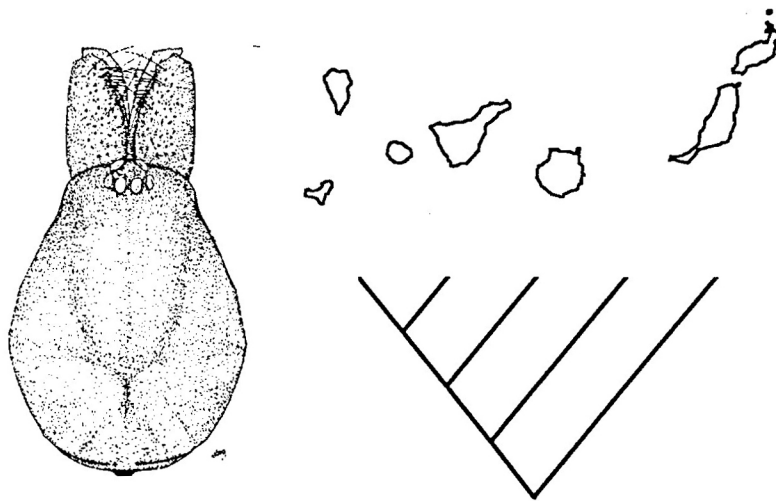


Departament de Biologia Animal  
Facultat de Biologia  
Universitat de Barcelona

Tesi Doctoral

COLONITZACIÓ I RADIACIÓ  
DEL GÈNERE *Dysdera* (ARACHNIDA, ARANEAE)  
A LES ILLES CANÀRIES



Miquel Àngel Arnedo Lombarte

1998

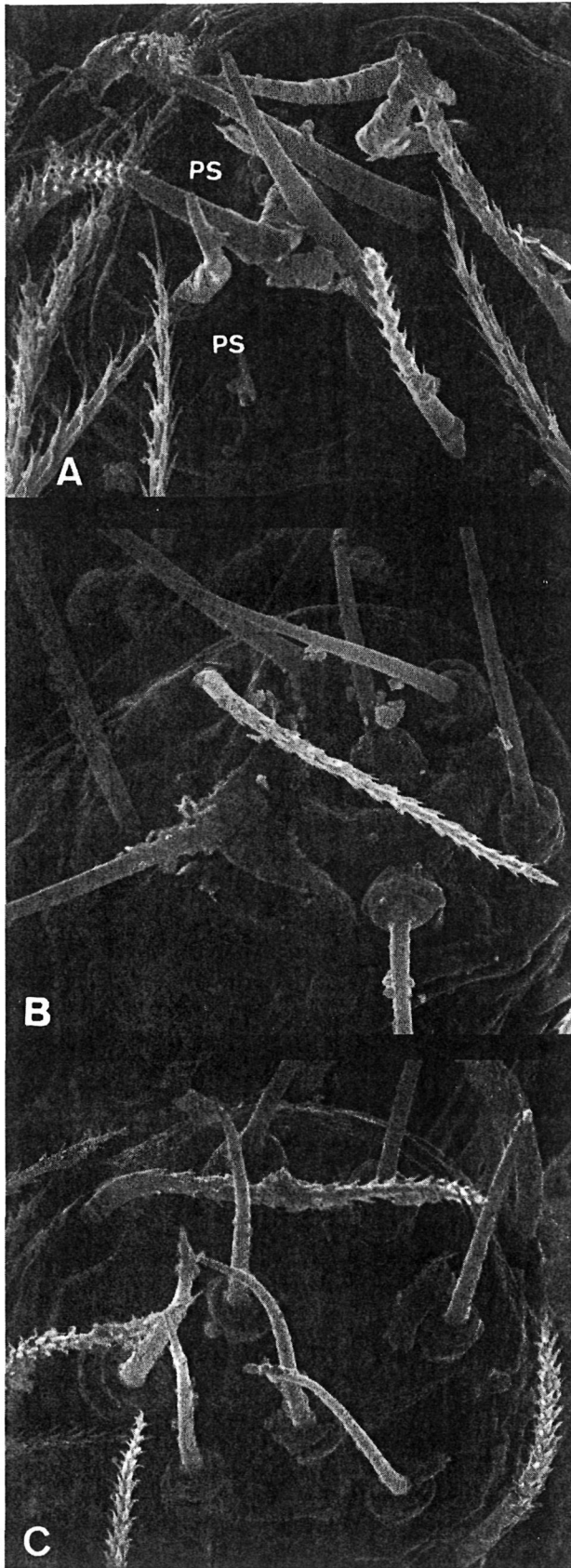


Fig. 19. —A–C. *Dysdera paucispinosa* Wunderlich, 1991; right female spinnerets.—A. ALS.—B. PMS.—C. PLS.

DA (Fig. 17D–E) sclerotized around TB valve attachment as well as in ventral region; both regions completely fused, not distinguishable; DF wide. DA frontal border projected, pointed; lateral margins convergent in dorsal view; slightly wider than long. Ventral region sclerotized

Table V. *Intraspecific spination variability of Dysdera paucispinosa*

	Proximal	Med.–proximal	Medial–distal	Distal
Tibia 3 dorsal	0–1.0.0	0	0	1.0.0
Tibia 4 dorsal	0.0.0–1	0	0	0
Tibia 3 ventral	0.0–1.0	0	0	0
Tibia 4 ventral	0.1–2.0	0	0	0
	Number of rows		Number of spines	
Femur 3 dorsal	0		—	
Femur 4 dorsal	0		—	

from middle area to the front; small scale or ridge present at both sides of S attachment. S arms are shorter than DA; straight; tips dorsally projected; neck as wide as arms. TB usual shape.

ALS (Fig. 19A) with pyriform gland spigot in polar position; remaining pyriform spigots more external than major ampulate gland spigot, arranged in one row; 4 + 1 pyriform gland spigots; PMS and PLS (Fig. 19B–C) with fewer than 10 aciniform gland spigots.

*Intraspecific variation.* P sometimes toothed along its upper margin. Spination variability in Table 5.

*Distribution.* Gran Canarian endemic. Relatively rare species collected from pine forest-related habitats.

*Comments.* After examination of type material of *D. paucispinosa* and *D. tamadabaensis* no non-sex-related character to distinguish the two species was found. Therefore, the second species is considered to be the male of the first and hence a junior synonym.

#### *Dysdera tibicena* sp. n. (Figs. 20A–H, 21A–D, 22A–C)

*Holotype male.* 14/2/96, MA. Arnedo, B. Emerson, R. Fragoso, C. Juan & P. Oromí leg.; num. 3049, stored at UB.

*Type locality.* Pinar de Tamadaba, Agaete, Gran Canaria, Canary Islands.

*Allotype female.* Same data as holotype; num. 3056, stored at UB.

*Paratypes.* Barranco de Guayadeque, Agüimes, Gran Canaria, Canary Islands; 12/2/96, Arnedo & Emerson leg.; 1♂ num. 3036, stored at UB. Casa Forestal, Pinar de Tamadaba (1100), Agaete, Gran Canaria, Canary Islands; 1/1/90, H. Enghoff & M. Báez leg.; 1♂, 1♀ num. 2660, stored at ZMK. Cumbre de Pajonales, Tejada, Gran Canaria, Canary Islands; 11/2/96, Arnedo, Emerson & Oromí leg.; 1♂ num. 3026, stored at UL. Degollada de las Brujas, N slope, Mogán, Gran Canaria, Canary Islands; 10/2/96, Arnedo, Emerson & Oromí leg.; 1♀ num. 3013, stored at UL.

*Other material.* Agaete: Pinar de Tamadaba; 14/2/96; Arnedo, Emerson, Fragoso, Juan & Oromí leg.; 1♀ 3092 UB, 1♂ 3048 UB, 1♂ 3050 UB, 1♂ 3055 UB, 1♀ 3058 UB, 1♀ 3059 UB, 1 juv. 3060 UB, 1♀ 3062 UB, 1♀ 3063 UB, 1 juv. 3064 UB. Moya: Fontanales; 1♂ subad.; 3/8/88; F. Catena leg.; 3169 UB. Tejada: near Cumbre de Pajonales; 1 juv.; 11/2/96; Arnedo, Emerson & Oromí leg.; 3024 UB.

*Etymology.* The noun in apposition to this species refers to certain nocturnal spectres in aboriginal mythology.

*Diagnosis.* Smooth carapace with parallel lateral frontal borders (Fig. 20A). Cheliceral segment completely covered with granulations. D large and trapezoid (Fig. 20B). Nail-like abdominal dorsal hairs, short, mainly in males. DD as long as T and markedly bent (Fig. 20C). L external border frontally folded (Fig. 21A). P sloped in relation to T (Fig. 21D). Ventral DA completely sclerotized, with sheet-like structures as long as lateral DA, mostly joined (Fig. 20D). This species is distinguished from similar *D. arabisenen* sp.

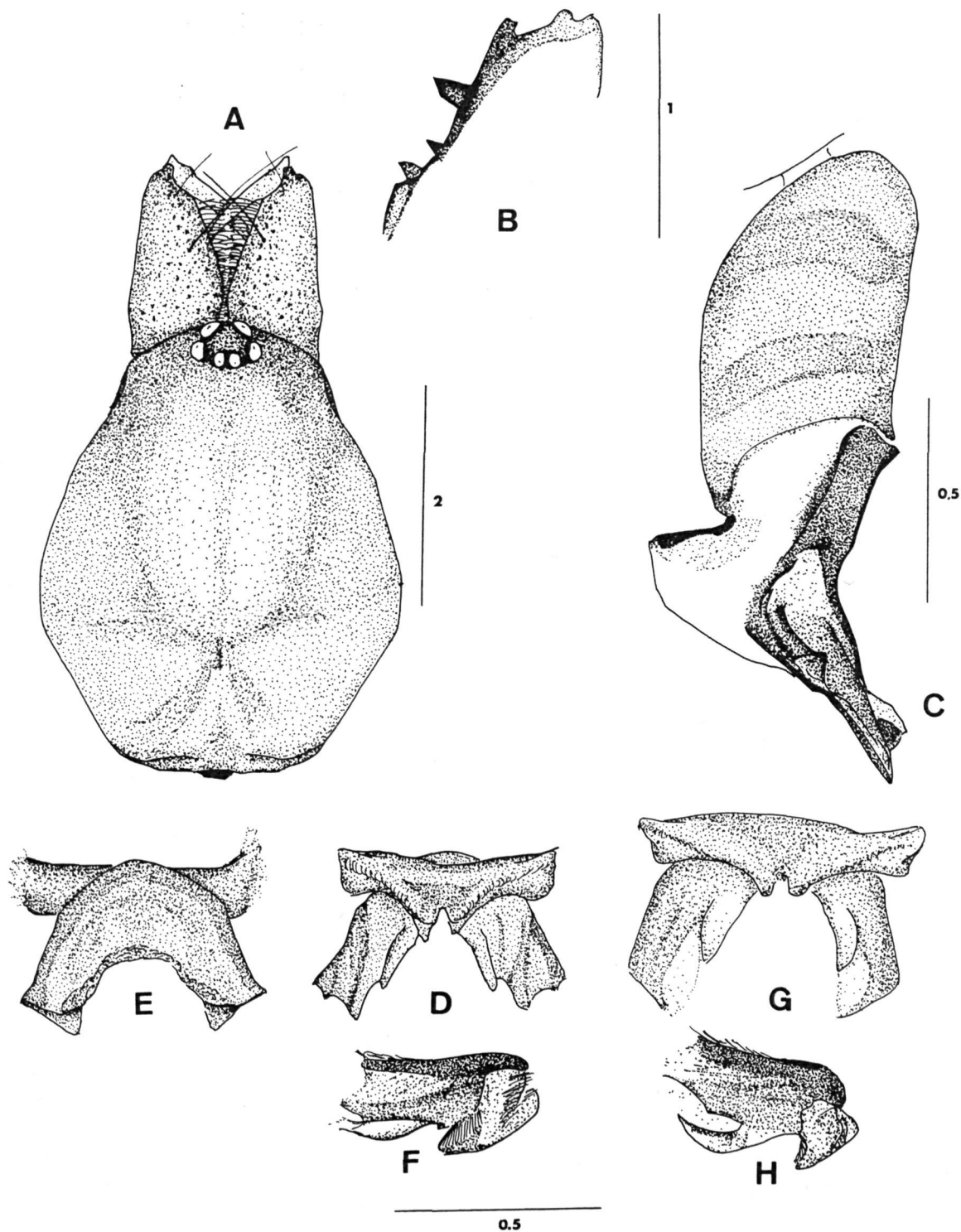


Fig. 20. —A–G. *Dysdera tibicena* sp. n.;—A. Carapace, dorsal.—B. Left chelicera, ventral.—C. Right male bulbus, external.—D. Endogyne, ventral.—E. Endogyne, dorsal.—F. Endogyne, lateral. Endogyne variability —G. Ventral.—H. Lateral. Scale bars in millimetres.

n. by slender build, strong spinated tibiae 3 and 4 (Table VI), narrower L.

**Description. Male** (Figs. 20A–C, 21A–D). Carapace (Fig. 20A) 4.55 mm long; maximum width 3.57 mm; minimum width 2.24 mm. Brownish dark red, frontally darker, becoming lighter towards back; slightly foveate at borders, slightly wrinkled with small black grains mainly anterior. Frontal border fairly rounded, about 1/2 carapace length; lateral borders parallel; sharpened at maximum dorsal width point, back lateral borders

straight; back margin wide, straight. AME diameter 0.26 mm, PLE 0.21 mm, PME 0.18 mm; AME on edge of frontal border, separated one from another about 2/5 of diameter, close to PLE; PME very close to each other, about 1/3 PME diameter from PLE. Labium trapezoid-shaped, base wider than distal part; longer than wide at base; with semicircular groove at tip. Sternum red, frontally darker, becoming lighter towards the back; wrinkled; uniformly covered in slender black hairs.

Chelicerae (Fig. 20B) 2.10 mm long, about 1/3 of carapace length in dorsal view; fang medium-sized,

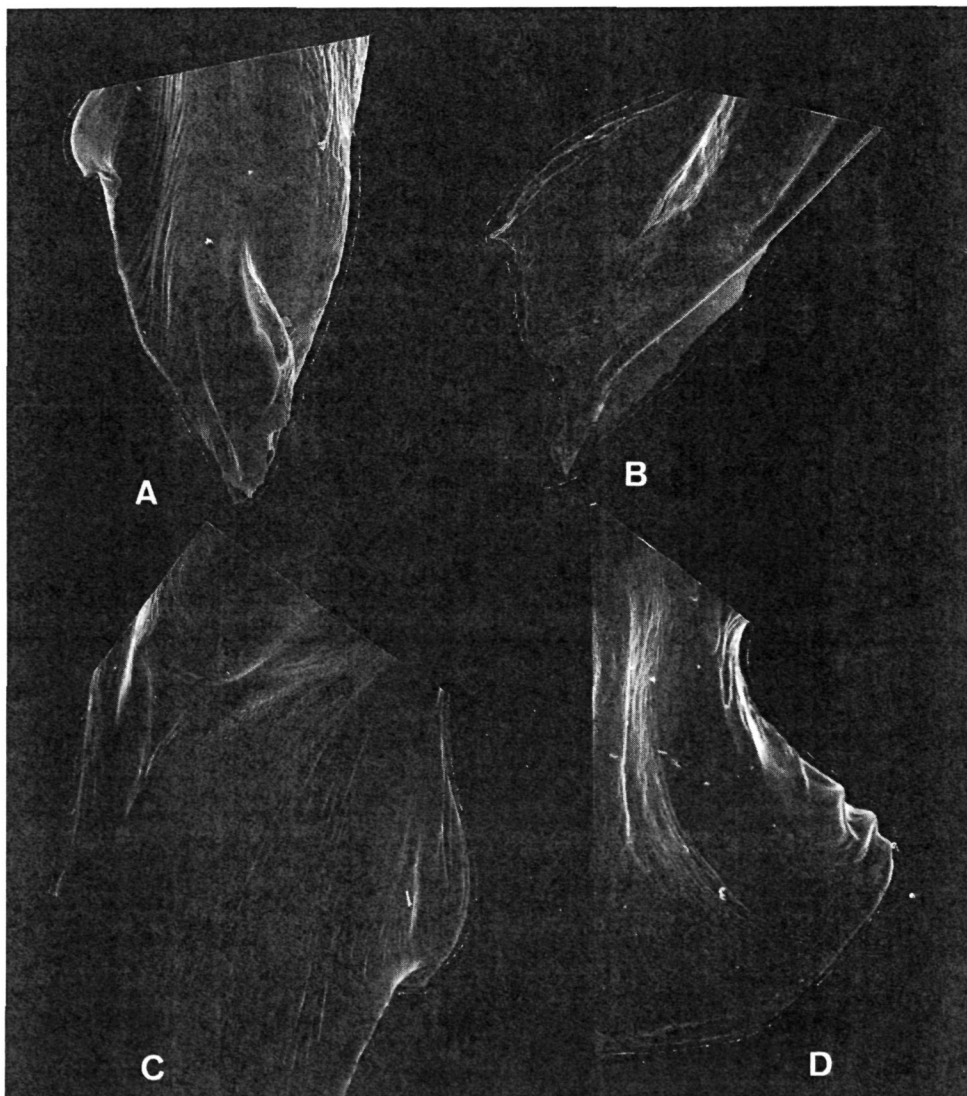


Fig. 21. —A–D. *Dysdera tibicena* sp. n.; right male bulbus.—A. DD, frontal.—B. DD, internal.—C. DD, posterior.—D. P, internal.

1.47 mm; basal segment dorsal and ventral side completely covered with piligerous granulations. Chelicera inner groove short, about 1/3 cheliceral length; armed with three teeth and lamina at base; D largest, B larger than M; D trapezoid, located near segment tip; B close to basal lamina; M at middle of B, D. Frontal legs dark orange and back legs yellow. Lengths of male described above: fe1 3.91 mm (all measurements in mm); pa1 2.66; ti1 3.50; me1 3.50; ta1 0.84; total 14.41; fe2 3.71; pa2 2.45; ti2 3.08; me2 2.87; ta2 0.84; total 12.95; fe3 3.08; pa3 1.68; ti3 2.10; me3 2.87; ta3 0.77; total 10.50; fe4 4.20; pa4 2.24; ti4 2.84; me4 4.27; ta4 1.00; total 14.55; fe Pdp 2.31; pa Pdp 1.19; ti Pdp 1.26; ta Pdp 1.05; total 5.81; relative length:  $4 > 1 > 2 > 3$ . Spination: palp, leg1, leg2 spineless. Fe3d spines in one row: 1–0; pa3 spineless; tb3d spines arranged in three bands: proximal 1–0.0.1; medial–proximal 1.2.1; distal 1.0.0; tb3v spines arranged in two bands: proximal 1.1.0–1; distal 1.0.0; with two terminal spines. Fe4d spines in one row: 1–2; pa4 spineless; tb4d spines arranged in three bands: proximal 1.0.1; medial–proximal 1.1.1; distal 1.0.1; tb4v spines arranged in three bands: proximal 1–0.1.1; medial–proximal 1.1–2.0–1; distal 1.1–0.1; with two terminal spines. Dorsal side of forward legs covered with small

piligerous grains; ventral side of the pedipalp covered with small piligerous grains. Claws with 10–14 teeth.

Abdomen 5.18 mm long; whitish; cylindrical. Abdominal dorsal hairs 0.03 mm long, medium-sized, straight or only slightly curved mainly at distal part, not compressed, blunt, tip enlarged; uniformly, thickly distributed.

Male copulatory bulbus (Fig. 20C) T as long as DD; DD bent about  $45^\circ$  in lateral view. DD sclerites equally developed; IS continuous until embolus tip. DD tip (Fig. 21A–C) with upper, lower sheets sticking together; upper sheet not projected over lower one; straight in lateral view. C present; well-developed; located close to tip of the embolus; proximal border sharply decreasing; distal border stepped; upper tip projected in spine-like structure; external side excavated. AC present. LF absent. L well-developed; external border not sclerotized, distally markedly folded; distal border divergent, continuous. AL absent; proximal border in posterior view fused with DH. P (Fig. 21D) sloped forming an angle of about  $135^\circ$  to T in lateral view; fused to T; narrow, reduced to a ridge; lateral length from  $2/5$  to  $1/2$  T width; markedly toothed on its distal part; few teeth, about 4–6; not distally projected; back margin not folded.

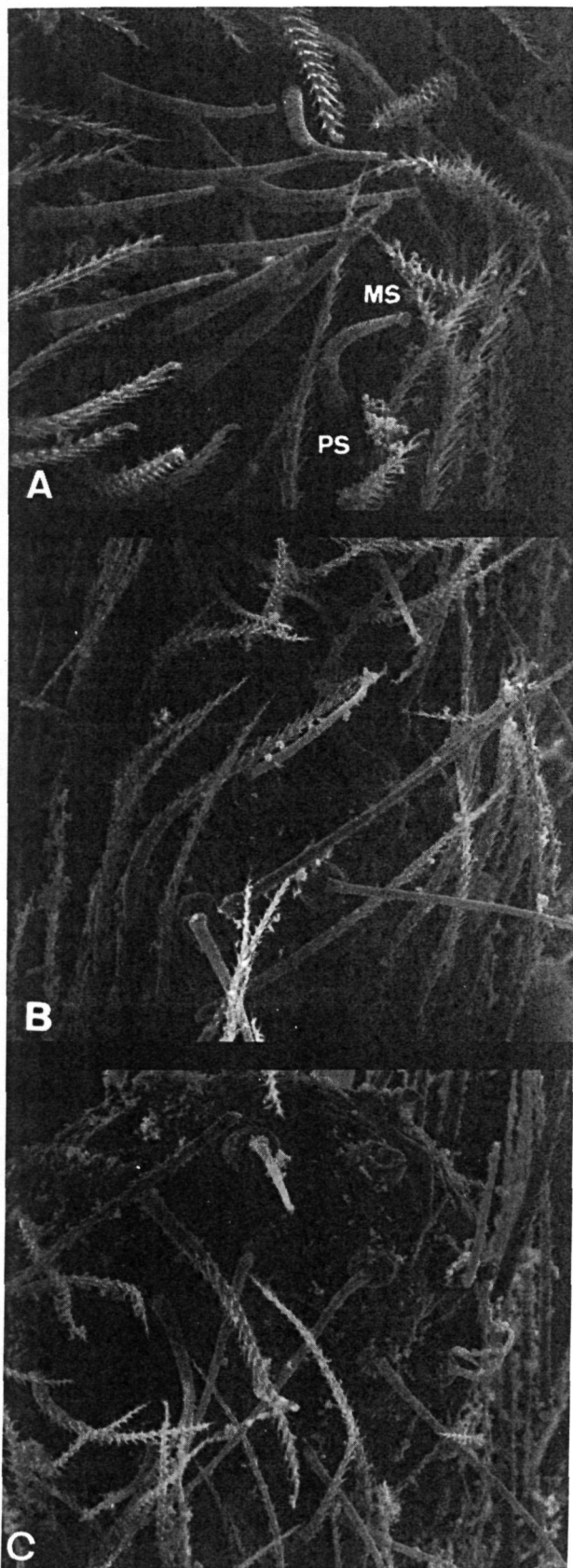


Fig. 22. —A–C. *Dysdera tибicena* sp. n.; female spinnerets.—A. Left ALS.—B. Right PMS.—C. Right PLS.

*Female* (Figs. 20D–H, 22A–C). All characters as in male except: Carapace 4.34 mm long; maximum width 3.57 mm; minimum width 2.10 mm. AME diameter 0.25 mm, PLE 0.23 mm, PME 0.18 mm.

Chelicerae 1.85 mm long; fang 1.33 mm. Lengths of

Table VI. *Intraspecific spination variability of Dysdera tибicena* sp. n.

	Proximal	Med.–proximal	Medial–distal	Distal
Tibia 3 dorsal	0–1.0.0–1	1.1–4.1–2	0	1.0.0–1
Tibia 4 dorsal	0–1.0–2.0–1	0–1.0–2.0–1	0.0–1.0	1.0–1.1
Tibia 3 ventral	0–1.0.0–1	1.1–3.0–2	0	1.0–1.0
Tibia 4 ventral	0–1.0–2.0–1	0–1.1–3.0–1	0–1.0–2.0	1.0–1.1
	Number of rows		Number of spines	
Femur 3 dorsal	1		0–1	
Femur 4 dorsal	2		0–1–2	

female described above: fe1 3.77 mm (all measurements in mm); pa1 2.45; ti1 3.08; me1 3.15; ta1 0.77; total 13.22; fe2 3.50; pa2 2.17; ti2 3.01; me2 3.01; ta2 0.84; total 12.53; fe3 3.08; pa3 1.68; ti3 2.06; me3 2.80; ta3 0.77; total 10.39; fe4 4.20; pa4 2.24; ti4 3.35; me4 4.27; ta4 1.00; total 15.06; fe Pdp 1.96; pa Pdp 1.05; ti Pdp 1.05; ta Pdp 1.40; total 5.46; relative length 4 > 1 > 2 > 3. Spination: palp, leg1, leg2 spineless. Fe3d spines in one row: 0–1; pa3 spineless; tb3d spines arranged in two bands: medial–proximal 1.2.1; distal 1.0.0; tb3v spines arranged in two bands: proximal 1.1.1–0; distal 1.0.0; with two terminal spines. Fe4d spines in one row: 2–1; pa4 spineless; tb4d spines arranged in three bands: proximal 1.1.0–1; medial–proximal 0.1.1; distal 1.1–0.1; tb4v spines arranged in three bands: proximal 1.1.1; medial–proximal 1.1–2.1; distal 1.0–1.1; with two terminal spines.

Abdomen 6.30 mm long; cream-coloured; cylindrical. Abdominal dorsal hairs 0.06 mm long, medium-sized, straight or slightly curved mainly at distal part, not compressed, blunt, tip enlarged, uniformly, thickly distributed.

DA (Fig. 20D–F) sclerotized around TB valve attachment as well as in ventral region; both regions fused but distinguishable; DF wide. DA frontal border projected, rounded; lateral margins convergent in dorsal view; slightly wider than long. Ventral region completely sclerotized; sclerotized sheet-like structure present at both sides of S attachment, joined to lateral ventral sclerotization, along its lateral border, as long as dorsal sclerotization of DA, somewhat bent towards lateral area. S arms as long as DA; straight; tips dorsally projected. TB usual shape.

ALS (Fig. 20A) with pyriform gland spigot in polar position; remaining pyriform spigots no more external than major ampulate gland spigot, arranged in two rows; 11 + 1 pyriform gland spigots; PMS and PLS (Fig. 22B–C) with 10–15 aciniform gland spigots.

*Intraspecific variation.* Male cephalothorax ranges in length from 4.20 mm to 4.72 mm, female from 4.27 mm to 5.04 mm. AME separation from 2/5 diam. to 2/3 diam. Sternum ornamentation sometimes reduced. D located at center of or at segment tip. IS more developed than ES. C upper tip not projected in spiny-like structure but pointed. Sheet-like sclerotizations free, not joined to ventral sclerotization along internal margin (Fig. 20G–H). Spination variability in Table VI.

*Distribution.* Gran Canarian endemic. Relatively abundant species spread over the island, including termophilous lowland forest.

***Dysdera tilosensis* Wunderlich, 1991** (Figs. 23A–F, 24A–D, 25A–C)*Dysdera tilosensis* Wunderlich, 1991: 310–311, Figs. 119–120 [♀].*Dysdera sinuosa* Wunderlich, 1994: 418–419, Figs. 31–34 [♂]; new synonymy.

**Material examined.** 1♀ holotype. Tiles de Moya (MSS-1), Moya, Gran Canaria, Canary Islands; 25/7/89, A.L. Medina leg.; num. 2561, stored at UL. 1♀ paratype. Tiles de Moya (MSS), Moya, Gran Canaria, Canary Islands; 27/7/89, A.L. Medina leg.; num. 2625, stored at J. Wunderlich p. col. Agaete: Pinar de Tamadaba; 14/2/96; Arnedo, Emerson, Frago, Juan & Oromí leg.; 1♂ 3057 UB, 1♂ 3052 UB. 1150 m. Campamento de Tamadaba; 1♂, 1♀; 15/8/90; C.G. Campos leg.; 2748 UL. Agüimes: Barranco de Guayadeque; 1♂; 12/2/96; Arnedo & Emerson leg.; 3040 UB. Artenara: Pista de Tirma; 16/2/96; Arnedo & Frago leg.; 1♀ 3080 UB,

1♂ 3082 UB, 1♂ 3083 UB, 1♂ 3081 UB, 1♂ 3084 UB, 1♀ 3090 UB. Gáldar: Caideros (800 m); -/1/95; M. Naranjo leg.; 7♂, 6♀, 1 juv. 3164 UB, 21♂, 9♀, 1 juv. 3166 UB. Pico del Viento; 1♂; 21/5/95; P. Oromí leg.; 4783 UB. 7/4/95; P. Oromí leg.; 13♂, 6♀, 1 juv. 3165 UB, 1♀ 2943 UB, 1♂ 2942 UB. 10/2/96; Arnedo, Emerson & Oromí leg.; 1♀; 3000 UB. Mogán: Barranco de Veneguera; 1♀; 29/12/89; H. Enghoff & M. Báez leg.; 2645 ZMK. Near Cruz de San Antonio; 15/2/96; Arnedo, Emerson, Frago, Juan & Oromí leg.; 1♀ 3073 UB, 1♀ 3075 UB, 1♂ 3074 UB. Near Degollada de las Brujas, NW slope; 1♂; 11/2/96; Arnedo, Emerson & Oromí leg.; 3016 UB. Presa de la Cueva de las Niñas; 31/12/93; S. Martín leg.; 1♂ 2638 UB (redescription), 1♀ 2636 UB. Moya: Fontanales; 2♀, 3 juv.; 6/8/88; F. Catena leg.; 2506 UB. 1♀; 3/8/88; F. Catena leg.; 2508 UB. San Bartolomé de Tirajana: Maspalomas; 1♂; 4/1/94; S. Martín leg.; 2639 UB. Recreation area, near Tirajana; 13/2/96; Arnedo, Emerson, Frago, Juan & Oromí leg.; 1♀ 3045 UB, 1♂ 3046 UB. San Nicolás de Tolentino: Degollada de Tasartico; 1♂; 15/2/96; Arnedo, Emerson, Frago, Juan & Oromí leg.; 3078 UB. Santa María de Guía: Brezal del Palmital; 9/2/96;

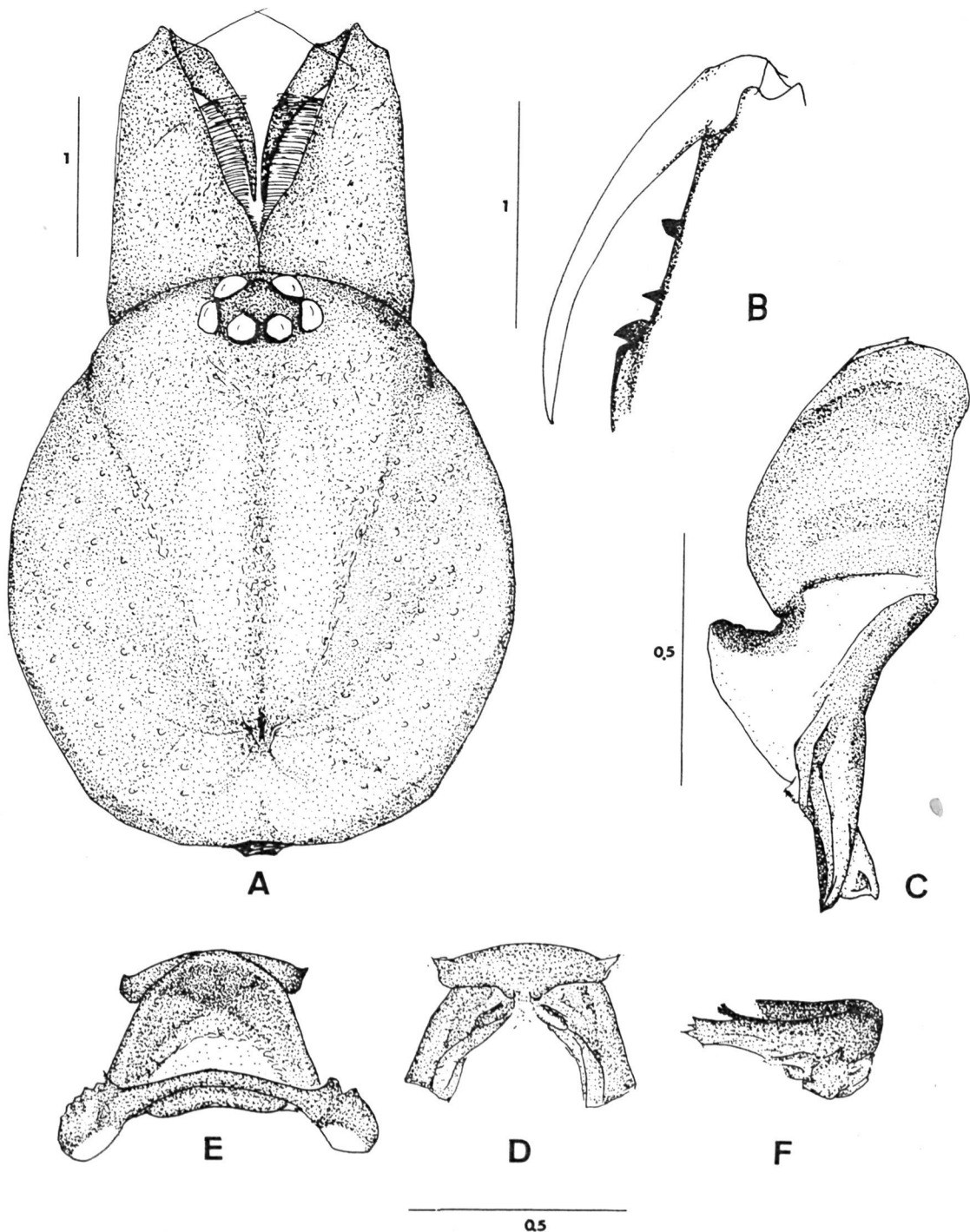


Fig. 23. —A–F. *Dysdera tilosensis* Wunderlich, 1991;—A. Carapace, dorsal.—B. Left chelicera, ventral.—C. Right male bulbus, external.—D. Endogyne, ventral.—E. Endogyne, dorsal.—F. Endogyne, lateral. Scale bars in millimetres.

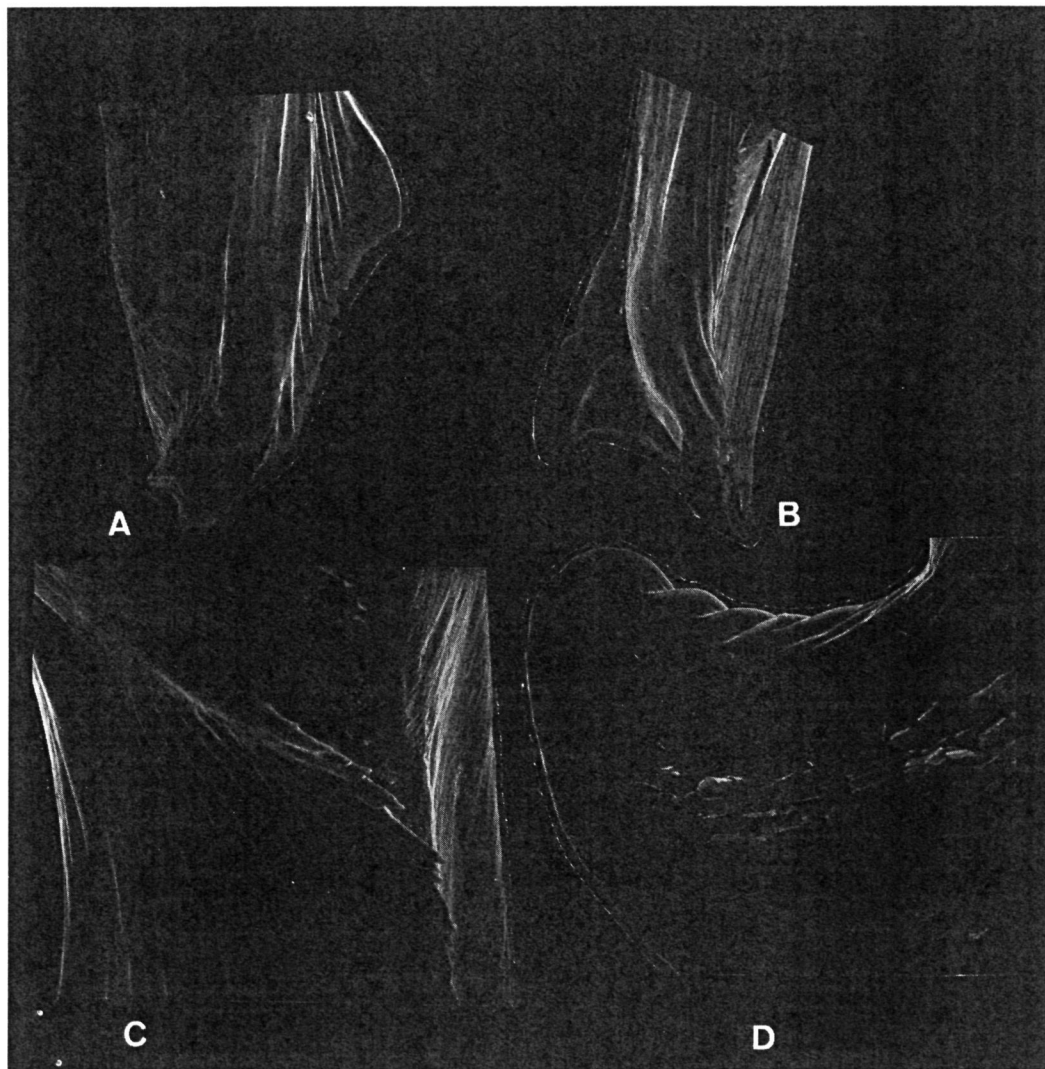


Fig. 24. —A–D. *Dysdera tilosensis* Wunderlich, 1991; left male bulbus.—A. DD, frontal.—B. DD, external.—C. DD, posterior.—D. P, internal.

Arnedo, Emerson & Oromí leg.; 1 juv. 3088 UB. 1♂ (description) 2973 UB, 1♂ 3089 UB, 1♂ 2974 UB, 1♂ 2979 UB, 1 juv. 2983 UB, 1♂ 2975 UB, 1♂ 2977 UB. Tejeda: near Cumbre de Pajonales; 1♂; 11/2/96; Arnedo, Emerson & Oromí leg.; 3023 UB. Teror: Teror; 1♀; 4/9/80; J. Quevedo leg.; 2590 UB. Valleseco: Barranco Oscuro; 14/2/96; Arnedo, Emerson, Frago, Juan & Oromí leg.; 1♀ 3067 UB, 1♀ 3066 UB, 1♂ 3065 UB, 1♀ 3068 UB, 1♂ 3070 UB, 1♀ 3069 UB.?, 550 m, Pitfall GC2; 1♂, 1♀, 1 juv.; 14/8/90; C.G. Campos leg.; 2750 UL.

**Diagnosis.** Foveate carapace with markedly wide frontal border, divergent at lateral frontal border, rounded in middle (Fig. 23A). Chelicerae long and smooth, inner groove and fang long. Nail-like abdominal dorsal hairs very short in males and compressed, pointed in females. DA ventral sclerotization reduced to forward half part (Fig. 23D). This species can be distinguished from western foveate species *D. calderensis* Wunderlich, 1991 and *D. ramblae* Arnedo, Oromí & Ribera, 1996 by wide carapace, not bent DD (Fig. 23C), and toothed internal proximal AL border, and from Tenerifean *D. cribellata* by more spinated dorsal tibiae 3 and 4 (Table VII) and lack of L medial fold (Fig. 24A).

**Description. Male** (Figs. 23A–C, 24A–D). Carapace (Fig. 23A) 3.68 mm long; maximum width 3.21 mm; minimum width 2.23 mm. Dark red, uniformly distributed; heavily foveate, covered with circular depressions, some small

black grains mainly anterior. Frontal border fairly round, about 3/5 carapace length; lateral borders divergent; rounded at maximum dorsal width point, back lateral borders rounded; back margin narrow, straight. AME diameter 0.25 mm, PLE 0.20 mm, PME 0.16 mm; AME on edge of frontal border, separated one from another about half diameter, close to PLE; PME very close to each other, less than one quarter PME diameter from PLE. Labium trapezoid-shaped, base wider than distal part; as long as wide at base; with semicircular groove at tip. Sternum red, uniformly distributed; heavily wrinkled; covered in hairs mainly on margin.

Chelicerae (Fig. 23B) 1.86 mm long, about 2/5 of carapace length in dorsal view; fang long, 1.63 mm; basal segment proximal dorsal side scantily covered with piligerous granulations. Chelicera inner groove long, about 1/2 cheliceral length; armed with three teeth and lamina at base; B largest, D as large as M (clearly); D rounded, located at centre of or slightly above groove; B close to basal lamina; M at middle of B, D. Legs bicoloured, darker on proximal border, becoming lighter distally. Lengths of male described above: fe1 2.65 mm (all measurements in mm); pa1 1.72; ti1 2.28; me1 2.23; ta1 0.56; total 9.44; fe2 2.33; pa2 1.58; ti2 2; me2 2.09; ta2 0.56; total 8.56; fe3 2.02; pa3 1.16; ti3 1.35; me3 1.77; ta3 0.46; total 6.76; fe4 2.51;

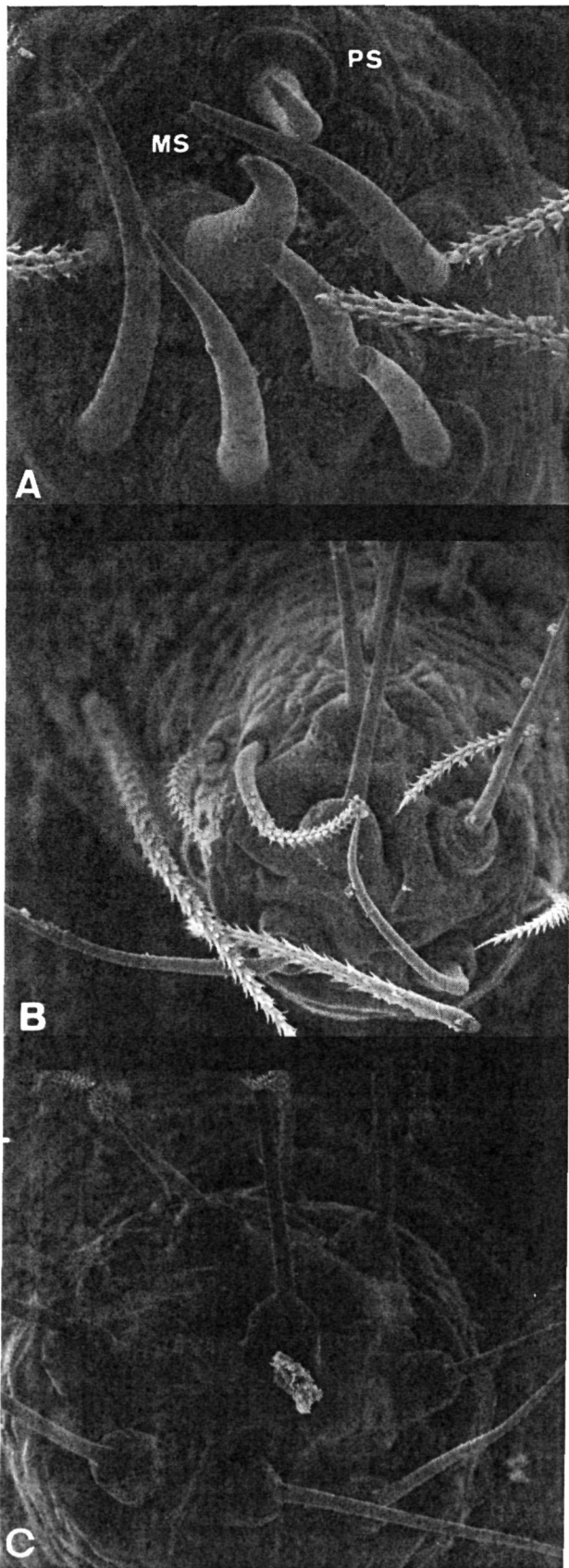


Fig. 25. — A–C. *Dysdera tilosensis* Wunderlich, 1991; female spinnerets. — A. Left ALS. — B. Right PMS. — C. Right PLS.

pa4 1.40; ti4 1.86; me4 2.42; ta4 0.56; total 8.75; fe Pdp 1.65; pa Pdp 0.93; ti Pdp 0.74; ta Pdp 0.83; total 4.15; relative length: 1 > 4 > 2 > 3. Spination: palp, leg1, leg2 spineless. Fe3d spineless; pa3 spineless; tb3d spines

Table VII. Intraspecific spination variability of *Dysdera tilosensis*

	Proximal	Med.–proximal	Medial–distal	Distal
Tibia 3 dorsal	1–2.1–4.1	0	0	1.0.0
Tibia 4 dorsal	0–1.1–2.0–1	0	0	0–1.0–1.0–1
Tibia 3 ventral	0–1.1–2.0	0	0	0–1.0.0
Tibia 4 ventral	0–1.1–2.0	0	0.0–1.0	0–1.0.0
	Number of rows		Number of spines	
Femur 3 dorsal	1		0–1	
Femur 4 dorsal	1		1–2	

arranged in two bands: proximal 1.3–2.1; distal 1.0.0; tb3v spines arranged in two bands: proximal 1.2.0; distal 1.0.0; with two terminal spines. Fe4d spines in one row: 1–1; pa4 spineless; tb4d spines arranged in two bands: proximal 1.2.1; distal 1.1.1; tb4v spines arranged in two bands: proximal 1.2.0; distal 1.0.0; with two terminal spines. Dorsal side of forward legs covered with small piligerous grains; ventral side of the pedipalp covered with hairs but lacking small grains. Claws with 10–14 teeth.

Abdomen 3.77 mm long; whitish; cylindrical. Abdominal dorsal hairs 0.03 mm long, medium-sized, straight or only slightly curved mainly at distal part, not compressed, blunt, tip enlarged; uniformly, thickly distributed.

Male copulatory bulbus (Fig. 23C) T slightly smaller than DD; both in same axis in lateral view. DD sclerites equally developed; IS truncated in middle part of haematodoca. DD tip (Fig. 24A–C) with upper, lower sheets sticking together; upper sheet not projected over lower one; straight in lateral view. C present; well-developed; located close to tip of the embolus; proximal border sharply decreasing; distal border stepped; upper tip projected, pointed; external side excavated. AC present. LF absent. L well-developed; external border not sclerotized, laterally slightly folded; distal border divergent, continuous. AL present, very poorly developed; proximal border in posterior view toothed on its internal half-part. P (Fig. 24D) perpendicular to T in lateral view; fused to T; narrow, reduced to a ridge; lateral length from 2/5 to 1/2 T width; markedly toothed along its upper margin; few teeth, about 4–6; not distally projected; back margin not folded.

*Female* (Figs. 23D–F, 25A–C). All characters as in male except: Carapace 4.34 mm long; maximum width 3.78 mm; minimum width 2.59 mm. Red, darkened at borders. AME diameter 0.27 mm, PLE 0.23 mm, PME 0.20 mm; AME separated one from another about 2/3 of diameter. Labium trapezoid-shaped, base wider than distal part; longer than wide at base; with semicircular groove at tip.

Chelicerae 2.23 mm long; fang long, 2.00 mm. D largest, B larger than M (clearly); D trapezoid (markedly). Legs dark orange-coloured. Lengths of male described above: fe1 3.01 mm (all measurements in mm); pa1 2.00; ti1 2.40; me1 2.42; ta1 0.65; total 10.48; fe2 2.63; pa2 1.77; ti2 2.12; me2 2.38; ta2 0.65; total 9.55; fe3 2.24; pa3 1.35; ti3 1.35; me3 2.14; ta3 0.56; total 7.64; fe4 2.89; pa4 1.49; ti4 2.05; me4 2.89; ta4 0.65; total 9.97; fe Pdp 1.86; pa Pdp 1.07; ti Pdp 0.70; ta Pdp 0.93; total 4.56; relative length 1 > 4 > 2 > 3. Spination: palp, leg1, leg2 spineless. Fe3d spineless; pa3 spineless; tb3d spines arranged in two bands: proximal 1.2–1.1; distal 1.0.0; tb3v spines arranged in two bands: proximal 0.2.0; distal 1–0.0.0; with two terminal spines. Fe4d spines in one row: 1–1; pa4 spineless; tb4d



spines arranged in two bands: proximal 1.1.1; distal 1.1.1; tb4v spines arranged in two bands: proximal 0.2.0; distal 0–1.0.0; with two terminal spines.

Abdomen 6.00 mm long; whitish; cylindrical. Abdominal dorsal hairs 0.09 mm long, medium-sized, curved, compressed, pointed, tip enlarged, uniformly, thickly distributed.

DA (Fig. 23D–F) sclerotized around TB valve attachment as well as in ventral region; both regions completely fused, not distinguishable; DF wide. DA frontal border projected, rounded; lateral margins convergent in dorsal view; slightly wider than long. Ventral region sclerotized from middle area to the front; small scale or ridge present at both sides of S attachment. S arms are shorter than DA; slightly curved; tips dorsally projected; neck as wide as arms. TB usual shape.

ALS (Fig. 25A) with pyriform gland spigot in polar position; remaining pyriform spigots more external than major ampulate gland spigot, arranged in two rows: 6 + 1 pyriform gland spigots (5 + 1); PMS and PLS (Fig. 25B–C) with fewer than 10 aciniform gland spigots.

*Intraspecific variation.* Male cephalothorax ranges in length from 2.84 mm to 3.68 mm, female from 2.79 mm to 4.34 mm. AME separation from 1/2 diam. to 4/5 diam. PLE–PME from 1/4 diam. to 1/2 diam. Sternum ornamentation sometimes reduced, slightly wrinkled mainly at the back and around coxae insertions. Certain variability in relative size of the chelicera teeth. In general, basal larger or as large as distal, which is larger than or similar to medial. D variable in shape, from rounded to trapezoid. DD slightly angled (about 20°). P relative size ranges from 1/2 to 2/3. Great range of variation in S size and in S tips projection. S neck sometimes not clear. Spination variability in Table VII.

*Distribution.* Gran Canarian endemic. A very abundant species, probably the most common in Gran Canaria, spread throughout the island.

*Comments.* Former knowledge about *D. tilosensis* was based on only two female specimens. The type material of *D. sinuosa* could not be examined. Nevertheless, characters from the original description fit perfectly those of *D. tilosensis*. The only non-genitalic diagnostic characters of *D. sinuosa* correspond to usually sex-dependent traits (abdominal dorsal hair shape). Moreover, the only difference between the two species in the original description (Wunderlich 1994) was their habitat. Most Gran Canarian *Dysdera* species studied have been found in very different habitats. For all these reasons, *D. sinuosa* is considered to be the male of *D. tilosensis* and therefore a junior synonym.

***Dysdera verneau* Simon, 1883** (Figs. 26A–I, 27A–E, 28A–C)

*Dysdera verneau* Simon, 1883: 296–297, Fig. 19 [♂] (♂, non ♀).— Simon 1889: 302.— Simon 1907: 259, fig C [♂].— Reimoser 1919.— Denis 1941: 108.— Schmidt 1973: 360–361.— Wunderlich 1991: 287.

*Material examined.* Neotype, by present designation, 1♂ from Pico del

Viento, Artenara, Gran Canaria; 7/4/95; P. Oromí leg.; 2940 UB. Artenara: Pista de Tirma; 16/2/96; Arnedo & Fragoso leg.; 1♂ 3085 UB. 1 juv. 3086 UB. Gáldar: Caideros (800 m); 1♀, 2 juv.; -/1/95; M. Naranjo leg.; 3167 UB. Pico del Viento; 7/4/95; P. Oromí leg.; 1♀ 2939 UB (redescription), 1♂ 2938 UB, 1 juv. 2941 UB. 10/2/96; Arnedo, Emerson & Oromí leg.; 1♂ 2999 UB, 1♀ 3002 UB, 1♂ 3001 UB, 1♀ 2998 UB. Mogán: Degollada de las Brujas (1200 m); 2 juv.; 21/8/90; C.G. Campos leg.; 2749 UL. Near Degollada de las Brujas. NW slope; 1♀; 11/2/96; Arnedo, Emerson & Oromí leg.; 3019 UB. Inagua; 10/2/96; Arnedo, Emerson & Oromí leg.; 1♀ 3011 UB, 1♀ 3008 UB, 1♀ 3006 UB. Ojeda; 10/2/96; Arnedo, Emerson & Oromí leg.; 1 juv. 3003 UB, 1♀ 3002, stored at UB. San Bartolomé de Tirajana: recreation area, near Tirajana; 13/2/96; Arnedo, Emerson, Fragoso, Juan & Oromí leg.; 1♂ subad. 3044 UB, 1♂ 3043 UB. San Nicolás de Tolentino: Degollada de Tasartico; 15/2/96; Arnedo, Emerson, Fragoso, Juan & Oromí leg.; 1♀ 3076 UB, 1♂, 1 juv. 3091 UB. Telde: Caldera de Los Marteles; 1♂ 26/7/89; A.L. Medina leg.; 2601 MCNT.

*Diagnosis.* Smooth carapace, frontal border wide, lateral frontal convergent, medial lateral sharp (Fig. 26A). AME separated by 1 diam. (not always so). Cheliceral segment completely granulated, fang long. Stick-like abdominal dorsal hairs with a knob at tip, very long in females. Legs strongly spinated (Table VIII). Certain reduction in claw teeth. This species is distinguished from very similar Tenerifean *D. curvisetae* Wunderlich, 1991 and western *D. ratonensis* Wunderlich, 1991 by abdominal hair shape: longer, straight, with tip knob; and DD not bent in relation to T (Fig. 26C). More strongly spinated legs and narrower L (Fig. 27A) differentiate it from first species; and eyes not reduced, smaller size and chelicera completely covered with granulations separate it from the second.

*Description.* *Male* (Figs. 26A–D, 27A–E). Carapace (Fig. 26A) 4.20 mm long; maximum width 3.36 mm; minimum width 2.31 mm. Orange, frontally darker, becoming lighter towards back; slightly foveate at borders, slightly wrinkled with small black grains mainly at front. Frontal border approximately rounded, between 1/2 and 2/5 carapace length; lateral borders convergent; sharpened at maximum dorsal width point, back lateral borders straight; back margin wide, straight. AME diameter 0.23 mm, PLE 0.18 mm, PME 0.16 mm; AME slightly back from frontal border, separated one from another about half diameter, close to PLE; PME very close to each other, about 1/3 PME diameter from PLE. Labium trapezoid-shaped, base wider than distal part; longer than wide at base; with semicircular groove at tip. Sternum orange, uniformly distributed; very slightly wrinkled, mainly between legs and frontal border; uniformly covered in slender black hairs.

Chelicerae (Fig. 26B) 2.1 mm long, about 2/5 of carapace length in dorsal view; fang long, 1.68 mm; basal segment dorsal and ventral side completely covered with piligerous granulations. Chelicera inner groove short, about 1/3 cheliceral length; armed with three teeth and lamina at base; D largest, B larger than M; D triangular, located at centre of or slightly above groove; B close to basal lamina; M at middle of B, D. Legs yellow. Lengths of male described above: fe1 3.62 mm (all measurements in mm); pa1 2.33; ti1 3.02; me1 2.84; ta1 0.70; total 12.51; fe2 3.02; pa2 2.14; ti2 2.70; me2 2.56; ta2 0.70; total 11.12; fe3 2.28; pa3 1.44; ti3 1.72; me3 2.09; ta3 0.56; total 8.09; fe4 2.98; pa4 1.81; ti4 2.05; me4 2.89; ta4 0.70; total 10.43; fe Pdp 2.05; pa Pdp 1.07; ti Pdp 0.84; ta Pdp 0.98; total 4.94; relative length: 1 > 2 > 4 > 3. Spination: palp, leg1, leg2

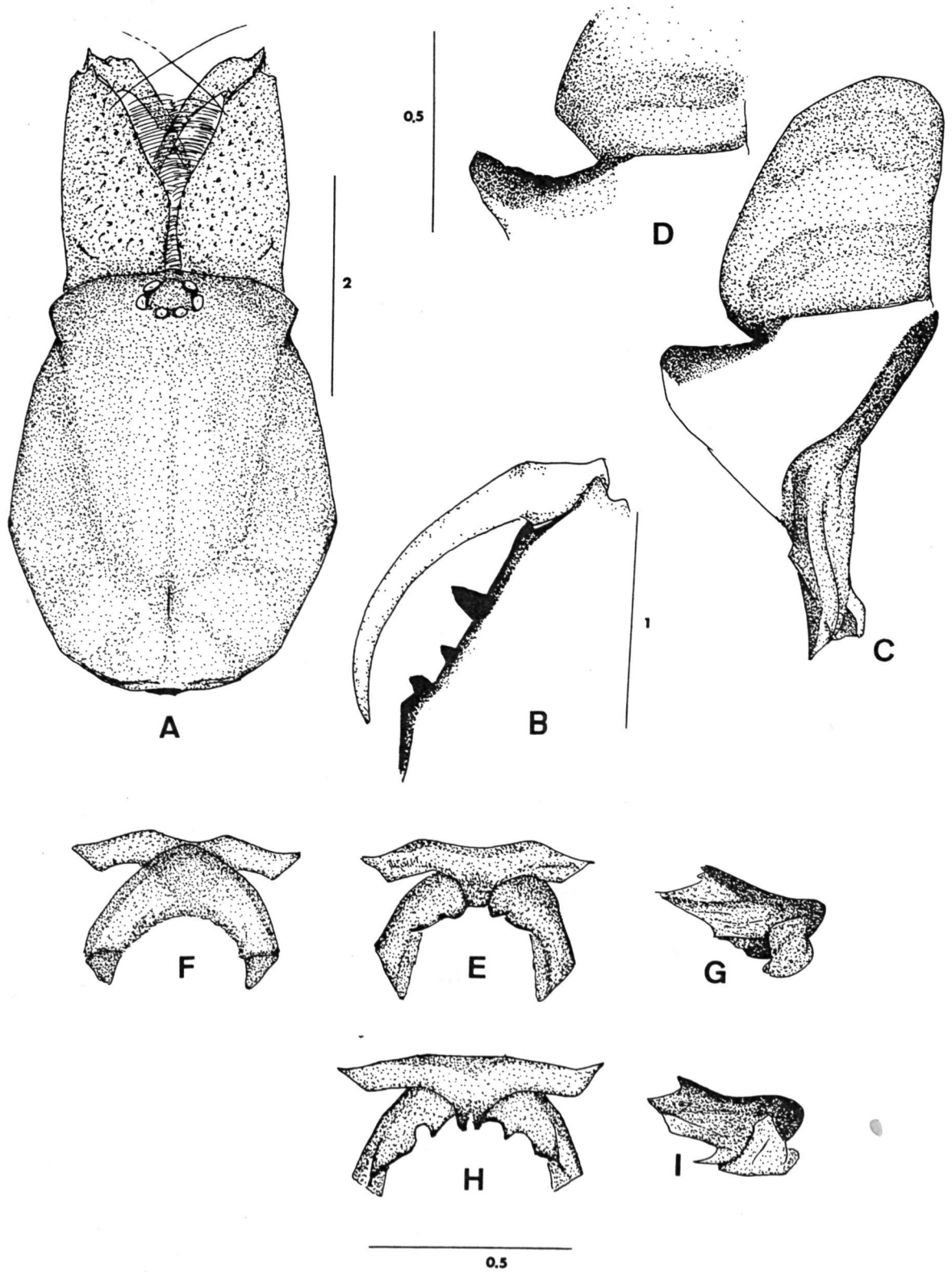


Fig. 26. —A–I. *Dysdera verneaui* Simon, 1883;—A. Carapace, dorsal.—B. Left chelicera, ventral.—C. Right male bulbus, external.—D. P male bulbus, variability.—E. Endogyne, ventral.—F. Endogyne, dorsal.—G. Endogyne, lateral.—H. Endogyne variability, ventral.—I. Endogyne variability, lateral. Scale bars in millimetres.

spineless. Fe3d spines in one row: 1; pa3 spineless; tb3d spines arranged in two bands: proximal 1.2–4.1; distal 1.0.1.; tb3v spines arranged in three bands: proximal 0.1–2.0; medial–proximal 1.2–3.0; medial–distal 1.1.0.; with two terminal spines. Fe4d spines in two rows: forward 2; backward 5; pa4 spineless; tb4d spines arranged in three bands: proximal 0.1–0.1–0; medial–proximal 1.0–1.1;

distal 1.0–1.1; tb4v spines arranged in four bands: proximal 0.2–1.0; medial–proximal 1.4–2.1; medial–distal 0.0.0–1; distal 1.1–3.1; with two terminal spines. Dorsal side of forward legs covered with small piligerous grains; ventral side of the pedipalp covered with small piligerous grains. Claws with 8 teeth or less.

Abdomen 5.74 mm long; whitish; cylindrical. Abdom-

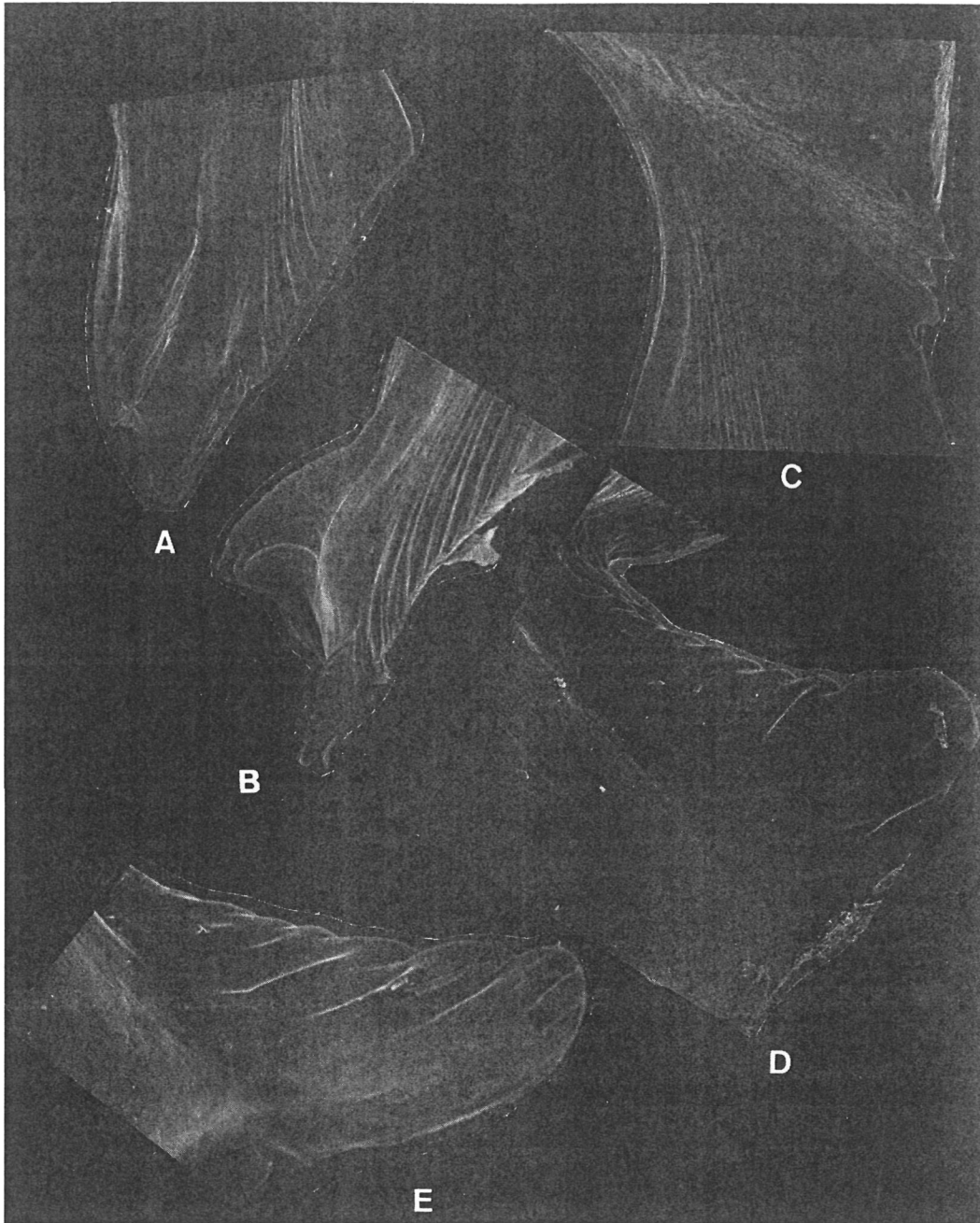


Fig. 27. —A–E. *Dysdera verneau* Simon, 1883; left male bulbus.—A. DD, frontal.—B. DD, external.—C. DD, posterior.—D. P, external.—E. P variability, external.

inal dorsal hairs 0.09 mm long, thick, straight or only slightly curved mainly at distal part, not compressed, blunt, lateral knob at the tip; uniformly, thickly distributed.

Male copulatory bulbus (Fig. 26C) T slightly smaller than DD; DD slightly bent in lateral view, clearly less than  $45^\circ$ . DD sclerites equally developed; IS continuous until embolus tip (very slightly). DD tip (Fig. 27A–C) with upper, lower sheets sticking together; upper sheet not projected over lower one; straight in lateral view. C present; well-developed; located close to tip of the embolus; proximal border sharply decreasing; distal border stepped; upper tip not projected, pointed; external side excavated. AC present. LF absent. L well-developed; external border not sclerotized, laterally slightly folded; distal border divergent (sometimes externally perpendicular), continuous. AL present, very poorly developed;

proximal border in posterior view toothed on its internal side, with small imprints on remaining margin. P (Fig. 27D–E) perpendicular to T in lateral view; fused to T; narrow, reduced to a ridge; lateral length from  $1/2$  to  $2/3$  T. width; markedly toothed along its upper margin; few teeth, about 4–6; not distally projected; back margin not folded.

*Female* (Figs. 26E–I, Figs. 28A–C). All characters as in male except: Carapace 4.27 mm long; maximum width 3.29 mm; minimum width 2.17 mm. Orange, uniformly distributed. AME diameter 0.21 mm, PLE 0.16 mm, PME 0.14 mm; AME separated one from another about one diameter, close to PLE; PME very close to each other, about  $2/5$  PME diameter from PLE.

Chelicerae 0.74 mm long; fang 1.96 mm. Lengths of female described above: fe1 3.02 mm (all measurements in mm); pa1 2.19; ti1 2.79; me1 2.42; ta1 0.65; total 11.07; fe2 2.65; pa2 1.95; ti2 2.47; me2 2.23; ta2 0.60; total 9.90; fe3