# Rubiacearum Americanarum Magna Hama Pars XXV: The Nocturnally Flowering *Psychotria domingensis–Coussarea hondensis* Group Plus Three Other Mesoamerican *Psychotria* Species Transfer to *Palicourea*

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Abstract. Several Neotropical shrubs and trees variously classified in *Psychotria* L. subg. *Heteropsychotria* Steyerm., *Palicourea* Aubl., and *Coussarea* Aubl. (Rubiaceae) share persistent stipules, apparently nocturnal flowers, well-developed white corollas with long tubes, and well-developed drupaceous fruits with two plano-convex pyrenes that generally have rather thin walls and are dorsally smooth or angled; additionally, most of these species have reduced stipules and relatively large fruits. The separation of *Psychotria* and *Coussarea* has been problematic at least in Central America, but removal here of six species from *Coussarea* leaves that genus characterized morphologically by 4-merous flowers and fruits with a single seed. Recent morphological and molecular surveys indicate that *Palicourea* and most species of *Psychotria* subg. *Heteropsychotria* comprise a single evolutionary group. These nocturnally flowering species all have the morphological features of *Palicourea* in this expanded circumscription and are here transferred to *Palicourea* along with three additional species from Mexico and Guatemala with relatively large, apparently hummingbird-pollinated flowers. Corresponding new combinations and names are published for several of these: *Palicourea alajuelensis* C. M. Taylor is based on *Coussarea austin-smithii* Standl.; *Palicourea beachiana* C. M. Taylor is based on *Coussarea nigrescens* C. M. Taylor & Hammel; *Palicourea breedlovei* (Lorence) Lorence is based on *Psychotria breedlovei* Lorence; *Palicourea calidicola* (C. M. Taylor) C. M. Taylor is based on *Psychotria calidicola* C. M. Taylor; *Palicourea chrysocalymma* (L. O. Williams) C. M. Taylor is based on *Psychotria chrysocalymma* L. O. Williams; *Palicourea diguana* (Standl. ex Steyerm.) C. M. Taylor is based on *Cephaelis diguana* Standl. ex Steyerm.; *Palicourea eurycarpa* (Standl.) C. M. Taylor is based on *Psychotria eurycarpa* Standl.; *Palicourea faxlucens* (Lorence & Dwyer) Lorence is based on *Psychotria faxlucens* Lorence & Dwyer; *Palicourea grandifructa* (C. M. Taylor) C. M. Taylor is based on *Coussarea grandifructa* C. M. Taylor; *Palicourea heydei* (Standl.) Lorence is based on *Psychotria heydei* Standl.; *Palicourea hondensis* (Standl.) C. M. Taylor is based on *Psychotria hondensis* Standl.; *Palicourea mediocris* (Standl. & Steyerm.) Lorence is based on *Coussarea mediocris* Standl. & Steyerm.; *Palicourea megalantha* (Lorence) Lorence is based on *Psychotria megalantha* Lorence; *Palicourea nebulosa* (Dwyer) C. M. Taylor is based on *Coussarea nebulosa* Dwyer; *Palicourea neopurpusii* C. M. Taylor is based on *Psychotria purpusii* Standl.; *Palicourea psychotrioides* (C. M. Taylor & Hammel) C. M. Taylor is based on *Coussarea psychotrioides* C. M. Taylor & Hammel; *Palicourea roseocremea* (Dwyer) C. M. Taylor is based on *Coussarea roseocremea* Dwyer; *Palicourea sousae* (Lorence & Dwyer) Lorence is based on *Psychotria sousae* Lorence & Dwyer; *Palicourea tetragona* (Donn. Sm.) C. M. Taylor & Lorence is based on *Cephaelis tetragona* Donn. Sm.; *Palicourea thornei* (Lorence) Lorence is based on *Psychotria thornei* Lorence; *Palicourea tutensis* (Dwyer) C. M. Taylor is based on *Psychotria tutensis* Dwyer; and *Palicourea umbelliformis* (Dwyer & M. V. Hayden) C. M. Taylor is based on *Psychotria umbelliformis* Dwyer & M. V. Hayden. The new species *Palicourea pereziana* C. M. Taylor is similar to these other nocturnally flowering species, and separated from *Palicourea roseocremea* by its

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smaller flowers and distribution in southern Costa Rica. Neotypes are designated for *Palicourea domingensis* (Jacq.) DC. (*Psychotria domingensis* Jacq.) and *Palicourea gardenioides* (Scheidw.) Hemsl. (*Rhodostoma gardenioides* Scheidw.).

RESUMEN. Varios arbustos y árboles neotropicales clasificados en *Psychotria* L. subg. *Heteropsychotria* Steyerm., *Palicourea* Aubl. y *Coussarea* Aubl. (Rubiaceae) comparten estípulas persistentes, flores aparentemente nocturnas, corolas blancas con el tubo bien desarrollado y frutos bien desarrollados con dos pirenos plano-convexos, que generalmente tienen paredes algo delgadas y son dorsalmente lisos o angulados; además la mayoría de estas especies tienen estípulas bastante reducidas y frutos relativamente grandes. La separación de *Psychotria* y *Coussarea* ha sido problemática por lo menos en América Central, pero la eliminación aquí de seis especies de *Coussarea* deja ese género consistentemente caracterizado morfológicamente por flores 4-meras y frutos con una sola semilla. Estudios morfológicos y moleculares recientes indican que *Palicourea* y la mayoría de las especies de *Psychotria* subg. *Heteropsychotria* constituyen un solo grupo evolutivo. Estas especies con floración nocturna tienen todas las características morfológicas de *Palicourea* en esta circunscripción ampliada, y se encuentran aquí tratadas en ese género además de tres especies adicionales procedentes de México y Guatemala con flores grandes aparentemente polinizadas por colibríes. Las correspondientes nuevas combinaciones y nombres se presentan para algunas: *Palicourea alajuelensis* C. M. Taylor se basa en *Coussarea austin-smithii* Standl.; *Palicourea beachiana* C. M. Taylor se basa en *Coussarea nigrescens* C. M. Taylor & Hammel; *Palicourea breedlovei* (Lorence) Lorence se basa en *Psychotria breedlovei* Lorence; *Palicourea calidicola* (C. M. Taylor) C. M. Taylor se basa en *Psychotria calidicola* C. M. Taylor; *Palicourea chrysocalymma* (L. O. Williams) C. M. Taylor se basa en *Psychotria chrysocalymma* L. O. Williams; *Palicourea diguana* (Standl. ex Steyerm.) C. M. Taylor se basa en *Cephaelis diguana* Standl. ex Steyerm.; *Palicourea eurycarpa* (Standl.) C. M. Taylor se basa en *Psychotria eurycarpa* Standl.; *Palicourea faxlucens* (Lorence & Dwyer) Lorence se basa en *Psychotria faxlucens* Lorence & Dwyer; *Palicourea grandifructa* (C. M. Taylor) C. M. Taylor se basa en *Coussarea grandifructa* C. M. Taylor; *Palicourea heydei* (Standl.) Lorence se basa en *Psychotria heydei* Standl.; *Palicourea hondensis* (Standl.) C. M. Taylor se basa en *Psychotria hondensis* Standl.; *Palicourea mediocris* (Standl. & Steyerm.) Lorence se basa en *Coussarea mediocris* Standl. & Steyerm.; *Palicourea megalantha* (Lorence) Lorence se basa en *Psychotria megalantha* Lorence; *Palicourea nebulosa* (Dwyer) C. M. Taylor se basa en *Coussarea nebulosa* Dwyer; *Palicourea neopurpusii* C. M. Taylor se basa en *Psychotria purpusii* Standl.; *Palicourea psychotrioides* (C. M. Taylor & Hammel) C. M. Taylor se basa en *Coussarea psychotrioides* C. M. Taylor & Hammel; *Palicourea roseocremea* (Dwyer) C. M. Taylor se basa en *Coussarea roseocremea* Dwyer; *Palicourea sousae* (Lorence & Dwyer) Lorence se basa en *Psychotria sousae* Lorence & Dwyer; *Palicourea tetragona* (Donn. Sm.) C. M. Taylor & Lorence se basa en *Cephaelis tetragona* Donn. Sm.; *Palicourea thornei* (Lorence) Lorence se basa en *Psychotria thornei* Lorence; *Palicourea tutensis* (Dwyer) C. M. Taylor se basa en *Psychotria tutensis* Dwyer; *Palicourea umbelliformis* (Dwyer & M. V. Hayden) C. M. Taylor se basa en *Psychotria umbelliformis* Dwyer & M. V. Hayden. La nueva especie *Palicourea pereziana* C. M. Taylor es similar a estas otras plantas con flores nocturnas, y se separa de *Palicourea roseocremea* por sus flores más pequeñas y distribución en el sur de Costa Rica. Neotipos se designan para *Palicourea domingensis* (Jacq.) DC. (*Psychotria domingensis* Jacq.) y *Palicourea gardenioides* (Scheidw.) Hemsl. (*Rhodostoma gardenioides* Scheidw.).

*Key words:* Antilles, Colombia, Costa Rica, *Coussarea*, Guatemala, IUCN Red List, Mexico, Nicaragua, *Palicourea*, Panama, *Psychotria*, Rubiaceae.

*Palicourea* Aubl. (Rubiaceae, tribe Psychotrieae) comprises several hundred Neotropical species of shrubs and small trees with persistent stipules, animal-pollinated flowers, and blue to purple-black, fleshy, drupaceous fruits (Taylor, 1996, 1997). These have been treated in two subgenera and nine sections (Taylor, 1997). Recent morphological (Taylor, 1996) and molecular (Andersson & Rova, 1999; Nepokroeff et al., 1999) studies indicate that the species currently classified in *Palicourea* plus many of the species of *Psychotria* L. subg. *Heteropsychotria* Steyerm., also Neotropical, comprise a single evolutionary group. This combined group takes the name *Palicourea* and is estimated to include about 600 Neotropical species. The study here begins the expansion of the circumscription of *Palicourea*, with the identification and transfer from *Psychotria* to *Palicourea* of two groups of species that are similar and apparently related to other plants currently included in *Palicourea*. *Cephaelis* Sw. was previously synonymized with *Psychotria* subg. *Heteropsychotria* (Steyermark, 1972) and now becomes a synonym of *Palicourea*.

The separation of *Palicourea* from *Psychotria* subg. *Heteropsychotria* has previously been based on corolla

characters related to presumed pollination mode (Steyermark, 1972; Taylor, 1996, 1997). In this taxonomy *Palicourea* has included plants adapted for hummingbird pollination: the flowers are odorless, pedicellate, and well separated from each other; the inflorescences and flowers are brightly colored; and the corollas are relatively large with well-developed, often curved tubes that are swollen at the base, with this basal portion containing appreciable quantities of nectar that are protected from insects by a ring of stiff trichomes. In contrast, *Psychotria* subg. *Heteropsychotria* has included insect-pollinated species, with the flowers sessile or subsessile, separated or variously grouped, and often fragrant; the inflorescence axes and corollas mostly green to white; and the corollas smaller, with straight bases and short tubes that allow easier access by insects to the nectar. However, in fact there is extensive variation in corolla form within both *Palicourea* and *Psychotria* subg. *Heteropsychotria*, more than has been noted in the genus descriptions, so these flower characters do not clearly separate two distinct groups of species. Otherwise, *Palicourea* and *Psychotria* subg. *Heteropsychotria* are not distinguishable vegetatively or in fruit. Combining them now creates a morphologically well-delimited group that has support from molecular data and includes extensive variation in corolla and inflorescence form. This situation is not unique in the Rubiaceae: recent molecular systematic analyses have demonstrated that both the inflorescence arrangement and the pollination mode with its corresponding adaptations have changed repeatedly in homoplasious fashion within several Rubiaceae genera (e.g., Nepokroeff et al., 1999; Malcomber & Taylor, 2009; Mouly et al., 2009), which indicates in turn that the corolla characters related to pollination sometimes do not provide a good basis for delimiting evolutionary groups in this family.

*Palicourea* in this new, broadened circumscription is recognized by its persistent bilobed stipules; its terminal, laxly thyrsiform to capitate, bracteate to ebracteate, green to brightly colored inflorescences; its generally 5-merous, sessile to pedicellate flowers; and its blue to purple-black succulent fruits (Taylor, 1996, 1997). In this broadened circumscription, the name *Psychotria* subg. *Heteropsychotria* becomes a synonym of *Palicourea*, but reclassification of its species is complicated because it was circumscribed based primarily on corolla characters that are widespread and apparently ancestral within its tribe, and thus included a heterogeneous assemblage of species. Several species have already been separated from *Psychotria* subg. *Heteropsychotria* into other genera (e.g., Taylor, 2004, 2005); the remaining species need individual evaluation as to their relationships. These relationships are indicated at least in part by fruit, stipule, and other vegetative features. The existing infrageneric classification of *Palicourea* incorporates some stipule and fruit characters (Taylor, 1997) and provides a framework for incorporation of additional species as well as additional characters such as details of leaf venation and of the pyrenes (Piesschaert, 2001). The two groups of species studied below can be classified in the existing infrageneric classification of *Palicourea*, and these are here transferred to this genus.

### Group 1: The *Psychotria domingensis–Coussarea hondensis* Group

One species that has been particularly problematic to classify between *Palicourea* and *Psychotria* subg. *Heteropsychotria* is *Psychotria domingensis* Jacq. (Taylor, 1987). These shrubs from the Antilles, Mexico, and Central America have subsessile flowers with a sweet fragrance, and white or pink-flushed corollas with well-developed, often curved tubes. The flowers are apparently nocturnal and have been assumed to be pollinated by moths, and their characters do not fully agree with the traditional characterization of either *Palicourea* or *Psychotria* subg. *Heteropsychotria*. This species has been classified in *Psychotria* based on its insect-pollinated, subsessile flowers with the corollas glabrous internally and not swollen at the base (Taylor, 1987); or as *Palicourea domingensis* (Jacq.) DC. based on the relatively long, showy corollas with curved tubes (Adams, 1972). However, its persistent bilobed stipules and purple-black fruits show that this species belongs to *Palicourea* in the newer, broadened circumscription adopted here. Twelve other Mesoamerican species and one species from northwestern South America are similar to *Palicourea domingensis* in their stipules, their apparently nocturnal flowers, and the problems that they have presented with respect to their classification in *Palicourea*, *Psychotria* subg. *Heteropsychotria*, or *Coussarea* Aubl.; these species are all similarly included here in *Palicourea*.

*Coussarea* includes about a hundred species of shrubs and small trees with insect-pollinated flowers and fleshy fruits that contain thin-walled seeds or pyrenes (Taylor, 2001). The flowers of *Coussarea* are apparently nocturnal and characteristically have slender, bright white corollas with well-developed tubes. Most *Coussarea* species have entire, variously persistent or caducous stipules; 4-merous flowers; white or yellow fruits; and solitary seeds or pyrenes, except for six species from Mexico and Central

America that are morphologically unusual in the genus. These six species all have emarginate to shortly bilobed stipules, 5-merous flowers, and blue-black fruits with two plano-convex, thin-walled pyrenes. The most commonly collected of these six species is *C. hondensis* (Standl.) C. M. Taylor & W. C. Burger of Nicaragua, Costa Rica, and Panama, which was originally described provisionally in *Psychotria* based on its fruits, but then transferred to *Coussarea* based on its marked similarity to several species of that genus, in particular *C. austin-smithii* Standl. The same features of these six species that are anomalous in *Coussarea* are all characters of *Palicourea*, and it seems clear that these six were incorrectly included in *Coussarea*. Their removal leaves *Coussarea* well characterized morphologically, and in their new classification in *Palicourea* they can be seen to be similar and apparently closely related to *Palicourea domingensis*.

Within the existing classification of *Palicourea*, this group of nocturnally flowering species belongs to *Palicourea* subg. *Montanae* C. M. Taylor sect. *Psychotrioides* C. M. Taylor ser. 9 (Taylor, 1997: 235). The characterization of this section and series includes laminar stipules, broadly pyramidal to rounded inflorescences, white corollas with the slender tube elongating markedly just before anthesis, and pyrenes with broad angles or only weak longitudinal ridges. The Mesoamerican species studied here are morphologically similar to two Ecuadorian species of the above-mentioned *Palicourea* ser. 9, *P. andrei* Standl., and *P. candida* C. M. Taylor, which also have apparently nocturnal flowers (Taylor & Andersson, 1999). The nocturnally flowering species all have relatively large, slender, white corollas, generally 8–55 mm long; fruits that are in most cases relatively large, generally 8–20 mm long; pyrenes that are usually smooth or with only weak longitudinal ridges; and stipules that are emarginate to bilobed and laminar in form (i.e., with the intrapetiolar portions reduced; Taylor, 1997) or occasionally very reduced and apparently truncate. The one exception to this morphological characterization is *Psychotria umbelliformis* Dwyer & M. V. Hayden, which has stipules with a well-developed sheath and two well-developed linear lobes on each side; however, this species shares fruit and corolla morphology with these others, and is provisionally included here based on those other characters. Another species from northwestern Colombia, *Psychotria diguana* (Standl. ex Steyerm.) C. M. Taylor, also has the characters of this group and is transferred to *Palicourea* here. A key to all of the nocturnally flowering species of this series is presented below and serves to outline the characters for recognizing these species.

### Group 2: Three Additional Mesoamerican Species Transfer to *Palicourea*

Three species of shrubs and small trees from southern Mexico and Guatemala have been classified in *Psychotria* subg. *Heteropsychotria* based on their corollas that are white to yellow, straight at the base, and glabrous inside: *Psychotria chrysocalymma* L. O. Williams, *P. heydei* Standl., and *P. purpusii* Standl. However, these three species have relatively large, tubular or tubular-funnelform corollas with well-developed tubes, showy inflorescences, and rather large fruits, and additionally are very similar in general aspect and stipule morphology to *Palicourea padifolia* (Roem. & Schult.) C. M. Taylor & Lorence and *Palicourea leucantha* Donn. Sm. of *Palicourea* subg. *Montanae* sect. *Montanae* ser. 3, subser. c (Taylor, 1997: 232). These three species of *Psychotria* differ from the *Palicourea* species currently classified in that subseries only in their flowers that are all sessile or mixed sessile and pedicellate, versus all the flowers pedicellate in the species already included in *Palicourea*. As discussed above, inflorescence arrangement is not by itself a good indicator of evolutionary groups in *Palicourea* and *Psychotria*, and accordingly these three species are here transferred to *Palicourea* where they are classified in the aforementioned subseries.

### Taxonomy and Conservation Assessment

*Taxonomy.* Additional information including high-resolution scans of representative specimens of most of these species is available at <http://www.tropicos.org>; high-resolution scans of type specimens deposited at several other institutions are available on the corresponding web sites. The species treated here are arranged in alphabetical order and numbered accordingly. The numbered species in the key below are also discussed in the following nomenclatural section. Previously published synonymy is not summarized here for the species treated; this synonymy can be found in Lorence (1999), Burger and Taylor (1993), and Taylor and Andersson (1999).

*Conservation status assessment methodology.* The study presented here is taxonomic and floristic: the objective is enumeration of the species that belong to various Rubiaceae genera, and the species that occur in the area of tropical Central and South America. The methods employed here correspond only to this objective; thus this study is based on survey of specimens collected over a number of years using varied survey methods aimed at various objectives. The specimens here used to delineate the range and

commonness of these new species were located through a non-exhaustive survey of several herbaria, and no field studies have been done targeting the occurrence of these species where they are known or expected to grow. Thus the floristic information presented here is a simplified presence report based on incomplete survey of the available data, which are uneven and incomplete for this region (Schulman et al., 2007). Knowledge of the true geographic range and the population size and dynamics of a species are essential to understanding the threats to its existence, and thus to understanding its actual conservation status; documentation of the existence of a species based on one or several museum collections generally does not provide adequate data to evaluate these factors. A conservation assessment is provided here for this newly described species using IUCN categories and criteria (IUCN, 2001) based on the totality of our current knowledge. The basis for this assessment in the form of a map and the calculated assessment parameters is available under the corresponding species name at <http://www.tropicos.org> (assessment parameters can be seen using "Show Detail"). The assessment parameters were calculated using the IUCN Rating tool (Moat, 2007) in ArcView GIS 3.2 (ESRI, 1999), with the grid cell size used for calculating Area of Occupancy (AOO) varied between 1.00 and 3.16 km depending on characteristics of the species and data (IUCN Standards and Petitions Working Group, 2008). This assessment is not being submitted to the IUCN for publication in the Red List (<http://www.iucnredlist.org>), and the basis for this assessment should be carefully evaluated by the reader.

Key to Nocturnally Flowering Species of *Palicourea* Ser. 9

1. Calyx limb 3–6 mm long, subtruncate to lobed.
   2. Stipules 12–18 mm long . . . . . *P. candida*
   2′. Stipules 1–5 mm long.
      3. Inflorescence congested-cymose to capitate, with bracts well developed and enclosing the ovaries of the flowers, those subtending flowers 3–10 mm long.
         4. Corolla tube 16–17 mm long; stipules on each side with unlobed basal portion ca. 1 mm long and 2 narrowly triangular lobes, these 2–3 mm long and longer than the unlobed basal portion . . . 23. *P. thornei*
         4′. Corolla tube 20–40 mm long; stipules 2–5 mm long, on each side lobed for less than half (i.e., the basal unlobed portion longer than the lobes).
            5. Corolla with the tube 20–25 mm long and the lobes 5–5.5 mm long; fruits 5–7 mm long; Mexico . . . . . 10. *P. gardenioides*
            5′. Corolla with the tube 20–40 mm long and the lobes 6.5–15 mm long; fruits 8–16 mm long; Mexico to Colombia.
               6. Fruits 8–10 × 8–10 mm, the pyrenes dorsally (i.e., abaxially) with 3 to 4 ridges of similar size, with the margins not thickened or similar in development to ridges; western Colombia . . . . . 6. *P. diguana*
               6′. Fruits 12–16 × 9–13 mm, the pyrenes with one very well-developed dorsal ridge and the margins markedly thickened; Mexico to Panama. . . . . 22. *P. tetragona*
      3′. Inflorescence capitate to laxly cymose, with bracts lacking, reduced, or few, 0.5–4 mm long, not or only partially covering the ovaries of the flowers.
         7. Corolla with the lobes 5–5.5 mm long; fruits 6–7 × 6–7 mm, the pyrenes dorsally (i.e., abaxially) ridged . . . . . 10. *P. gardenioides*
         7′. Corolla with the lobes 8–13 mm long; fruits 9–14 × 7–10 mm, the pyrenes dorsally smooth to ridged.
            8. Inflorescence capitate, with a single group of flowers and the peduncle thickened at top; corolla externally glabrous; fruits 12–14 × 8–10 mm . . . . . 9. *P. faxlucens*
            8′. Inflorescence cymose, branched to 1 to 2 orders, with peduncle not thickened at top; corolla externally densely puberulous; fruits 9–11 × 7–9 mm . . . . . 15. *P. megalantha*
1′. Calyx limb 0.2–2.9 mm long, truncate to lobed.
   9. Stipules united around the stem into a truncate sheath, on each side with 2 linear lobes 3–12 mm long. . . . . 25. *P. umbelliformis*
   9′. Stipules shortly united around the stem to laminar (i.e., with the intrapetiolar portions reduced, the 2 remaining interpetiolar portions nearly separated), truncate, broadly rounded, or triangular, entire to emarginate, 2-dentate, or 2-lobed, the lobes rounded to triangular, < 3 mm long.
      10. Inflorescences capitate, sometimes later becoming cymose, the bracts well developed and covering the ovaries of the flowers, the bracts subtending the flowers 8–11 mm long . . . . . 6. *P. diguana*
      10′. Inflorescences congested to laxly cymose, the bracts reduced or when present not covering the ovaries of the flowers, the bracts subtending the flowers 0.1–4 mm long.
         11. Stipules 8–15 mm long.
            12. Corolla with the tube 20–25 mm long and the lobes 6–8 mm long; pyrenes dorsally (i.e., abaxially) ridged . . . . . *P. andrei*
            12′. Corolla with the tube 9–18 mm long and the lobes 7.5–16 mm long; pyrenes dorsally smooth.
               13. Stipules 4–8 mm long; corolla tube 9–14 mm long; mature fruits 10–12 mm diam. . . . . 1. *P. alajuelensis*

13′. Stipules 8–15 mm long; corolla tube 16–18 mm long; mature fruits 15–17 mm diam. . . . . 13. *P. hondensis*
11′. Stipules 0.5–7.9 mm long.
14. Flowers sessile or subsessile in glomerules of 2 to 7, the glomerules produced at the ends of the inflorescence axes.
15. Calyx limb 1.2–2.2 mm long.
16. Stipules with the lobes 1–2 mm long; corolla with the lobes 6–8 mm long; fruits 4–7 × 6–8 mm. . . . . 7. *P. domingensis*
16′. Stipules with the lobes 0.2–0.5 mm long; corolla with the lobes 4.5–5.5 mm long; fruits 9–10 × 6–8 mm . . . . . 21. *P. sousae*
15′. Calyx limb 0.3–1 mm long.
17. Stipules 3.5–4 mm long . . . . . 3. *P. breedlovei*
17′. Stipules 0.5–2.5 mm long.
18. Stipules truncate to broadly rounded, 0.5–1 mm long. . . . . 19. *P. psychotrioides*
18′. Stipules rounded to broadly triangular and emarginate, 2-dentate, or 2-lobed, 1–2.5 mm long.
19. Plants drying dark gray or blackened; corolla with tube 22–25 mm long; pyrenes dorsally smooth to broadly angled . . . . . 2. *P. beachiana*
19′. Plants drying green or grayish green; corolla with tube 6–14 mm long; pyrenes dorsally broadly angled to weakly ridged.
20. Corolla with the tube ca. 7 mm long and the lobes ca. 3 mm long; leaves not shiny below (i.e., abaxially). . . . . 18. *P. pereziana*
20′. Corolla with the tube 12–14 mm long and the lobes 8–11 mm long; leaves shiny below . . . . . 20. *P. roseocremea*
14′. Flowers sessile to shortly pedicellate in dichotomous cymules, the flowers mostly separated from each other, borne singly and/or in pairs along as well as at the ends of the axes.
21. Stipules triangular, 4–8 mm long . . . . . 1. *P. alajuelensis*
21′. Stipules truncate to broadly triangular, 0.5–3.2 mm long.
22. Calyx limb 1.2–3 mm long . . . . . 7. *P. domingensis*
22′. Calyx limb 0.2–1 mm long.
23. Stipules 0.8–1 mm long, truncate to broadly rounded. . . . . 11. *P. grandifructa*
23′. Stipules 0.5–3 mm long, broadly triangular and emarginate, 2-dentate, or 2-lobed.
24. Corolla with tube 18–23 mm long; Mexico, Guatemala, Costa Rica, and Panama.
25. Stipules emarginate to shortly bilobed, the lobes broadly triangular; inflorescence with bracts lacking or few and scattered; corolla with tube 10–17 mm long; Mexico, Guatemala. . . . . 14. *P. mediocris*
25′. Stipules 2-lobed with the lobes narrowly triangular; inflorescence with the bracts small but regularly developed; corolla with tube 18–20 mm long; Costa Rica, Panama. . . . . 16. *P. nebulosa*
24′. Corolla with tube 9–14 mm long; Nicaragua, Costa Rica, and Panama.
26. Corolla with tube ca. 9 mm long; Panama . . . . . 24. *P. tutensis*
26′. Corolla with tube 10–14 mm long; Nicaragua, Costa Rica.
27. Corolla with tube 13–14 mm long; fruits 15–20 mm long; 0–800 m . . . . . 4. *P. calidicola*
27′. Corolla with tube 11–12 mm long; fruits 8–12 mm long; 700–1500 m . . . . . 8. *P. eurycarpa*

**1. Palicourea alajuelensis** C. M. Taylor, nom. nov. Replaced name: *Coussarea austin-smithii* Standl., Publ. Field Mus. Nat. Hist., Bot. Ser. 18: 1286. 1938, not *Palicourea austin-smithii* Standl., 1938. TYPE: Costa Rica. Alajuela: region of Zarcero, 4700 ft., 25 Aug. 1937, *A. Smith 4226* (holotype, F-905233).

This species is known from northern Costa Rica at 600–1600 m. The new name refers to the area where the type was collected, the province of Alajuela. The name *Palicourea austin-smithii* Standl. is a synonym of *P. salicifolia* Standl. (Taylor, 1989), which can be recognized by its shorter funnelform corollas, its smaller fruits, and its distribution at 2000–3100 m from central Costa Rica through western Panama (Burger & Taylor, 1993).

**2. Palicourea beachiana** C. M. Taylor, nom. nov. Replaced name: *Coussarea nigrescens* C. M. Taylor & Hammel, Selbyana 12: 135, fig. 1. 1991, not *Palicourea nigrescens* M. Martens & Galeotti, 1844. TYPE: Costa Rica. Heredia: Finca La Selva, OTS field station near Puerto Viejo de Sarapiquí, near jct. of Ríos Puerto Viejo & Sarapiquí, 100 m, 5 Nov. 1980, *B. Hammel 10383* (holotype, DUKE).

This species is known from Nicaragua and Costa Rica at 0–850 m. This new name honors James H.

Beach, who studied breeding biology of several Rubiaceae species at the La Selva Biological Station in northeastern Costa Rica (Bawa & Beach, 1983). The name *Palicourea nigrescens* M. Martens & Galeotti is a synonym of *Psychotria mexiae* Standl., which can be recognized by its caducous stipules that are fused into a conical cap, its tiny corollas, and its red fruits (Hamilton, 1989).

**3. Palicourea breedlovei** (Lorence) Lorence, comb. nov. Basionym: *Psychotria breedlovei* Lorence, Novon 4: 125, fig. 4. 1994. TYPE: Mexico. Chiapas: mpio. La Trinitaria, a 1 km al E de Tzisca o a 11 km al E de la entrada al Parque Nac. Lagos de Montebello, 16°05′N, 91°39′W, 1330 m, 9 Aug. 1985, *T. Chehaibar 170* (holotype, PTBG-9595; isotypes, MEXU, UAMIZ).

This species is known from southern Mexico (Chiapas) and Guatemala at 1300–1400 m.

**4. Palicourea calidicola** (C. M. Taylor) C. M. Taylor, comb. nov. Basionym: *Psychotria calidicola* C. M. Taylor, Novon 14: 497, fig. 2A–D. 2004. TYPE: Costa Rica. Limón: Parque Nac. Tortuguero, sobre el Río Tortuguero, ca. 3 km al SO del pueblo, 4 m, 12 Oct. 1988, *R. Robles 2100* (holotype, CR; isotype, MO-03644674).

This species is known from Nicaragua to Panama at 0–800 m.

**5. Palicourea chrysocalymma** (L. O. Williams) C. M. Taylor, comb. nov. Basionym: *Psychotria chrysocalymma* L. O. Williams, Phytologia 28(3): 228. 1974. TYPE: Guatemala. El Progreso: hills N of Finca Piamonte, betw. Finca Piamonte & summit of Volcán Santa Luisa, 2400–3333 m, 5 Feb. 1942, *J. A. Steyermark 43518* (holotype, F-1133849).

This species is known from Guatemala at 2400–3333 m.

**6. Palicourea diguana** (Standl. ex Steyerm.) C. M. Taylor, comb. nov. Basionym: *Cephaelis diguana* Standl. ex Steyerm., Acta Biol. Venez. 4: 14. 1964. *Psychotria diguana* (Standl. ex Steyerm.) C. M. Taylor, Novon 6(2): 212. 1996. TYPE: Colombia. Valle del Cauca: Cordillera Occidental, vertiente occidental, hoya del Río Digua, quebrada del Río San Juan, arriba de Queremal, Las Colonias, 1950–2050 m, 20 Mar. 1947, *J. Cuatrecasas 23960* (holotype, US-2825317; isotypes, F-1285352, VEN not seen).

This species is known from western Colombia at 0–2500 m.

**7. Palicourea domingensis** (Jacq.) DC., Prodr. 4: 529. 1830. Basionym: *Psychotria domingensis* Jacq., Enum. Syst. Pl. 16. 1760. TYPE: Dominican Republic. Barahona: Arroyo San Rafael, arriba de la carr. de Barahona a Oviedo en el poblado de San Rafael, 5 km desde Paraíso en la carr. a Barahona, 18°02′N, 71°08′W, 20 m, 15 June 1982, *T. Zanoni, M. Mejía & J. Pimentel 20943* (neotype, designated here, JBSD; duplicates, MO-4279412, NY).

This species is known from central Mexico to Costa Rica, in coastal northern South America, and widely throughout the Antilles at 0–800 m; it was studied by Taylor (1987), who presented a morphological description and synonymy. The original description of this species was based on plants from Santo Domingo, probably meaning the country now called the Dominican Republic rather than the modern city. However, very few Neotropical specimens corresponding to Jacquin's names have been located (D'Arcy, 1970), and apparently none has been found for this species.

**8. Palicourea eurycarpa** (Standl.) C. M. Taylor, comb. nov. Basionym: *Psychotria eurycarpa* Standl., J. Wash. Acad. Sci. 18: 275. 1928. TYPE: Costa Rica. Guanacaste: Quebrada Serena, SE of Tilarán, 700 m, 27 Jan. 1926, *P. C. Standley & J. Valerio 46237* (holotype, US-1254544).

This species is known from Costa Rica and Panama at 700–1500 m.

**9. Palicourea faxlucens** (Lorence & Dwyer) Lorence, comb. nov. Basionym: *Psychotria faxlucens* Lorence & Dwyer, Bol. Soc. Bot. México 47: 50, fig. 1. 1987. TYPE: Mexico. Veracruz: mpio. Catemaco, Ejido de Coscoapán, 8 km SE de Coyame, 16 Apr. 1974, *F. Ponce & R. Cedillo T. 2* (holotype, MEXU; isotypes, F-1890407, MO-2887095).

This species is known from central Mexico (Veracruz) at 150–950 m (Lorence & Dwyer, 1987).

**10. Palicourea gardenioides** (Scheidw.) Hemsl., Biol. Cent.-Amer., Bot. 2(7): 52. 1881. Basionym:

*Rhodostoma gardenioides* Scheidw., Allg. Gartenzeitung 10: 286. 1842. *Psychotria gardenioides* (Scheidw.) Standl., J. Wash. Acad. Sci. 17(13): 342. 1927. TYPE: Mexico. Veracruz: Catemaco, 500 m, 20 May 1968, *G. Martínez C. 1700* (neotype, designated here, XAL; duplicate, MO-2703387).

This species is known from eastern Mexico (Tamaulipas to Campeche) at 0–700 m. The original description of *Rhodostoma gardenioides* was based on cultivated material of unknown origin from a locality designated only as Veracruz, Mexico, with no specimen mentioned or designated. A neotype from Veracruz State, Mexico, is here designated.

**11. Palicourea grandifructa** (C. M. Taylor) C. M. Taylor, comb. nov. Basionym: *Coussarea grandifructa* C. M. Taylor, Novon 11: 138, fig. 2A, B. 2001. TYPE: Costa Rica. Puntarenas: Reserva Forestal Golfo Dulce, Osa Peninsula, Rancho Quemado, ca. 15 km W of Rincón, in bottom of valley along Río Riyito near bridge & in forest along rd. on ridge above valley, 8°42′N, 83°33′W, 250 m, 31 May 1988, *B. Hammel, G. Herrera, M. M. Chavarría & A. Solís 16950* (holotype, MO-3846254).

This species is known from southern Costa Rica at 130–400 m.

**12. Palicourea heydei** (Standl.) Lorence, comb. nov. Basionym: *Psychotria heydei* Standl., J. Wash. Acad. Sci. 18: 184. 1928. TYPE: Guatemala. Quiché: Chiúl, 2600 m, Apr. 1892, *E. T. Heyde & E. Lux 3173* (holotype, US-939642; isotype, F-578982).

This species is known from southern Mexico (Chiapas) and Guatemala at 2300–2800 m.

**13. Palicourea hondensis** (Standl.) C. M. Taylor, comb. nov. Basionym: *Psychotria hondensis* Standl., J. Wash. Acad. Sci. 18: 183. 1928. *Coussarea hondensis* (Standl.) C. M. Taylor & W. C. Burger, Selbyana 12: 138. 1991. TYPE: Costa Rica. Limón: Bois de Río Hondo, versant atlantique, 100 m, Aug. 1901, *H. Pittier 16161* (holotype, US-764151).

This species is known from Nicaragua to Panama at 0–1100 m, and is frequently encountered in Costa Rica and eastern Nicaragua.

**14. Palicourea mediocris** (Standl. & Steyerm.) Lorence, comb. nov. Basionym: *Coussarea mediocris* Standl. & Steyerm., Publ. Field Mus. Nat. Hist., Bot. Ser. 23: 248. 1947. TYPE: Guatemala. Huehuetenango: Sierra de los Cuchumatanes, vic. of Maxbal, ca. 17 mi. N of Barillas, 1500 m, 15–26 July 1942, *J. A. Steyermark 48732* (holotype, F-1134264; isotype, US-01920019).

*Coussarea izabalensis* C. M. Taylor, Novon 11(1): 140, fig. 2D, E. 2001, syn. nov. TYPE: Guatemala. Izabal: El Estor, 17 Mar. 1972, *E. Contreras 11354* (holotype, MO-4332300).

This species is known from Guatemala at 0–1500 m. *Coussarea izabalensis* was distinguished from *C. mediocris* based only on its significantly larger corollas. However, the measurements given in the protologue of *C. mediocris* are inaccurate, because the length was given in centimeters but should be in millimeters. Thus these species cannot be separated by corolla size and are here synonymized.

**15. Palicourea megalantha** (Lorence) Lorence, comb. nov. Basionym: *Psychotria megalantha* Lorence, Bol. Soc. Bot. México 47: 58, fig. 2c, d. 1987. TYPE: Mexico. Oaxaca: Ixtlán, Sierra de Juárez, Ruta 175 Tuxtepec a Oaxaca, 5 km NE de Vista Hermosa, 1300 m, 28 May 1983, *D. Lorence & R. Cedillo T. 4190* (holotype, MEXU; isotypes, BM, BR, CAS, ENCB, F-2032477, K, MEXU, MO-3772888, NY, UC, US-03330470, W, WIS, TEX, XAL).

This species is known from southern Mexico (Oaxaca) at 800–1800 m (Lorence & Dwyer, 1987).

**16. Palicourea nebulosa** (Dwyer) C. M. Taylor, comb. nov. Basionym: *Coussarea nebulosa* Dwyer, Ann. Missouri Bot. Gard. 67: 131. 1980. *Psychotria nebulosa* (Dwyer) C. M. Taylor, Novon 5: 205. 1995, hom. illeg., not *Psychotria nebulosa* K. Krause, 1920. TYPE: Panama. Chiriquí: uncut cloud forest at Monte Rey near Boquete, 20 July 1971, *T. B. Croat 15868* (holotype, MO-2162995; isotype, MO-4043128).

This species is known from Costa Rica and Panama at 400–1600 m.

**17. Palicourea neopurpusii** C. M. Taylor, nom. nov. Replaced name: *Psychotria purpusii* Standl., Contr. U.S. Natl. Herb. 23(5): 1388. 1926, not *Palicourea purpusii* Standl., 1930. TYPE: Mexico. Chiapas: Cerro del Boquerón, Aug. 1913, *C. A. Purpus 7012* (holotype, US-567269; isotypes, F-415780, GH, MO-741513).

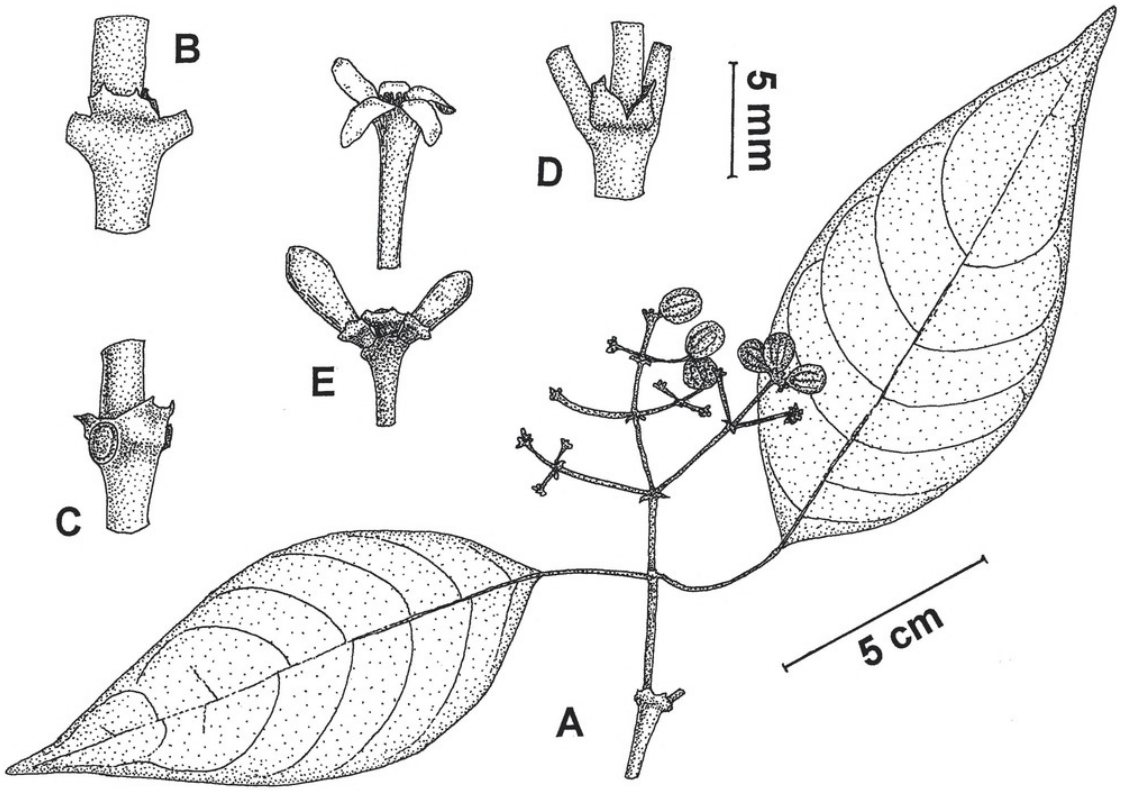


Figure 1. *Palicourea pereziana* C. M. Taylor. —A. Portion of fruiting branch, based on the paratype *Navarro 266* (MO). —B. Portion of stem with stipule, with view of interpetiolar portion, based on the paratype *Alfaro 3927* (MO). —C. Portion of stem with stipule, with three-quarter view of intrapetiolar portion, based on the type *Kriebel 103* (MO). —D. Portion of stem with stipule, with view of interpetiolar portion showing characteristic longitudinal splitting, based on the paratype *Gómez et al. 21973* (MO). —E. Portion of inflorescence, with two flower buds and one flower at anthesis and partially dissected; based on the type *Kriebel 103* (MO). B–E to same 5-mm scale.

This species is known from southern Mexico (Chiapas) and Guatemala at 1800–2700 m. The name *Palicourea purpusii* Standl. is a synonym of *P. macrantha* Loes., which is found in the same region as *P. neopurpusii* (Taylor, 1989); *P. macrantha* can be recognized by its flowers all borne on well-developed pedicels (6–20 mm long) versus the flowers all sessile in *P. neopurpusii*.

**18. Palicourea pereziana** C. M. Taylor, sp. nov. TYPE: Costa Rica. Puntarenas: Coto Brus, cuenca Térraba-Sierpe, Hacienda La Amistad, 8°55′N, 82°48′W, 1242 m, 17 Mar. 2002, *R. Kriebel 103* (holotype, INB; isotype, MO-04858622). Figure 1.

Haec species a *Palicourea roseocremea* (Dwyer) C. M. Taylor floribus minoribus distinguitur.

Shrubs and small trees flowering at 5 m tall, to 8 m tall; stems glabrous. *Leaves* with blades ovate to elliptic, 9.5–22 × 3–10 cm, glabrous, base obtuse to rounded, apex acuminate with tips 1–1.5 cm, drying thinly papery and matte on both surfaces; secondary veins 6 to 12 pairs, usually looping to interconnect at least in distal part of blade, without or with 1 to 2 weak intersecondary veins present between pairs of secondary veins; *petioles* 1.5–2.5 cm, glabrous; *stipules* shortly united around stem or laminar (i.e., with intrapetiolar portion reduced), glabrous, broadly triangular to oblong, 2-lobed, basal unlobed portion 1–2 mm, truncate to concave between lobes, lobes narrowly triangular, 0.2–0.5 mm, acute, older stipules sometimes developing a longitudinal split on each interpetiolar side. *Inflorescence* terminal, cymose, apparently green; peduncle 1–4.5 cm, glabrous; branched portion pyramidal, 2–4.5 × 2–6 cm, branched to 2 orders, axes puberulous to glabrescent; bracts triangular to ovate, 1–3 mm, those subtending flowers or groups of flowers 1–1.5 mm. *Flowers* sessile in glomerules of 3 to 7 at ends of secondary and tertiary inflorescence axes; hypanthium turbinate, ca. 0.5 mm, puberulous to glabrous; *calyx* limb 0.8–1 mm, cupuliform, glabrous, sinuate to denticulate; *corolla* salverform, white, externally densely puberulous, tube ca. 7 mm, lobes ligulate, ca. 3 mm, abaxially smooth; anthers and stigmas not seen. *Fruits* ellipsoid to obovoid, 8–10 mm diam., not flattened, purple, glabrous; *pyrenes* 2, plano-convex, dorsally (i.e., abaxially) broadly angled or with low obtuse ridges, rather thin-walled.

*Habitat, distribution, and phenology.* This species is known from wet forests in southern Costa Rica, on Pacific slopes of the Cordillera de Talamanca in the upper Río Térraba basin at 1140–1500 m; it has been collected in flower in March and April, and in fruit in March.

*IUCN Red List category.* This species meets the geographic range criteria for Critically Endangered based on its very restricted distribution. Despite the very small Extent of Occurrence (EOO), the population cannot necessarily be considered severely fragmented. Because of the complex topography, with collection points in two separate river drainages and thus potentially not subject to the same threatening events, the number of locations should be considered at least two; thus subcriterion (a) is fulfilled for an evaluation of Endangered, but not Critically Endangered. However, the region's native vegetation is presumed to be in continued decline due to habitat destruction. The evaluation of this species is thus modified based on these other considerations, so that this species is here evaluated as Endangered due to limited range and habitat decline: EN B1ab(iii)+2ab(iii).

*Discussion.* This new species can be recognized by the combination of its reduced bidentate stipules, well-developed leaves with the secondary veins usually looping to interconnect in the distal portion of the blade, pyramidal inflorescences branched to two orders with the flowers all grouped in glomerules at the end of each axis, white salverform corollas, and somewhat large and rounded fruits with the pyrenes generally broadly angled on the back. The corollas seen are either still in bud or not well preserved, thus their condition is inadequate for dissection. This new species is named in honor of Costa Rican botanist Isabel Pérez, whose energetic work has advanced curation of the INB herbarium and the preparation of the *Manual de Plantas de Costa Rica*, and who happily passed part of her childhood living along the Río Térraba.

This new species is similar to and has been confused with *Palicourea roseocremea* (Dwyer) C. M. Taylor, which is also studied in this article. However, *P. roseocremea* can be separated by its larger corollas, with the tube 12–14 mm long and the lobes almost as long as the tube, 8–11 mm long, as well as its dry leaf blades that are shiny on the abaxial surface, versus not at all shiny abaxially in *P. pereziana*. The separation here of the Costa Rican plants into *P. pereziana* makes these two species now allopatric.

*Paratypes.* COSTA RICA. **Puntarenas:** La Tigra–Las Mellizas, *L. D. Gómez, R. Chacón, I. Chacón & G. Herrera 21973* (CR, MO); cantón de Coto Brus, cuenca Térraba–Sierpe, camino a Finca Neblina, *E. Alfaro 3927* (INB, MO); Valle del General, Finca Cafrosa, *E. Navarrro 266* (CR, MO).

**19. Palicourea psychotrioides** (C. M. Taylor & Hammel) C. M. Taylor, comb. nov. Basionym: *Coussarea psychotrioides* C. M. Taylor & Hammel, Selbyana 12: 135, fig. 2. 1991. TYPE: Costa Rica. Heredia: Finca La Selva, OTS field station near Puerto Viejo de Sarapiquí, near jct. of Ríos Puerto Viejo & Sarapiquí, 100 m, 12 July 1979, *J. H. Beach 1467* (holotype, DUKE; isotypes, CR, F-1910704, MO-316875, MO-316876).

This species is known from Costa Rica at 100–900 m.

**20. Palicourea roseocremea** (Dwyer) C. M. Taylor, comb. nov. Basionym: *Coussarea roseocremea* Dwyer, Ann. Missouri Bot. Gard. 67: 133. 1980. *Psychotria roseocremea* (Dwyer) C. M. Taylor, Novon 5: 205. 1995. TYPE: Panama. Panamá: El Llano–Cartí Hwy., 6–10 km N of El Llano, 13 Apr. 1973, *R. L. Dressler 4334* (holotype, MO-2126258).

This species is known from eastern Panama at 300–400 m.

**21. Palicourea sousae** (Lorence & Dwyer) Lorence, comb. nov. Basionym: *Psychotria sousae* Lorence & Dwyer, Bol. Soc. Bot. México 47: 59, fig. 3c, d. 1987. TYPE: Mexico. Oaxaca: mpio. de Matías Romero, zona de Uxpanapa, lomas E de Arroyo Hamaca, 9.5 km SE de La Floresta, a 21.5 km S de Esmeralda, 400 m, 22 May 1981, *T. Wendt, A. Villalobos, I. Navarrete & J. Anguiano 3282* (holotype, MEXU; isotypes, CHAPA, PTBG-9946).

This species is known from southern Mexico (Oaxaca, Veracruz) at 400–1560 m (Lorence & Dwyer, 1987). It has been collected only rarely.

**22. Palicourea tetragona** (Donn. Sm.) C. M. Taylor & Lorence, comb. nov. Basionym: *Cephaelis tetragona* Donn. Sm., Bot. Gaz. 61: 376. 1916. TYPE: Costa Rica. Cartago: forêts de Tuis, 650 m, Oct. 1897, *A. Tonduz 11354* (lectotype, designated here, US-943500).

*Psychotria chiapensis* Standl., Contr. U.S. Natl. Herb. 23: 1390. 1926. TYPE: Mexico. Chiapas: Finca Mexiquito, July 1913, *C. A. Purpus 6963* (holotype, US-567237, photos MEXU, PTBG; isotype, GH not seen).

*Habitat and distribution.* This species is known from central Mexico (San Luis Potosí, Veracruz) to

Panama at 40–1700 m. It is often locally very common in primary and secondary vegetation.

*Discussion.* Lorence (1999) reported two syntypes of *Cephaelis tetragona* deposited at US, the specimen cited above and the syntype *A. Tonduz 12997*, from the same locality. However, only the specimen cited above had an accession number and photos cited by Lorence, and only this specimen is included in the online type database for that institution and accordingly it is here chosen as the lectotype. In the same work, Lorence also incorrectly listed the name *Psychotria chiapensis* as a replacement name for *Cephaelis tetragona*, but these were actually published as separate species; the publication information and type of *P. chiapensis* are here clarified.

**23. Palicourea thornei** (Lorence) Lorence, comb. nov. Basionym: *Psychotria thornei* Lorence, Novon 4(2): 127, fig. 5. 1994. TYPE: Mexico. Chiapas: Selva Negra, ca. 15 km N of Pueblo Nuevo Solistahuacán, canyon, montane rainforest of Selva Negra on slopes, 5700 ft., 24 June 1970, *R. Thorne & E. Lathrop 40389b* (holotype, CAS).

This species is known from southern Mexico (Chiapas) at 1600–1770 m.

**24. Palicourea tutensis** (Dwyer) C. M. Taylor, comb. nov. Basionym: *Psychotria tutensis* Dwyer, Ann. Missouri Bot. Gard. 67(2): 434. 1980. TYPE: Panama. Veraguas: Cerro Tute, ca. 10 km NW of Santa Fé, ridge top, above 1000 m, 19 June 1975, *S. Mori 6783* (holotype, MO-2338505).

This species is known from western Panama at 950–1250 m.

**25. Palicourea umbelliformis** (Dwyer & M. V. Hayden) C. M. Taylor, comb. nov. Basionym: *Psychotria umbelliformis* Dwyer & M. V. Hayden, Ann. Missouri Bot. Gard. 55: 44. 1968. TYPE: Panama. Panamá: betw. peaks of Cerro Trinidad, saddle on SE slope, 5 May 1968, *J. H. Kirkbride Jr. & J. A. Duke 1641* (holotype, MO-1968366).

This species is known from Costa Rica and Panama at 20–1400 m.

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