KEFERSTEINIA NOVA ISTHMII AMERICANI AUSTRALIS CUM GENERIS SYNOPSI

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Abstract. A new species of *Kefersteinia* (Orchidaceae) from the southern region of the Central American isthmus is described and illustrated, and its affinities with *K. elegans* are discussed. In Panama, *Kefersteinia luteola* was previously misidentified as the Colombian *K. elegans*, but the new species appears to be restricted to the Cordillera de Guanacaste and Talamanca in Costa Rica and Panama. Among *Kefersteinia* species, *K. luteola* is distinguished by its small yellowish flowers, broadly extensively excised lip with a depressed laminate, trullate callus, and a column recognized by large, triangular, rounded wings with subciliate margins. The most similar species is *Kefersteinia elegans*, from which it differs in plant and flower size, with subringent sepals and petals, a sessile entire lip, and minutely glandular-ciliate wings of the column. A synopsis of the genus *Kefersteinia* is presented, and the species grouped according to their overall similarity.

Keywords: floristics, *Huntleya* clade, New Species, taxonomy, Zygopetalinae

Among the genera of Zygopetalinae (Orchidaceae) within the *Huntleya* clade (sensu Whitten et al., 2005), characterized by sympodial plants with shortened stems and leaves arranged fan-like, without pseudobulbs (or, in rare cases, rudimentary and concealed within basal leaf sheaths), *Kefersteinia* Rchb.f. stands out as the most diverse. With over 80 published names, likely corresponding to slightly more than 50 species, *Kefersteinia* generally comprises small epiphytic plants. These feature dark green, subcoriaceous-flexuous leaves, often with a prominent central vein on the abaxial side, and basal inflorescences that frequently produce numerous flowers opening simultaneously.

The inflorescence peduncle is typically slender, arching under the weight of the flower until the inflorescence becomes pendulous. Flowers are usually resupinate, except for *K. carolorum* Carnevali & Cetzal and *K. universitatis-tolimae* Sierra-Ariza. Given the very thin nature of the peduncle in species of *Kefersteinia*, which is always arched-pendent or completely pendent in natural conditions, it is possible that variations in the position of the flower may depend on the growing conditions of the studied specimens. *Kefersteinia carolorum* was described from a plant cultivated in pot (Carnevali et al., 2015), and the illustrations of *K. universitatis-tolimae* show a plant growing almost horizontally (Sierra-Ariza and Harding, 2023), a feature rarely seen in wild specimens of the genus. The non-resupinate condition of *Kefersteinia* flowers could perhaps be tested through controlled cultivation experiments to better evaluate the hypothesis that this feature is naturally inherent in these two aberrant species and to gain insight into a possible distinct pollination system in the genus.

Species of *Kefersteinia* range from southern Mexico to Bolivia (Pupulin, 2009), with notable presence in the Andes of Ecuador and Peru (over 30 recorded species) and the humid forests along the mountain chains of Costa Rica and Panama (twelve known species; Pupulin and Merino, 2008).

In the type species of the genus, *Kefersteinia graminea* Lindley, the lip lamina is broadly rounded, with a low-laminar callus typically restricted to the proximal third of the blade. About half of *Kefersteinia* species share this lip morphology, while others exhibit distinctly stalked or highly anomalous calli. However, the genus includes over 40 names that often refer to poorly characterized taxa, making identification challenging. Molecular evidence from Whitten et al. (2005) indicates that informal species groups based on callus structure are not monophyletic and lack formal taxonomic recognition.

Costa Rica hosts 12 *Kefersteinia* species, half described within the last 30 years, and two-thirds endemic to the country (Pupulin, 2001, 2010). Many species feature a prominent, fungus-like callus that forces visiting bees to twist their bodies while collecting floral fragrances, ensuring pollinaria attachment to the basal segment of an antenna (Pupulin, 2009). The function of the callus in species with low, laminar ornaments is less clear, though in some taxa, upturned basal callus margins are evident. It is possible that these species rely on a combination of the callus maintaining a longitudinal position and the column's prominent central keel, pressing against the scutellum, to direct the bee's movement and prevent lateral escape (see also discussion on putative pollination mechanisms in *Kefersteinia* by Carnevali et al. 2015).

We are grateful to the Costa Rican Ministry of Environment and Energy (MINAE) and the National System of Conservation Areas (SINAC) for issuing the scientific permit "R-SINAC-SE-DT-PI-006-2023," which allowed us to collect the wild species studied. We also thank the Vice-Presidency of Research at the University of Costa Rica for providing support under the project "Inventario y taxonomía de la flora epífita de la región Mesoamericana" (814-A7-015). Additionally, we thank Karol Sandi for inking the illustration of the new species.

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Harvard Papers in Botany, Vol. 29, No. 2, 2024, pp. 307–315.

ISSN: 1938-2944, DOI: 10.3100/hpib.v29iss2.2024.n11, Published online: 31 December 2024

Kefersteinia alba Schltr., *K. lactea* (Rchb.f.) Schltr., and *K. microcharis* Schltr. are among the Costa Rican species in this latter group. They are characterized by predominantly white flowers, occasionally with scattered magenta spots on the labellum's apical region, which abruptly folds downward in the middle, exposing the callus's apical and lower surfaces from the front (Pupulin, 2010). *Kefersteinia lactea* appears to exhibit two distinct vegetative forms: one with larger plants and obovate leaves, the other with smaller plants, narrow ligulate leaves, and typically smaller flowers. However, specific floral characteristics distinguishing these forms have not been definitively identified, warranting their treatment as variable (Pupulin, 2001, 2010).

Costa Rican species featuring a laminar plate in the callus may exhibit elliptic (*K. alba*), ovate-elliptic (*K. lactea*), or obtrapezoidal (*K. microcharis*) shapes, always bilobed apically with upturned proximal margins. The column in these species may lack wings (*K. microcharis*) or bear narrow, elliptic, substigmatic wings (in the other two species).

During recent fieldwork in northern Costa Rica, along the Northern slopes of Cordillera de Tilarán, a *Kefersteinia* specimen was collected and subsequently cultivated in Lankester Botanical Garden's greenhouses until it flowered. Given that its floral characteristics do not align with any known *Kefersteinia* species, we hereby describe it as a new species to science.

Taxonomic treatment

Kefersteinia luteola Pupulin, E. Salas, & Bogarín, *sp. nov.* TYPE: COSTA RICA. Guanacaste: Abangares, Sierra, Santa Elena Cloud Forest Reserve, close to Treetopia Park, 10°20'36"N, 84°47'40"W, 1710 m, premontane rain forest, epiphytic in mature forest, 1 May 2023, flowered in cultivation and prepared 16 Aug. 2023, *A. P. Karremans 9383 & T. Vieira* (holotype, JBL). Fig. 1–2.

Inter species generis Kefersteiniae callo laminato depresso in labello munitas floribus parvis luteolis callo late trullato exciso, columna alis magnis triangulis rotundatis marginibus subciliatis dignoscenda; a Kefersteinia eleganti Garay *plus minusve similis, sed planta foribusque distincte minoribus, sepalis petalisque subringentibus, labello sessile integro, alis columnae minute glandulari-ciliatis recedit.*

A small, cespitose, epiphytic *herb* without pseudobulbs, to about 15 cm tall. *Roots* thick, flexuous, white with green apex, up to 2 mm in diameter. *Stem* abbreviated, completely enclosed by the fibrous, conduplicate leaf-sheaths up to 2.5 cm long, the lower ones triangular, glumaceous, becoming dry-papyraceous with age, the upper ones articulated with the foliaceous blades. *Leaves* 3–5, arranged like a fan, narrowly elliptic-oblong, acute to abruptly subacuminate, 5.5–14.0 × 1.3–1.7 cm, grass green, cuneate at the base into a short conduplicate petiole to 1 cm long, the midvein distinctly protruding abaxially. *Inflorescence* a single-flowered raceme, slender, born erect and becoming patent to pendent, ca. 3 cm long; peduncle terete, slender, provided in the middle with a short, triangular, glumaceous bract ca. 4 mm long. *Floral bract* glumaceous, double, outer bract transversely broadly ovate, obtuse, amplectant, loose, 5 × 2 mm; inner bractlet narrowly laceolate-ligulate, acute, 7.5 × 1.5 mm. Pedicellate *ovary* terete subclavate, subsigmoid, green, 12 mm long including the pedicel. *Flowers* relatively small, subringent, suberect to slightly pendulous, sepals and petals pale yellow, lip of the same color with a central band darker yellow, column yellowish cream, anther cap white. *Dorsal sepal* lanceolate, acute, 5-veined, reclinate over the column in natural position, 16 × 6 mm. *Lateral sepals* obliquely lanceolate-subfalcate, longitudinally asymmetrical, obtuse, minutely apiculate, 7-veined, 18 × 5 mm. *Petals* adnate to the side of the column, asymmetrically lanceolate, subfalcate toward the apex, acute to subacuminate, 5-veined, 17 × 7 mm. *Lip* sessile, broadly ovate, 18 × 18 mm, 11–13-veined, basal margins erect, then abruptly folded down to orientate the distal portion of the lamina vertically and leaving a semicircular opening toward the column, apex of the blade excise, slightly reflexed, with crenulate to subundulate margins; callus laminar, low, thick, broadly trullate, excise-emarginate, from the base to about 2/5 of the lamina, 4 × 4 mm. *Column* semiterete, subrectangular, 10 mm long, 7.5 mm wide across the wings, with a short foot less than 2 mm long, provided at the middle with substigmatic, triangular, rounded wings with glandular-ciliate margins and a thin, short, high, rectangular-subrhombic keel just below the slit-like, transversal stigma; androclinium transversely elliptic, low; rostellum triangular, truncate. *Anther cap* cucullate, obovate pandurate, apically truncate, 2-celled. *Pollinia* 4, narrowly oblong, strongly dorsiventrally compressed-lenticular, in two superposed pairs of different size, on a large, hyaline, lanceolate-trullate stipe that strongly curls after removal; viscidium hyaline, transversely rectangular, ventral to the stipe and scarcely distinct from it.

Etymology: From the Latin *luteus*, yellow, *luteolus*, yellowish, in reference to the color of the flowers.

Distribution: Known from Costa Rica and Panama (Fig. 3).

Habitat and ecology: Epiphytic in premontane rain forests, at 1700–1800 meters elevation. Flowered in cultivation in August.

Additional specimen examined: PANAMA. Bocas del Toro, without more specific locality, *A. Olmos 111,* flowered at Finca Dracula and documented on 11 July 2001 (JBL, illustration: Gabinete de Diseños y Estampas FP3:1–2, 7–8).

Kefersteinia luteola is the depauperate counterpart of the Colombian *K. elegans* Garay, to which it bears a superficial resemblance. *Kefersteinia elegans* features larger, spreading flowers nearly 5 cm across its petals (Garay, 1969), reminiscent of the equally large *K. taurina* Rchb.f., one of the genus's largest-flowered species. Despite their similar flower size, these species are distantly related. In *Kefersteinia taurina*, the callus is stipitate, and the column is apterous and basally gibbous, whereas *K. elegans* features a laminar callus and a column distally adorned with prominent wings and a high, rectangular keel. In contrast, flowers of *K. luteola* are under 3 cm in diameter, with subringent tepals. The lip is sessile, lacking the distinct, long, cuneate claw characteristic of *K. elegans*. The wings of the column in *K. luteola*, while prominent like those of *K. elegans*, are comparatively smaller, broadly triangular, and ciliate to minutely tuberculate along the margins.

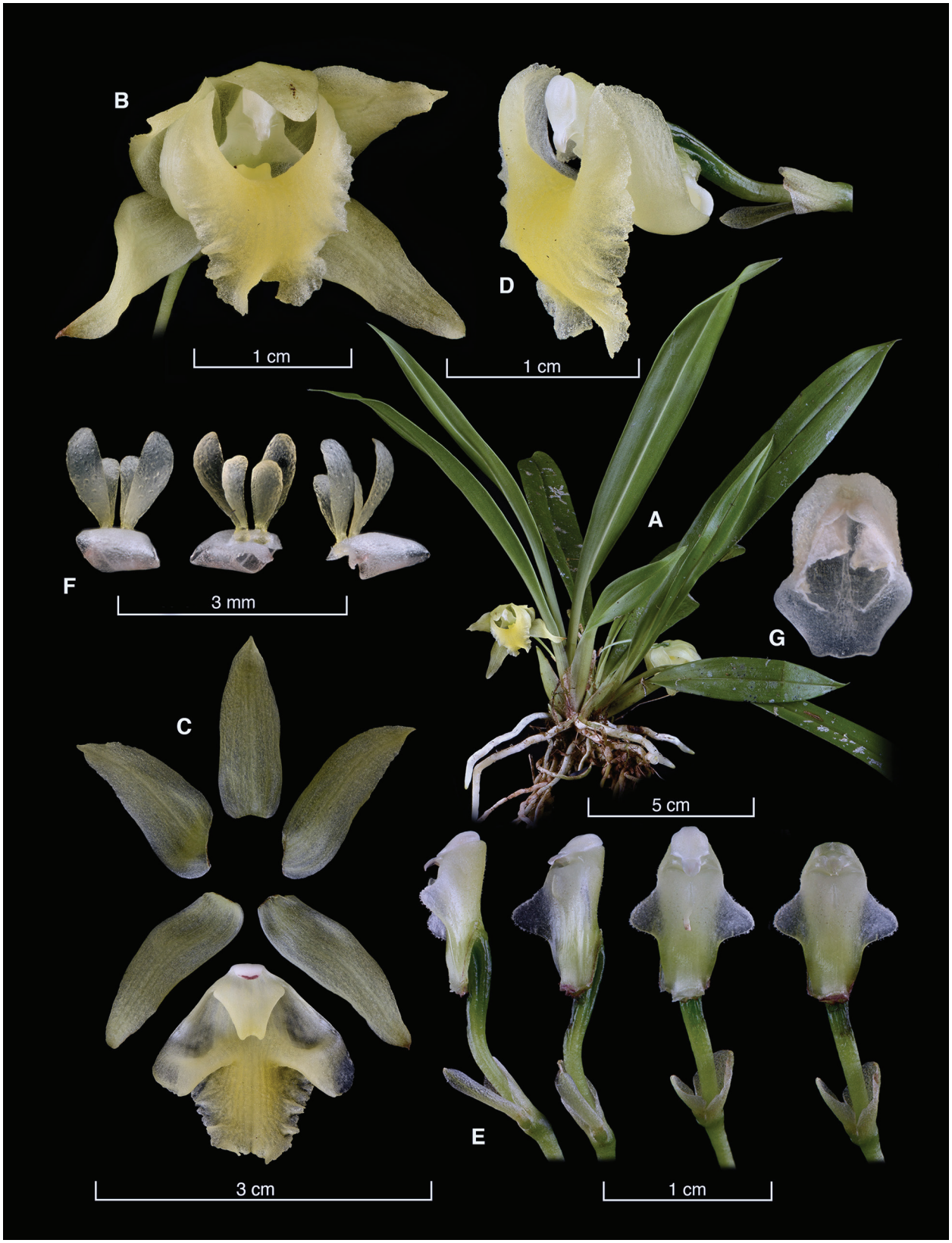

FIGURE 1. Lankester Composite Digital Plate of *Kefersteinia luteola* Pupulin, E. Salas, & Bogarín. **A**, habit; **B**, flower; **C**, dissected perianth; **D**, column and lip, lateral view; **E**, column, several views; on the right, emasculate; **F**, pollinarium, dorsal, ventral, and three quarters views; **G**, anther cap. Photos and composition by F. Pupulin & D. Bogarín from *Karremans 9383*.

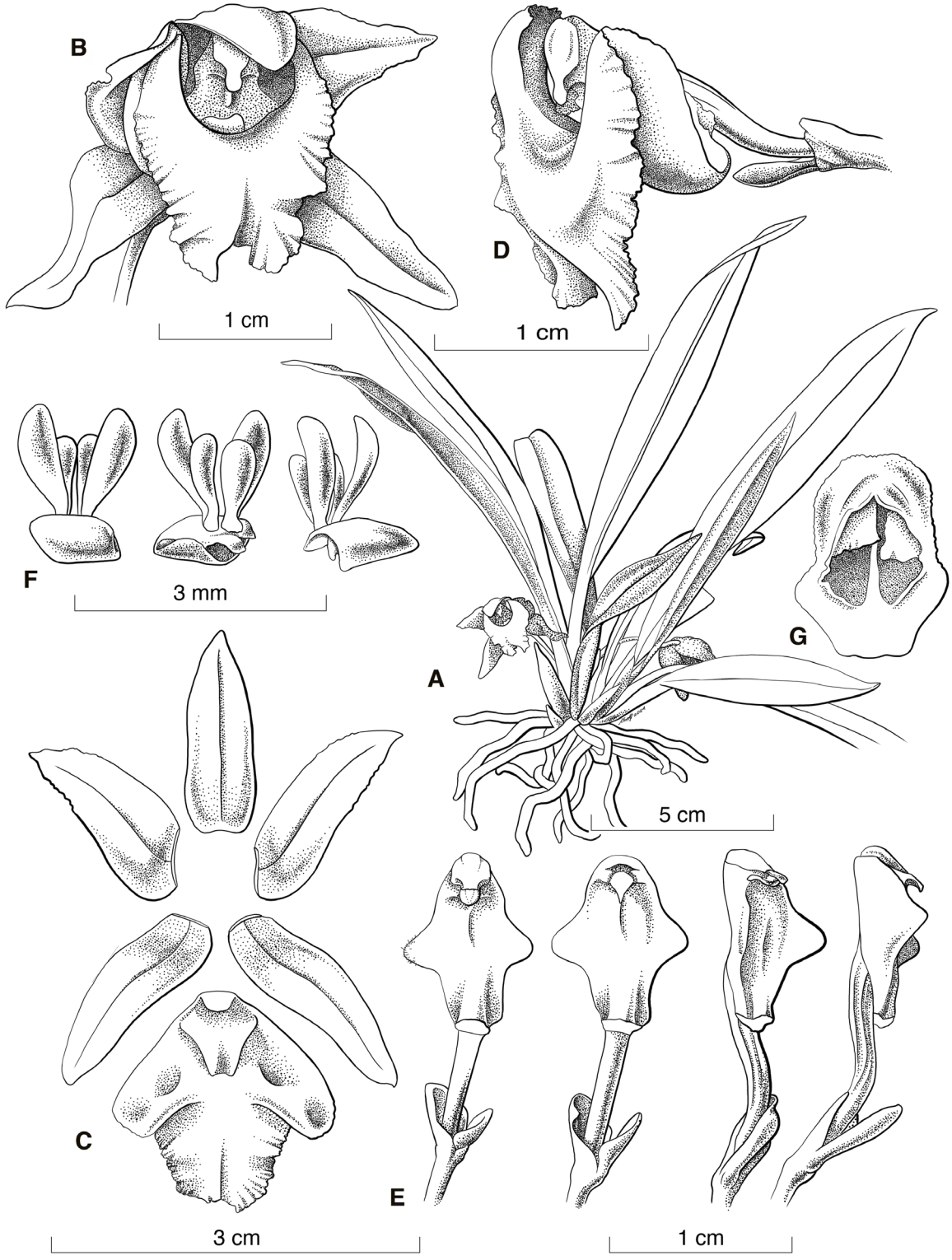

FIGURE 2. *Kefersteinia luteola* Pupulin, E. Salas, & Bogarín. **A**, habit; **B**, flower; **C**, dissected perianth; **D**, column and lip, lateral view; **E**, column, several views; on the right, emasculate; **F**, pollinarium, dorsal, ventral, and three quarters views; **G**, anther cap. Drawing by Karol Sandi, based on *Karremans 9383*.

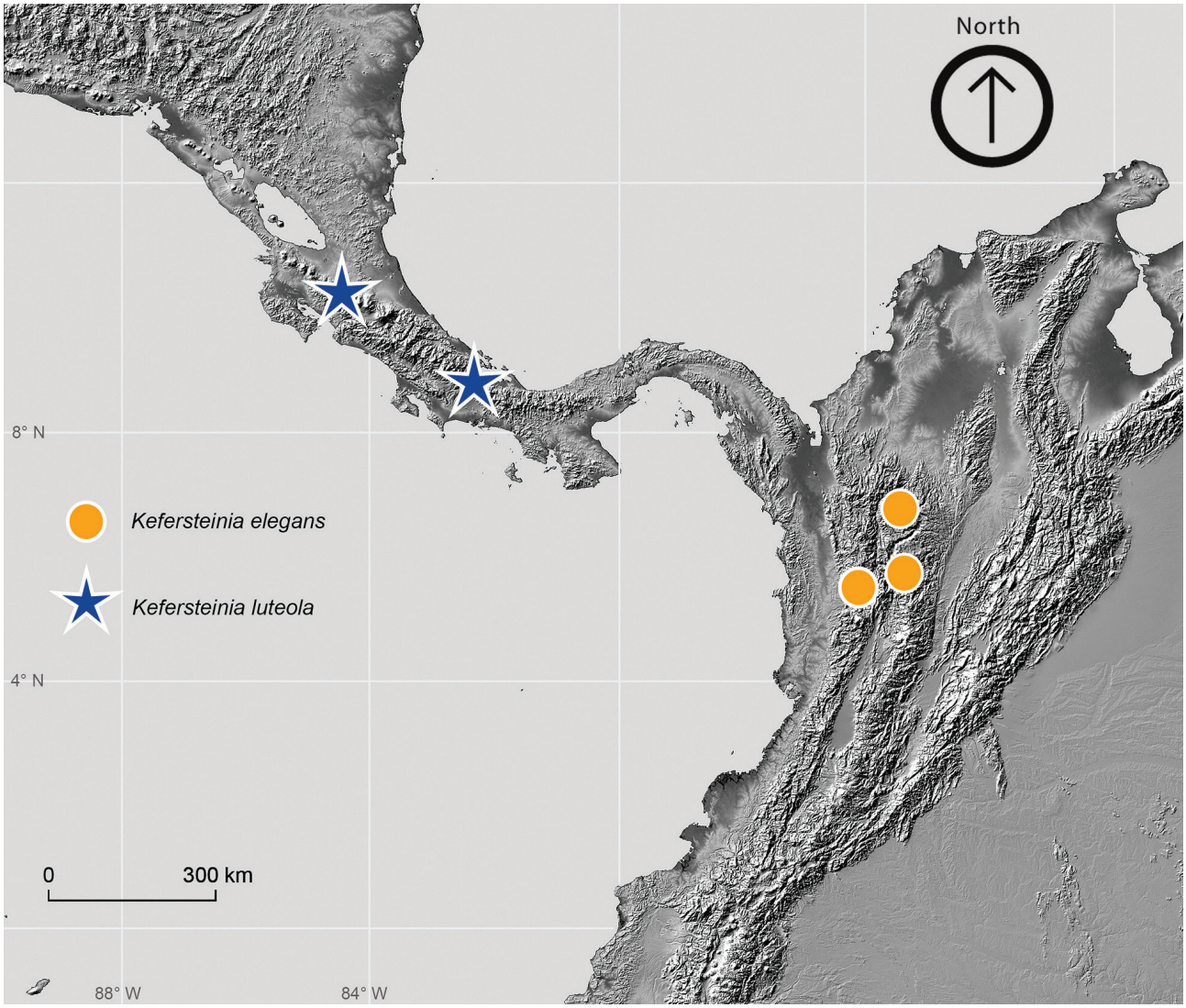

FIGURE 3. The known localities of *Kefersteinia luteola* (blue star) and *K. elegans* (yellow circle).

Kefersteinia elegans was described from a specimen collected by Gilberto Escobar in the Colombian Department of Antioquia, though the type (*G. Escobar 507*, AMES) lacks precise locality. The Missouri Botanical Garden database specifies its origin as the old colonial settlement of Abejorral (Tropicos, 2023), situated approximately 2200 m above sea level in the Central Cordillera, about 50 km south of Medellín. The few documented collections of *K. elegans* are restricted to Colombia (Fig. 3). Among Andean *Kefersteinia* species, *K. elegans* is distinguished by its large, yellowish flowers and distinct ligulate-elliptic wings of the column. Initially, only a photograph of the flower from the type was used for illustration, but a sketch by Leslie Garay attached to the holotype sheet at AMES (accession 090588, barcode 00100388) well illustrates the long, cuneate claw of the lip, with a sublobate blade at the middle, and the ligulate wings of the column.

Originally thought to be endemic to the Colombian Andes, *K. elegans* was later allegedly recorded and illustrated from Panama by Pupulin (2004), based on collections from Bocas del Toro by J. Núñez and E. Olmos, cultivated at Finca Dracula in Cerro Punta, Panama (also cited by Dressler, 2023). Another herbarium collection at the Missouri Botanical Garden, likely from the same locality (*A. Maduro & E. Olmos 156*, not seen), is mentioned by Bogarín et al. (2014) in their updated checklist of Panamanian Orchidaceae, and by Dressler (2023) in his treatment of *Kefersteinia* for *Flora Mesoamericana*. Although Harding (2008) mentioned the presence of *K. elegans* in Panama, no herbarium voucher supports her claim.

Recent findings confirm that collections from Bocas del Toro, Panama, previously attributed to *K. elegans*, actually represent *K. luteola* (Fig. 4), expanding its known range to the southern Cordillera de Talamanca in Panama. *Kefersteinia luteola* exhibits smaller plants (up to 15 vs. 20 cm), leaves (up to 14.0 × 1.7 vs. 20 × 3 cm), inflorescences (3 vs. 5 cm), and flowers. The sepals measure 15–18 mm in *K. luteola* vs. 20–28 mm in *K. elegans*; petals are 17 vs. 23 mm long. The lip of *K. luteola* is sessile (vs. clawed), entire (vs. sublobed), measuring 18 × 18 mm (vs. 23 × 20 mm in *K. elegans*), and the column's wings are broadly triangular (vs. ligulate-elliptic) and glandular-ciliate (vs. entire).

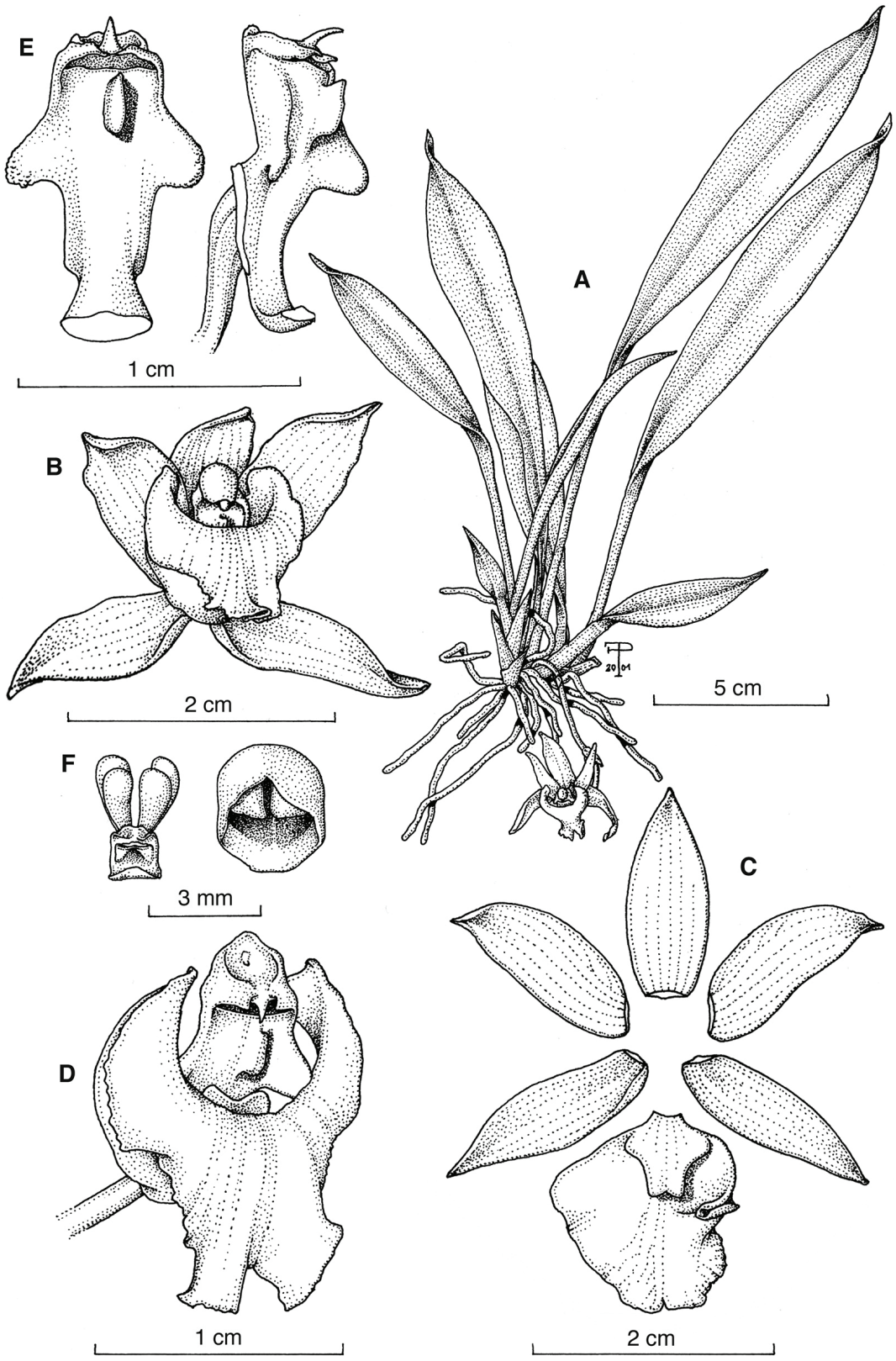

FIGURE 4. *Kefersteinia luteola* Pupulin, E. Salas, & Bogarín. **A**, habit; **B**, flower; **C**, dissected perianth; **D**, column and lip, three quarters view; **E**, column, ventral, and three-quarters view; **F**, pollinarium and anther cap. Drawn by F. Pupulin from *Nuñez & Olmos 111*.

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A synopsis of *Kefersteinia*

Species with laminar callus

1. ***Kefersteinia alba*** Schltr., Repert. Spec. Nov. Regni Veg. Beih. 19: 228. 1923. Type: Costa Rica.
2. ***Kefersteinia andreettae*** G. Gerlach, Neudecker, & Seeger, Orchidee (Hamburg) 40(4): 133. 1989. Type: Ecuador.
   = *Kefersteinia salustianae* D.E. Benn. & Christenson, Brittonia 46(1): 37. 1994. Type: Peru.
3. ***Kefersteinia bismarckii*** Dodson & D.E. Benn., Icon. Pl. Trop., ser. 2. 1: t. 83. 1989. Type: Peru.
4. ***Kefersteinia candida*** D.E. Benn. & Christenson, Brittonia 46(3): 238. 1994. Type: Peru.
5. ***Kefersteinia carolorum*** Carnevali & Cetzal, Phytotaxa 239(2): 166. 2015. Type: Venezuela.
6. ***Kefersteinia delcastilloi*** D.E. Benn. & Christenson, Brittonia 46(1): 32. 1994. Type: Peru.
7. ***Kefersteinia elegans*** Garay, Orquideología 4(2): 80. 1969. Type: Colombia.
8. ***Kefersteinia escobariana*** G. Gerlach & Neudecker, Orquideología 19(3): 46. 1996. Type: Ecuador.
9. ***Kefersteinia forcipata*** (hort. ex Rchb.f.) P.A. Harding, Huntleyas 165. 2008. Type: Unknown.
   = *Kefersteinia laminata* (Rchb.f.) Schltr., Gard. Chron. 2: 70. 1885. Type: Ecuador.
10. ***Kefersteinia gemma*** Schltr., Gard. Chron. 1: 406. 1874. Type: Ecuador.
    = *Kefersteinia oscarii* P. Ortiz, Orquideología 20(2): 240. 1996. Type: Colombia.
11. ***Kefersteinia graminea*** (Lindl.) Rchb f., Bot. Zeitung (Berlin) 10: 634. 1852. Type: Venezuela.
12. ***Kefersteinia heideri*** Neudecker, Orquideología 19(3): 97. 1994. Type: Bolivia.
13. ***Kefersteinia klabochii*** Schltr., Repert. Spec. Nov. Regni Veg. Beih. 7: 267. 1920. Type: Colombia.
14. ***Kefersteinia lactea*** (Rchb.f.) Schltr., Repert. Spec. Nov. Regni Veg. Beih. 19: 228. 1923. Type: Costa Rica.
15. ***Kefersteinia lojae*** Schltr., Repert. Spec. Nov. Regni Veg. Beih. 8: 93. 1921. Type: Ecuador.
    = *Kefersteinia pusilla* (C. Schweinf.) C. Schweinf., Fieldiana, Bot. 33: 59. 1970. Type: Bolivia.
    = *Kefersteinia bertoldii* Jenny, Orchideen 36: 184. 1985. Type: Peru.
    = *Kefersteinia lindneri* Dodson, Icon. Pl. Trop. 5: t. 439. 1982. Type: Ecuador.
    = *Kefersteinia vollesii* Jenny, Orchideen 36(5): 185. 1985. Type: Colombia.
    = *Kefersteinia lafontainei* Senghas & G. Gerlach, Orchideen 41: 47 1990. Type: ??.
    = *Kefersteinia benvenathar* D.E. Benn. & Christenson, Brittonia 46(3): 235. 1994. Type: Peru.
    = *Kefersteinia bengasahra* D.E. Benn. & Christenson, Brittonia 46(3): 235. 1994. Type: Peru.
    = *Kefersteinia jarae* D.E. Benn. & Christenson, Brittonia 46(1): 34. 1994. Type: Peru.

A SYNOPSIS OF *KEFERSTEINIA* CONT.

Species with laminar callus cont.

= *Kefersteinia licethyae* D.E. Benn. & Christenson, Brittonia 46(1): 34. 1994. TYPE: Peru.

= *Kefersteinia richardhegerlii* R. Vásquez & Dodson, Revista Soc. Boliv. Bot. 3(1–2): 12. 2001. TYPE: Bolivia.

16. ***Kefersteinia luteola*** Pupulin, E. Salas, & Bogarín, Harvard Papers in Botany 29(2): 308. TYPE: Costa Rica.
17. ***Kefersteinia microcharis*** Schltr., Repert. Spec. Nov. Regni Veg. Beih. 19: 300. 1923. TYPE: Costa Rica.
18. ***Kefersteinia minutiflora*** Dodson, Icon. Pl. Trop. 5: t. 440. 1982. TYPE: Ecuador.
19. ***Kefersteinia niesseniae*** P. Ortiz, Orquideología 20: 239. 1996. TYPE: Colombia.
20. ***Kefersteinia pulchella*** Schltr., Repert. Spec. Nov. Regni Veg. 27: 68. 1929. TYPE: Bolivia.

    = *Kefersteinia vasquezii* Dodson, Icon. Pl. Trop., ser. 2. 4: pl. 345. 1989. TYPE: Bolivia.
21. ***Kefersteinia ricii*** R. Vásquez & Dodson, Revista Soc. Boliv. Bot. 2(1): 4. 1998. TYPE: Bolivia.
22. ***Kefersteinia stapelioides*** Rchb.f., Bot. Zeitung (Berlin) 10: 634, 1852. TYPE: [Mittelamerika].
23. ***Kefersteinia tinschertiana*** Pupulin, Harvard Pap. Bot. 8(2): 166. 2004. TYPE: Guatemala.
24. ***Kefersteinia tolimensis*** Schltr., Repert. Spec. Nov. Regni Veg. Beih. 7: 161. 1920. TYPE: Colombia.
25. ***Kefersteinia universitatis-tolimae*** Sierra-Ariza, Harvard Pap. Bot. 28(2): 728. 2023. TYPE: Colombia.
26. ***Kefersteinia villenae*** D.E. Benn. & Christenson, Brittonia 46(3): 241. 1994. TYPE: Peru.
27. ***Kefersteinia villosa*** D.E. Benn. & Christenson, Lindleyana 13(1): 51. 1998. TYPE: Peru.

    = *Kefersteinia pellita* Rchb.f. ex Dodson & D.E. Benn., Icon. Pl. Trop., ser. 2. 1. 1989. TYPE: Ecuador.

    = *Kefersteinia pastorellii* Dodson & D.E. Benn., Icon. Pl. Trop., ser. 2. 1. 1989. TYPE: Peru.

    = *Kefersteinia aurorae* D.E. Benn. & Christenson, Brittonia 46(3): 233. 1994. TYPE: Peru.

    = *Kefersteinia koechlinorum* Christenson, Orchid Digest 64: 139. 2000. TYPE: Peru.

    = *Kefersteinia pseudopellita* P.A. Harding, Orquideología 25(2): 160. 2008. TYPE: Ecuador.

Species with stalked callus

28. ***Kefersteinia alata*** Pupulin, Harvard Pap. Bot. 8(2): 161. 2004. TYPE: Panama.
29. ***Kefersteinia angustifolia*** Pupulin & Dressler, Harvard Pap. Bot. 8(2): 164. 2004. TYPE: Costa Rica.
30. ***Kefersteinia auriculata*** Dressler, Orquideología 16(1): 49. 1983. TYPE: Panama.
31. ***Kefersteinia chocoensis*** G. Gerlach & Senghas, Orchideen 41: 45. 1990. TYPE: Colombia.
32. ***Kefersteinia costaricensis*** Schltr., Beih. Bot. Centralbl., Abt. 2 36(3): 413. 1918. TYPE: Costa Rica.
33. ***Kefersteinia escalerensis*** D.E. Benn. & Christenson, Brittonia 46(3): 238. 1994. TYPE: Peru.
34. ***Kefersteinia excentrica*** Dressler & Mora-Ret., Orquídea (Mexico City), n.s. 13(1–2): 261. 1993. TYPE: Costa Rica.
35. ***Kefersteinia guacamayoana*** Dodson & Hirtz, Icon. Pl. Trop., ser. 2. 6: pl. 505. 1989. TYPE: Ecuador.
36. ***Kefersteinia maculosa*** Dressler, Orquideología 16(1): 52. 1983. TYPE: Panama.
37. ***Kefersteinia medinae*** Pupulin & G. Merino, Willdenowia 38: 190. 2008. TYPE: Ecuador.
38. ***Kefersteinia ocellata*** Garay, Orquideología 4(2): 83. 1969. TYPE: Colombia.
39. ***Kefersteinia orbicularis*** Pupulin, Lindleyana 15(1): 25. 2000. TYPE: Costa Rica.
40. ***Kefersteinia perlonga*** Dressler, Native Colomb. Orchids 2: 224. 1991. TYPE: Colombia.
41. ***Kefersteinia retanae*** G. Gerlach, Brenesia 52: 75. 1999 [2000]. TYPE: Costa Rica.
42. ***Kefersteinia saccata*** Pupulin, Willdenowia 38: 188. 2008. TYPE: Costa Rica.
43. ***Kefersteinia sanguinolenta*** Rchb.f., Bot. Zeitung (Berlin) 10: 635. 1852. TYPE: Venezuela.
44. ***Kefersteinia stevensonii*** Dressler, Orquideología 7(3): 135. 1972. TYPE: Ecuador.
45. ***Kefersteinia taggesellii*** Neudecker, Orquideología 19(3): 98. 1994. TYPE: Colombia.

A SYNOPSIS OF *KEFERSTEINIA* CONT.

Species with stalked callus cont.

46. ***Kefersteinia taurina*** Rchb.f., Linnaea 41: 5. 1877 [1876]. TYPE: Colombia?.
    = *Kefersteinia lehmannii* P. Ortiz, Orquideología 20: 234. 1996. TYPE: Colombia.
47. ***Kefersteinia trullata*** Dressler, Native Colomb. Orchids 2: 225. 1991. TYPE: Colombia.
48. ***Kefersteinia wercklei*** Schltr., Repert. Spec. Nov. Regni Veg. Beih. 19: 531. 923. TYPE: Costa Rica.

Species with anomalous callus

49. ***Kefersteinia endresii*** Pupulin, Ann. Naturhist. Mus. Wien, B 103B: 543. 2001. TYPE: Costa Rica.
50. ***Kefersteinia expansa*** Rchb.f., Otia Bot. Hamburg. 9. 1872. TYPE: Ecuador.
51. ***Kefersteinia hirtzii*** Dodson, Icon. Pl. Trop., ser. 2. 6: pl. 506. 1989. TYPE: Ecuador.
52. ***Kefersteinia mystacina*** Rchb.f., Gard. Chron., n.s. 15(382): 530. 1881. TYPE: Colombia.
    = *Kefersteinia lacerata* Fowlie, Orchid Digest 32: 145. 1968. TYPE: Colombia.
53. ***Kefersteinia parvilabris*** Schltr., Repert. Spec. Nov. Regni Veg. Beih. 19: 52. 1923. TYPE: Costa Rica.
    = *Kefersteinia deflexipetala* Fowlie, Orchid Digest 30(4): 117. 1966. TYPE: Costa Rica.

Excluded species

Kefersteinia bicallosa (Rchb.f.) Rchb.f., Otia Bot. Hamburg. 1: 31. 1878 = ***Inti bicallosa*** (Rchb.f.) M.A. Blanco

Kefersteinia flaveola (Linden & Rchb.f. ex Rchb.f.) Schltr., Repert. Spec. Nov. Regni Veg. Beih. 7: 266. 1920
= ***Chondroscaphe flaveola*** (Linden & Rchb.f. ex Rchb.f.) Senghas & G. Gerlach

Kefersteinia leucantha Rchb.f. ex L. Linden, Ill. Hort. 29: 52. 1882, *nomen nudum*.

Kefersteinia sanguinea Pritz., Icon. Bot. Index 2: 161 Orchidaceae, *sphalm*.

Kefersteinia subquadrata Schltr., Repert. Spec. Nov. Regni Veg. Beih. 19: 300. 1923
= ***Chaubardiella subquadrata*** (Schltr.) Garay