

FIGURES

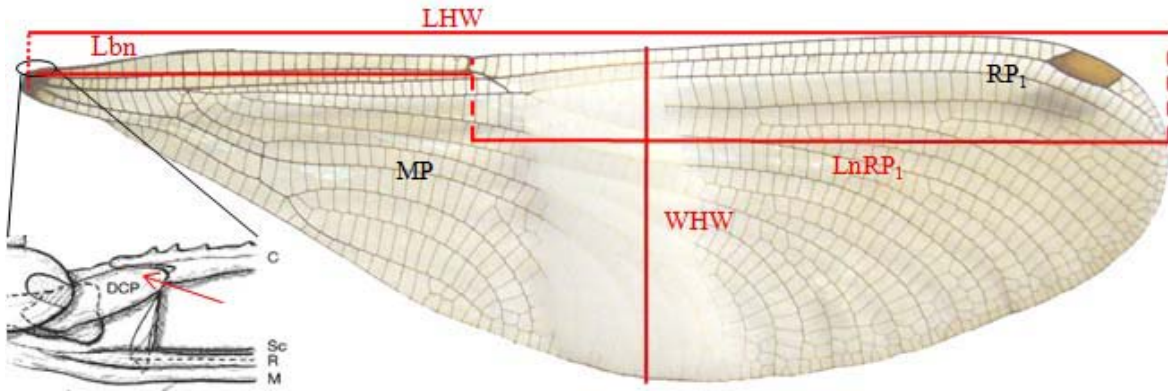


Figure 1. Measurements for morphometric study. Male HW of *P. beata*. Abbreviations: Lbn: length from base to nodus, LnRP₁: length from nodus to RP₁ vein, LHW: length of HW, WHW: width of HW.

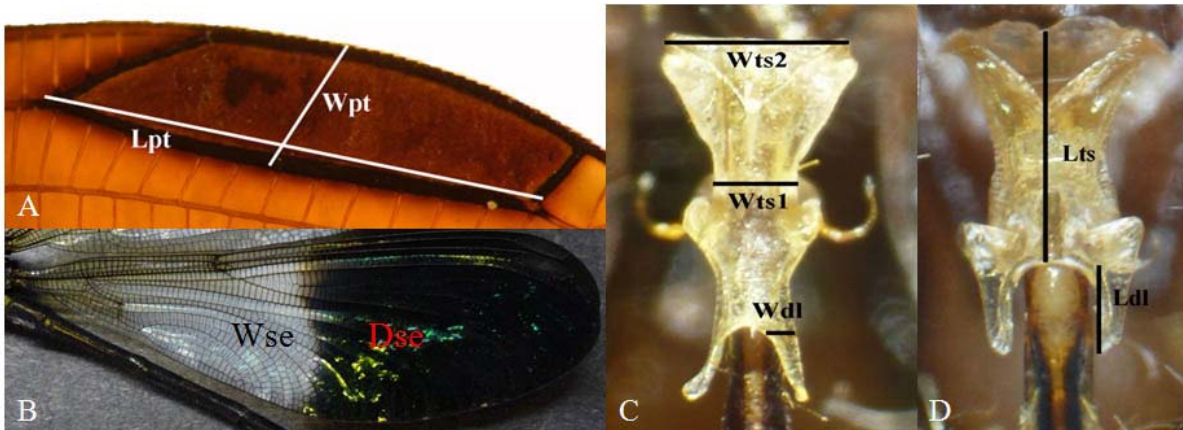


Figure 2. Measurements for morphometric study. (A) pterostigma of male HW of *P. concinna*. (B) Male HW of *P. procera*. (C) male genital ligula of *P. concinna* (D) male genital ligula of *P. beata*. Abbreviations: Lpt: length of pt, Wpt: width of pt, Dse: extension of dark spot, Wse: extension of whitish spot, Ldl: length of distal lobes, Wdl: width of distal lobes, Wts1: width of terminal segment at lateral lobe level, Wts2: width of terminal segment at terminal fold, Lts: length of terminal segment.

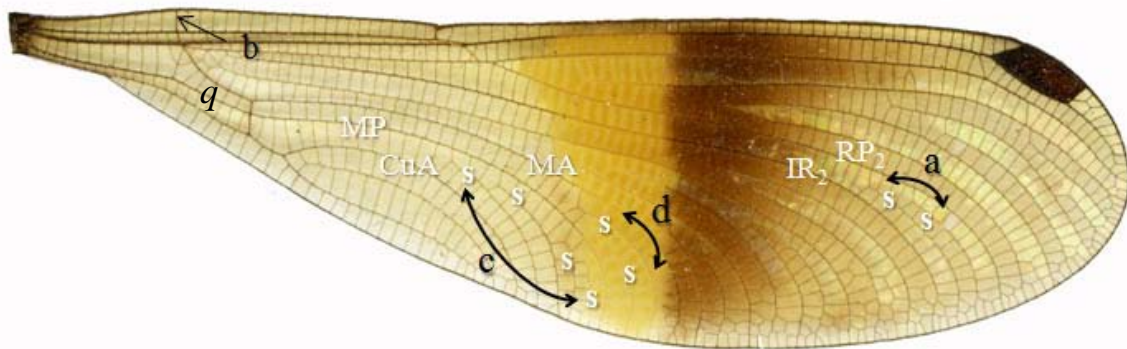


Figure 3. *P. batesi* male HW. (A) Supplementary sectors between RP₂ and IR₂. (B) One thickened Ax. (C) Supplementary sectors between CuA-MP. (D) Supplementary sectors between MA and AP. *q*- quadrangle.

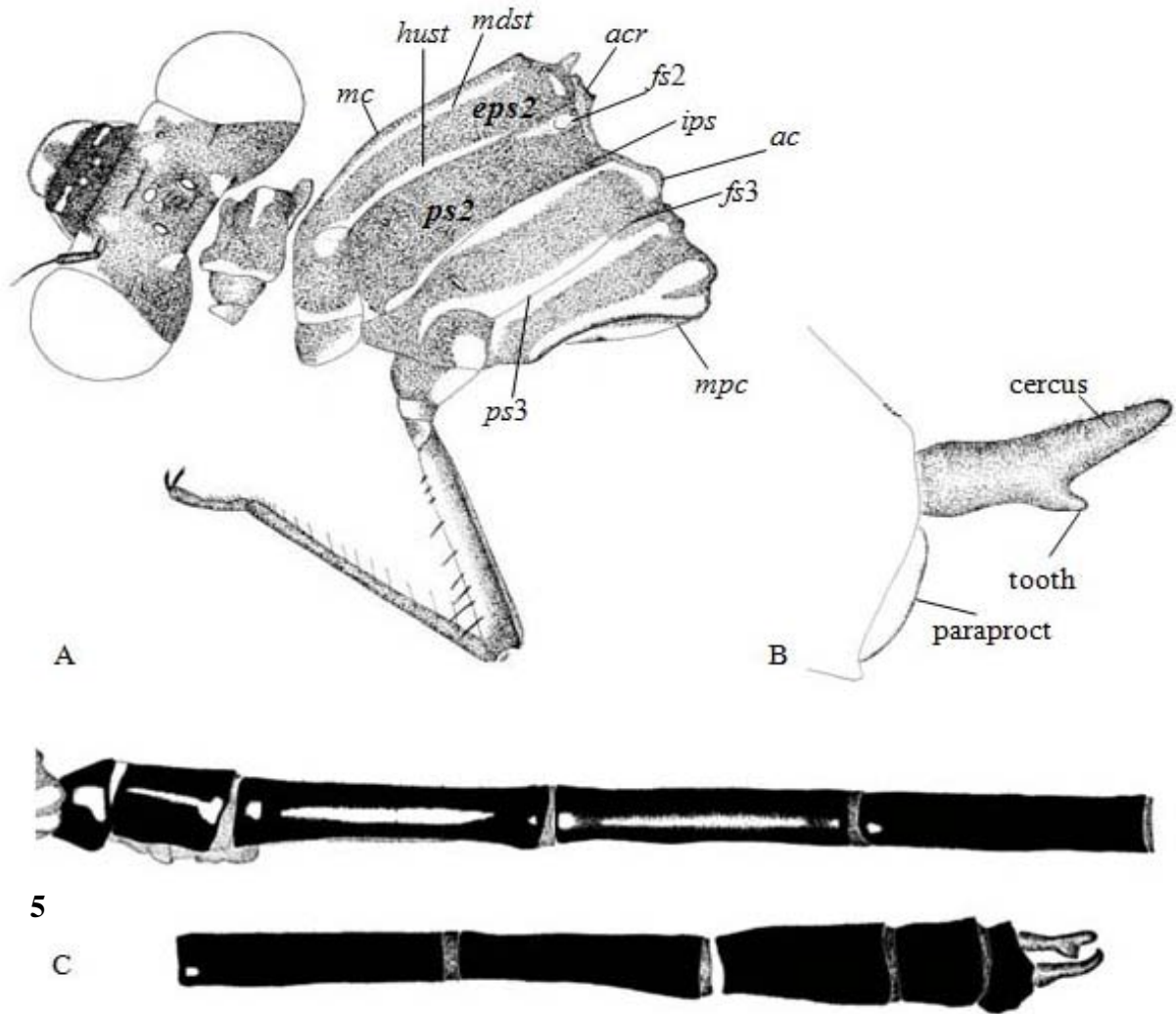


Figure 4. Male of *Polythore* sp. (A) Head, prothorax, and pterothorax - lateral view. (B) S10 - lateral view. (C) Abdomen - lateral view. Taken and modified from Garrison *et al.* (2010). Abbreviations according to Westfall and May (2006): *ac* - antealar carina; *acr* - antealar crest; *eps2* - mesepisternum; *fs2* - mesopleural fossa; *fs3* - metapleural fossa; *hust* - humeral stripe; *ips* - interpelural suture; *mc* - middorsal carina; *mdst* - middorsal stripe; *mpc* - metapleural carina; *ps2* - mesopleural suture.



Figures 5. Male wings of type of *P. terminata*. q: quadrangle. Dotted line indicates cell rows delimited by CuA and HW margin of HW. Arrow points at iridescent black or brown spot in HW continuous to apex.

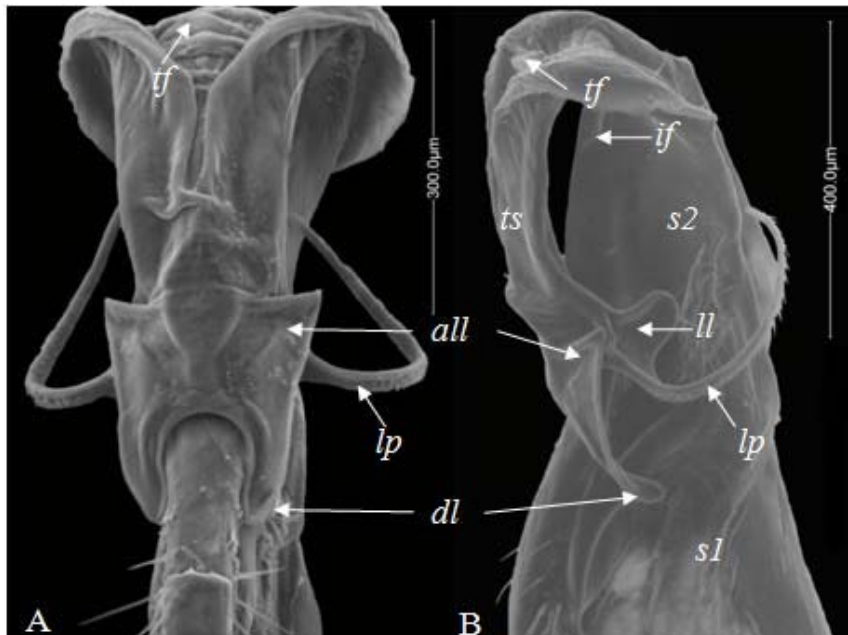
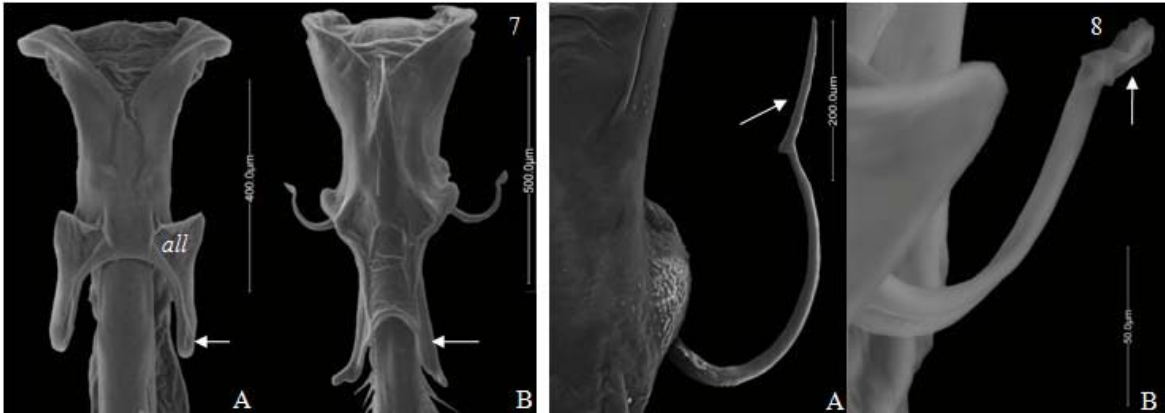
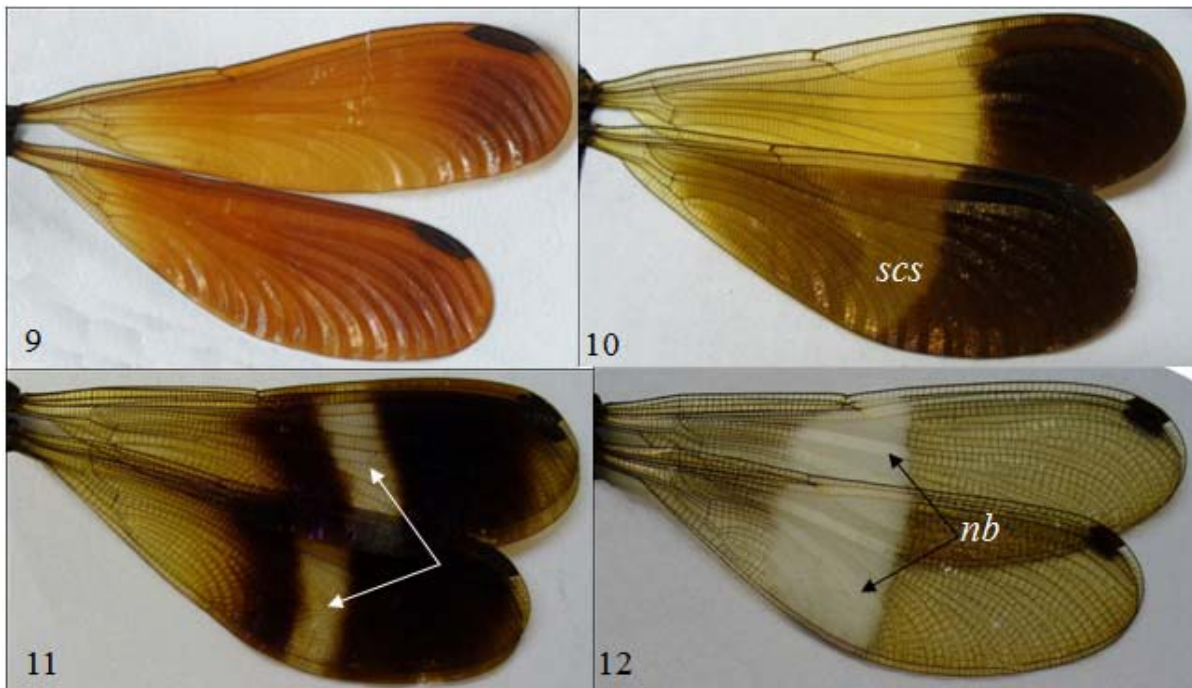


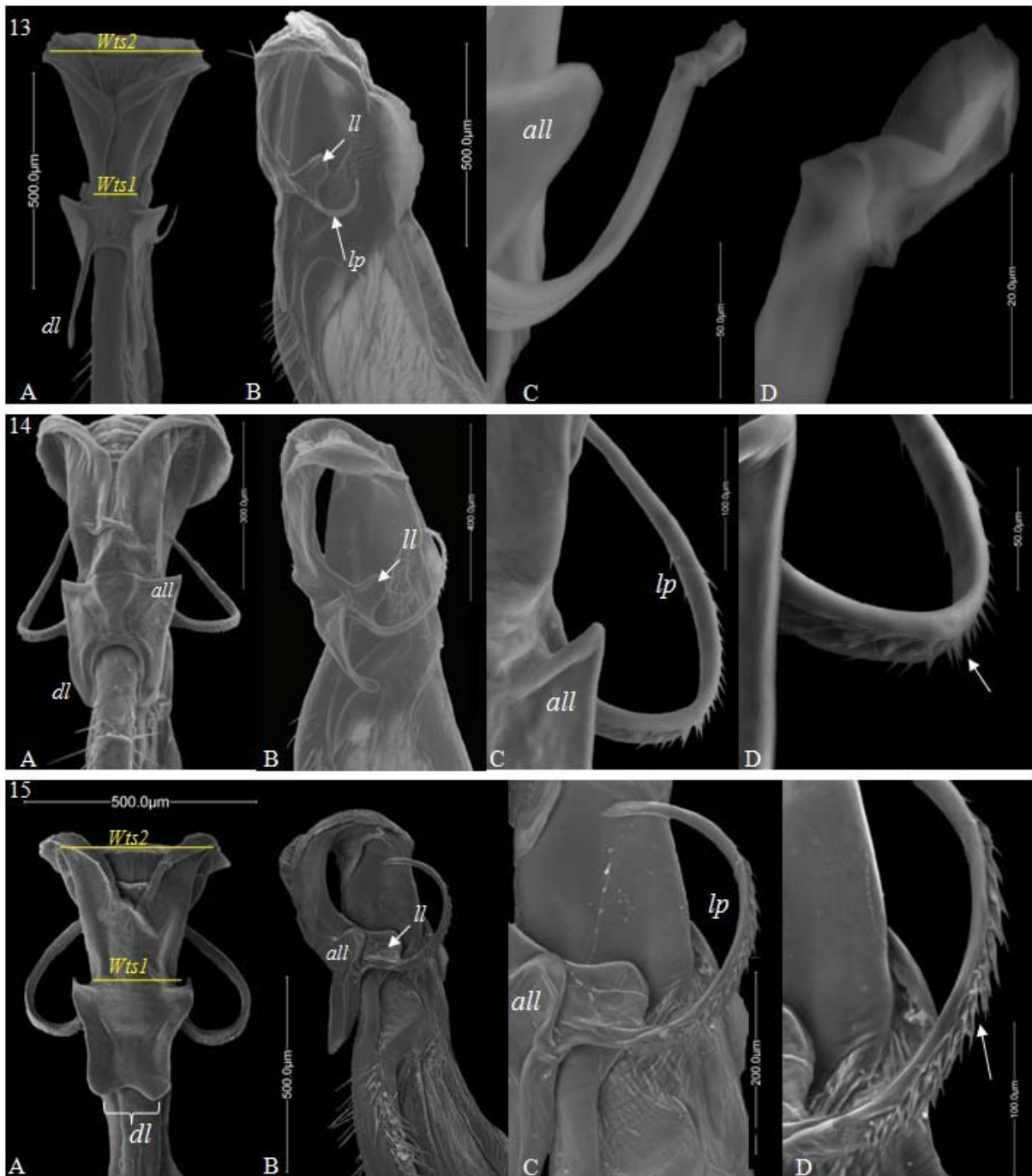
Figure 6. Male genital ligula of *P. batesi* (a) ectal view (b) lateral view. Abbreviations: *all* – anterolateral lobe; *dl* – distal lobe; *if* – inner fold; *ll* – lateral lob; *lp* – lateral projection; *s1* – first segment; *s2* – second segment; *tf* – terminal fold; *ts* – terminal segment.



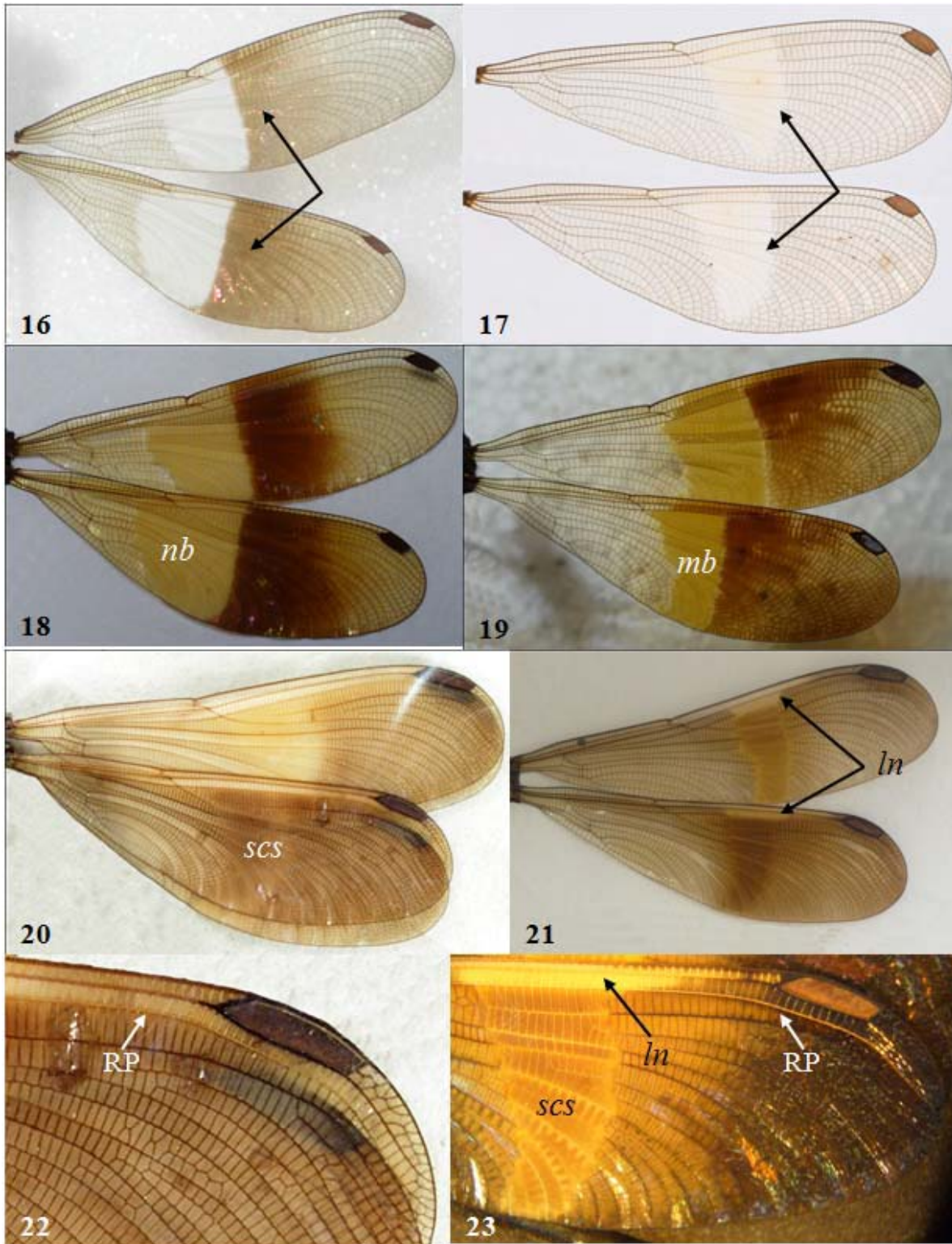
Figures 7-8. Male genital ligula: (7A) *P. beata* (B) *P. concinna*; arrow points at distal lobe. (8A) *P. neopicta*; (B) *P. aurora*, arrow points at apex of projection of lateral lobe (ventral view).



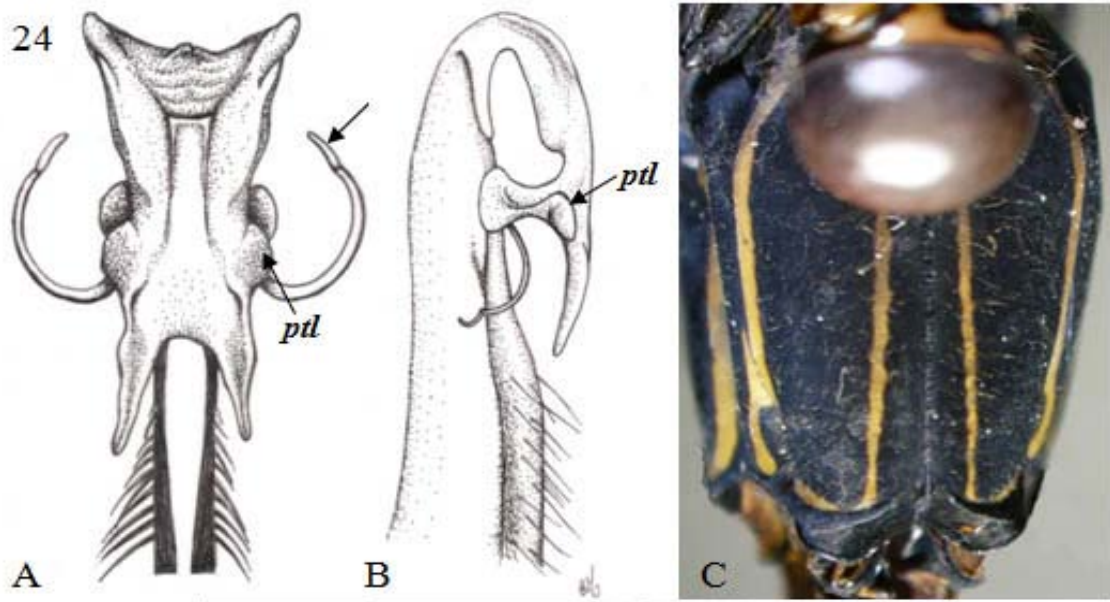
Figures 9-12. Wings: (9) *P. spaeteri*; (10) *P. boliviana*, *scs* - crescent-shaped spot; (11) *P. vittata*, arrows point at white band interrupting iridescent brown spot; (12) *P. mutata*, arrows point at white nodal band (*nb*).



Figures 13-15. Male genital ligula: (13) *P. aurora* (A) ectal view; (B) lateral view; (C) lateral projection; (D) apex of lateral projection. (14) *P. batesi* (A) ectal view; (B) lateral view; (C) lateral projection; (D) arrow points at hairs in lateral projection. (15) *P. vittata* (A) ectal view; (B) lateral view; (C) lateral projection; (D) arrow points at hairs in lateral projection.



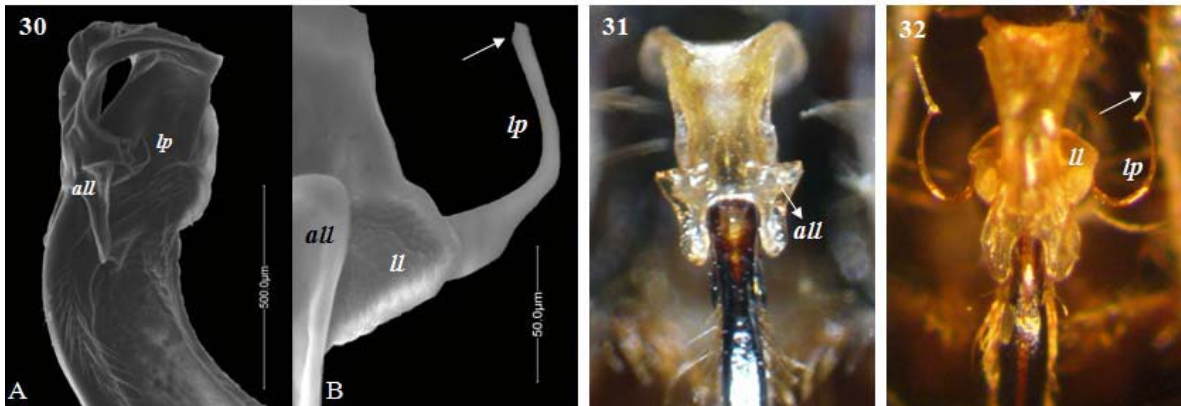
Figures 16-23. Male wings. (16) teneral *P. aurora*; (17) teneral *P. batesi*; (18) adult *P. aurora*; (19) adult *P. batesi*; (20, 22) *P. williamsoni*; (21-23) *P. manua*. Abbreviations: *ln* – lunula, *nb* – nodal band, *mb* – medial band, RP – RP vein, *scs* –crescent-shaped spot.



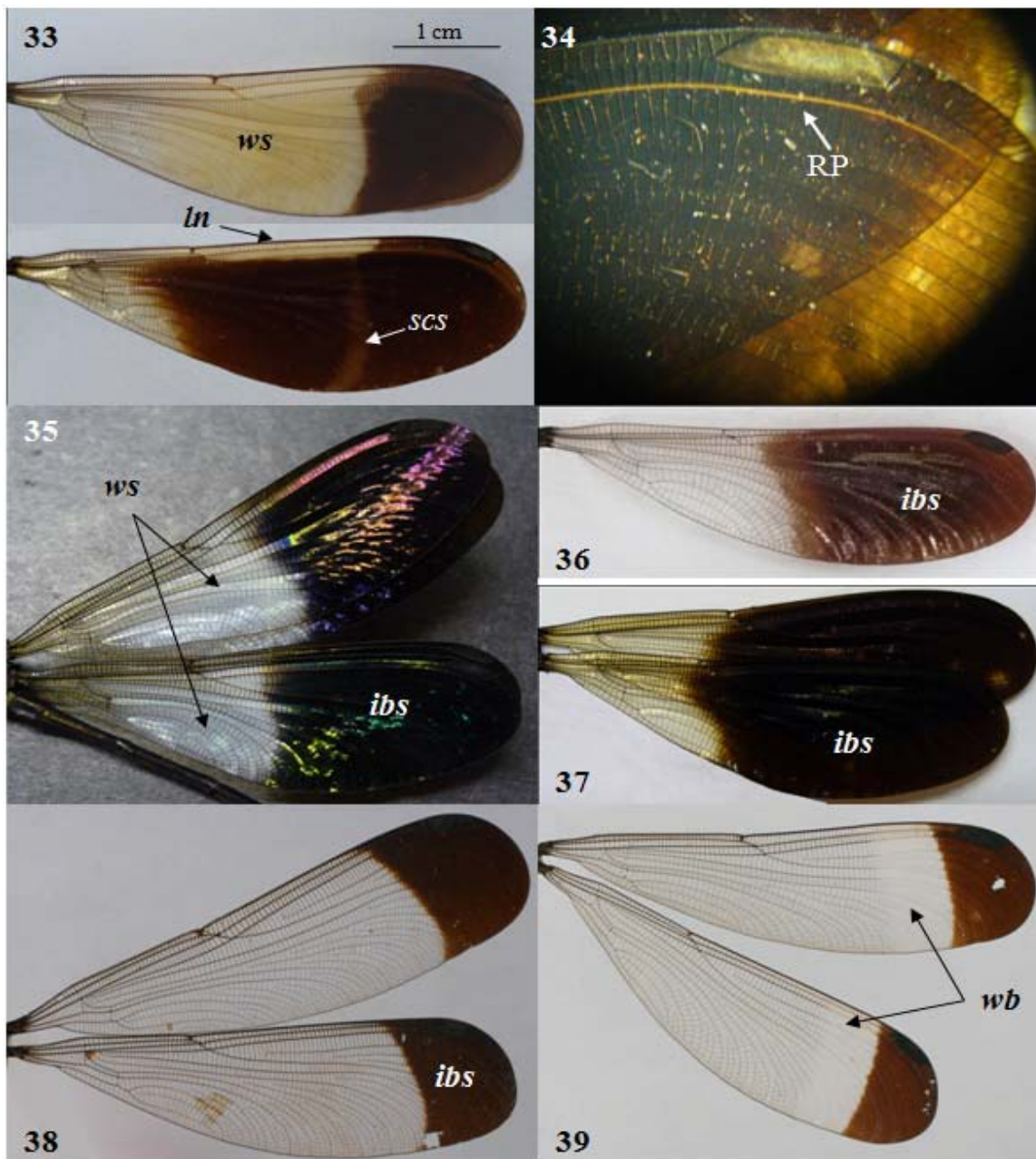
Figures 24-25. (24) *P. spaeteri* (A) male genital, ligula ectal view; (B) male genital, ligula lateral view; (C) thorax, dorsal view. (25) *P. concinna* (A) male genital ligula, ecto-lateral view (left projection of lateral lobe is broken); (B) hook-shaped distal lobes; (C) arrow pointing at apex of lateral projection. Abbreviations: *lp*: lateral projection.



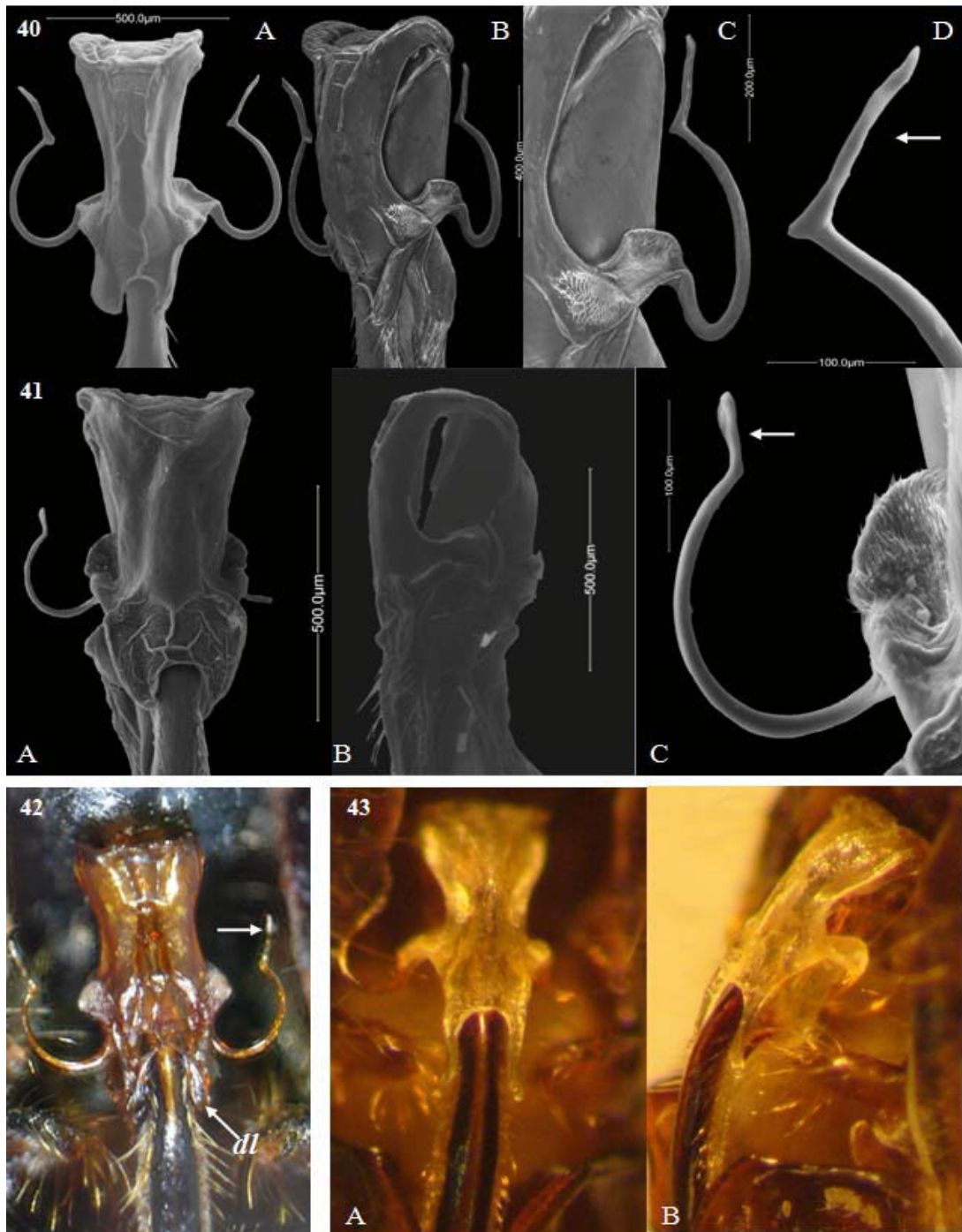
Figures 26-29. Male wings. (26) *P. concinna*; (27) *P. victoria*, the arrow indicates the white band disrupting iridescent black spot; (28) *P. beata*; (29) *P. chiribiquete*, the arrow points to the ochre round spot



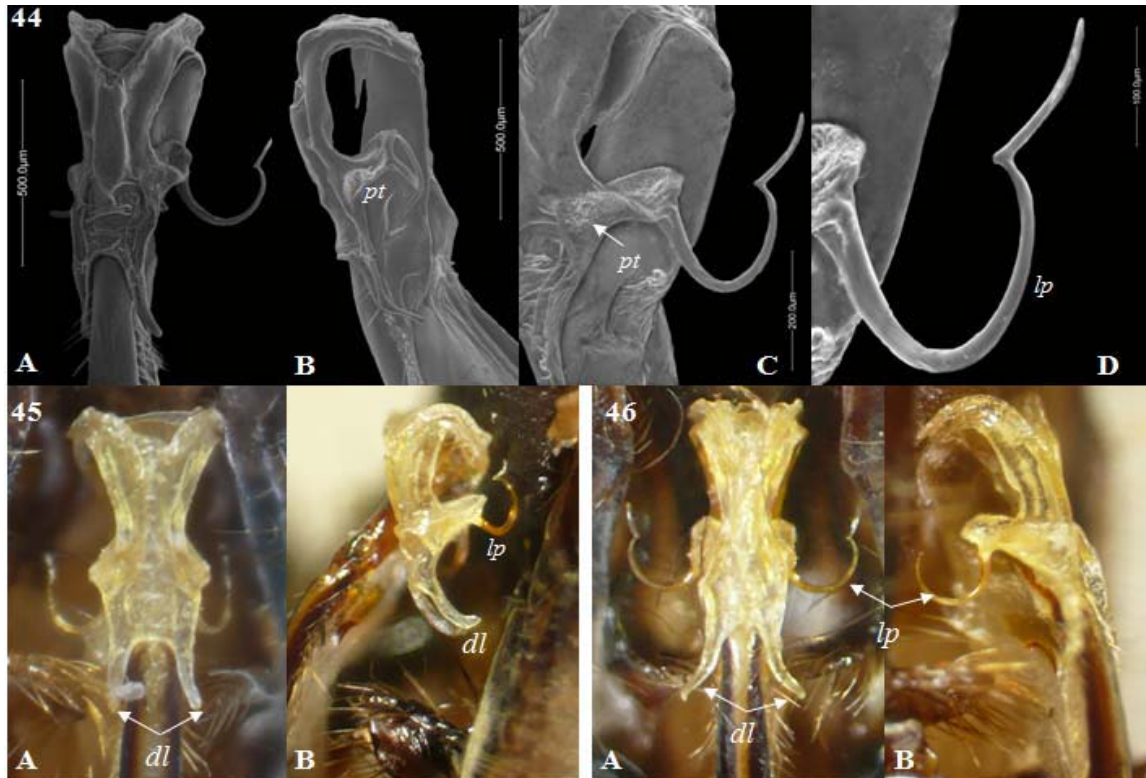
Figures 30-32. Male genital ligula. (30) *P. beata*, (A) lateral view; (B) detail of lateral lobe, ectal view. (31) *P. chiribiquete*, ectal view. (32) *P. victoria*, ectal view. Abbreviations: *all* – antero-lateral lobe, *ll* – lateral lobe, *lp* – lateral projection.



Figures 33-39. Male wings (33, 34) *P. ornata*, the arrow shows RP vein differentiated from rest of venation; (35) *P. procera*; (36) *P. lamerceda*; (37) *P. gigantea*; (38) *P. terminata*; (39) *P. derivata*, arrows indicate apical white band preceding iridescent brown spot. Abbreviations: *ibs* – iridescent black or brown spot, *ln* – lunula, *wb* – white band, *ws* – white spot



Figures 40-42. Male genital ligula. (40) *P. ornata*, (A) ectal view, right projection of lateral lobe is broken (B) ectal-lateral view, (C) lateral lobe, (D) apex of projection of lateral lobe. (41) *P. gigantea*, (A) ectal view, (B) lateral view, (C) apex of projection of lateral lobe. (42) *P. lamerceda*, arrow indicates apex of lateral projection. (43) *P. picta*, (A) ectal view, (B) lateral view



Figures 44 – 46. (44) *P. derivata*; (A) ectal view, left projection of lateral lobe is broken (B) lateral view, (C) lateral lobe, (D) projection of lateral lobe (pt). (45) *P. derivata*, photograph from stereoscope (A) ectal view, (B) lateral view. (46) *P. terminata* photograph from stereoscope (A) ectal view, (B) lateral view. Abbreviations: *dl* – distal lobe, *lp* – lateral projection, *pt* – protuberance.



Figures 47-48. Male genital ligula. (47) *P. procera*, (A) ectal view, (B) lateral view, (C) lateral lobe, ventral view, (D) detail of apex of lateral projection. (48) *P. neopicta* (A) ectal view, arrow indicates apex of lateral projection, (B) ectal-lateral view, protuberance is shown, (C) detail of lateral projection without hairs



Figures 49-50. Male wings. (49) *P. neopicta* (50) *P. picta*, arrows indicate triangular white spots.

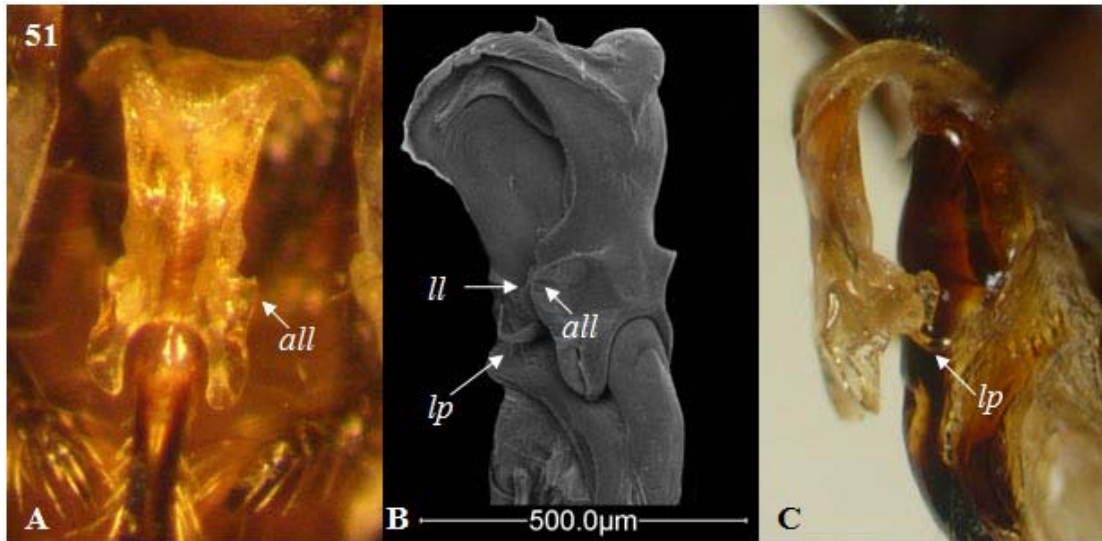
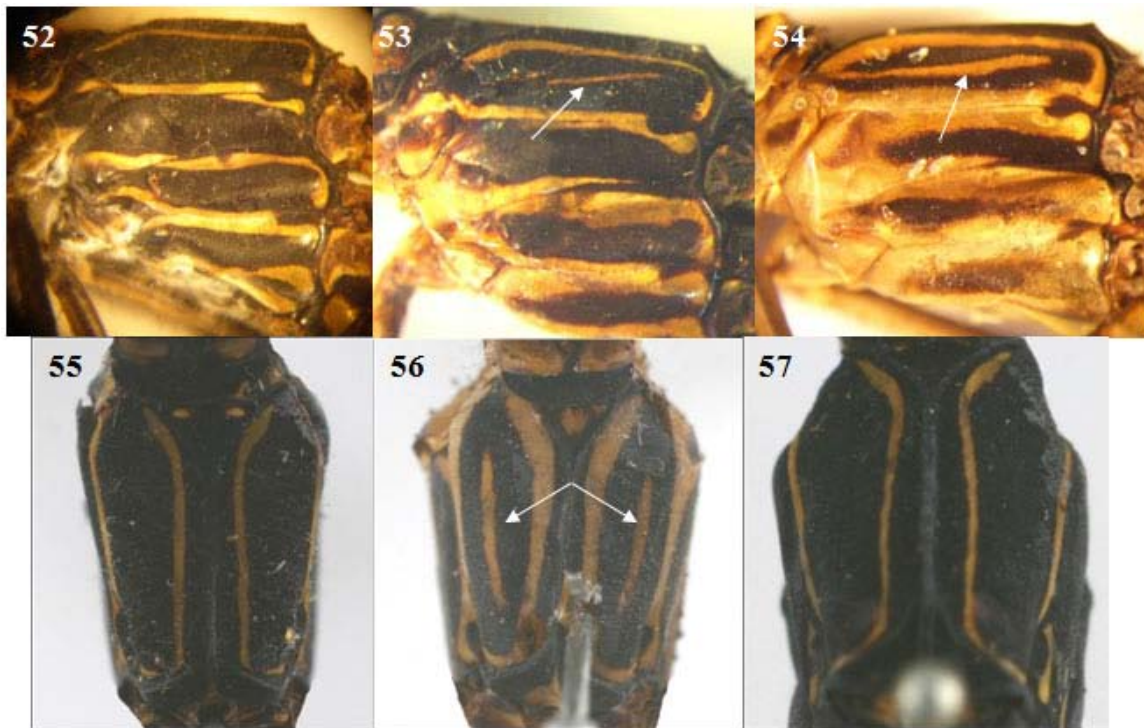


Figure 51. Male genital ligula of *P. mutata* (A) ectal view on stereoscope, (B) ectal-lateral view on SEM, (C) lateral view.



Figures 52-57. Male thorax. (52, 55) *P. boliviana*, lateral view and dorsal view respectively; (53, 56) *P. vittata*, lateral view and dorsal view respectively; (54) *P. mutata*, lateral view; (57) *P. terminata*, dorsal view. Arrows indicate the additional mesospisternal stripe.

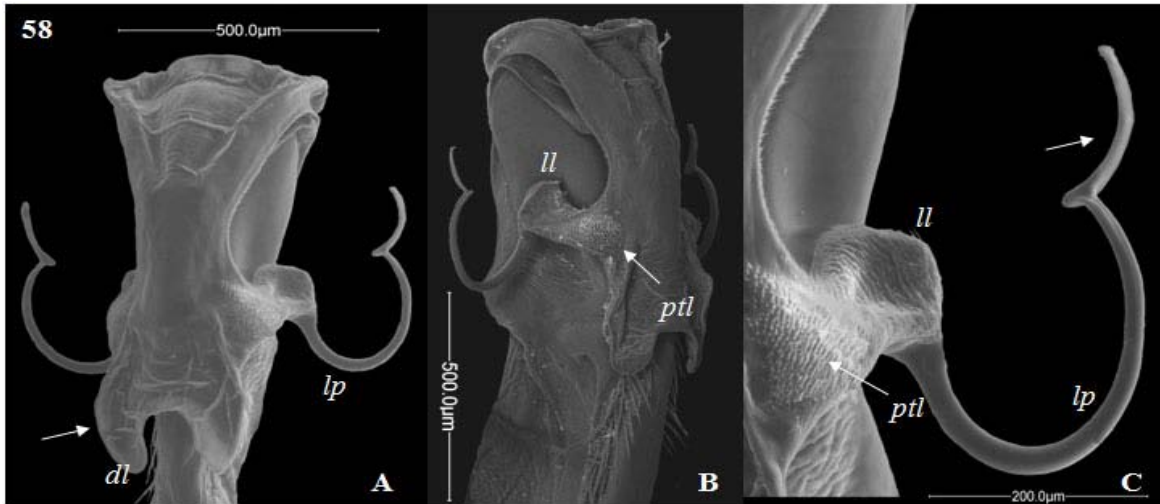


Figure 58. *P. boliviana*, male genital ligula. (A) ectal view, arrow points at convex edge of distal lobe; (B) ectal-lateral view, arrow shows protuberance (C) detail of lateral lobe and its projection, arrow indicates apex of lateral projection. Abbreviations: *dl* – distal lobes, *ll* – lateral lobes, *lp* – lateral projection, *ptl* – protuberance of lateral lobe

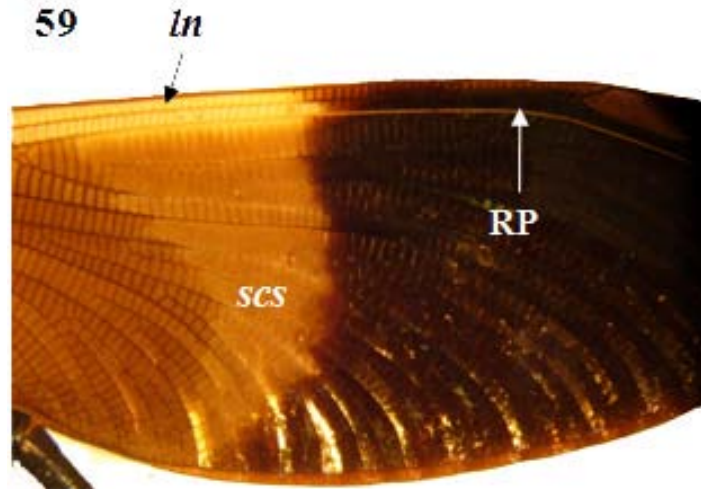


Figure 59. *P. boliviana*, male HW; arrow indicates the RP vein yellow to the proximal margin of pterostigma.

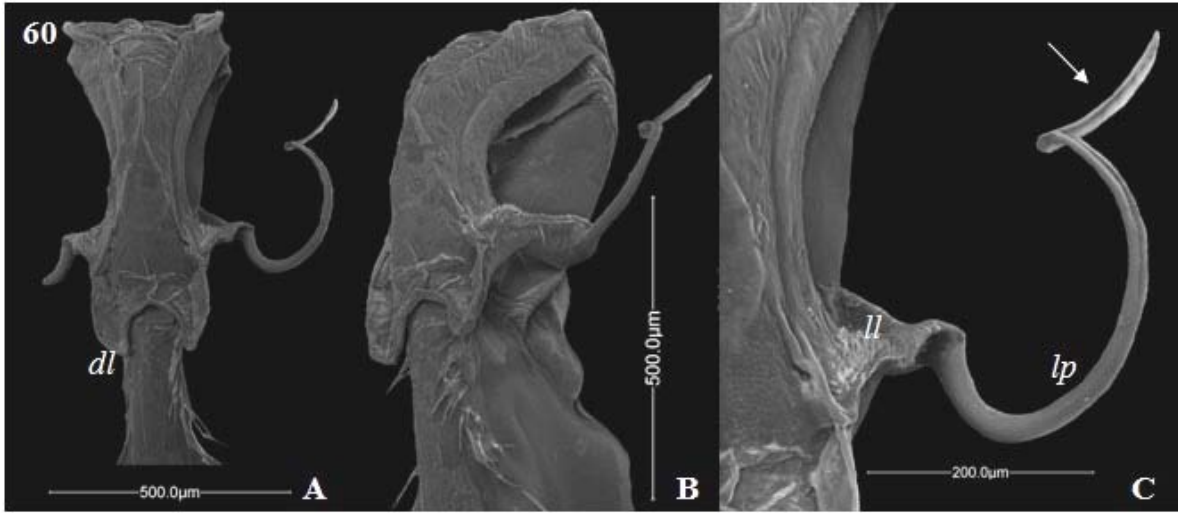


Figure 60. *P. manua* male genital ligula; (A) ectal view; (B) ectal-lateral view; (C) detail of lateral lobe, arrow points at apex of lateral projection

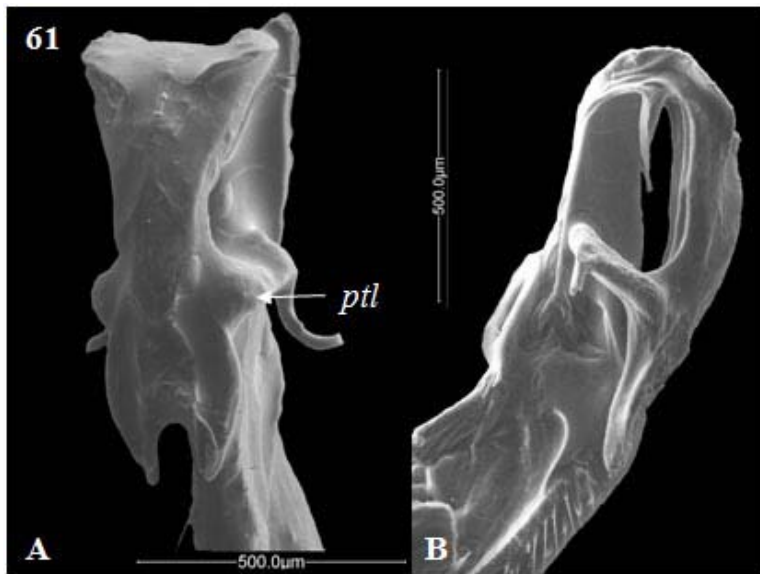


Figure 61. *P. williamsoni*, male genital ligula; (A) ectal view, *ptl* – protuberance of lateral lobe; (B) lateral view. Note that lateral projections are broken

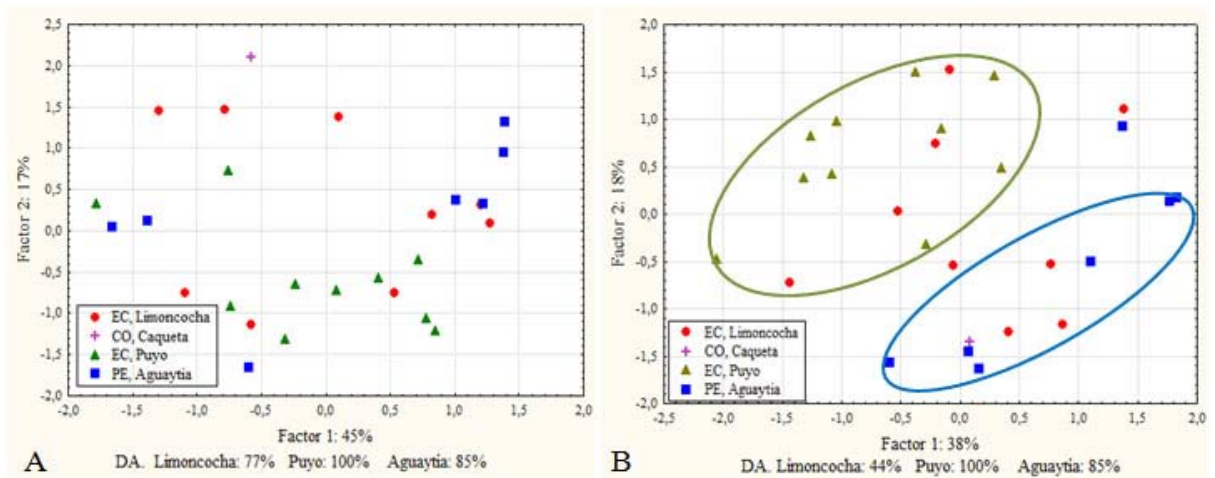


Figure 62. Principal Components Analysis for populations of *P. derivata*. A. raw measures; B. size-corrected measures

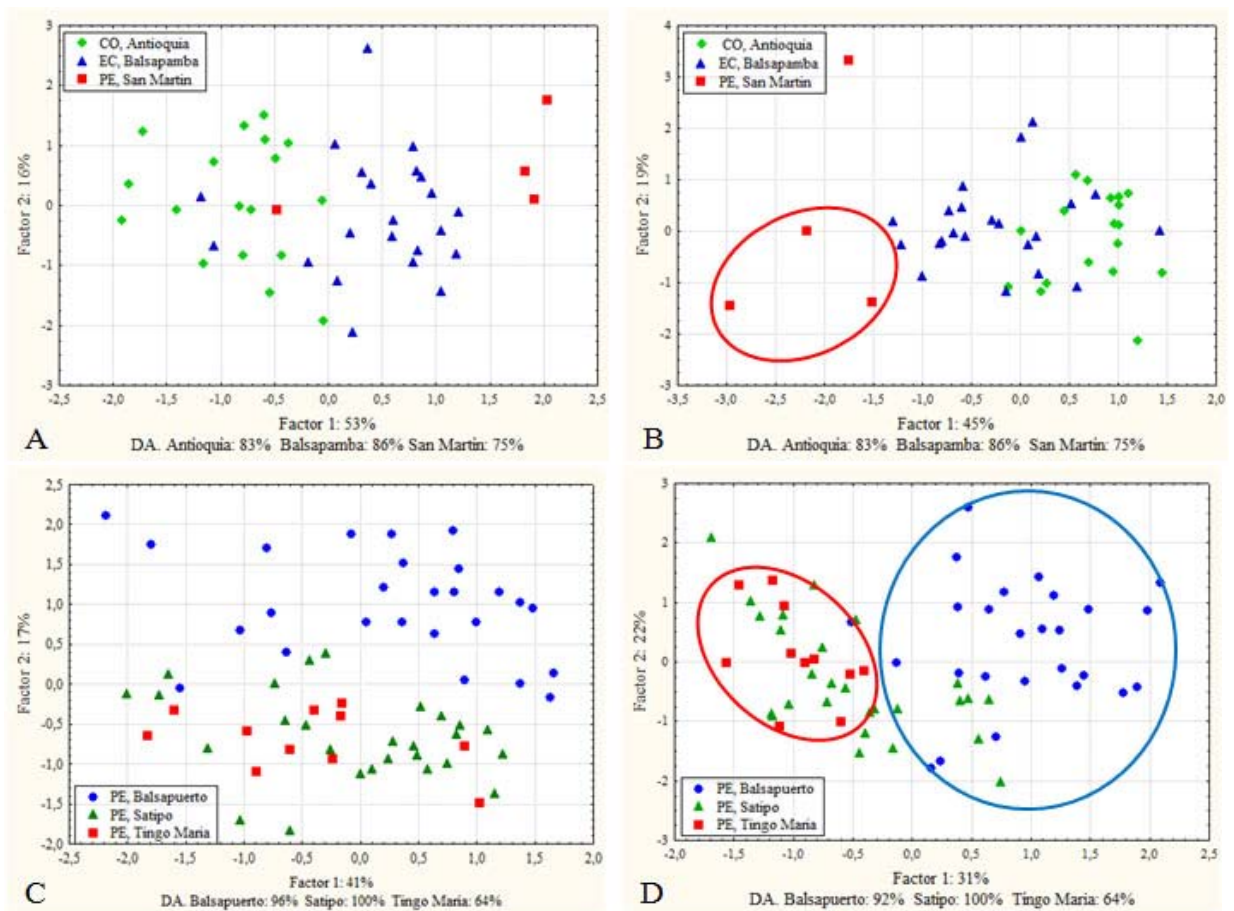


Figure 63. Principal Components Analysis for populations of *P. gigantea* (A: raw measures, B: size-corrected measures) and *P. neopicta*. (C: raw measures, D: size-corrected measures).

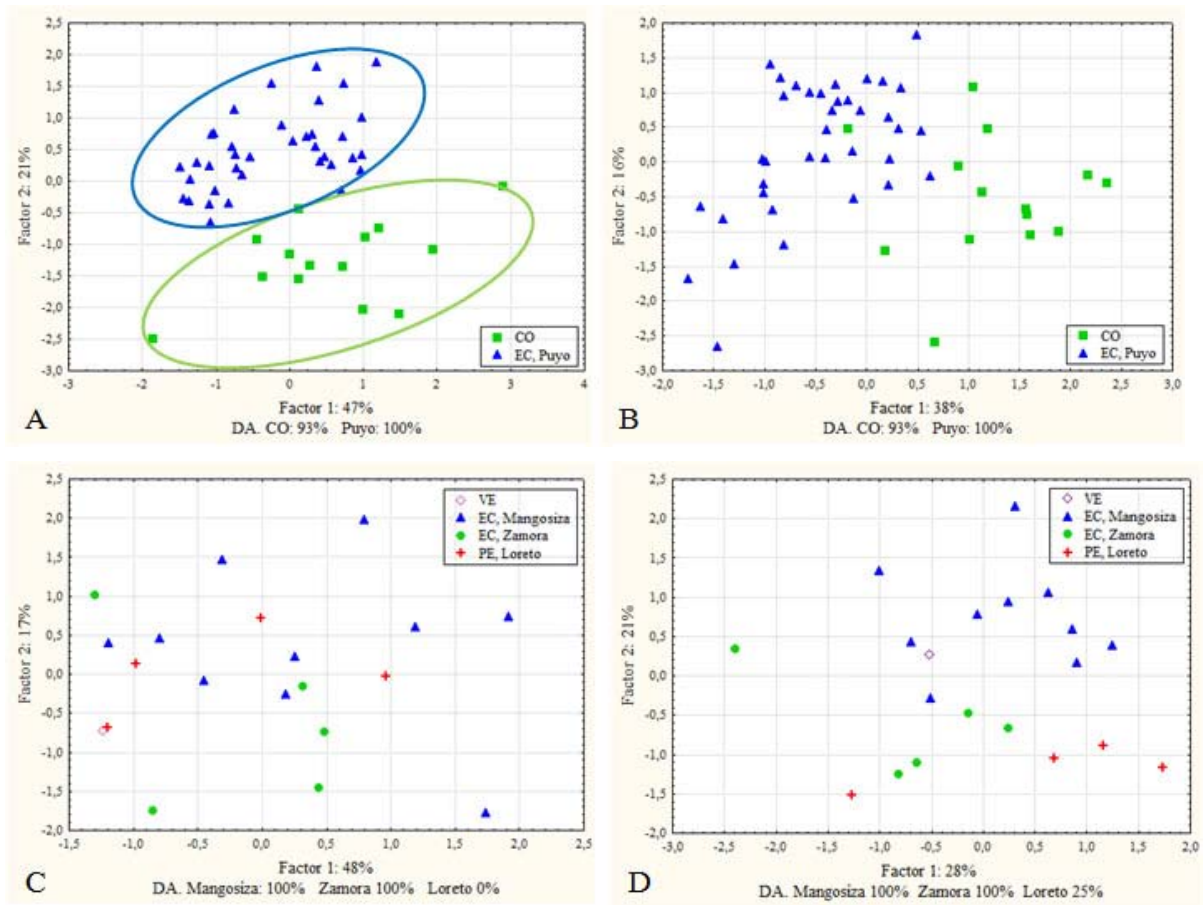


Figure 64. Principal Components Analysis for populations of *P. procera* (A: raw measures, B: size-corrected measures) and *P. terminata*. (C. raw measures; D. size-corrected measures)

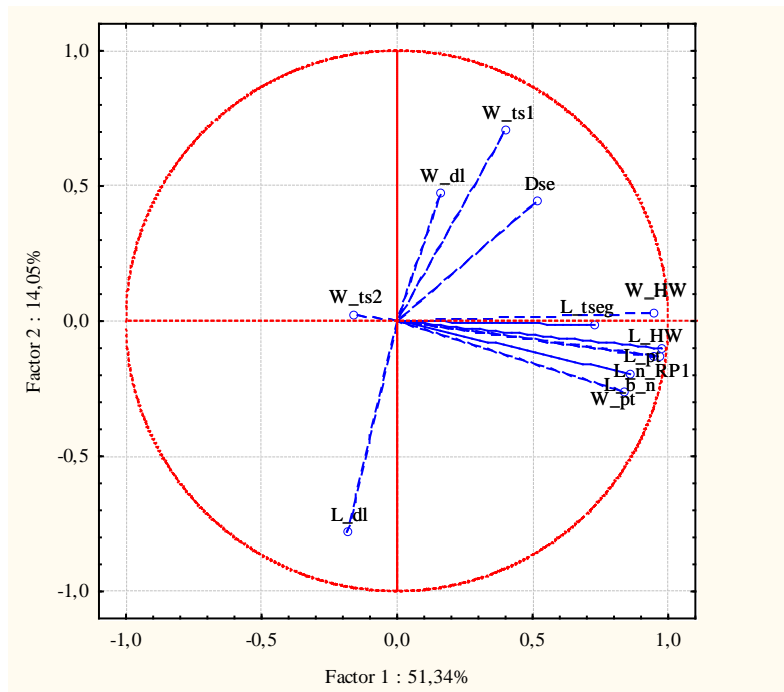


Figure 65. Projection of variables on the factor plane for species of the genus (Factor 1 x Factor 2)

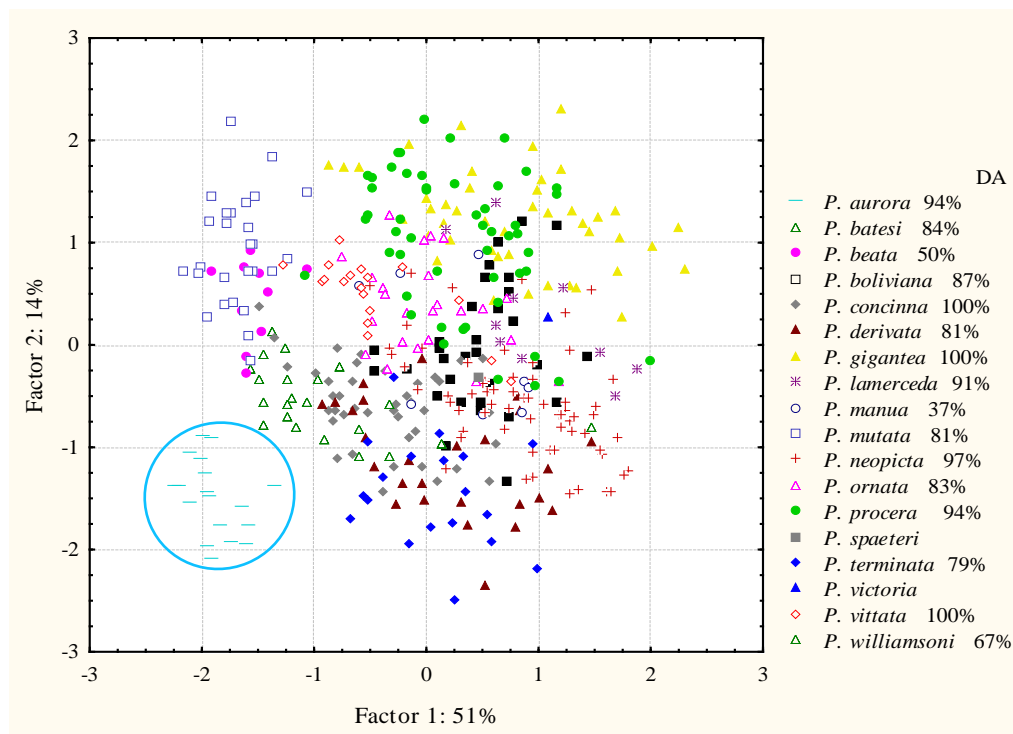


Figure 66. Principal Components Analysis with raw measures for species of *Polythore*

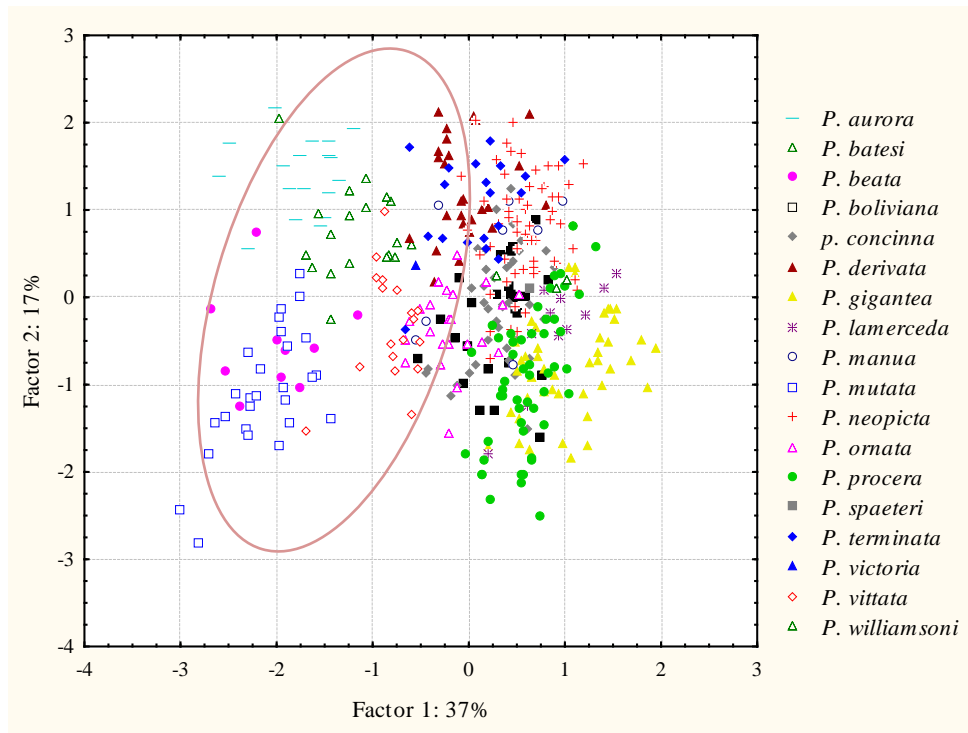


Figure 67. Principal Components Analysis with size-corrected measures for species of Polythore

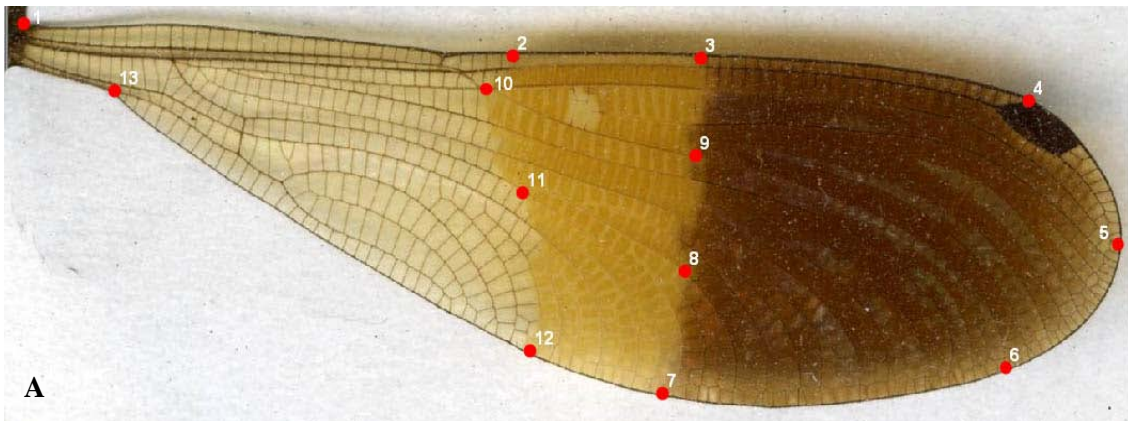


Figure 68. Landmarks defined for the hind wing of: (A) *P. batesi*

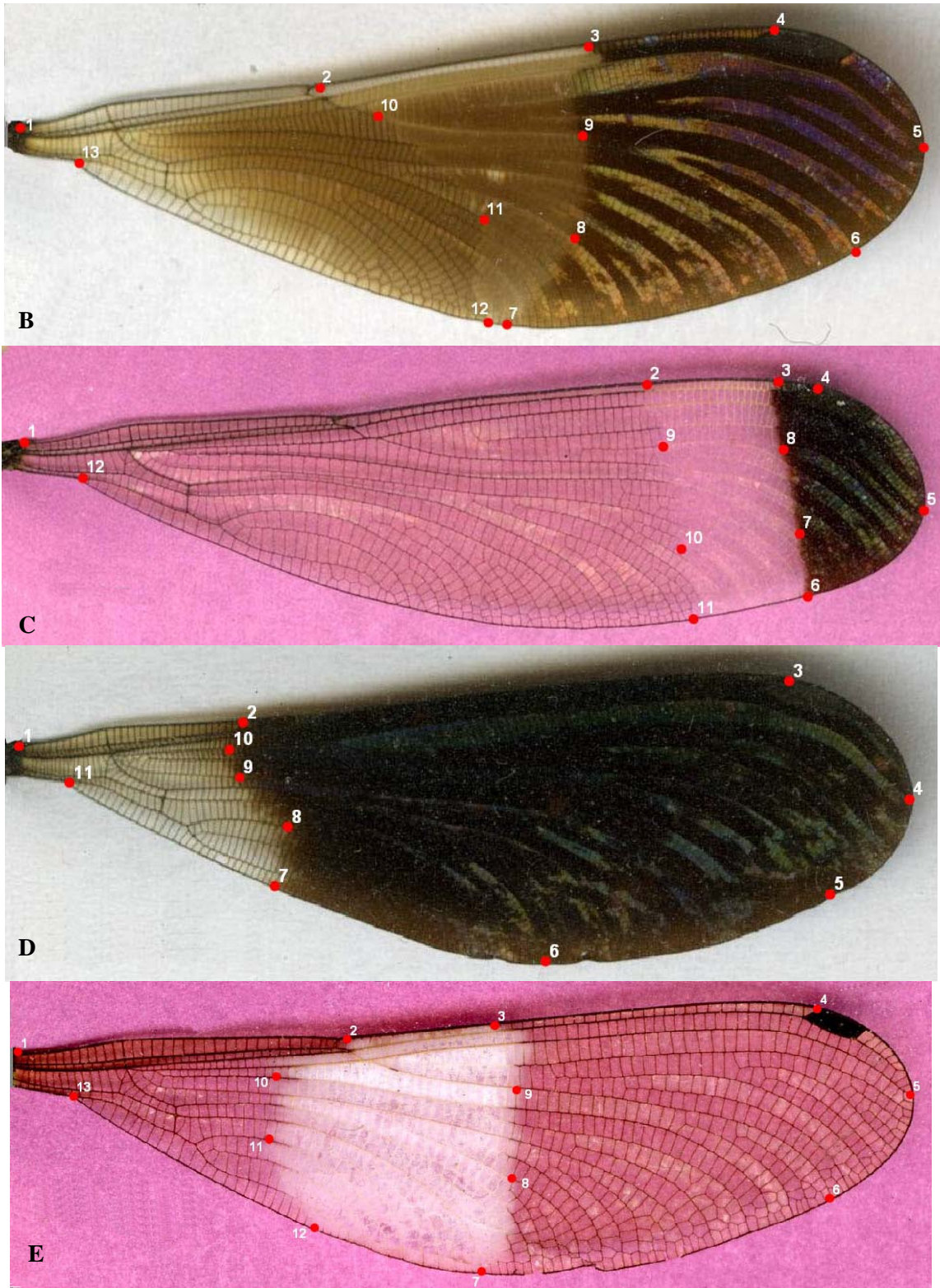
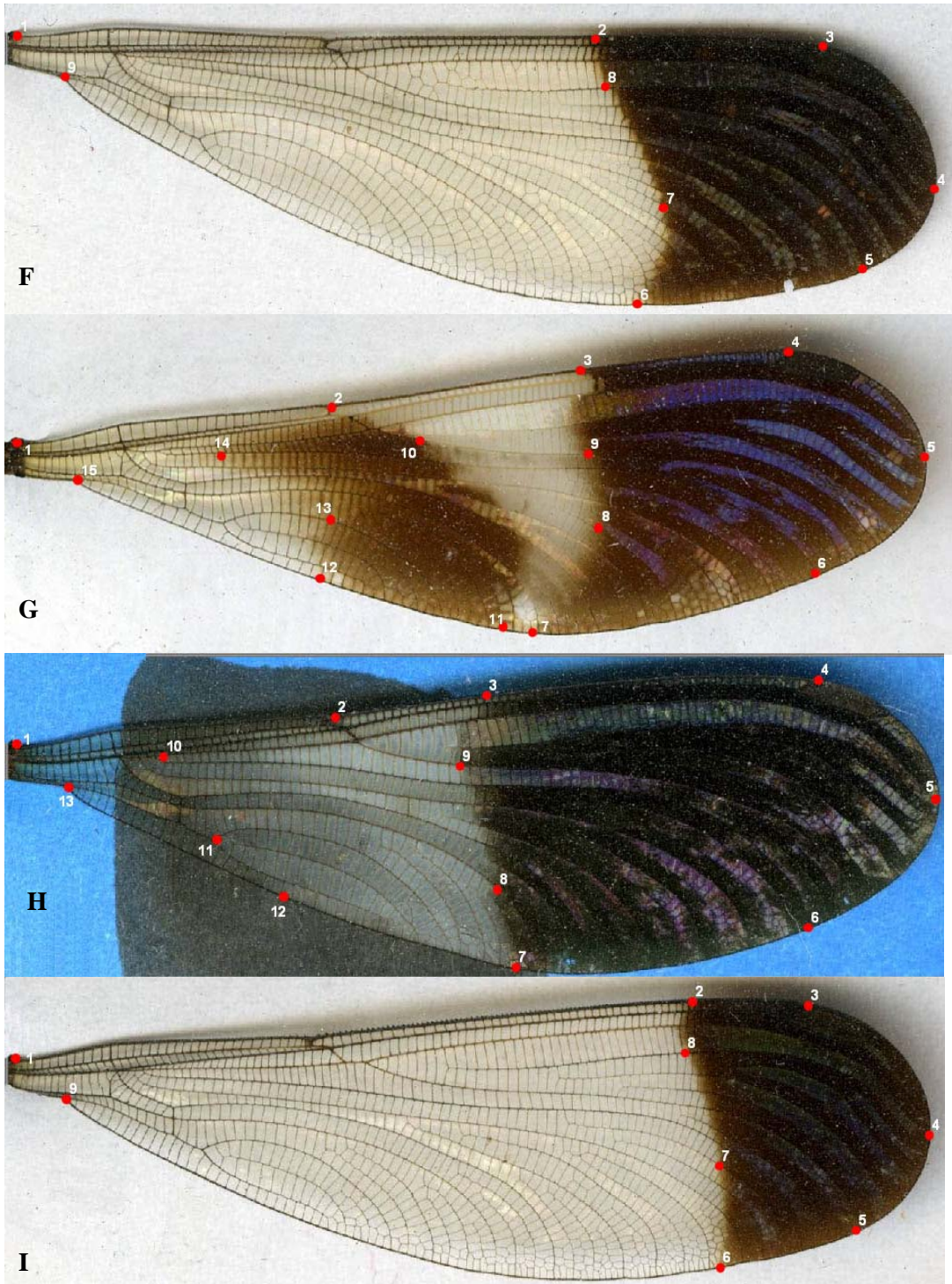


Figure 68. Landmarks defined for the hind wing of: (B) *P. boliviana*, (C) *P. derivata*, (D) *P. gigantea* and (E) *P. mutata*.



Continuation. Figure 68. (F) *P. neopicta*, (G) *P. ornata*, (H) *P. procera*, and (I) *P. terminata*. For numbers of the landmarks see table 1.

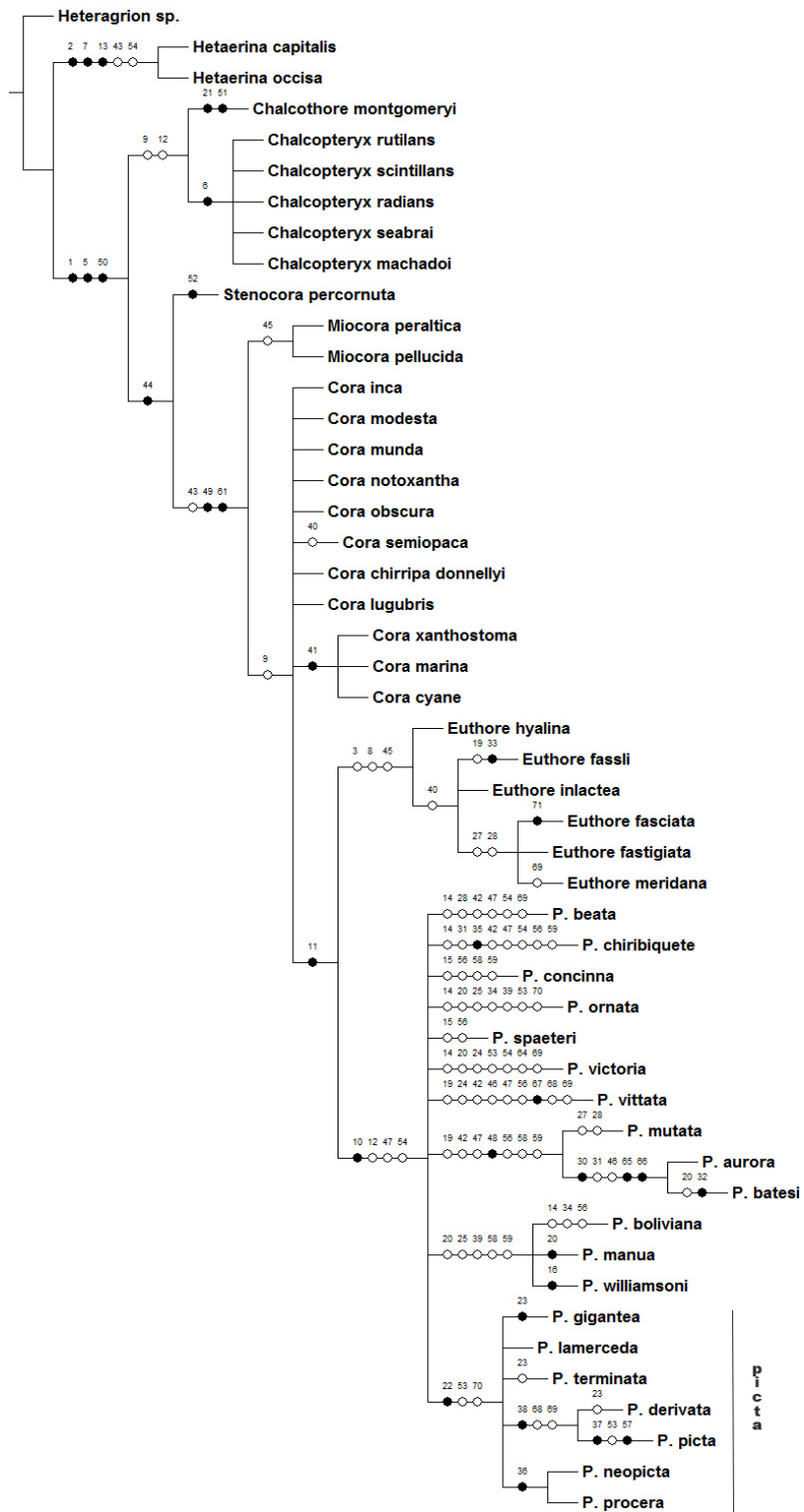


Figure 69. Strict consensus tree (140 steps, $Ci = 0.52$, $Ri = 0.75$) obtained from the total evidence analysis with male and female characters. The numbers indicate the characters and black circles correspond to the strict homologies ($Ri = 1$).

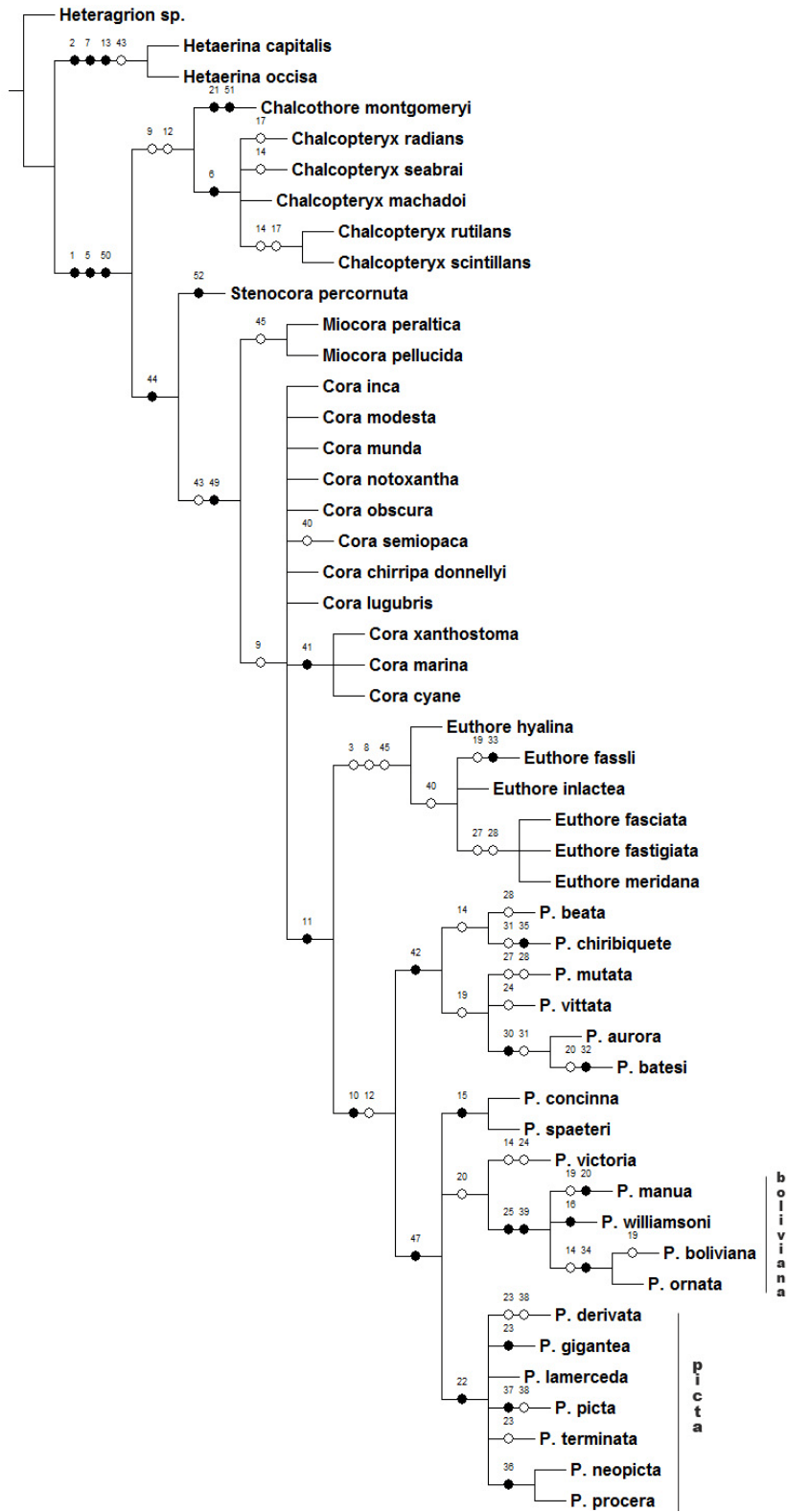


Figure 70. Strict consensus tree (82 steps, $Ci = 0.69$, $Ri = 0.88$) obtained from the analysis with male characters. The numbers indicate the characters and black circles correspond to the strict homologies ($Ri = 1$).

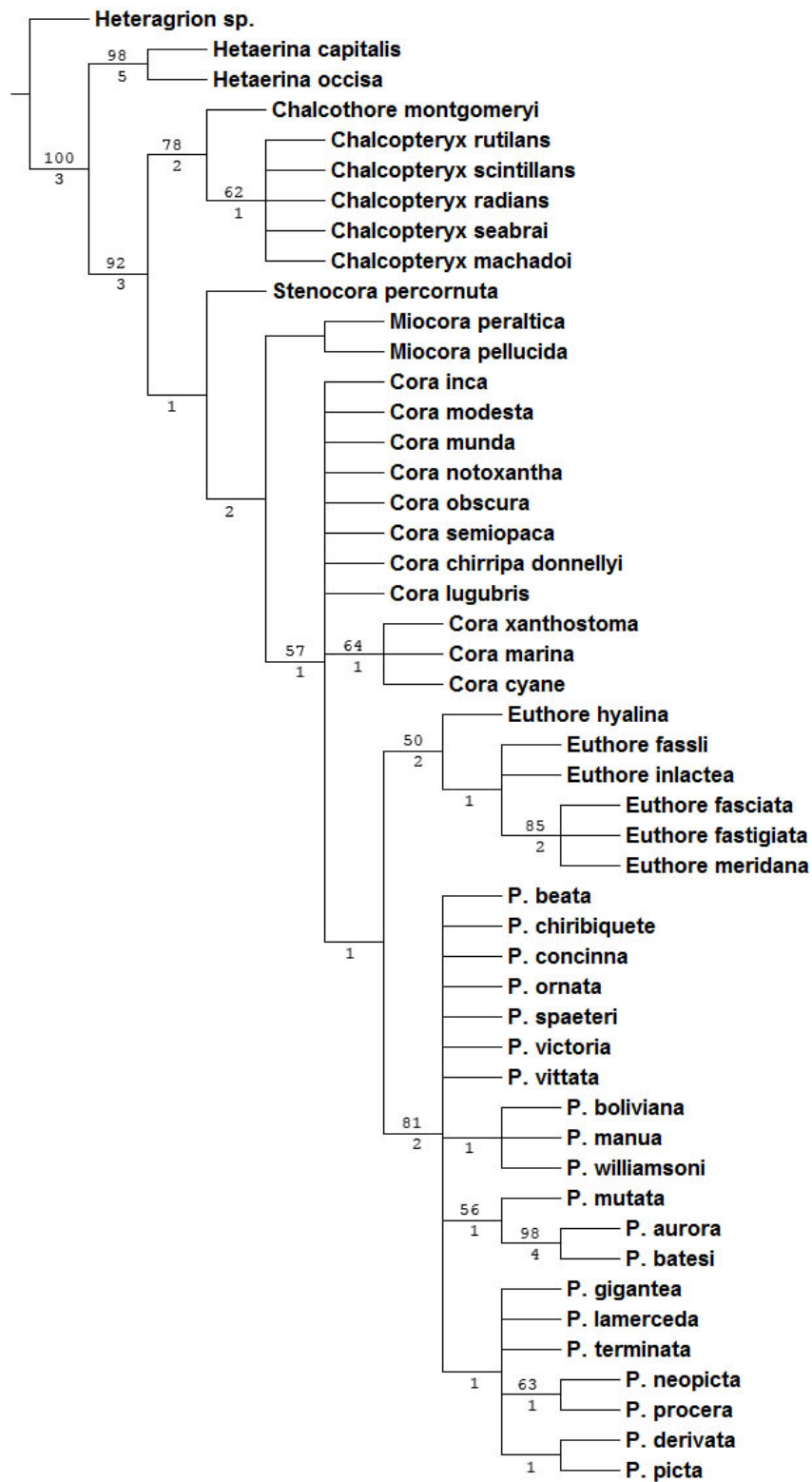


Figure 72. Supports for strict consensus tree of total evidence analysis. Numbers above the branch are Bootstrap values and numbers below are the Bremer values.

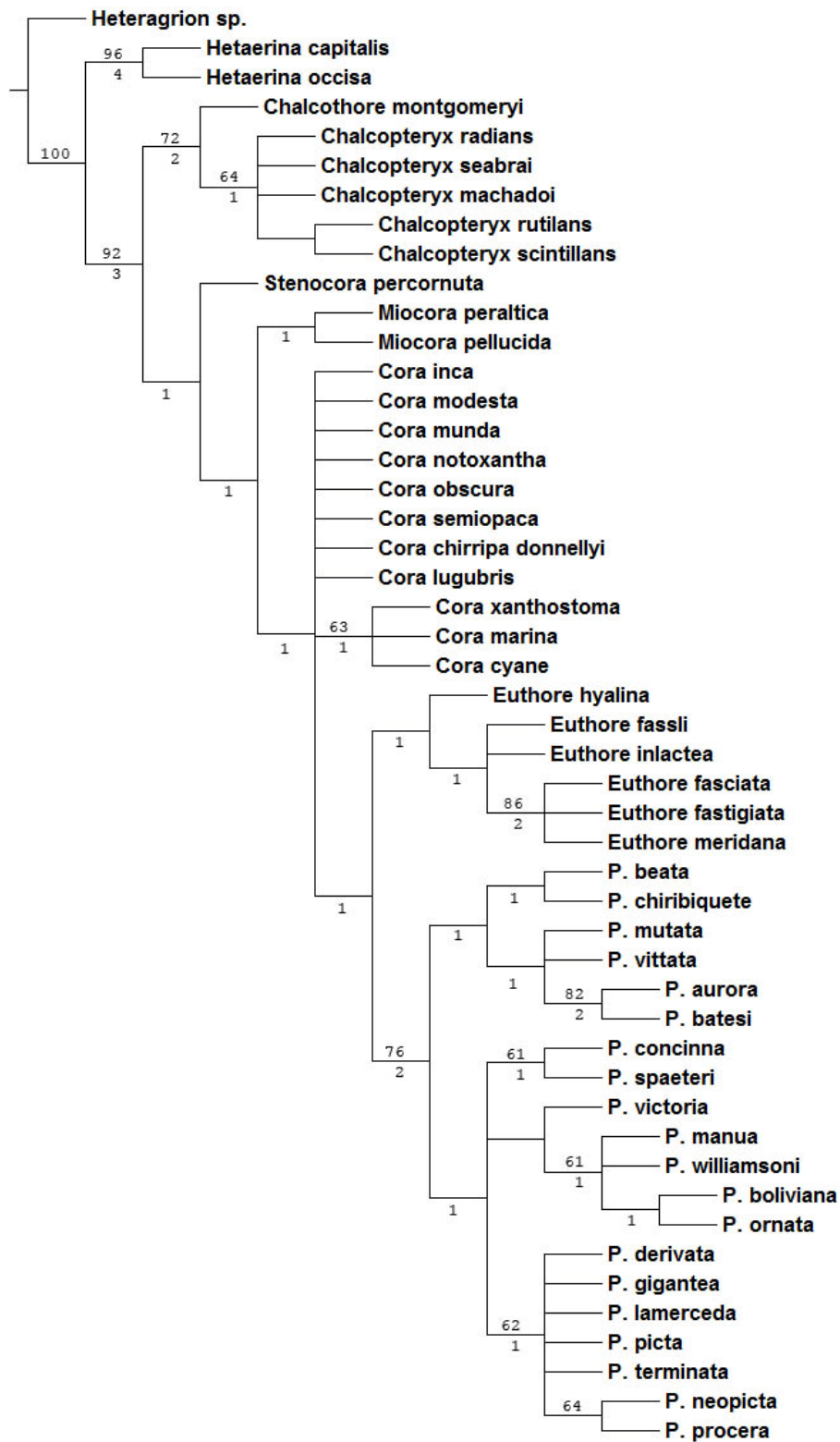


Figure 73. Supports for strict consensus tree of male characters analysis. Numbers above the branch are Bootstrap values and numbers below are the Bremer values.

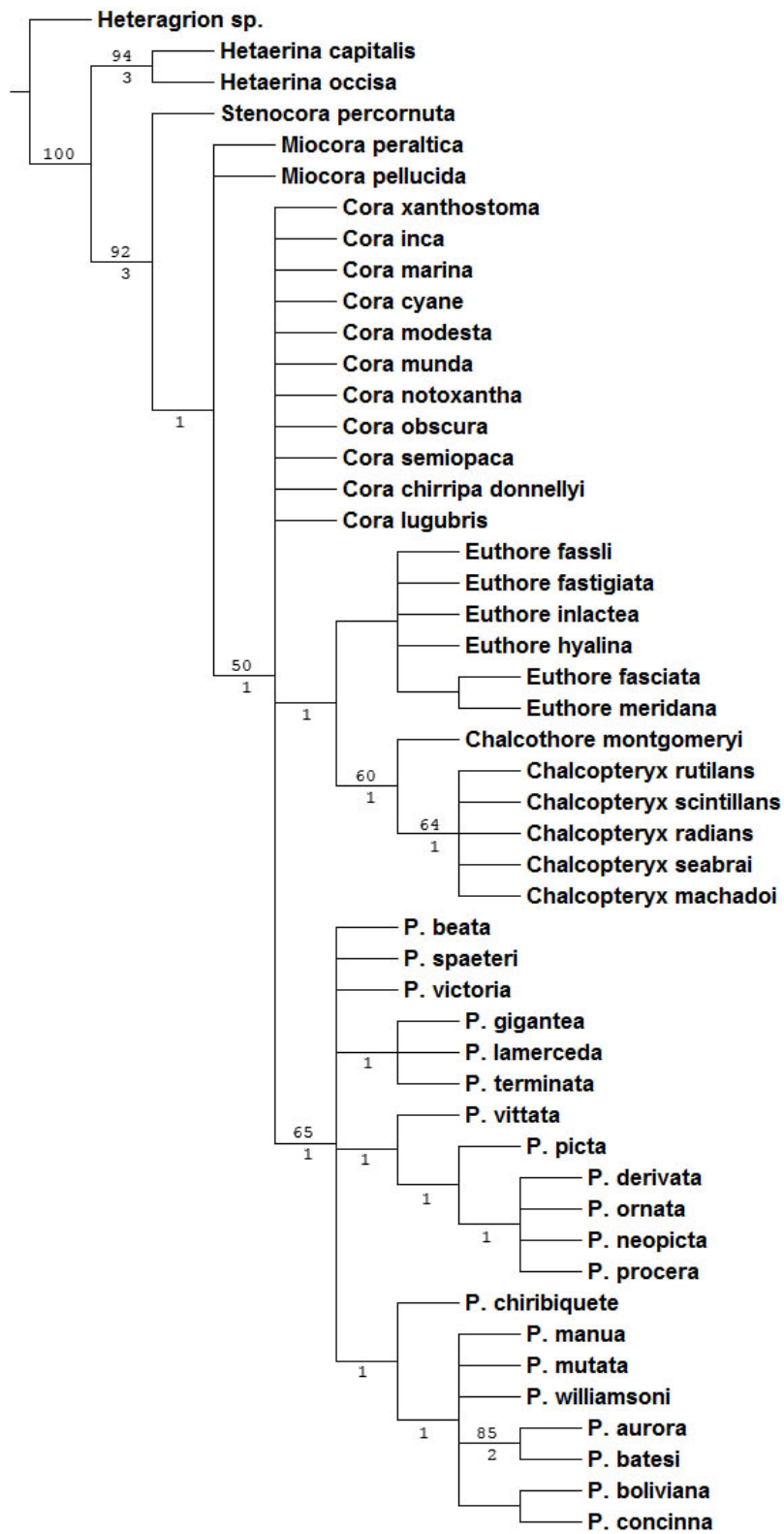


Figure 74. Supports for strict consensus tree of female characters. Numbers above the branch are Bootstrap values and numbers below are the Bremer values.

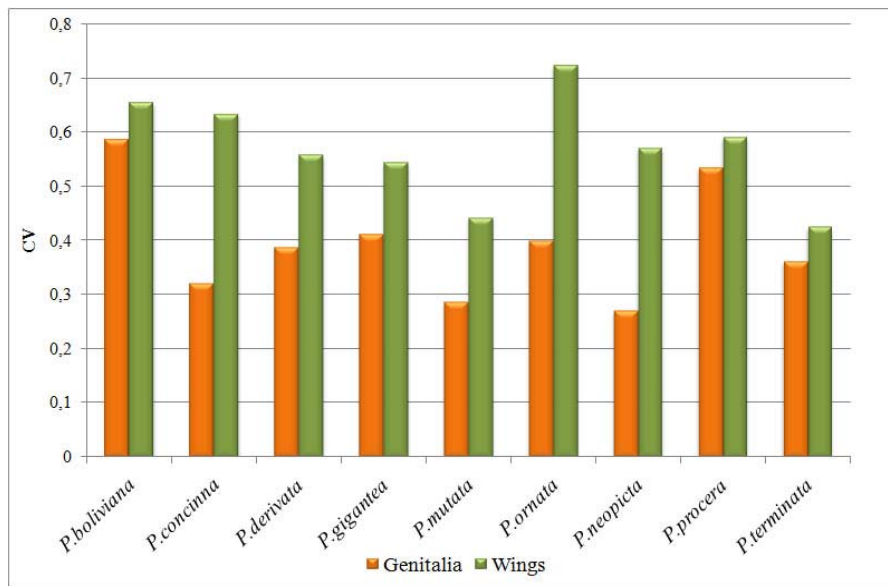


Figure 75. Coefficient of variation (CV) by species for wings and genitalia

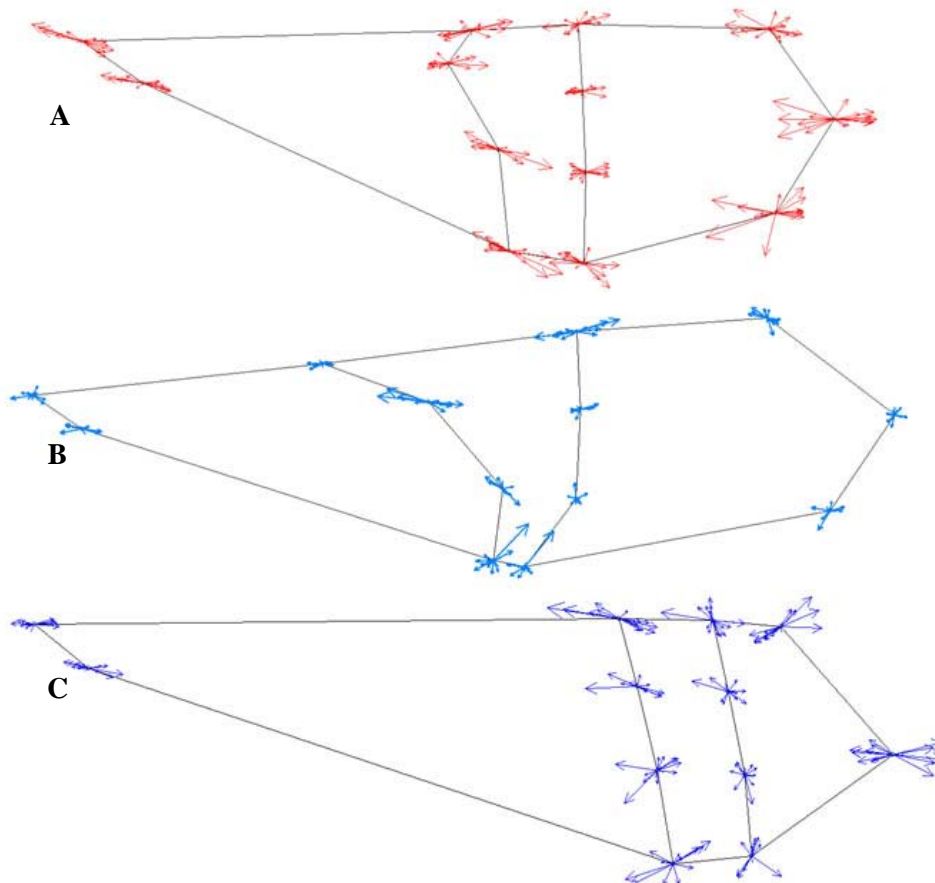
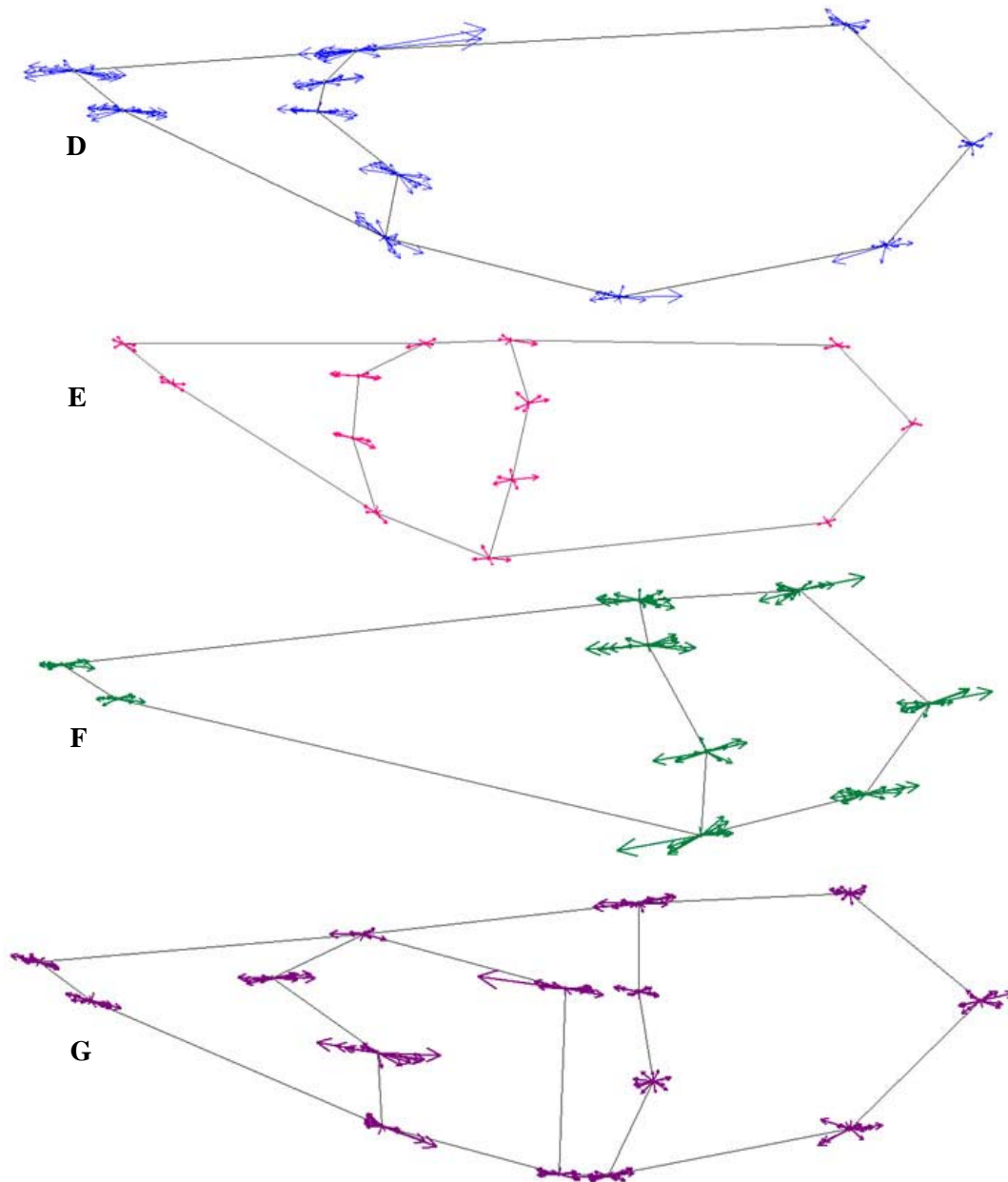
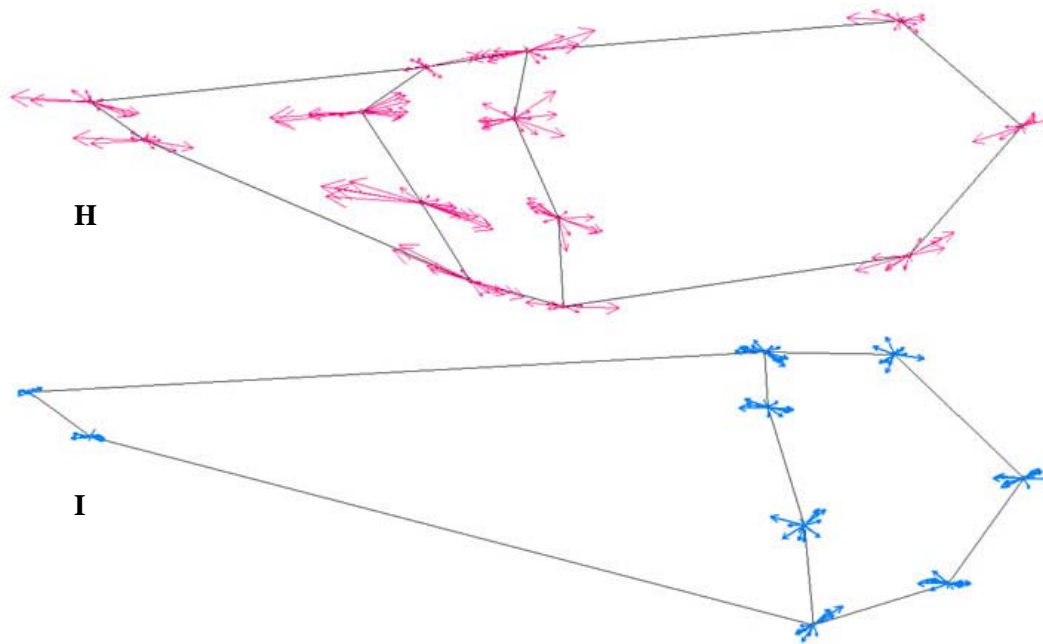


Figure 76. Movement of landmarks. (A) *P. batesi*, (B) *P. boliviana*, and (C) *P. derivata*. Arrows indicate the vector for each landmark among individuals studied.



Continuation. Figure 76. Movement of landmarks. (D) *P. gigantea*, (E) *P. mutata*, (F) *P. neopicta*, (G) *P. ornata*. Arrows indicate the vector for each landmark among individuals studied.



Continuation Figure 76. Movement of landmarks. (H) *P. procera*, and (I) *P. terminata*. Arrows indicate the vector for each landmark among the individuals studied.

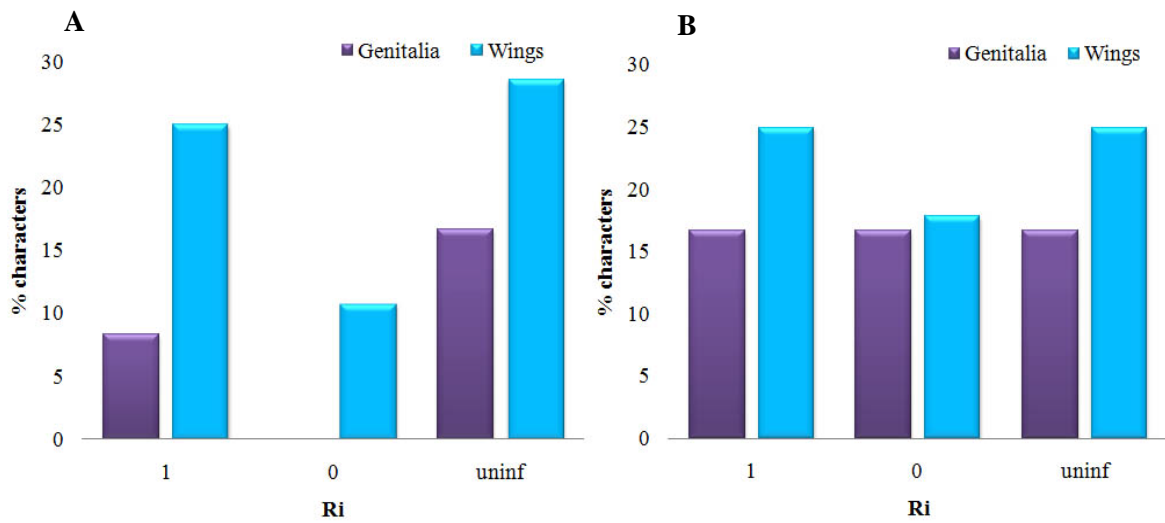


Figure 77. Percentage of characters in relation with Ri in total evidence analysis (A) and partitioned analyses (B). Ri = 1: strict homology; Ri = 0: homoplasy; and uninf: characters uninformative.

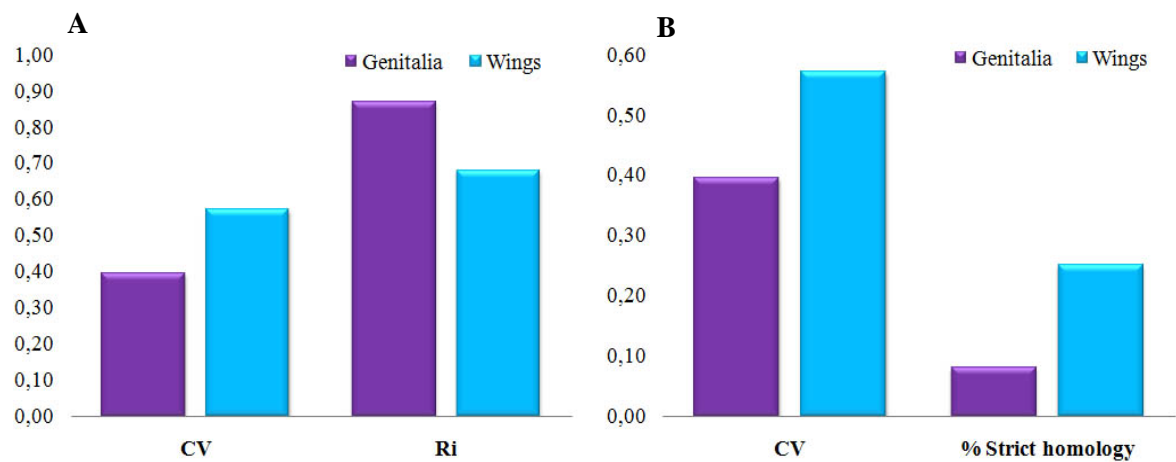


Figure 78. Comparison between CV and Ri (A), and between CV and percentage of strict homologies (B) for total evidence analysis.

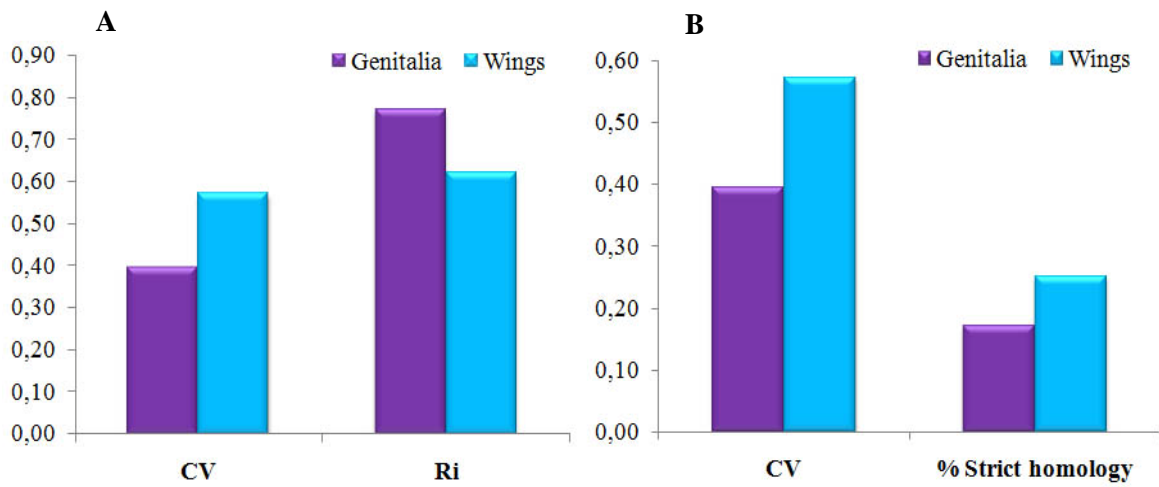


Figure 79. Comparison between CV and Ri (A), and between CV and percentage of strict homologies (B) for partitioned analysis.

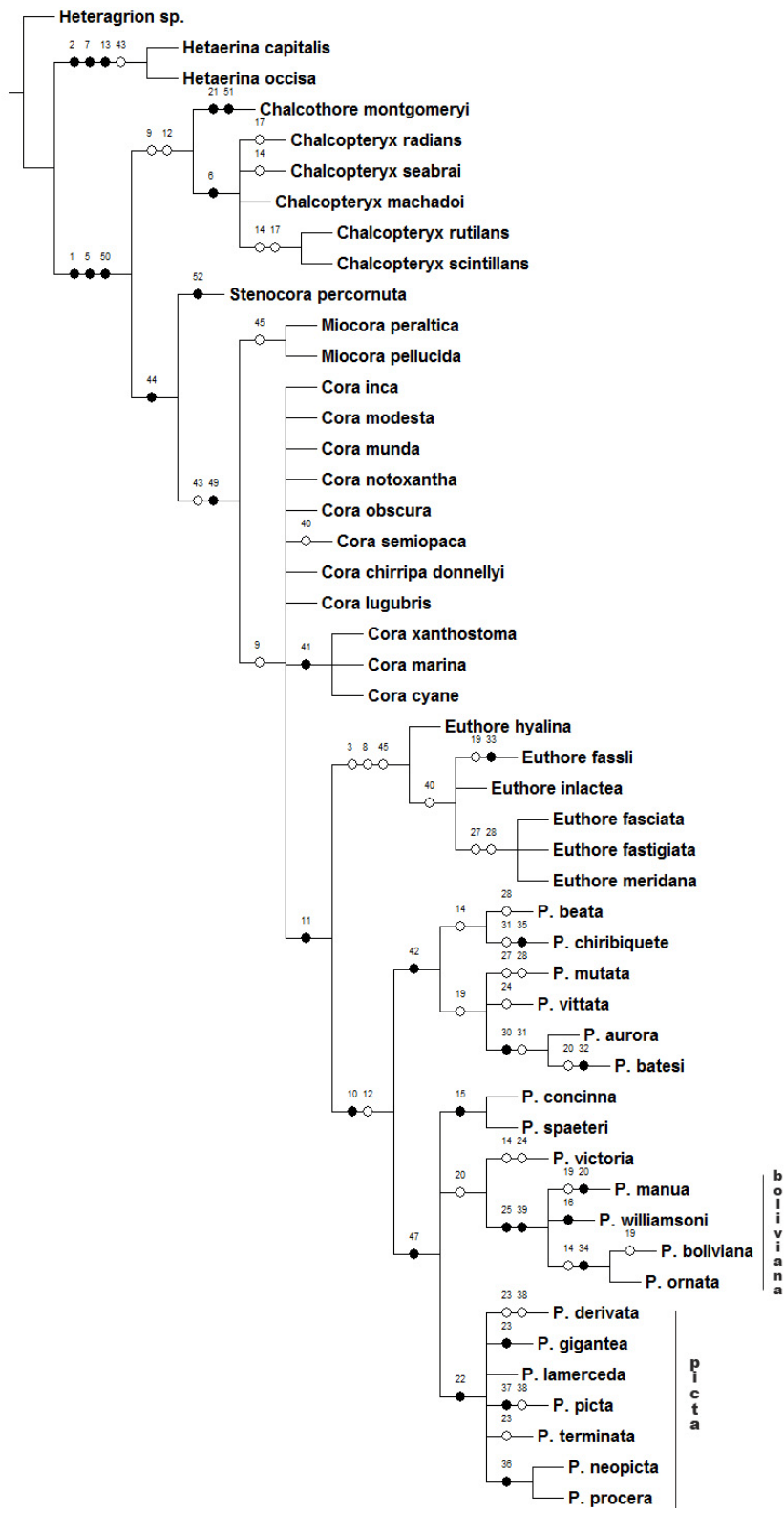


Figure 80. Strict consensus tree (82 steps, Ci = 0.69, Ri = 0.88) obtained from the total evidence analysis, male wing and male genital characters.

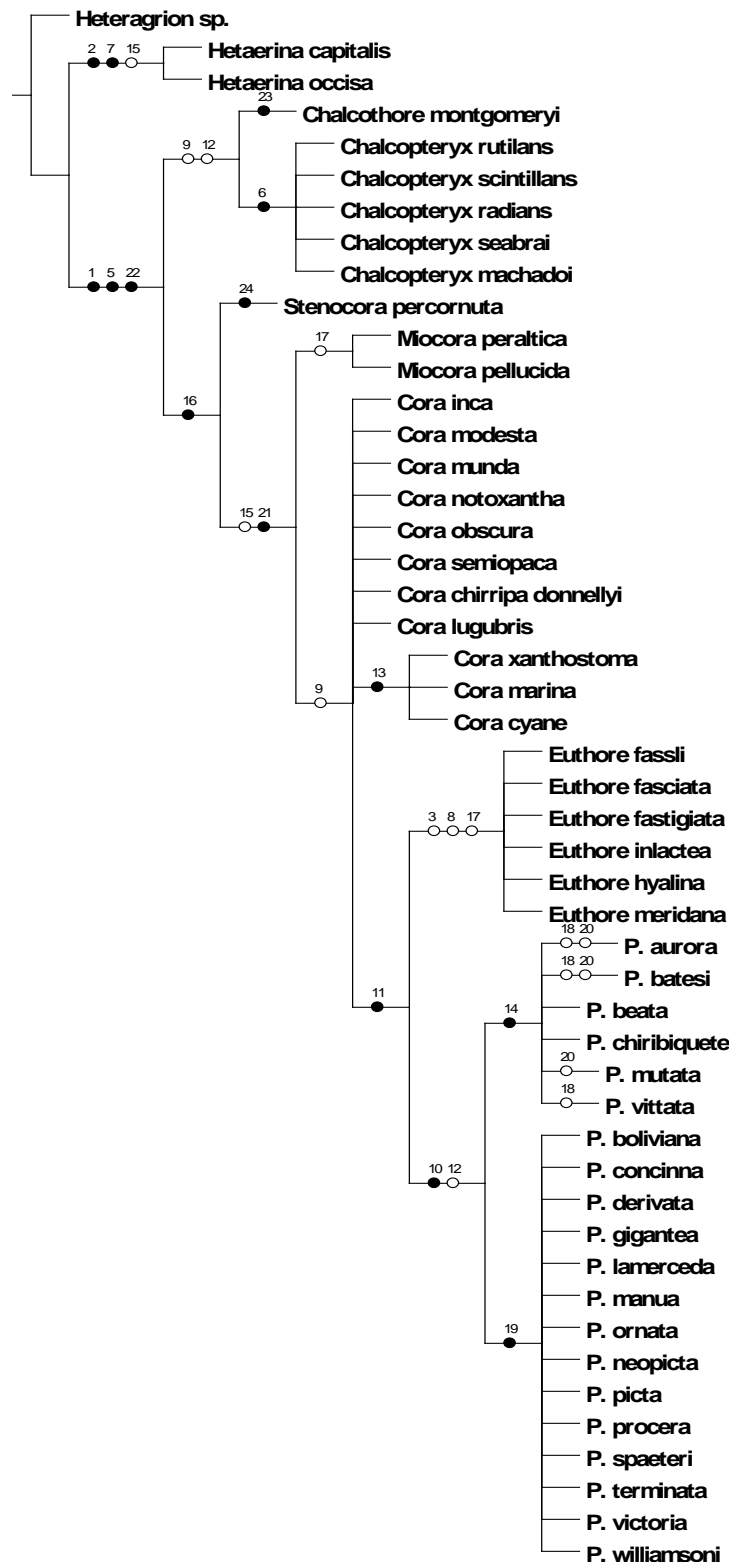


Figure 81. Strict consensus tree (36 steps, Ci = 0.72, Ri = 0.93) obtained from the genital characters analysis.

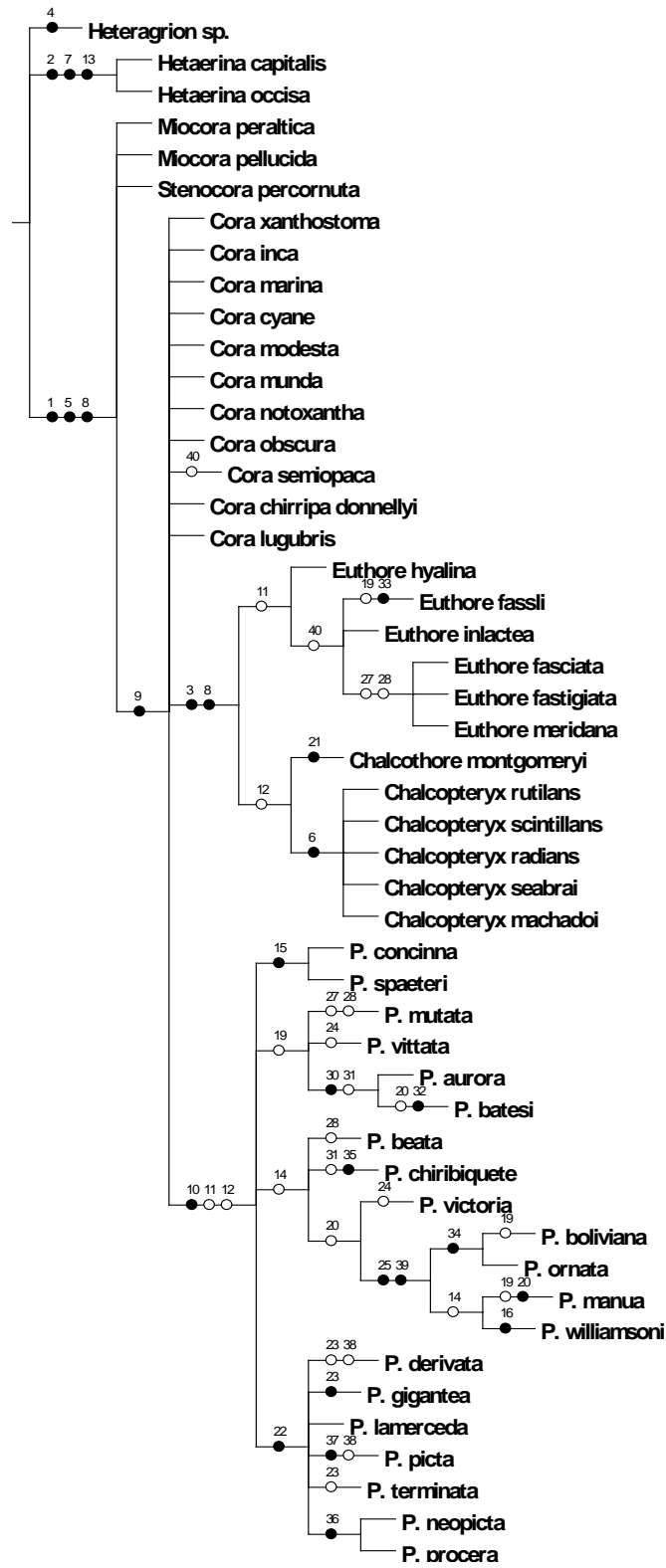


Figure 82. Strict consensus tree (63 steps, Ci = 0.71, Ri = 0.88) obtained from the wing characters analysis.