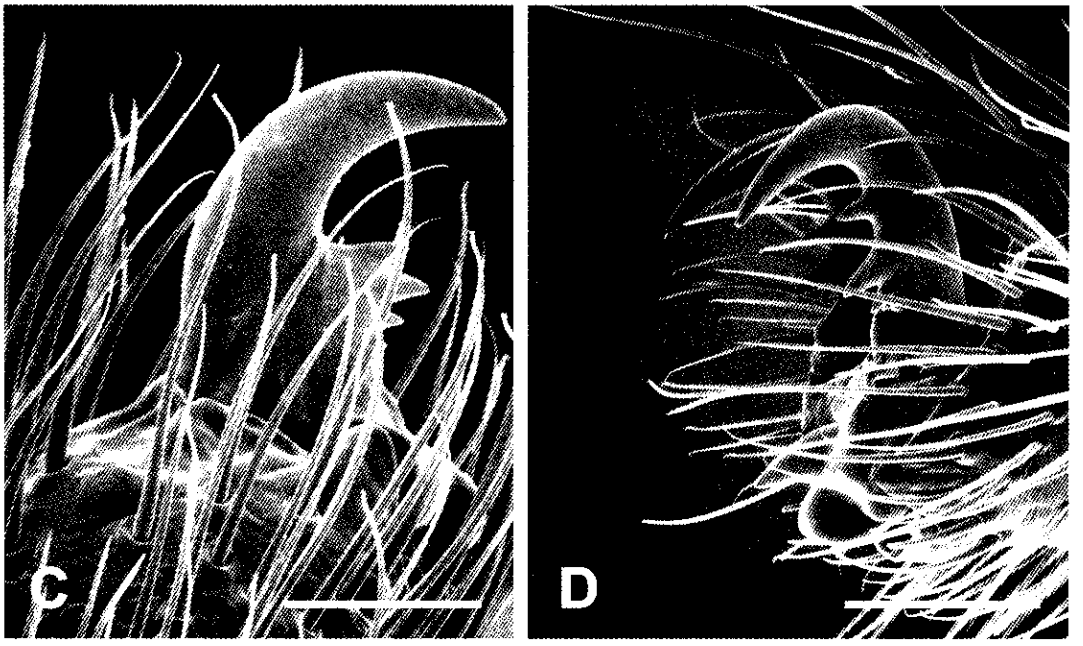


FIGURE 3. Morphology of *Paramigas*. C, D. *Paramigas oracle*, new species, female from Talatakely, Madagascar. C. Pedipalpal tarsus claw. D. Tarsus 1 claws. Scale bars: A = 250 μm, B = 120 μm, C = 100 μm, D = 200 μm.

[From Griswold, C. E. & J. Ledford, 2001. A monograph of the migid trap door spiders of Madagascar and review of the world genera (Araneae, Mygalomorphae, Migidae). Occas. Pap. Calif. Acad. Sci. 151: 55].

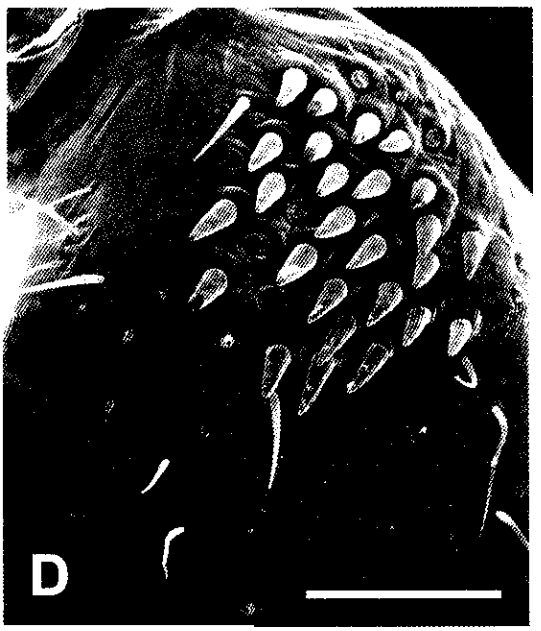


FIGURE 25. A, B, D. *Micromesomma cowani*, female from MNHN. C. *Paramigas oracle*, female from Talatakely, Madagascar. A–C. Tibia III. A. Prolateral. B. Retrolateral. C. Dorsal. D. Coxa III showing thorns. Arrow to prolateral ridge of tibia III. Scale bars: A, B = 750 μm, C = 600 μm, D 300 μm.

[From Griswold, C. E. & J. Ledford, 2001. A monograph of the migid trap door spiders of Madagascar and review of the world genera (Araneae, Mygalomorphae, Migidae). Occas. Pap. Calif. Acad. Sci. 151: 75].

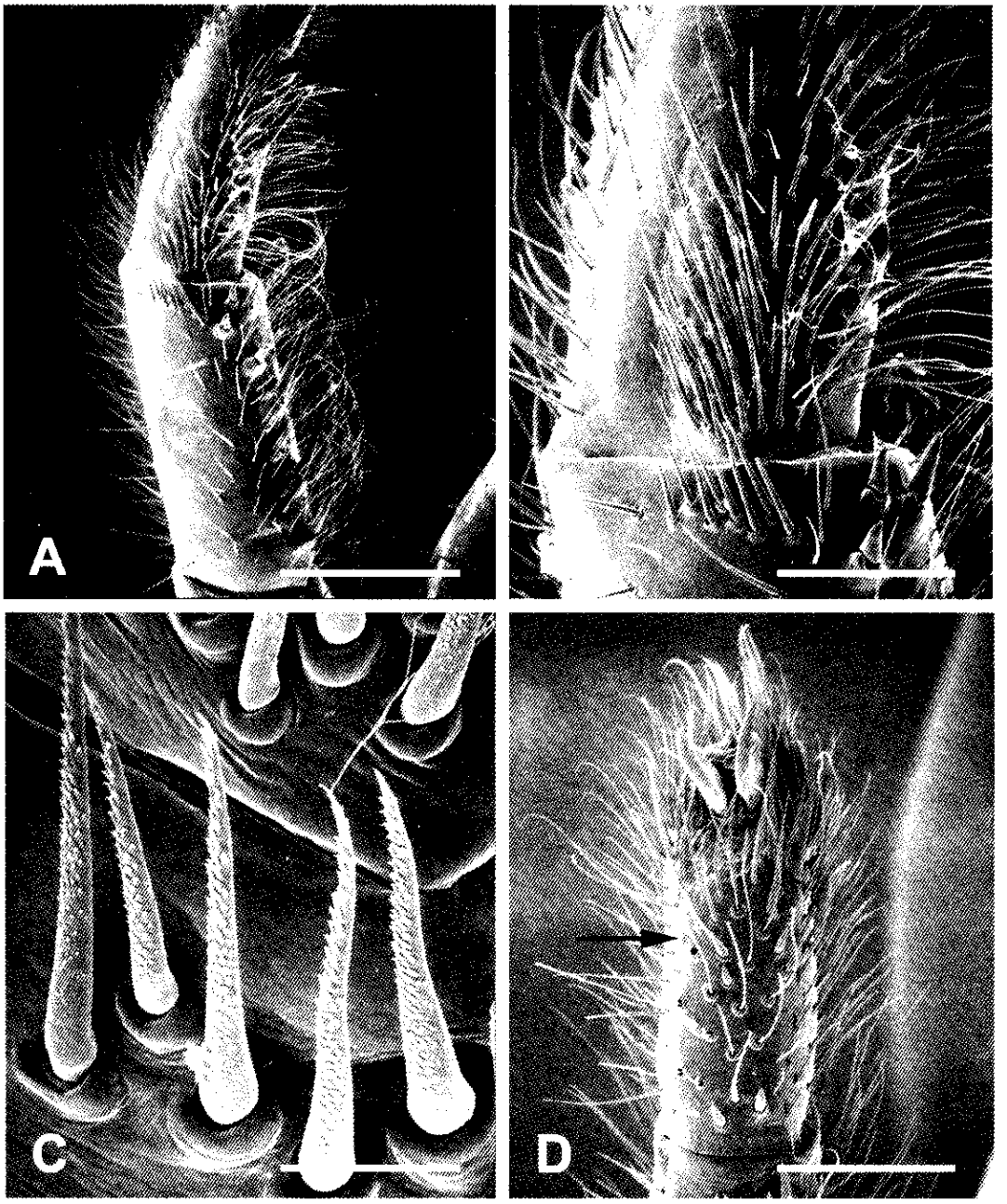


FIGURE 27. *Paramigas oracle*, new species, female from Talatakely, Madagascar. A. Tibia-metatarsus I, retrolateral. B. Retrolateral view of tibia-metatarsus I junction showing serrate, procumbant setae. C. Dorsal view of serrate, procumbant setae at apex of tibia I. D. Tarsus III, dorsal, showing trichobothrial distribution and tarsal organ (arrow). Scale bars: A = 1000 µm, B – 430 µm, C = 75 µm. D = 270 µm.

[From Griswold, C. E. & J. Ledford, 2001. A monograph of the migid trap door spiders of Madagascar and review of the world genera (Araneae, Mygalomorphae, Migidae). Occas. Pap. Calif. Acad. Sci. 151: 77].

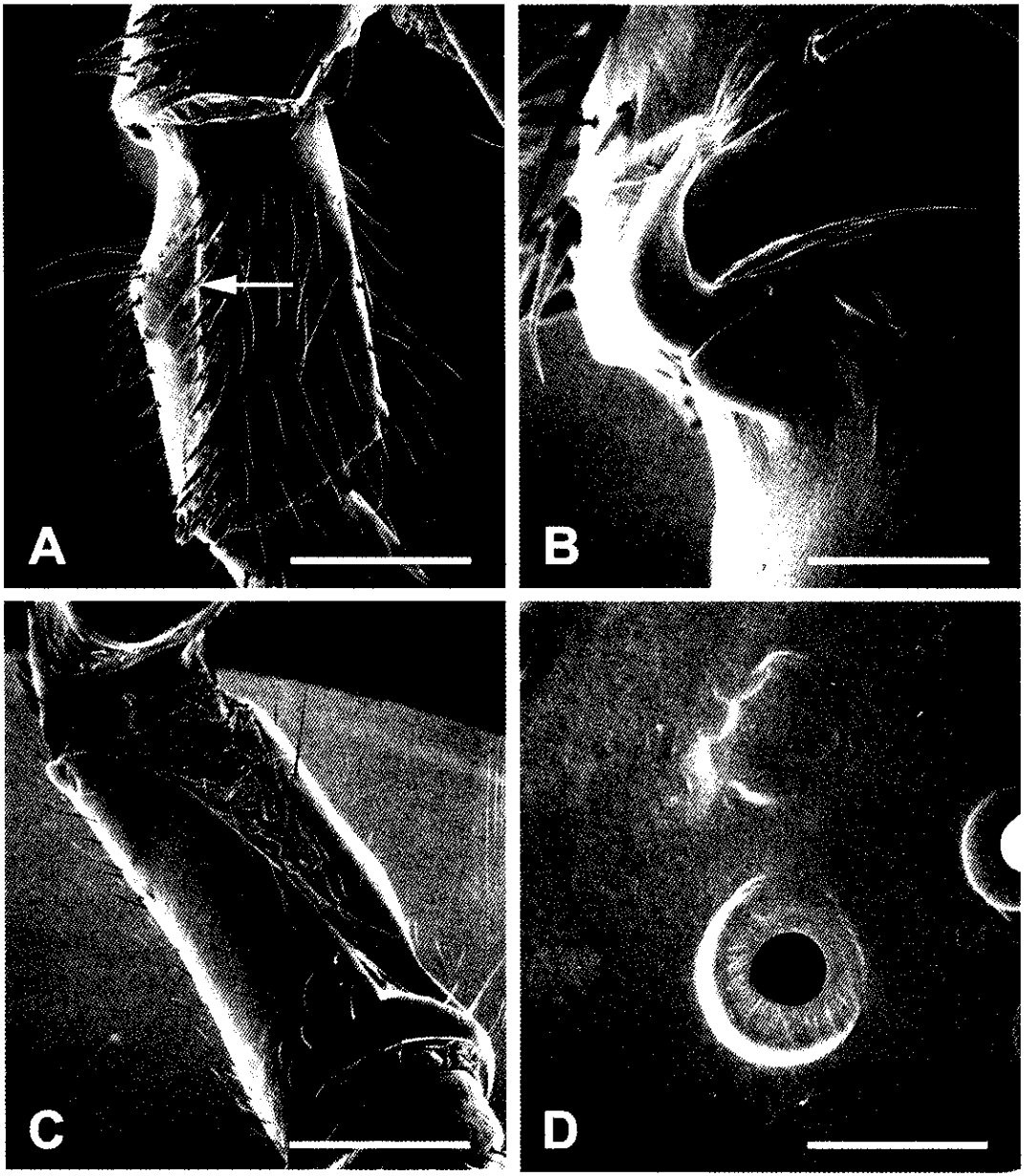


FIGURE 42. *Paramigas oracle*, new species, female from Talatakely, Madagascar. A. Tibia III, prolateral. B. Junction of patella-tibia III. C. Venter of femur III showing membrane. D. Tarsal organ and trichobothrium on tarsus III. Arrow to prolateral ridge of tibia III. Scale bars: A = 600 μm, B = 250 μm, C = 750 μm, D = 38 μm.

[From Griswold, C. E. & J. Ledford, 2001. A monograph of the migid trap door spiders of Madagascar and review of the world genera (Araneae, Mygalomorphae, Migidae). Occas. Pap. Calif. Acad. Sci. 151: 92].

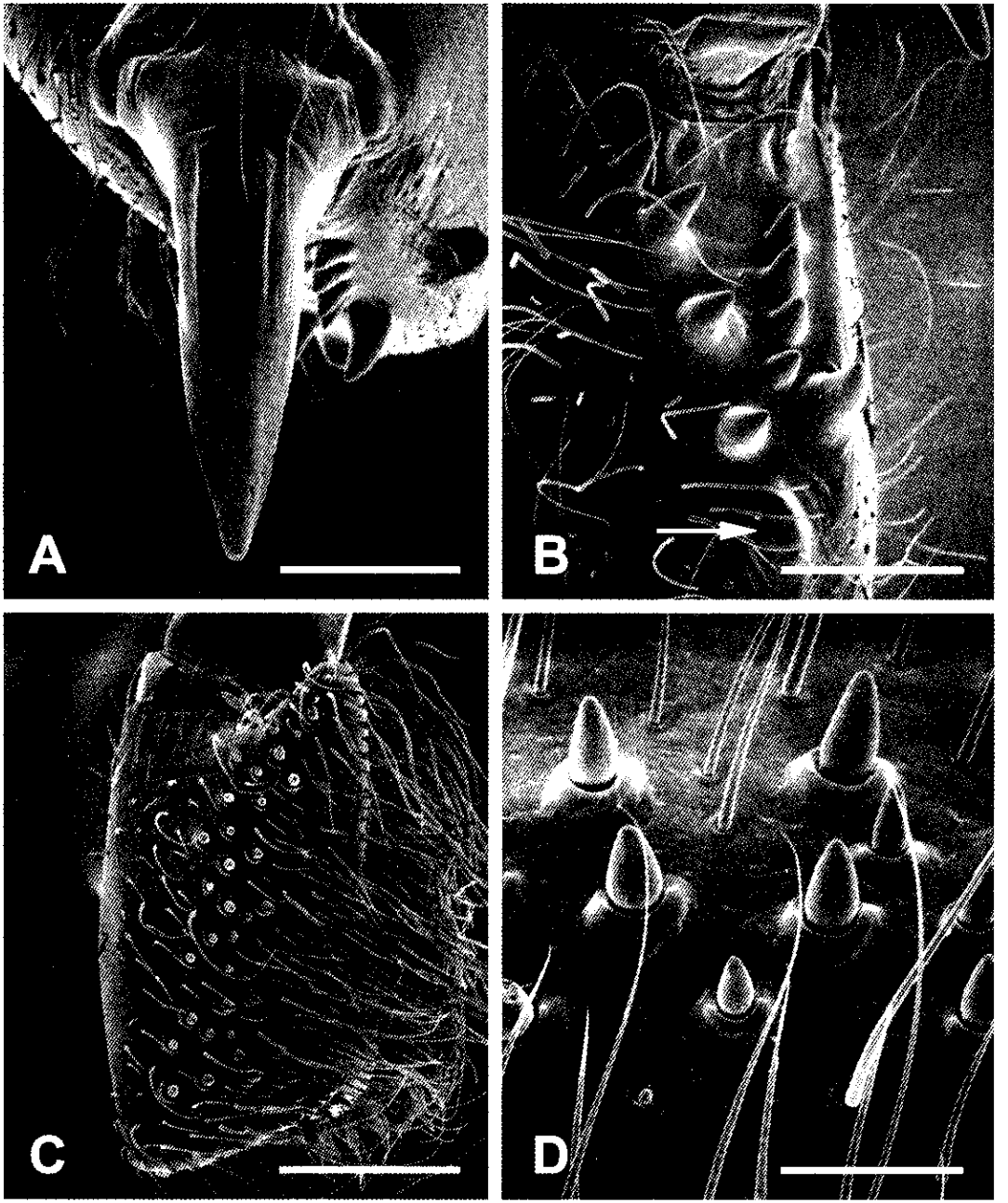
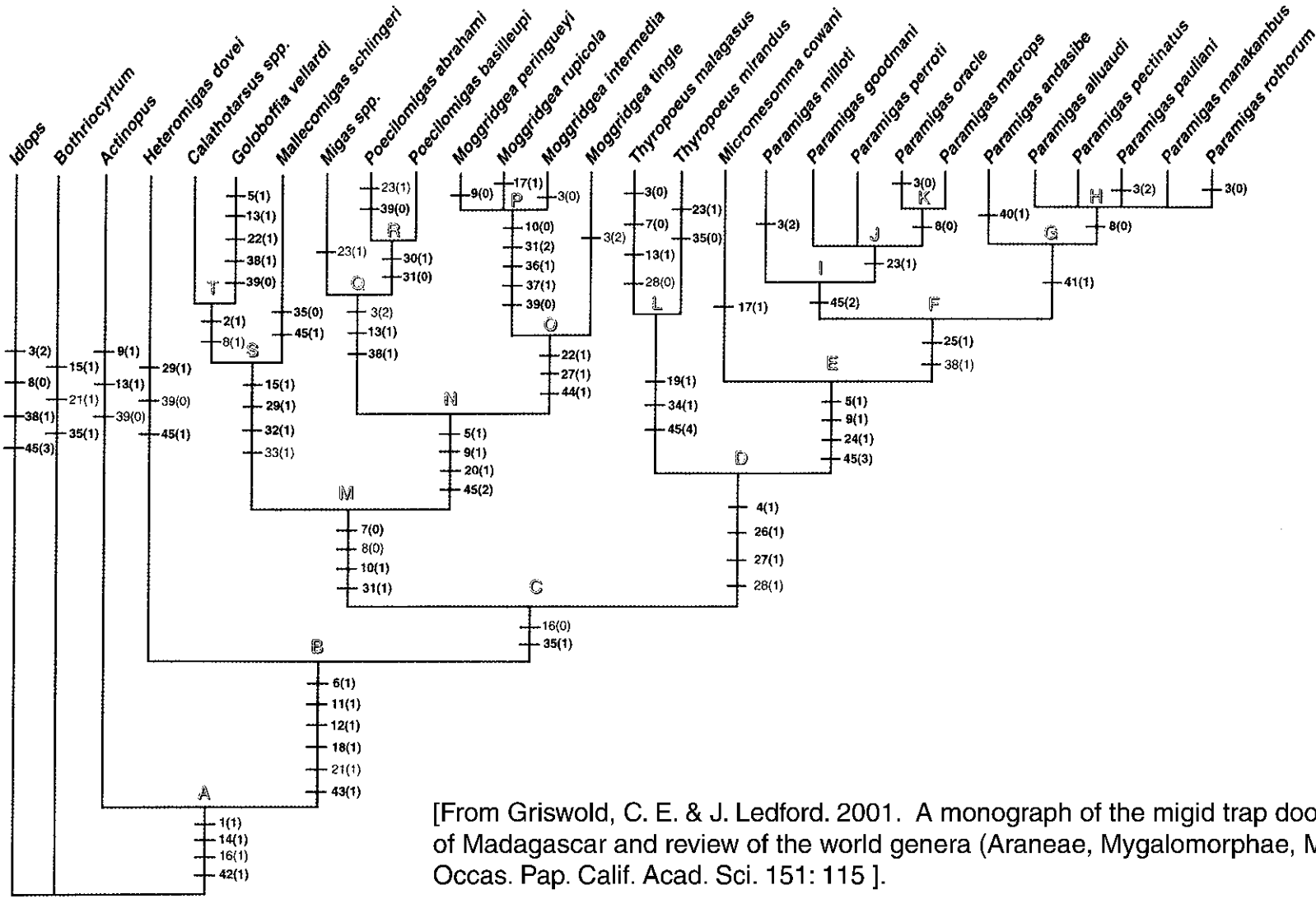


FIGURE 43. *Paramigas oracle*, new species, female from Talatakely, Madagascar. A. Fang. B. Dentition of fang furrow (arrow to basal swelling on chelicera). C. Right pedipalpal coxa. D. Cuspules on right pedipalpal coxa. Scale bars: A = 500 μm, B = 430 μm, C = 600 μm, D = 120 μm.

[From Griswold, C. E. & J. Ledford, 2001. A monograph of the migid trap door spiders of Madagascar and review of the world genera (Araneae, Mygalomorphae, Migidae). Occas. Pap. Calif. Acad. Sci. 151: 93].



[From Griswold, C. E. & J. Ledford. 2001. A monograph of the migid trap door spiders of Madagascar and review of the world genera (Araneae, Mygalomorphae, Migidae). Occas. Pap. Calif. Acad. Sci. 151: 115].

FIGURE 65. Preferred cladogram for Migidae, 96 steps, c.i. = 0.52, r.i. = 0.76. Character changes are marked on branches [character (state)]; those in bold represent unambiguous optimizations. Bremer support (decay indices) for the nodes are A (2), B (3), C (1), D (4), E (5), F (1), G—K (0), L (4), M (2), N (>5), O (4), P (4), Q (3), R (1), S (2) and T (1).

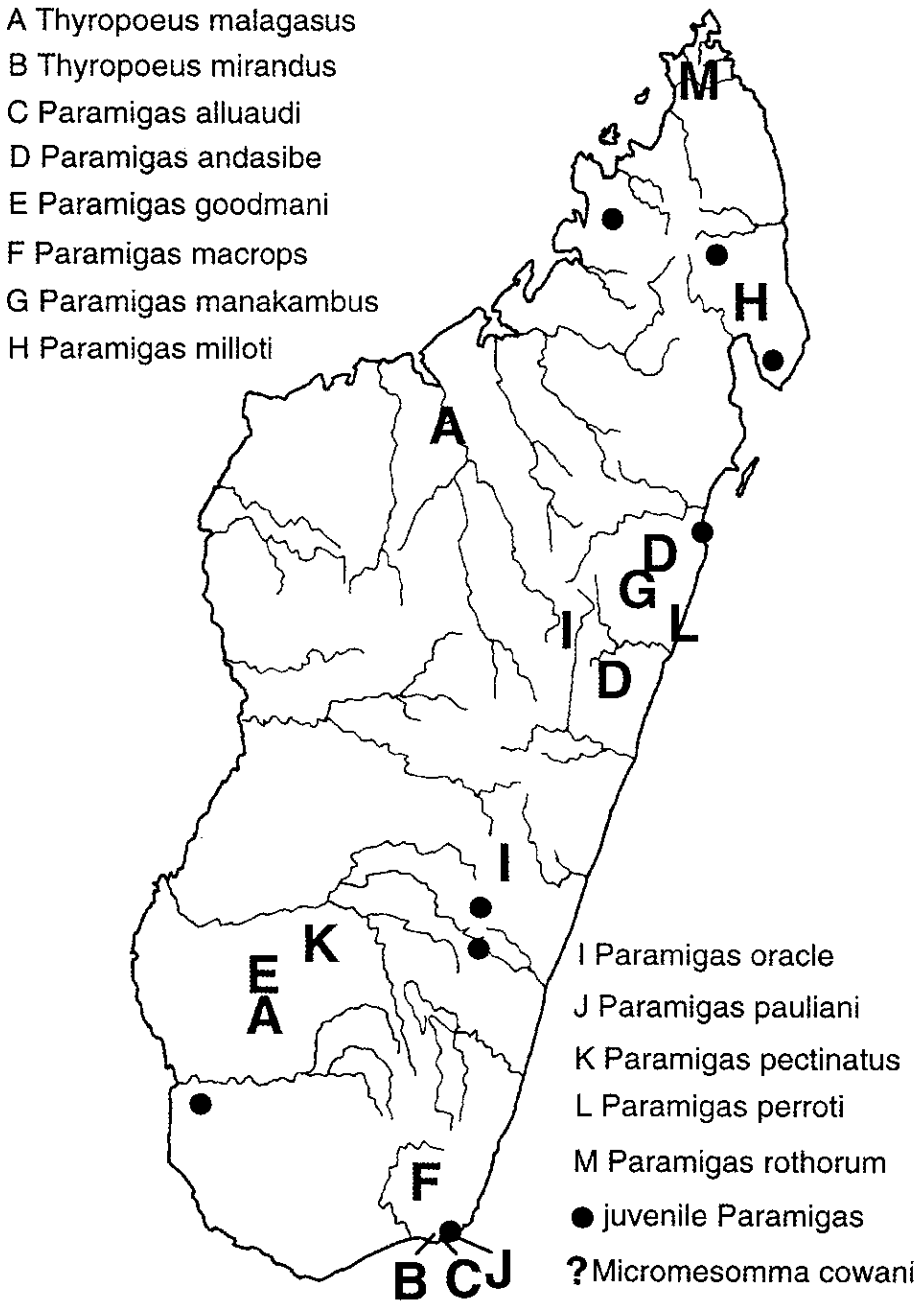


FIGURE 68. Map of Madagascar showing records of Migidae. Locality data for juvenile *Paramigas* are listed in Table 1

[From Griswold, C. E. & J. Ledford. 2001. A monograph of the migid trap door spiders of Madagascar and review of the world genera (Araneae, Mygalomorphae, Migidae). Occas. Pap. Calif. Acad. Sci. 151: 117].