

subcorymbosa et planiuscula ca. 8 cm. diametro basi foliaceo-bracteata; capitulis glomeratis sessilibus 4-floris 1 cm. vel ultra longitudine; bracteola lanceolato-lineari attenuata ca. 6 mm. longa ad capitulum arcte approximata; involucri squamis obovato-oblongis acutis ca. 8–9 mm. longis 2–2.6 mm. latis dorso tomentellis ca. 5-nervatis; corolla (immatura) ca. 6 mm. longa; tubo proprio gracili ca. 2 mm. longo; faucibus modice ampliatis ca. 1.8 mm. longis; dentibus limbi oblongis ca. 2.2 mm. longis; achaeniis (immaturis) breviter griseo-villosis 8–10-costatis 3.5 mm. longis 1.5 mm. diametro; pappi setis ca. 115 flavido-albidis ca. 7 mm. longis obscure scabratis.—*Eupatorium stachyophyllum* Glaziou, Bull. Soc. Bot. Fr. lvi. Mém. 3, p. 388, in part, not Spreng.—BRAZIL: between As Bracas and Os Ciganos, Goyaz, Glaziou, no. 21,635 (TYPE, K., phot. and fragm. Gr.). A well marked species with very leafy stems unbranched up to the inflorescence, sessile leaves strongly reticulated beneath, and rather large (though still immature) heads. *Eupatorium stachyophyllum* Spreng., under which name this plant was listed, is of course very different, with smaller heads, pluriseriate involucre and 5-angled achenes.

II. THE OENOTHERAS OF NORTHWESTERN SOUTH AMERICA.

BY P. A. MUNZ AND I. M. JOHNSTON.

THE present paper is concerned with the Oenotheras of Bolivia, Peru, Ecuador, Colombia and Venezuela. The principal portion of the work upon it was done at the Gray Herbarium. Through the courtesy of Dr. N. L. Britton, Dr. W. R. Maxon and Mr. J. F. Macbride, we were allowed to examine, in addition to the available specimens in the Gray Herbarium (G), loans of material from the New York Botanical Garden (NY), United States National Herbarium (US), and the Field Museum of Natural History (FM). Subsequently the senior author visited, and studied the Oenotheras in, the herbaria at Yale University (Y), Philadelphia Academy (Ph), and Missouri Botanical Garden (Mo). Consequently the greater portion of the pertinent material available in the United States has been reviewed in the preparation of this synopsis. No pretense, however, is made to finality in the present treatment. Not until much more material is available from the area, and until the baffling complexities of the Argentine and Chilean species are understood can a satisfactory account of the northern Andean species be written.

KEY TO SPECIES AND VARIETIES.

- Capsule broadest above the middle and frequently more or less winged, clavate. § *Hartmannia*.
- Petals 2-3 cm. long; body of capsule 1-1.5 cm. long, very broadly winged, long-villous.....1. *Oe. tetraptera*.
- Petals 0.5-1 cm. long; body of capsule 5-9 mm. long, with poorly developed rather thick wings if any, pubescence usually short.
- Petals deep pink or purple; plant erect or ascending, more or less branched above; fruit not curved.....2. *Oe. rosea*.
- Petals yellow or greenish; stems prostrate or decumbent, subsimple; fruit usually strongly curved.
- Seeds large, ca. 1-1.5 mm. long; plant usually glabrate; leaves usually subcoriaceous, subentire; s. Ecuador to Bolivia.....3. *Oe. multicaulis*.
- Seeds small, ca. 0.5-0.9 mm. long; plant usually pubescent on upper parts of stem; leaves usually thick-herbaceous, somewhat denticulate; c. Ecuador to Venezuela and Mexico.....3a. *Oe. m.* var. *tarquensis*.
- Capsule cylindrical or if not then broadest above middle.
- Seeds ovoid, not at all angular; capsule subterete or obscurely angled. § *Raimmania*.
- Plant densely caespitose, low and rounded; leaves numerous in close tufts, linear-lanceolate, repand-dentate; capsules crowded near base of plant, obscured by leaves, ca. 15 mm. long.....4. *Oe. punae*.
- Plant evidently caulescent with leaves and flowers scattered along stem.
- Plant perennial, decidedly woody at base; petals 2-2.5 cm. long; pubescence closely and densely strigose; sepal-tips corniculate, ca. 2 mm. long; style densely pubescent near base.....5. *Oe. Featherstonei*.
- Plant annual or at most biennial, herbaceous throughout; sepal-tips undeveloped or frequently ca. 1 mm. long (in no. 7 ca. 2 mm. long); pubescence villous or none.
- Petals 1-1.5 cm. long; hypanthium 20-30 mm. long; plant commonly freely branched from base; stems usually decumbent below, finely pubescent or villous, floriferous only above middle; seeds usually pitted, brown or ashy.....6. *Oe. laciniata*.
- Petals 4-7 mm. long; hypanthium 5-15 mm. long.
- Plant freely branched from base; branches decumbent, floriferous only above middle; plant dark green, finely pubescent; seeds yellowish, rather smooth; style glabrous.....6a. *Oe. l.* var. *limensis*.
- Plant simple, erect, usually floriferous to base.
- Hypanthium ca. 15 mm. long; sepal-tips 1-2.5 mm. long; plant green tinged with red, conspicuously villous; seeds brown, evidently pitted; style glabrous.....7. *Oe. arequipensis*.
- Hypanthium 5-8 mm. long; sepal-tips ca. 1 mm. long; plant yellow-green, practically glabrous; seeds yellowish, rather smooth; style sparsely villulose near base.....8. *Oe. verrucosa*.

Seeds more or less prismatic, evidently angular; capsule strongly angled. § *Euoenothera*.

Petals 4–5 cm. long; capsule fusiform, 3–4 cm. long, base evidently narrowed, not noticeably ensheathed by leaf-base 9. *Oe. fusiformis*.

Petals 0.5–2.5 cm. long; capsule oblong or ovate-oblong, 1.5–3 cm. long, base broad and more or less ensheathed by leaf-base.

Petals 0.5–0.9 mm. long; plant usually pallid with a fine strigose pubescence; capsule four times as long as thick..... 10. *Oe. rubida*.

Petals 1.2–2.5 cm. long; plant usually green, glabrate or somewhat villous.

Hypanthium 5–9 cm. long; capsule four to six times as long as thick; fresh flowers yellow..... 11. *Oe. elongata*.

Hypanthium 1–3(–6) cm. long; capsule two to three times as long as thick; fresh flowers reddish or yellow..... 12. *Oe. campylocalyx*.

1. OENOTHERA TETRAPTERA Cav. Icones iii. 40, t. 279 (1795). *Xylopleurum tetrapterum* Raim. in E. & P. Pflanzenf. iii. Abt. 7, 214 (1893). *Hartmannia tetraptera* Small, Bull. Torr. Bot. Cl. xxiii. 181 (1896). *Oe. tetraptera* f. *chenopodifolia* Lévl. Monog. 122 (1902). *H. macrantha* Spach, Nouv. Ann. Mus. Paris iv. 363 (1835); Hist. Veg. iv. 372 (1835).—VENEZUELA: La Puerta, Trujillo, 2000 m. alt., *Jahn* 1137 (US); near Colonia Tovar, *Fendler* 451 (G, ISOTYPE of f. *chenopodifolia* Lévl.).—Most common in Mexico; occurring within our limits only in northern Venezuela.

2. OE. ROSEA Aiton, Hort Kew. ed. 1, ii. 3 (1789). *Hartmannia rosea* G. Don in Sweet, Hort. Brit. ed. 3, 236 (1839). *Xylopleurum roseum* Raim. in E. & P. Pflanzenf. iii. Abt. 7, 214 (1893). *Oe. rubra* Cav. Icones iv. 68, t. 400 (1797). *Oe. virgata* R. & P. Fl. Peruv. iii. 79, t. 315 (1802). *H. virgata* Spach, Nouv. Ann. Mus. Paris iv. 361 (1835). *H. gauroides* Spach, Nouv. Ann. Mus. Paris iv. 363 (1835); Hist. Veg. iv. 371 (1835). *H. affinis* Spach, Ann. Sci. Nat. ser. 2, iv. 167 (1835). (?) *Oe. epilobiifolia* HBK. Nov. Gen. et Sp. vi. 92 (1823). (?) *H. epilobiifolia* Spach, Nouv. Ann. Mus. Paris iv. 364 (1835).—Ecuador to Chile; reported by Léveillé, Monog. 113, from Venezuela. Occurs from southeastern United States to Costa Rica, also in Cuba, and in eastern Brazil.—BOLIVIA: Cotaña, 2450 m. alt., *Buchtien* 148 (G, FM), 5984 (US); La Granga, 2600 m. alt., *Bro. Julio* 115 (US); Sorata, *Williams* 1548 (US), *Mandon* 630 (G), *Rusby* 1814 (G, FM, US); Capi, *Bang* 779 (G, Mo, US); near Mapiri, *Bang* 1746 (G, FM, Mo, US); without locality, *Bang* 2007 (NY). PERU: Torontoy, Urubamba Valley, 2400 m. alt., *Cook & Gilbert* 820 (US); Oroya, *Kalenborn* 144 (NY, US); Rimac, 1882, *Ball* (G); San

Damian, 2400–3000 m. alt., 1913, *Hrdlicka* (US); Lima, 150 m. alt., *Macbride & Featherstone* 61 (G, FM); Lima, purchased in market, *Cook & Gilbert* 2086 (US); Huanuco, 2100 m. alt., *Macbride & Featherstone* 2062 (G, FM). ECUADOR: Chuquiribamba, *André* 3980 (NY, FM); Azogues, *Rose & Rose* 22800 (US); Cuenca, *Rose, Pachano & Rose* 22927 (US).

3. *Oe. MULTICAULIS* R. & P. Fl. Peruv. iii. 80, t. 317 (1802). *Xylopleurum multicaule* Loesener in Fedde, Repert. xii. 237 (1913). *Oe. multicaulis*, var. *petiolaris* Ball, Jour. Linn. Soc. xxii. 38 (1885). *Oe. Barbeyana* Lévl. Monog. 43, cum tab. (1902). *Hartmannia boliviana* Rusby, Descr. S. Am. Pl. 72 (1920).—Bolivia to southern Ecuador.—BOLIVIA: Songo, *Bang* 914 (G, NY, FM, Mo, US, Ph, ISOTYPES of *Oe. Barbeyana* Lévl.); near Sorata, 4000 m. alt., *Mandon* 632 (G, NY); Titicaca Island, 3840 m. alt., *Buchtien* 2922 (NY, TYPE of *H. boliviana* Rusby; US, ISOTYPE). PERU: Puno, 3125 m. alt., *Shepard* 147 (G); Cuzco, *Rose* 19489 (US); Ollantaytambo, 3000 m. alt., *Cook & Gilbert* 345 (US), 1901 (US); Obrajillo, *Wilkes Exped.* (G, US); 25 km. S. E. of Huanuco, 3150 m. alt., *Macbride & Featherstone* 2136 (G, FM); Rio Blanco, 3600 m. alt., *Macbride & Featherstone* 746 (G, FM); Cuzco, 3000–3600 m. alt., 1923, *Herrera* (US). ECUADOR: Zaragura, *Rose, Pachano & Rose* 23163 (G, NY, US); (? immature) Cuenca, *Rose, Pachano & Rose* 22942 (US).—Very variable in the form and size of fruit. The only definite character capable of decisively separating it from the more northern plant usually referred to *Oe. tarquensis* HBK. appears to be the larger size of the seeds. The Bolivian and Peruvian material available has seeds averaging much larger than that from further north, with the exception of one fruiting collection from southern (Zaragura) Ecuador, which has seeds indistinguishable from typical *Oe. multicaulis*. While usually indicative, the other characters mentioned in the key are not at all constant.

3a. *Oe. multicaulis*, var. *tarquensis* (HBK), comb. nov. *Oe. tarquensis* HBK. Nov. Gen. et Sp. vi. 91 (1823). *Hartmannia tarquensis* Spach, Nouv. Ann. Mus. Paris iv. 363 (1835). *Oe. ascendens* Willd. in Spreng. Syst. ii. 230 (1825).—Central Ecuador to Venezuela; also in Mexico.—ECUADOR: near Quito, *Orton* (G), *Rose & Rose* 23533 (G, NY, US), *Holway* 939 (US), *Jameson* 26 (NY) and 355 (G); Pichincha, 3000 m. alt., 1855, *Couthouy* (G, Y, NY), *Jameson* 119 (NY); Ambato, *Pachano* 191 (US); San Francisco, 15 km. N. E. of Ambato, 2550 m. alt., *Tate* 563 (US); Baños, prov. of Tungurahua, 1950 m. alt., *Tate* 612 (US); Tulcán, Prov. Carchi, 2500 m. alt., *Hitchcock* 20998 (US, NY); without locality, *Spruce*

5059 (G), *Jameson* (US). COLOMBIA: Coconuco, Dept. El Cauca, 2300–2500 m. alt., *Killip* 6844 (NY, US); Huancabamba, *André* K1054 (FM); Bogota, 2600–2700 m. alt., *Pennell* 2330 (G, NY, US); Bogota, *Holton* 890 (G, NY); Zipacon, Dept. Cundinamarca, 2500 m. alt., *Rusby & Pennell* 1216 (NY, US). VENEZUELA: Paramo de Santo Domingo, Mérida, 3600 m. alt., *Jahn* 1093 (US); Paramo de La Sal, Mérida, 3400 m. alt., *Jahn* 593 (US).—This variety is quite indistinguishable from *Oe. cuprea* Schlecht., *Linnaea* xii. 269 (1838), from the high volcanoes of southern Mexico and Guatemala. In fact some of the cited material has been distributed under that name.

4. *Oe. punae* Kuntze, *Rev. Gen.* iii. pt. 2, 99 (1893). *Raimannia punae* Sprague & Riley, *Kew Bull.* 201 (1921). *Oe. Mandoni* Lévl. *Monog.* 43 (1902); 359 (1909). *Oe. Kuntziana* Lévl. *Monog.* 43, cum tab. (1902); 359 (1909).—Western Bolivia and adjacent Peru.—BOLIVIA: Escayarhe near Tarija, *Frebrig* 3030 (Mo); La Paz, 3900 m. alt., *Buchtien* 644 (US, NY); La Paz, 4000 m. alt., *Mandon* 631 (NY, ISOTYPE of *Oe. Mandoni* Lévl.); Nyuni, 3700 m. alt., *Asplund* 5981 (US); Challapata, 3900 m. alt., *Asplund* 5982 (US); Guagui, 3900 m. alt., *Asplund* 5983 (US). PERU: Puno, prov. Huancané, *Shepard* 86 (G).—Although Lévillé insists, l. c. 43 and 359, that his *Oe. Mandoni* was published simultaneously with Kuntze's *Oe. punae*, and that Kuntze had admitted the fact, we have been unable to discover a publication of the name *Oe. Mandoni* earlier than 1902, about nine years after the launching of *Oe. punae* Kuntze. Judging from description this species is closely related to, if not identical with, *Oe. nana* Griseb., *Abhandl. Gesellsch. Wiss. Goett.* xix. 143 (1874), a species occurring in the high country of northern Argentina.

5. *Oe. Featherstonei*, sp. nov., perennis; caulibus prostratis frutescentibus 4–7 mm. crassis apicem versus ascendentibus 2–3 dm. altis in partibus junioribus minute canescente pubescentibus; foliis numerosis 1–3 cm. longis 3–8 mm. latis lanceolatis concoloribus puberulentis remote dentatis apice acutis basim versus in petiolum 1–4 mm. longum attenuatis, superioribus vix reductis; floribus ut videtur paucis axillaribus conspicuis; hypanthio 25–30 mm. longo canescente minuteque pubescenti subtubiformi; sepalis ca. 15–17 mm. longis extus dense minute pubescentibus cum apicibus corniculatis 2 mm. longis conspicuis ornatis; petalis flavis late triangulari-obovatis ca. 22–25 mm. longis et latis apice truncato-obtusis basim versus gradatim contractis; staminibus subaequalibus; filamentis filiformibus 13–14 mm. longis; antheris 6–7 mm. longis linearibus medium versus dorsaliter affixis; stylo infra medium pu-

bescenti ca. 4 cm. longo cum stigmate 4-lobato coronato; lobis stigmatibus teretibus ca. 2 mm. longis; capsulis sessilibus 23–25 mm. longis obtuse quadrangularibus rectis vel falcatis saepe ascendentibus supra medium saepe incrassatis ca. 3.5 mm. crassis; seminibus ca. 1.5 mm. longis brunneis vix variolatis ellipsoideis nullo modo angulatis.—PERU: sprawling on disintegrated granite slope, Matucana, Lima, *Macbride & Featherstone* 270 (TYPE, Field Mus. no. 516,803; ISOTYPE, Gray Herb.).—Obviously a member of the § *Raimannia*, but very different from the middle and northern Andean species in its woody perennial habit and large flowers. It seems rather closely related to the confused and poorly understood group of pampean species although it is rather far removed from them geographically.

6. *Oe. LACINIATA* Hill, Veg. Syst. xii. 64 (1767); Hort. Kew. 172⁴ cum tab. (1769). *Oe. sinuata* L. Mant. ii. 228 (1771). *Oe. prostrata* R. & P. Fl. Peruv. iii. 79, t. 315 (1802). *Oe. psychrophila* Ball, Jour. Linn. Soc. xxii. 38 (1885). *Oe. Stuebelii* Hieron. in Engler, Jahrb. xxi. 327 (1895).—Peru and Ecuador; widely distributed in Mexico and eastern United States.—PERU: near Lima, 1882, *Ball* (G); Baños, *Wilkes Exped.* (US); Mito, Prov. Huanuco, 2700 m. alt., *Macbride & Featherstone* 1528 (G, FM); Chacapoyas, *Mathews* (NY); Rimac, 1500–1600 m. alt., 1882, *Ball* (NY); Rimac, 1200 m. alt., 1887, *Safford* (NY); without locality, 1862, *Mathews* (NY); without locality, *Wilkes Exped.* (US, NY). ECUADOR: Cotacollas, *Mille* 398 (US); Quito, *Hartweg* 982 (NY); Quitensian Andes, 1855, *Couthouy* (G, NY); Andes, *Spruce* 5039 (G).—A careful comparison of material from North and South America has failed to reveal any characters by which the plants from the two continents can be distinguished nor any reason for recognizing the proposed segregates among the southern plants.

6a. *Oe. laciniata*, var. *limensis*, var. nov., differt a forma typica floribus minoribus; petalis 7 mm. longis; hypanthio 10–12 mm. longo; seminibus flavescentibus.—PERU: on sandy hills along the sea, Lurin, Lima, *Macbride* 5950 (TYPE, Field Mus. no. 536,954; ISOTYPE, Gray Herb.).—A peculiar variation of *Oe. laciniata* characterized by its small flowers and yellowish seeds.

7. *Oe. arequipensis*, sp. nov., annua herba erecta simplex foliosa villosa saepe rubro-tincta 10–25 cm. alta; foliis 2–3 cm. longis 5–9 mm. latis subsessilibus lanceolatis vel lineari-lanceolatis valde irregulariterque dentatis concoloribus; floribus in axillis omnibus etiam ab infimis ad summa gestis; alabastro erecto ellipsoideo-obovoideo villosa 6–7 mm. longo; hypanthio 14–15 mm. longo subtubulari quam

lato 10-plo longiori; sepalis 5–7 mm. longis anthesi separatim reflexis lanceolatis apicem versus 1–2.5 mm. longe corniculatis; petalis ca. 4–6 mm. longis suborbicularibus flavis (?) in sicco rosaceis; filamentis compresse filiformibus subaequalibus ca. 4–5 mm. longis; antheris ca. 2 mm. longis oblongis dorsaliter medium versus affixis; stylo glabro ca. 17–18 mm. longo; stigmatibus 4-lobato lobis ligulatis ca. 2 mm. longis; capsulis 15–20 mm. longis ca. 3.5 mm. crassis obtusi-quadrangularibus basim et apicem versus abrupte contractis subsessilibus cum valvis medialiter longitudinaliterque costatis; seminibus ascendentibus biseriatis ovoideis brunnescentibus ca. 1 mm. longis variolatis.—PERU: sandy slopes, desert hills, Mollendo, Arequipa, *Hitchcock 22403* (TYPE, U. S. Nat. Herb. no. 1,196,655).—Although eventually this peculiar plant may prove to be only a phase of *Oe. verrucosa* it differs in so many respects from that species that it seems best to treat it here as a distinct species. We doubtfully refer to this species a single dwarf specimen in the National Herbarium that was collected at Luisa, Ecuador, by Rose & Rose (no. 23907). It differs from the type of *Oe. arequipensis* in being subacaulescent and in having more nearly entire leaves and less well developed sepal-tips. The plant mentioned is a peculiar one and more material of it is a great desideratum.

8. *Oe. verrucosa* Johnston, Contr. Gray Herb. n. s. lxx. 77 (1924).—PERU: southern slope of El Chachani near Arequipa, *Hinckley 17* (G, TYPE).—No further information regarding this species has accumulated since its recent publication.

9. *Oe. fusiformis*, sp. nov., herbacea ut videtur perennis; caulibus canescentibus minute pubescentibus et sparse villosis teretibus; foliis superioribus lanceolatis ca. 10 cm. longis 15 cm. latis minute pubescentibus pallidis concoloribus margine irregulariter undulatis apice acutis basim versus in petiolum ca. 5 mm. longum attenuatis; floribus spicatis flavis bracteatis; bracteis lanceolatis sessilibus 1–3 cm. longis; ovario cylindrico glandulari-pubescenti ca. 1 cm. longo; hypanthio ca. 4 cm. longo ca. 1 mm. crasso graciliter tubuloso glandulari-pubescenti; sepalis 3–3.5 cm. longis lanceolatis bini reflexis extus glandulari-pubescentibus, apicibus ca. 2 mm. longis erectis teretibus; petalis flavis 4–5 cm. longis 3–4 cm. latis obovatis basi attenuatis apice obtusis vel rotundis; staminibus 8 aequalibus; filamentis filiformibus ca. dimidium petalorum aequantibus; antheris linearibus dorsaliter medialiterque affixis ca. 13 mm. longis; stylo 7.5–8.5 cm. longo glabro; stigmatibus 4-partito lobis linearibus 8 mm. longis; capsulis fusiformibus 3–4 cm. longis 4–5 mm. crassis sessilibus sparse

pubescentibus brunnescentibus obtuse quadrangularibus apice 3-5 mm. longe rostratis cum valvis medialiter longitudinaliterque costatis; seminibus angulatis brunneis ca. 2 mm. longis.—ECUADOR: field between El Tambo and La Toma, Prov. Loja, 1000-2200 m. alt., *Hitchcock 21350* (TYPE, U. S. Nat. Herb. no. 1,196,309).—Among South American species well characterized by its large flowers, fusiform capsules and angled seeds.

10. *OE. RUBIDA* Rusby, Bull. N. Y. Bot. Gard. viii. 110 (1912).—PERU: Arequipa, 2250 m. alt., *Williams 2524* (NY, TYPE); slopes of El Chachani north of Arequipa, 2400 m. alt., *Hinckley 68* (US).—Apparently a local species and perhaps too close to one of the following.

11. *OE. ELONGATA* Rusby, Mem. Torr. Bot. Cl. iii. 33 (1893). *Oe. serratifolia* Krause in Fedde, Repert. i. 168 (1905).—BOLIVIA: vicinity of La Paz, 3300 m. alt., *Bang 54* (NY, TYPE; G, Ph, US, Mo, ISOTYPES); La Paz, 3550 m. alt., *Buchtien 77* (G, NY, FM); La Paz, 3550 m. alt., *Buchtien 39* (US).—We know *Oe. serratifolia* only from description. The type of this apparently synonymous species came from extreme southern Bolivia in the vicinity of Tarija.

12. *OE. CAMPYLOCALYX* Koch & Bouché, Ind. Sem. Hort. Berol. app. 17 (1855). *Oe. versicolor* Lehm. Ind. Sem. Hort. Hamb. 7 (1855); *Linnaea* xxviii. 359 (1856). *Oe. coccinea* Britt. Bull. Torr. Bot. Cl. xvii. 213 (1890). *Oe. scabra* Krause in Fedde, Repert. i. 168 (1905). *Oe. Weberbaueri* Krause, l. c. 169. *Onagra fusca* Krause, l. c. 167. *Oe. fusca* Sprague & Riley, Kew Bull. 1921: 199 (1921).—Ecuador to Peru and northern Argentina.—BOLIVIA: Tarija, *Fiebrig 3358* (G); Ingenio del Oro, 3000 m. alt., *Rusby 1815* (NY, TYPE of *Oe. coccinea*); *Rusby 1976* (NY); Sorata, 2650-3000 m. alt., *Mandon 627* (G); Titicaca Island, 3840 m. alt., *Buchtien 4661* (US), *2921* (NY, US); La Paz, 3800 m. alt., *Buchtien 532* (US); Cochabamba, 2700 m. alt., *Buchtien 2387* (US); "Rio Juntas," 2000 m. alt., *Kuntze* (NY). PERU: Ollantaytambo, 3000 m. alt., *Cook & Gilbert 628* (US), *294* (US); Oroya, 3300-3600 m. alt., *Kalenborn 241* (NY, US); Cuzco, 3000-3600 m. alt., *Herrera* (US); Rio Blanco, 3600 m. alt., *Macbride & Featherstone 681* (G, FM), *721* (FM, G); Yanahuanca, 3000 m. alt., *Macbride & Featherstone 1250* (G, FM); Huacachai near Muña, 1950 m. alt., *Macbride 3884* (G, FM). ECUADOR (?): Guanojo, *André 3965* (NY).—This species appears to be the most common evening primrose in Peru and Bolivia. It is readily recognized by its very thick short capsules and usually reddish petals. Léveillé, under the name of *Oe. Simsiana*, has given a photograph of a quite typical specimen. *Oenothera sandiana* Hassk., Flora

xxxix. 516 (1856), from near Sandia in extreme southeastern Peru may prove to be a synonym of this species although the fruit is described as subcylindrical.

EXCLUDED AND UNIDENTIFIED SPECIES.

Oe. perampla Graham, Edinb. New Philos. Journ. 1832: 362 (1832).—Given as probably collected [by Cruckshanks] near Lima. Judging from the lengthy description, this species is a synonym of *Oe. ACAULIS* Cav., a Chilean species widely distributed in the region in which Cruckshanks is known to have collected.

Oe. PUBESCENS Willd. in Spreng. Syst. ii. 229 (1825).—"Amer. aust. Humb."—Unrecognized. Perhaps a species of *Jussiaea*.

Oe. FRUTICOSA L. is reported from Ecuador by Léveillé, Monog. 106 (1902), but we have seen nothing suggesting it from South America.

III. FURTHER NEW PLANTS COLLECTED BY MRS. RICHARD C. CURTIS IN TROPICAL AFRICA.

BY IVAN M. JOHNSTON.

In a former paper, Contr. Gray Herb. n. s. lxxiii. 31–40, there were described some novelties found in a highly interesting collection secured by Mrs. Richard C. Curtis of Boston while accompanying a hunting expedition to the interior of Angola and Kenya. Subsequent study of some of the more technical plants of the same series has disclosed the following four species which have not been identified with any as yet described.

Rhynchotropis Curtisiae, sp. nov., herbacea 2–2.5 dm. alta canescens; radice perenni; caulibus pluribus gracilibus laxè ramosis ascendentibus 4-angulatis adpresse pubescentibus; stipulis lanceolatis herbaceis subcaducis acutis 2–5 mm. longis 0.5–1 mm. latis pubescentibus saepe reflexis; foliis 2–3 cm. longis 7–11 mm. latis oblongis vel oblongo-ovatis concoloribus dense adpresse pubescentibus integerrimis alternis apice obtusis vel acutis basi rotundis vel obtusis sessilibus supra enervatis subtus cum nervis prominentibus; racemis axillaribus folia multo superantibus dissitifloris 5–20 cm. longis; bracteis setaceis deciduis 2–3 mm. longis ascendentibus; pedicellis ad anthesin 2–5 mm. longis fructiferis 3–7 mm. longis canescente pubescentibus; calyce 5-laciniato 4–5 mm. longo dense adpresse pubescenti, lobis



Munz, Philip A. and Johnston, I. M. 1925. "The Oenotheras of northwestern South America." *Contributions from the Gray Herbarium of Harvard University* (75), 15–23. <https://doi.org/10.5962/p.336088>.

View This Item Online: <https://www.biodiversitylibrary.org/item/123406>

DOI: <https://doi.org/10.5962/p.336088>

Permalink: <https://www.biodiversitylibrary.org/partpdf/336088>

Holding Institution

Missouri Botanical Garden, Peter H. Raven Library

Sponsored by

Missouri Botanical Garden

Copyright & Reuse

Copyright Status: Permission to digitize granted by rights holder

Rights Holder: Harvard University Herbaria

License: <http://creativecommons.org/licenses/by-nc-sa/3.0/>

Rights: <https://www.biodiversitylibrary.org/permissions>

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.