

Known only from the type collected by *Brass no. 4178*, in the Murray Pass, Wharton Range, 2840 m., British New Guinea.

Trigonotis borneensis (Stapf), comb. nov.

Havilandia borneensis Stapf, Trans. Linn. Soc. London, ser. 2, 4: 209, tab. 16 (1894).

Lithospermum borneense (Stapf) Boerl. Handl. Fl. Nederl. Ind. 2: 488 (1899).

Plagiobothrys borneensis (Stapf) Johnston, Contr. Gray Herb. 73: 68 (1924).

Known only from the higher altitudes on Mt. Kinabalu, British North Borneo, where it has been found by various collectors.

Trigonotis papuana (Hemsl.), comb. nov.

Havilandia papuana Hemsley, Kew Bull. 1899: 107.

BRITISH NEW GUINEA: Mt. Albert Edward, 3680 m., *Brass 4245* (G). NORTHEAST NEW GUINEA: vicinity Samanzing, upper camp, prov. Morobe, 2400–2700 m., creeping, marshy grassland with *T. pleiomeria*, Feb. 15, 1939, *Clemens sine no.* (G). DUTCH NEW GUINEA: Mt. Wilhelmina, 3800–4100 m., among grass-tussocks, wet soil, Sept. 1938, *Brass & Myer-Drees 10042, 10105, 10106* and *10215* (G); Lake Habbema, 3225 m., sandy banks of grassland streams, Aug. 1938, *Brass 9176* (G).

This species was originally based upon collections made from British New Guinea, obtained on Mt. Scratchley, 3660 m., and in the Wharton Range at 3330 m. Possibly also referable to this species is a collection (*Kjellberg 3911*) at Buitenzorg collected at 3200 m. in central Celebes. The habit of this plant is certainly that of the present species but no nutlets have been seen and the identification must remain doubtful.

Cryptantha Milobakeri, sp. nov.

Planta erecta herbacea annua 2–4.5 dm. alta; caulibus viridibus ramos plures rigidos stricte ascendentes elongatos proferentibus pilis rigidis saepe 0.3–0.8 mm. longis et setis divaricatis 0.5–1 mm. longis sparsioribus ornatis; foliis caulinis viridibus 1–3 cm. longis 1.5–5 mm. latis lineari-oblongis vel lineari-lanceolatis, setis rigidis ascendentibus vel erectis e basi pustulata orientibus ca. 1 mm. longis obsitis; cymis terminalibus ebracteatis, eis caulis et ramorum majorum geminatis vel non rariter ternatis juventate brevibus et densis mox elongatis 5–15 cm. longis dissitifloris; calyce fructifero saepe pallide sericeo-villoso ca. 4 mm. (rariter ad 5 mm.) longo ascendente, lobis lanceolatis (apice conniventibus) pilis multis gracilibus mollibus adpressis ad 1 mm. longis

saepe conspicue vestitis, costa inconspicue debiliterque armata, setis costae pilis partium reliquarum lobi similibus saepe adpressis, basi calycis saepe oblique attenuata rariter subrotundata ad 0.5 mm. longe pedicellata; corolla 2–4 mm. diametro 2.5–4 mm. longa; ovulis 4; nuculis saepe solitariis et abaxialibus rariter 2–4, lanceo-ovatis laevibus nitidis inconspicuissime vel haud granulatis 1.8–2.5 mm. longis 1–1.2 mm. latis, dorse convexis, margine rotundis, ventre obtusis, sulco clauso basim versus furcatis; stigmatibus $\frac{2}{3}$ – $\frac{3}{4}$ altitudinis nuculae attingenti.

CALIFORNIA: burnt region along Bottle Rock road, Lake Co., May 16, 1936, *Milo S. Baker* 8268 (G); open places in chaparral about midway between Kelseyville and Lower Lake, Lake Co., May 5, 1934, *Milo S. Baker* 7629 (TYPE, Gray Herb.); southeast side of Snow Mt., above Bonnie View, Lake Co., shale in Yellow Pine Belt, June 7, 1919, *Heller* 13236 (G); between Mud Flat and Bennett Spring, on Newville-Covelo road, Glenn Co., northerly slope, open gravelly places, 2500 ft., June 5, 1915, *Heller* 11928 (G); at river-bridge near Redding, Shasta Co., gravel and sand, May 29, 1905, *Heller* 7883 in pt. (G); New River Bluffs, Trinity Co., warm rocky slopes, 1500 ft., Jan. 28, 1923, *Tracy* 6388 (G); New River Bluffs, 1400 ft., April 27, 1924, *Tracy* 6659 (G); hills west of mouth of South Fork of Trinity River, Humboldt Co., 2000 ft., among scattered brush especially on serpentine, June 14, 1932, *Tracy* 10141 (G); hills west of South Fork Trinity River, near mouth, 2100 ft., prairies on hill and in open woods, June 10, 1936, *Harris & Tracy* 3270 (G); Supply Creek, west of Hoopa Valley, Humboldt Co., 1000 ft., sunny warm slope, May 15, 1927, *Tracy* 8050 (G); Grouse Mt., Humboldt Co., 4700 ft. edge of brush in grassy open country, June 27, 1934, *Tracy* 11060 (G); Smith River, Del Norte Co., abundant along roadsides and on open gravelly prairie lands, June 4, 1937, *Parks* 24011 (G).

This plant of northwestern California is most closely related to *C. grandiflora* Rydb., which ranges in the warm valleys of the Snake River and its tributaries in western Idaho and adjacent Washington and Oregon, and in the upper John Day Valley in northeastern Oregon. The Californian plant is taller, more freely branched, and very much less bristly, and its corollas are distinctly smaller than in its northern relative. The weakly differentiated usually appressed trichomes on the calyx-ribs, the relatively well developed corollas, the usually solitary broad polished nutlet, and the well developed geminate or ternate naked cymes serve to characterize the species. The specimens of *C. Milobakeri* from the eastern slopes of the Coast Ranges are very uniform and distinctive. The calyx is appressed villous and somewhat silky and the ribs have no well developed bristles. The material from Humboldt County,

however, is less extreme. Plants from this latter area tend to have the trichomes borne on the calyx-ribs weakly differentiated and somewhat coarser and less appressed than those borne on the other parts of the calyx.

In my monograph of the genus the present plant was included in *C. Hendersonii*. Subsequent study, however, has shown my former concept of *C. Hendersonii* to be complex and that, most certainly, forms with smooth and forms with roughened nutlets were improperly associated under one species. The names *C. grandiflora* and *C. Milobakeri* cover most of the smooth-fruited plants formerly referred to *C. Hendersonii* (Nels.) Piper. There remains, however, two other smooth-fruited plants, the poorly understood *C. incana* Greene from the southern Sierras (Tulare Co.) and *C. trifurca* Eastw., of Siskiyou County. These are probably distinct. I know them, however, only from the type-collections.

***Cryptantha crymophila*, sp. nov.**

Herba perennis; caulibus pluribus 1.5–3 dm. altis erectis simplicibus minute villosis et hirsutis; foliis griseis cum pilis minutis villosis plus minusve vestitis et cum setis 2–3 mm. longis e basi minuta pustulata orientibus obsitis, in facie inferiore (et non rariter secus marginem folii) setis ascendentibus vel erectis (alibi adpressis) donatis; foliis inferioribus elongatis 7–9 cm. longis spathulato-oblanco-latis in tertia parte superiore latioribus 7–9 mm. latis deinde basim versus gradatim attenuatis apice obtusis; foliis caulinis superioribus oblanco-ligularibus vel ligularibus 4–5 cm. longis 4–5 mm. latis acutis cymulas infimas valde reductas suffulcientibus et eas conspicue (saepe 3–5-plo) superantibus; cymis glomeratis supra medium caulis gestis, inferioribus reductis inconspicuis distantibus deinde sursum gradatim majoribus, supremis maximis (rhachibus cymarum maturum 5–15 mm. longis) 3–7-floris congestis partem principalem inflorescentiae fructiferae 2–3 cm. crassam formantibus; corolla alba ca. 8 mm. longa, limbo ad 5 mm. diametro; calyce ad anthesin ca. 5 mm. longo, lobis lineari-oblongis apice altitudinem appendicularum faucium corollae attingentibus; calyce fructifero accrescente 13–15 mm. longo, lobis subaequalibus elongatis quam nuculis ad 3-plo longioribus basim versus ca. 2 mm. latis deinde apicem versus gradatim attenuatis in margine et costa inconspicua setas sparsas 2–4 mm. longas pungentes gerentibus alibi sparse inconspicueque villosis (pilis 0.4–1 mm. longis), basi calycis maturi rotunda 1–2 mm. longe pedicellata; nuculis 4 in ambitu ovatis 4.5–5 mm. longis et 3 mm. latis, margine 0.25 mm. late alatis, basi rotundis, apice obtusiusculis, dorso irregulariter rugosis (rugis prominentibus interruptis plus minusve trans-