

# RECORD

ZANONI

# DECEMBER

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31	JAN 1	2	3	4	5

Folio from Walt

36  
36  
20



## PERSONAL ACCOUNT BOOKS

No. 2044

Available Rulings

JOURNAL

CASH

S. E. LEDGER

RECORD

D. E. LEDGER

144 PAGES

U. S. A.

December 1973 Vol. 348I

Trip to Mexico

for chemical specimens

✓ vouchers for  
Mexican forest study

Thomas A Zanoni

# 2561A to 2855

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What is ORIGIN OF seed coat  
OF PINEN + Juniper

tree 2654 does not have # in sac  
(= J. complanata)

SALT 1 = 2577

✓  
✓

6 December 1973

2561A J. monosperma male  
2561B J. monosperma Female

5 miles S of I25,  
at US 84 (road to)  
Santa Rosa, New Mexico.

males pre-anthesis  
females - cones bluish bloom, chalky  
cone surface black.

in Piñon - Juniper overgrasses,  
Pastures.

17 Dec. 1973

✓

2562

J. pinchotii Sudw

on by-pass Road,  
1 mile S of US 285 at  
CARLSBAD, New Mexico.

CREOSOTE, prt. mahogany,  
Yucca, Juglans pinchotii  
limestone soil

Small bush, 3 ft. tall

Fruit - Rose Brown - No bloom

Pulp - sweet, soft fleshy

Collected animal pellets

cones dropping, some on ground,



8 December, 1973

2563 to  
2566

South of Rt. 67+90, Alpine, Texas

on Route 118, road to  
Big Bend National Park,  
Brewster Co., Texas.

Juniperus erythrocarpa

6.7 miles S of Rt. 67-90

many trees, very large pop,  
over many acres

Junipers comm for 25 miles along Road

with Bouteloua gracilis, and

Bouteloua curtipendula

Rhus

Opuntia (cholla type)

Site very similar in  
topography and vegetation  
to Chihuahuan sites of  
J. erythrocarpa.

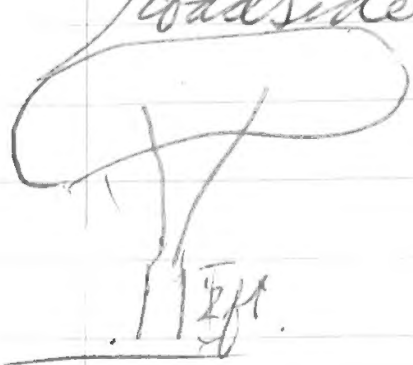
male cones pre-anthesis  
female cones dropping

8 Dec. 1973

2563

*J. erythrocarpa*

9.4 miles S of Alpine  
Female tree 20 feet tall, by  
roadside.



no whips / ripe cones  
ROSE PINK /  
green cones - few ripe ones

2564

Bouteloua's, Andropogons,  
on Volcanic Rocks  
*J. erythrocarpa*  
Same site as 2563

male tree, cones very pre-anther  
15 ft tall



2565

*J. erythrocarpa*  
Female tree, same site as 2563  
Ripe cones pink color, bloomed  
few cones  
Good terminal whips

RPA said fewer cones are  
present than in 1970

Slides = first three, Roll 1



8 December

2566

J. pinchotii

Common

2 1/2 - 3 ft. tall, small shrub

no bloom on cones, cones falling

3/4 mi. off Road, to Chisos

Basin, BIG BEND Nat'l Pk,

Brewster Co., Texas.

Yucca, Opuntia, Acacia,

Ephedra,

4800 ft.

local males  
are pre-anthesis

8 Dec 1973

2567-2571

Chisos Basin Camp  
Big Bend Natl Park,  
Brewster Co, Texas,

2567

J. erythrocarpa

near Mens Room  
(E side of basin)  
at Chisos Basin Camp 5400ft

bloom on cones, 5ft x 8ft wide

with J. pinchotii, J. dayana  
J. flaccida, Agave  
Portulaca gracilis, D. verticillata  
Chrysothamnus, Andropogon,  
D. sylvestris

2568

J. pinchotii

5ft. x 5ft.

No bloom on cones

mostly J. pinchotii in area  
live cones

Bank similar to J. monogrochis

2569

Juniper thurcarya  
8 ft. tall x 10 ft wide  
cones with bloom

2590

Juniper thurcarya  
20 ft x 20 ft.  
cones with bloom  
branched at base

~~2571~~

Pellets collected near  
cabins on bottom of Basin,  
contain juniper seeds

8 Dec. 1973

2572-2574

Behind cabins, up slope (SE)  
From Basin Camp, near  
Supply garage 5800 ft.

Evergreen Oaks, deadwood etc  
J. flaccida, J. deppeana, J. pinckneyi,  
J. erythrocarpa, Rhus (smooth leaf),  
Pinus cembraoides  
few grasses underneath

2572

J. flaccida

Female, next to garage  
6" dbh, x 15 FT tall,  
few, green cones with sea foam  
green, foliage very drooping.  
Bark - grey, cinnamon underneath

2573

J. deppeana

8" dbh, 15 FT. tall.  
Thin Black Bark  
Cones small, green with  
sea foam green bloom

2574

J. flaccida var. flaccida male

male  
8" dbh x 18 FT. tall,  
FLACCID BRANCHES  
middle cones immature

slides 4 to 7  
on Rail 1

8 Dec.  
2 575

male J. deppeana

4.7 miles road to Chisos  
Basin Camp, from road to  
Panther Jct., Big Bend Nat'l  
Park, Brewster Co, Texas

Evergreen OAK, Red OAK  
Piñon (Pinus cembroides),  
J. dep., J. flac., J. pinchotii

5" dbh x 15 ft tall.  
male cones much prior to  
anthesis





10 Dec. 1973

2976

J. ERYTHROCARPA

at Km 317 on

Rt. 54 (km N of Guadalupe)

on E side of Road edge

being 3.5 miles S of

AGUA NUEVA (N of Est. CARNERAS)

Coah

Males POLLINATING now

Female cones past maturity

Female cones dried out now

with

Opuntia, Clematis, Acacia

Yucca spp., Mahonia (TRIFOLIATA)

Compositae, Polemoniaceae,

grasses

gravelly, dry

6500ft.

2 males, 1 female.

2ft. x 2ft. shrubs.

10 December 1973

SALT 1. J. Sattillensis

6400 FT.

Yucca spp, Ephedra, evergreen oak,  
Boutelouas, Mahonia trifoliate,  
Spiracideae shrub

2577

voucher, photos  
J. Sattillensis

(9)

15 FT. wide x 8 FT. Tall

Branch tip hooked, Bark sheds.

yellow green foliage

Powder blue cone bloom on

soft fleshy sweet ~~bluish~~ <sup>(dk blue  
black)</sup>

cones.

gravelly soil. on hills,

So

Very common on slopes  
on E side of ROAD.

1.9 miles E of RA. 54 on  
DIRT TRAIL opposite

Three TRAILER CARS in  
middle of Row of CARS

Used as houses at

FOST Aspholto EL MALMUT

SALT 1 BULK

Coah.

10 Dec.

2578

J. saltiiensis

with STRAIGHT Tips

6100 FT.

0.8 mbs. of Rt. 54, at

Same dirt trail as (2577)

Single plant near trail

10 Dec 1973

(Photo, CORED)

2579

J. SALTILLIENSIS

12" dbh x 25 FT, tall,

Pre-anthesis - male tree

Bark - laced, greywhite.

SALT  
BARK

8.6 miles from Rt. 57 on

Road ~~Tan~~ Los Lirios & El Tunal

- E side of Road, up dry gulch

100 ft. from Road

J. saltillensis

2580

NEXT TO (2579) tree

(see 2579 site)

male, pre-anthesis

with Phoradendron

8" dbh x 15 FT. tall

2579 & 2580 with Pinon,  
and thick undergrowth of

J. saltillensis

Mistletoe very thick and

DAMAGING to J. saltillensis

J. saltillensis - very common

for several miles along

Roadway,

- heartwood RED

10 Dec. 1973

2581

(see 2579  
site)

J. deppeana deppeana

7600 FT.

CHEM, MORPH, PHOTO

BARK similar to J. patoniara

DEPU  
BARK

OAKS spp., Piñon, Yucca, ssp, Arb. etc.,  
J. saltillensis, J. erythrocarpa,

at Gulch bottom & up slope  
on E side of ROAD

male cones, small, immature

J. deppeana scattered in Piñon woods,  
very common throughout woods

in understory, with  
a few J. salti. & a few

J. eryo.

(site is N of Casa BLANCA  
farm.)

Nearby J. deppeana

are single stemmed,

short STATURE in

fields & woods.

10 Dec. 1973

2582

MORH & CITEM.

J. pinchatii

J. ERYTHROCARPA ?

7600 FT.

2 FT. x 2 FT.

BRANCHED at base

Bark grey, strips to laeud bark

no bloom on cones, leather brown cone  
in woods with J. dyerian. (2581)

leaves tips curved somewhat  
uncommon (one?) to here?  
leaves prostrate

6.5 miles From Rt. 57 on  
road to Los Lunas.

(Pinchatii?)

10 Dec 1973

2583

Pellets at 0.6 mi. from  
Rt. 57 on road to  
Los Lirios (6.8 mi. S of ARTEAGA)

*J. saltilloensis* (very common) and  
*J. erythrocarpa* (less common) and  
Piñon.

2583 Discarded 15 April 1975 76

16 Dec 1973

2584

*J. erythrocarpa*

MORH + Chem

7200 FT.

near Km 230

near high Pass on Rt. 57

7.6 miles S of ARTEAGA, COAH.

in Piñon woods with

*J. ery* ~~red~~ very common

undersome shrubs with

*Onales* now in anthesis

*Mahonia trifoliata*, *Rhus* sp.

ARISTIDA ~~three~~ grass, Agave,

*Bouteloua* ~~sp.~~, *STIPA*,

a few *J. saltilloensis*

8 ft x 8 ft. Bark shreddy, grey white,

leaves ripe, bloom present, fernous

multistemmed at base

Core pulp / soft, fleshy, sweet, juicy,  
Rose pink

ERY  
57  
OAK





11 Dec 1973

C, M, P

2585, 2586

Juniperus mono. g. <sup>glands</sup> = MLT type

MLT  
BULK

on W side of Rt. 57  
~~near km 20~~, N of  
just South of La TRINIDAD.  
Site is 16.5 mi. N of  
San Roberto Junction,  
Nevado Leon

TREES 20 FT x 20" dbh

VERY common as tree  
over GRASSLAND which is  
now PASTURE

LITTLE REPRODUCTION BENEATH  
PRESENT TREES.

Cones with bloom, seeds present  
6400 FT.

SOIL - silty

males PRE ANTHESIS

11 Dec 1973

Phytos

Juniperus (MLT Type)  
at Km 70 North of  
MATEHUALA, SLP  
on Rt. 57, near Santa Rita.

Junipers very common,  
arborescent.

in LARPEA - opuntia - Yucca Forest

11 Dec 1973 C+M+P

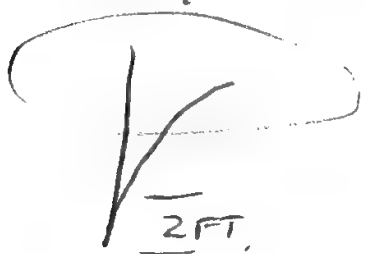
Juniperus flaccida var. flaccida  
(male)

2587

FLAC NV

14.1 miles E of Ent. San Roberto  
on Rt. 60 (Road to Linarces);  
AT SAN MARCOS, Galeana, NL.

male preanthesis  
with Tillandsia  
18 FT x 12" dbh



with MAHONIA TRIFOLIATA  
Compositae, AGAVE  
OPUNTIA, OAKS,  
few grasses

---

Pressed & dried specimen  
through Dec. 10

11 Dec. 1973

POTOS  
BULK

J. monticola compacta

E side of Cerro Potosi  
12000 Ft. , Galeana, Nuevo Leon

in Pinus culminicola thicket  
with EUPHORBIA, SEDUM and  
a few herbs.

MPC  
Sembol

grey, weathered limestone

2588

MCP

2589

1/2 ft tall x 2 ft. wide

2590

Branched, shrubby plant

2591

Few female cones, green

2592

Most plants with no cones.

2594

J. monticola is common understory

2595

shrub under shrubby Pinus

2596

culminicola.

2597

2598

2593

same site as above 2588-2598

PINUS culminicola

MCP BULK

3 ft. tall x 15 ft wide

5 inches DBH.

Seeds dispersing, cones open

11 Dec 1973

2

The J. monticola on Cerro Potosi  
is in the form of very  
small plants, to 1 to 1/2 feet  
diameter

The drive from Galeana to  
the microwave station  
on Cerro Potosi is  
34 hr. ride.

Rode from base of Cerro Potosi  
to microwave station  
is 21 km long.

12 Dec. 1973

2600 to  
2609

*J. monosperma* var. *gracilis*  
5900 ft.

Few Female cones present, bloom  
male cones pre-anthesis to anthesis  
male cones are con gold color

2600 to  
2609

28.4 miles N of Dr. Arroyo,  
on road to Galeana,  
Nuevo Leon, Mexico.

MGARR  
bult

*J. monog.* is very common  
as multibranded shrub in  
limestone soils, EAST-FACING  
SLOPE

with *Yucca*, *Dasylicion*,  
*Opuntia*, *Agave*, *Rhus*, *Mahonia*  
in grassy area with  
thorny shrubs on West  
Side of Road,

many of the juveniles have  
long terminal whips

12 Dec 1973

2600

8 ft tall x 10 ft wide.  
multibranched at base  
Bark - light grey laced.  
Cone - soft pulp, maroon red brown,  
light rose pulp color

2601

3 ft tall x 4 ft wide, 2" dbh  
multibranched at base

2602

7 ft tall x 7 ft wide, 2" dbh  
multibranched at base

2603

5 ft tall x 5 ft wide, 1" dbh  
multibranched at base

2604

3 ft tall x 4 ft wide, 2" dbh  
mult. branched at base.  
♀ cones darker maroon than others

2605

4 ft tall x 3 ft wide x 1 1/2" dbh  
multibranched at base  
few whips  
few cones

12 Dec 1973

- 2606 7 ft tall x 10 ft wide x 2" dbh  
multi branched at base  
Male
- 2607 4 ft tall x 5 ft wide x 1 1/2" dbh  
multi branched at base
- 2608 5 ft tall x 10 ft wide x 2" dbh  
multi branched at base
- 2609 male - Anterioris  
MCP 6 ft tall x 10 ft wide x 2" dbh  
multi branched at base



Friday  
14 Dec 1973

J. monticola compacta

2610-

2618

MONT IV  
BULK

4.5 miles N of  
PASO de CORTES,  
PARQUE Nacional IZTA-Popo  
ESTADO de Mexico  
(on road to IZTACIHUATL)

11600 FT.

on bare volcanic rock  
outcrops at timberline  
near Pinus Hartwegii  
in ZACATAL or Calamagrostis  
and Festuca.

Scattered on rock outcrops  
OFTEN on steep rocky slopes  
on W side of road.

Juniper foliage OFTEN with  
reddish tinge  
Small (to 1 1/2 ft) sprawling shrub

14 Dec 1973

2610

♀

1 1/2 ft tall x 4 ft wide  
Multitraded at base  
Female cones green w/ lt. green bloom

2611

♀

1/2 ft tall x 3 ft wide  
Multitraded at base  
Female cones - not ripe = green + lt. bloom  
ripe = Army green +  
light blue

2612

♂

All male cones still present on plant  
3 ft wide x 1 1/2 ft tall  
Multibranch at base

2613

Morph + Char  
sex?

1/2 ft tall x 3 ft wide  
multitraded near base  
Glands ruptured, long term  
prolonged  
no ♀ or ♂ cones

2614

♀

1 ft tall x 4 ft wide  
Multibranch at base  
♀ cones green  
♀ sticky foliage

2615  
Morph. only  
JUVENILE  
1/2 ft. tall x 1 ft wide  
multi branched at base  
Juvenile growth  
no spores

2616  
♀  
1 1/2 ft tall x 2 ft wide  
multi branched at base

2617  
1 ft tall x 3 ft wide  
multi branched at base  
green cones

2618  
♂  
1/2 ft. tall x 3 ft wide  
multi branched at base  
old male cones still on plant

14 Dec 1973

2619-

2625

J. deppeana var. deppeana

8.7 miles E of Rio Frio,  
in the State of Puebla,  
near Km. 76 on old Rt. 190.

Dead  
Buck

Edge of Cornfield with  
weeds on N side of road  
in limestone soils


Local juveniles in  
Pine & Oak - Juniper Woods  
(also at Puente del Emperador  
at 8.2 miles E of Rio Frio)

Tillandsia grows on J. deppeana  
♂ plants greenish

♀ cones green (sea foam) with  
a light bloom.

Bark is thin, few branches  
in crown give less dense  
Crown.

OFTEN long terminal whips  
Stump sprouts for cutdown trees  
Some reproduction noticed

- 2619 12" dbh x 25 ft tall  
 MPC ♀ some brown, some lt. green  
 thin check. Bark  
 single stem
- 2620 Branched at base  
 ♀ 25 ft tall, 8" dbh   
 fr. green  
 light thin check bark
- 2621 30 ft tall, 18" dbh  
 ♀ single stem  
 cones green  
 light thin, green check bark
- 2622 20 ft x 8" dbh  
 ♀ fr. green  
 thin check bark  
 single stem
- 2623 15 ft x 5" dbh  
 ♀ few cones, green  
 sparsely branched crown  
 thin check bark  
 single stem
- 2624 20 ft tall x 8" dbh  
 ♀ cones green  
 single stem

2625 20 ft tall x 8" dbh  
single stem  
thin check bark  
leaves green  
long Terminal whorls

this site (2819-2625)  
is

~~PR of Englewood~~

~~old Rt. 190~~

conflict  
of  
Route 2

New Rt. 190 Toll road

IZTACCIVATL

15 Dec. 1973

2626

(Adams photos)

J. deppeana deppeana

on Toll Road Rt. 150,

3/4 mi. E of Amozoc, Puebla

EXIT and toll booth

along STREAMS + up<sup>on</sup> hills  
scattered

8" dbh x 25 FT. Tall

♀ cones green.

15 Dec 1973

26274 2636

J. monticola f. orizabensis ♀

(10 trees)

Pico de Orizaba, Puebla

at shoulder known  
locally as MALPAISERA

"Sabinero  
de castillo"

Local name

SW Facing slope 12700 ft.  
on bare volcanic rock.  
Little or no other vegetation  
on these bare rocks, but  
with pines.

MORIZ  
BULK

Nearby vegetation scattered  
in rock crevices includes  
Ribes, Gnaphalium, Compositae,  
Grasses.

Junipers = single stems that  
branch shortly above  
base, low-spreading,  
sprawling shrubs.

Several plants have very  
long branches (2 x 3 ft. long)

Males in anthesis, and  
post anthesis

Junipers common on this location



at edge of Timberline

---

Route to Pico de Orizaba

pt. 150 to Cd. Serdan Exit  
N to Cd. Serdan (R. 144)  
E to San Martin Ojo  
de Agua on  
DIRT ROAD  
thru Coatlancingo  
Up W side of  
Orizaba on dirt road  
hike about 2000 FT  
up PEAR to  
Timberline.

15 Dec. 1973

J. deppiana deppiana was  
observed in volcanic, silty  
soils S of ASENDAN  
on Rt. 144

at 3 miles S of SENDAN to  
8 miles S of SENDAN

in FIELDS and in OAK WOODS  
and in Opuntia - Agave-Yucca  
FIELDS.

Some trees very old.  
Single stemmed & short,  
thin checkered bark.

15 December 1973  
2637 to 2643 (7 trees)

FLAC POBLA  
BULK

J. flaccida var. Poblana?  
3/4 mi. N of Amozoc, Puebla  
on Road (Int. <sup>old</sup> Rt. 150) to  
Puebla, Puebla.

Common in area of houses on  
W side of road. Disturbed  
areas AT edge of Road and  
along deep Arroyo.

locally common, in corn fields  
and edges of settlements

Trees to 12-15" dbh, to 20ft tall.  
♂ Pre Anthesis  
♀ cones green with light coat  
of bloom.

Galls common on trees (applicable?)

17 December, 1973

## OBSERVATIONS

*J. gambiana* observed

at FLORES MAGN, Chiapas at  
7400 FT., descends to  
5600 ft. elev. at Teopisca  
area.

*J. gambiana* has a broadly  
conic crown.

This species is used as  
Christmas trees near  
Teopisca, Chiapas.

Soil near NW end of range on Rt 190  
is Red soil  
SE end of range (near Comitan)  
has rocky, brown soil

*J. gambiana* is seen on  
shoulders on Road as a tiny  
short, cut-over plants,  
May STUMP SPROUT

18 Dec. 1973

2644 to (10 trees)

2653

Juniperus standleyi

elev 10300 FT.

STAN  
BULK

About 16 miles North of  
The town PLAZA OF  
HUEHUE TENANGO, GUATEMALA  
on RN 9N (road) to  
SAN JUAN IXCOY.

(Area has FROST this MORNING)

♀ cones 2 yrs (?) of cones present.  
Large cones are foam green  
♂ anthers & post anthers  
(a few cones are preanthers)

Rocky CREST on MESA,  
Soil Rocky, with  
Grasses, Composites,  
Eryngium. Agaves (cultivated)

- 2644 ♂ past anthesis  
1½ ft dbh x 30 ft, single stem
- 2645 ♀ 12" dbh x 15 ft. single stem
- 2646 ♀ 18" dbh x 25 ft, single stem  
mature fruit butt rod.
- 2647 ♀ 12" dbh x 20 ft.  
branched above base into 2 stems
- 2648 ♀ 18" dbh x 20 ft., single stem
- 2649 ♀ 15" dbh x 15 ft, single stem
- 2650 ♀ 18" dbh x 20 ft., single stem
- 2651 ♀ 12" dbh x 15 ft., single stem
- 2652 ♀ 24" dbh x 30 ft., single stem
- 2653 ♀ 18" dbh x 20 ft.  
stem divides into 2 just above base

18 Dec

*J. standleyi* was planted  
at white house at 8500 ft elev.  
appx. 8-9 miles from Huehuetenango.

18 Dec, 1973

J. Comitana

2654-2663 (10 trees)

12 miles E of Rt. 190,  
on Route 17 (the road to  
Montebello).

Mun.: La Trinitaria, Chiapas

COMIT  
BULK  
"CIPRES"  
local name

ALT. 5150 FT.

Low moist basin on ~~side~~ side of rd.

J. Comitana, Ficus trees,  
Acacia

Grasses, Composites

Bromeliads, orchids, mosses  
& Lichen seen on Juniper

♀ cones SLIGHT bloom,

many new ♀ cones are just past  
FERTILIZATION STAGE.

Most mature cones are green.

Old dry cones are brick red

♂ PRE, ANTH, POST ANTHOSIS

MANY SEEDLINGS were seen  
in this field, that is  
now grazed



trees to 24" dbh x 35 FT.  
SINGLE stemmed, usually  
LATERALLY branching to 2 or 3 FT  
above base  
Crown - broadly conic  
BARK - LACED STRIPS & TO J. FLEAS

Twigs with little odor or taste

2654 ♂ Preanthera 12" dbh x 20 ft  
Single stem

2655 to 2663 ♀ female trees

18 Dec 1973

J. gambiana

2664-2673

(10 trees)

near EL Membrillo  
9 miles N of Comitan, Chiapas,  
on Rt. 190.

6400 ft.

GAMB  
Bullk

NE side of Road in Pine oak  
Forest CLEARING, over  
GRASSY AREA.

Soil - Small rocks w/ red soil

♂ much prior to anthesis,  
still small yet

♀ green, mostly few deciduous  
leaves present.

fruit not very common

Trees usually single stemmed,  
stems multi-branched at base  
Bark - grey black, alligator

trunks 24" dbh x 30 ft tall

*J. gambosus* is common as  
understory & part of overstory  
in Pine-oak woods from  
San Cristobal to Comitán,  
Chiapas.

19 Dec. 1979

J. flaccida var. poblana 3

2674 to  
2681  
(8 trees)

OAX  
Culx

near San Dionisio Ocotpecturno  
~~OAX~~ on Rt. 190, SE of OAX-OAX  
6000 ft. elev.

Along side of road in  
disturbed weedy, grassy areas  
with Acacia, Petalostemon,  
OAKS, near cultivated  
AGAVE + CORN FIELDS.

Trunks scattered along  
hills, often with OAK,  
these areas probably disturbed  
areas too.

Soil - Fine grain, rocky. Edge  
of cones yellow-green with  
light coat of bloom  
much prior (mo.) to m. to above Ant.

Tree branches not flaccid at  
all, large distinct fans.

Crowns are round balls  
DARK INTERLACED, LIGHT Grey-Pink.  
STEM - multi stems above single stem  
base

Terminal whips are mostly  
erect

Moss 8-10" dbh x 15-20ft tall

19 Dec 1973

J. Flaccida Flaccida

2682 to 2688 (7 trees)

1.3 miles E of Morelos, OAX.  
on Rt. 190,  
7700 FT elev.

Rocky slopes on N side of  
Road.  
on N & S facing slopes.  
with junipers comm with  
herbs below

♀ ♀<sup>cons</sup> large, green w/ light coat  
of bloom Many  
Cone on trees

Branches - Flaccid  
Bark - laced; grey-tan

♂<sup>cons</sup> pre-autumn

Soil: soft, crumbly white.  
weathered limestone

trees to 12" dbh x 15 ft tall  
multibranched above base

many old ♀ cones seen below  
♀ tree!

21 December 1973

J. florrida flaccida

2689-2692 0.6 miles W of HUASCA, Hgo.  
(4 trees) (on road from RT. 105 to HUASCA)

Assoc - Acacia, Agave,  
J. dippeana dippeana, ♂

FRUIT  
FLAC  
BULK

J. flacc scattered.

♂ pre + post anthesis

♀ few cones, green with light bloom

Single stemmed to 25 ft tall

Soils Red

2693, 2694, 2695 = <sup>same</sup> 2.2 miles W of  
HUASCA on same road.

Red soils 5900 ft

in OAK-Pine area, at

edge of arroyos or farm fields

♀ fruit common, green with light bloom  
♂ post Anthesis



21 Dec 1973

2696-2702  
(7 trees)

J. deppeana deppeana

0.2 miles N of the  
El Chico turnoff on Rt. 105  
(mile = 6.5 miles N of  
monument Plaza in  
Town of Pachuca, Hidalgo)

Assoc. J. deppeana + J. monticola

+ J. deppeana is major overstory  
tree in juniper  
thicket  
trees to 10" dbh x 15 ft tall

Trees mostly multiple stemmed  
at ground level.

Soils light tan, crumbly rock

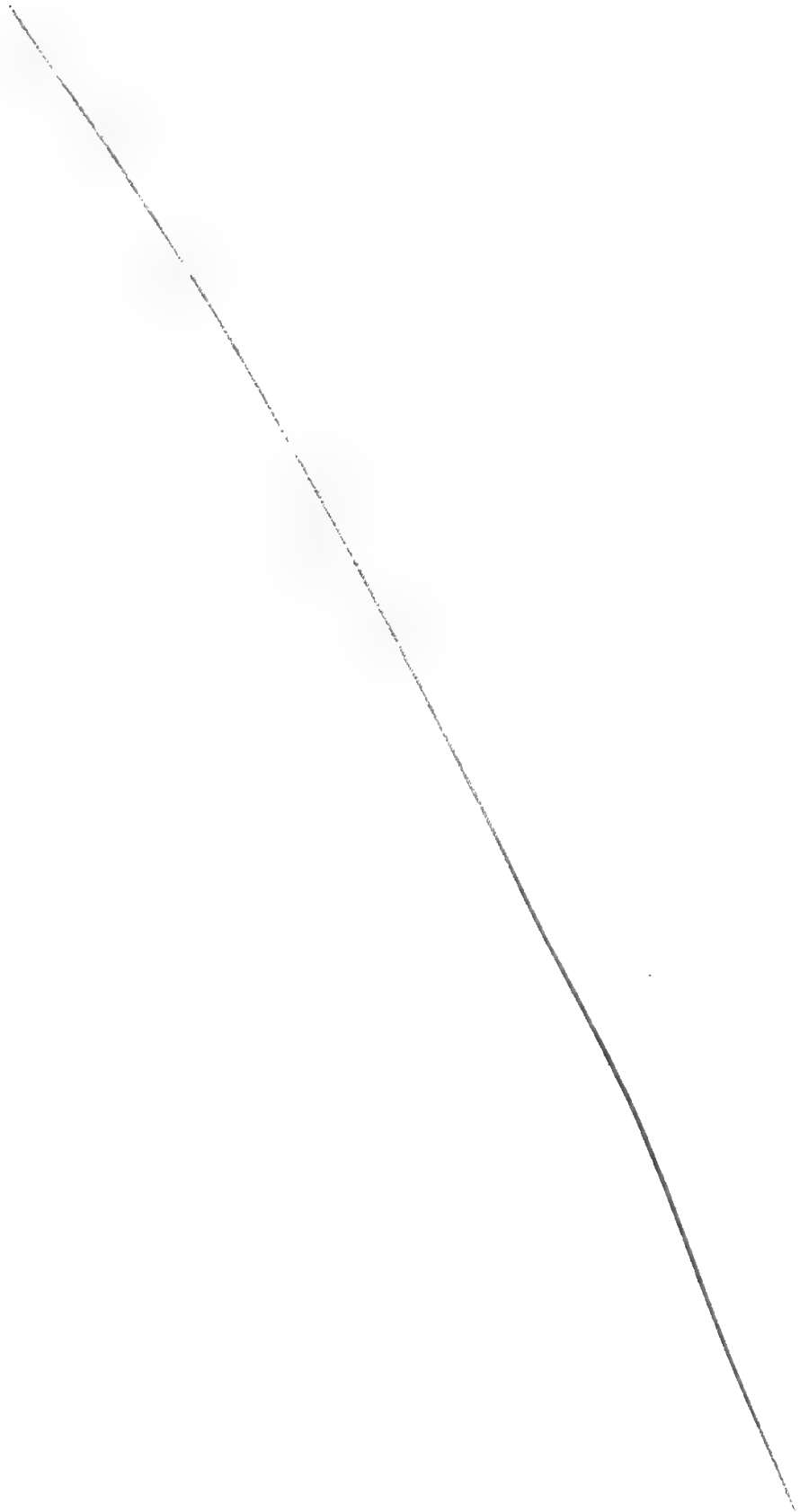
→ 7600 ft.

2703  
(1 tree)

J. mont. monticola

Same site as 2696-2702

single stem that branches  
just above ground, sparsely shrub-



21 Dec 1973

J. monticola monticola

2704-2711

(8 lies)

1/2 mile off Rt. 105 on road to EL Chico, Hidalgo (road is 6.3 mi. N of Plaza w/ monument in Pachuca, Hidalgo)

7600 ft.

IN OAK-WOODS and in clearings, with

AGAVE, *Tidippena*, *J. monticola monticola*, Abies (Fir) woods nearby.

Stems - branched above ground + spreading.

♂ post anthesis

♀ + <sup>new</sup> small, tiny ones. and

♀ large old ones green yet with light coat of bloom

Mont Mont  
Bull

22 Dec 1973

2712 to

2718 (9 trees)

T. monticola / monticola

1.1 miles W of TANTOCO, D.F.  
near Km 32 on  
Rt. 15, West of Mexico City  
AT summit by road  
at about 110,000 ft. elev.

+ In Abies forest with  
Rosa, Ribes, Rubus and  
T. monticola

+ As undershrub plant  
branched above base,  
+ often shrubby, to single  
STEM 8"-10" dbh x 20-25 ft tall

♂ mostly past anthering  
♀ cons. common, green, slight  
bloom.

Juniper very common  
at this site on N side of  
road in spr woods +  
in clearing along powerlines  
right of way.  
Also saw Juniper on S side of Hwy.

1973  
22 Dec

2719(0) - (7 trees)  
2725

J. monticola Compacta

NE slope of NEVADO  
de Toluca, Mexico.  
12800 ft.

(SITE IS BEYOND WEATHER  
STATION ON ROAD TO  
CRATERS)

Above timberline on bare  
volcanic rock BUT crops  
with grasses, composites  
15-20 junipers <sup>at +</sup> near this  
SITE, which appears to be only  
SITE OF Junipers

1" stems x 1/2 ft. tall  
PROSTRATE, SPREADING, forming  
MATS on rocks  
stems branched above base

♀ old = leather brown  
newer = green with light bloom  
newest = tiny crowns

MANY ♀ cones present (green base)

Plants - much past anthesis

Some juveniles show die-back

22 Dec 1973

Observation

*T. flacida flacida* was  
seen 8 miles S of Toluca  
on road to Sultepec (and  
Nevado de Toluca)

Uncommon along STREAM bank  
at edge of grassland-pasture  
foliage branches drooping

23 Dec 1973

A chestnut tree seen in  
a house in Talpa, Zacatecas  
may be *Fungius durazensis*.

24 December 1973

2726-  
2735

Juniperus deppeana v. Zacatensis

9.6 miles NW of Sumbresite, Zac  
on Rt. 45.  
7000 FT. elevation

SW side of road in pasture  
of grasses, acacia and  
*J. deppeana zacatensis*.

Scattered & becoming common  
on rolling hills.

Shrubby to 15 FT. tall x 10" DBH  
MULTI-branched above base. to  
single stem.

Bark - light thin checkered.  
Grey-black

♀ cones green with heavy white bloom  
Many large cones present

♂ Pseudanthems

2726 is ♀ with last year's ♀ & 1973 ♂

By Zac  
Bull



old cones(?) on trees are  
leather brown with little  
bloom.

*J. deppeana zacatensis* is  
very common further NW  
on Pt. 45, being dominant  
overstory plant.

Soils reddish to grey, with  
small rocks. In some  
areas limestone rock  
is exposed on surface.

24 Dec. 1973

2736-

2740

J. deppeana zacatensis

~~Deppea~~ 14.7 mls NW of Sombrerete,  
Zacatecos on Rt. 45,  
near CJO de AGUA

Piñon-Juniper woodland over  
Limestone with Yucca,  
Opuntia, Acacia, composites  
& grasses. 7000 FT elev.

BARK. Thin, Light flakey cheeks.  
Lt. Gray.

Shrub to arborescent 10" dbh x 15 FT.

♀ cones green, few  
heavy white bloom

♂ most are much post anthesis  
a few are pre anthesis

newest ♀ are post fertilized stages  
and are becoming large.

Some Junipers are single stems  
at this site

25 Dec 1973

## Observation

A live juniper *depressa* *robusta*  
is used as a Christmas tree  
at SAG Forestry Inspection Station  
on Rt. 40, just W of El Salto,  
DGO.

25 Dec 1973

2741	2746
2742	2747
2743	2748
2745	2749
	2750
	2751

J. durangensis

DUR  
BULK

2744

2752

2753

J. patoniara  
J. deppian Paton

(BULK here is only 2752)  
= DEP PAT BULK

2754

J. deppian var. robusta

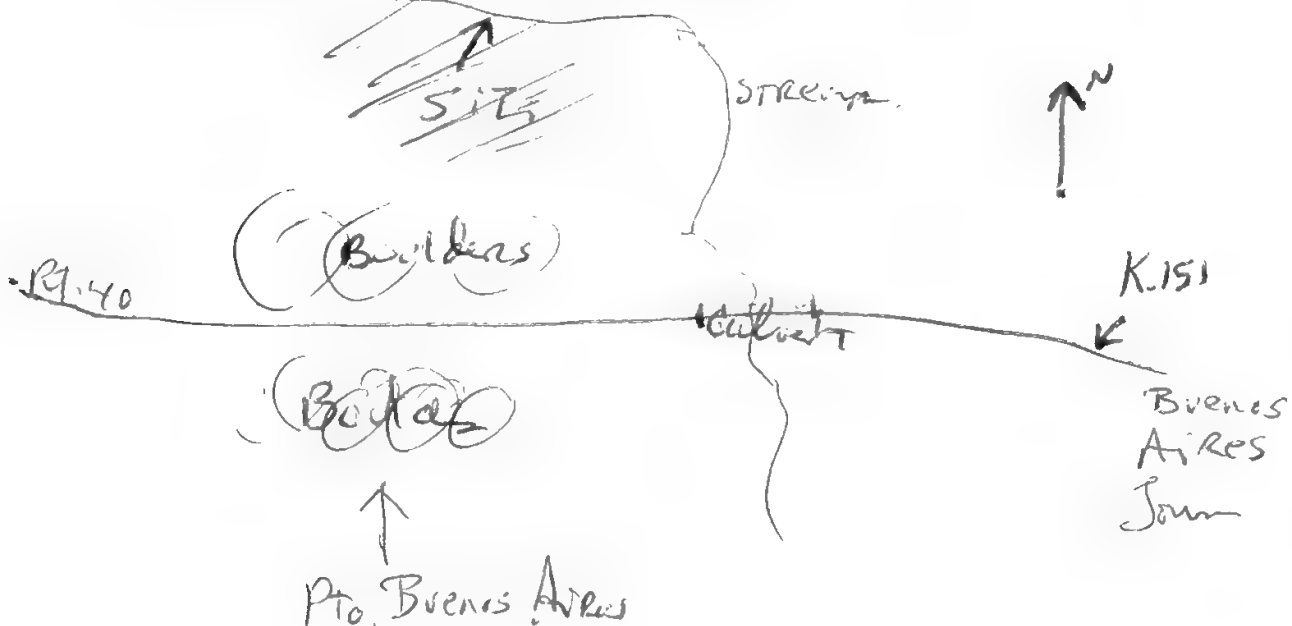
near Km. 152 on Rt. 40, W.

of Durango, Dgo.

AT

Puerto Buenos Aires

(appx 30 mi. W of El Salto, DGo)  
9200 ft. (2640 meters from forestry camp)



*Juniper duranensis*, *J. leyceum*  
*patman* and *J. leyceum*  
*robusta* in PINE-OAK-  
 Juniper woods with  
*Arctostaphylos* shrubs on  
 Red Rocks around STREAM  
 off Highway.

	DUR	DEP. PAT.	Dep. Rob.
Size. To:	15" dbh x 15 FT.	8" dbh x 15 FT.	18" x 25 FT. ST. stem.
	Contorted	Contorted	
♀	many green	none seen	few green
old ♀	?	?	leather brown
♂	pre antheris	?	?
habit	shrub to single stem	single stem arborescent	single stem tree
Branch Tips	Curled	STRAIGHT	STRAIGHT
BARK	laced strips	asbestos shed interlaced	checkered

26 Dec. 1973

OBSERVATIONS

*J. deppeana* var. *robusta* was  
seen at 7600 to 9200 FT  
elev. on Rt. 40, (DGo to Mezalla)

\* localities with this species  
included:

Ojo de Agua

La PALMITA

EL Soldado

Santa BARBARA

TEPALCATEES

NAVIOS

CRUZ de Piedras

ESTACION Microondas EL Tecuan

Llano GRANDE

El Madroño

HACIENDA COYOTES

El Salto

NAVAJAS

Las Cumbres

Los NEGROS

ESTACION Microondas Las RUSIAS

Lecheria

Las Adjuntas

La Ciudad

Buenos Aires

2762

2755-

26 Dec 1973

2763

J. deppeana var. ROBUSTA

Del  
Rob  
BULK

between Km. 66 and 68, W  
of DURANGO, DGo. on  
Rt. 40 (to MAZATLAN)

PINE-OAK-ARCTOSTAPHYLOS -  
Juniper woods over  
Grasses -

Very Common Juniper in  
Pine Forest.

No Sample 2762

♀ large fr. green with light  
blow, many pres

♂ Pre anthesis.

Soil Rocky (limestone?)  
mixed with quartzite.

Photo 2755 is not specimen 2755  
but spec 2757.

2755 = ♂ 18" dbh x 20 FT.  
single stems

26 Dec. 1973

J. patoniara

2764

J. deppiana var. patoniara

(BULK in  
small  
clear  
bags  
= PAT  
BULK

3.6 miles South of  
the Town SQUARE of  
El Salto, DGo, on Road to  
Pueblo Nuevo, DGo.

On ~~East~~<sup>west</sup> side of  
Ravine wall, next to road  
in Tall Pines forest  
only Juniper tree of this  
taxon observed.  
with J. deppiana var. robusta.

Very old tree, asexed.  
Sparsely foliated, few female  
fruits

30-40 ft x 3 ft dbh



~~Doc~~

26 Dec 1973

2765 J. Patoniana

U. ma-  
vulgar

2766-2770 J. blancei

= Toscana

BLANCA  
BUCK

On ISLAND in STREAM at  
bottom of ARROYO SAN  
ANTONIO, SITE is 3.2 miles  
S of TOWN SQUARE OF  
El Salto, DGO.

J. blancei to 8" dbh x 15 FT. contacted  
mostly shrubby  
cans - blue-black surface, lt blor,  
pulp = ygreen. few seeds.

with J. deppiana robusta  
J. deppiana Patoniana,  
J. blancei, Pinus lutea,  
Pinus leucophylla, Pinus ayacahuite,  
Pinus teocote, Pinus durangensis  
Quercus blanda (white)

only 6-8 shrubby J. blancei

26 Dec 1973

## OBSERVATION

Compania Maderera de Durango  
has cut *J. leyrobusta*  
for lumber & cultivated  
it in nursery  
S of El Salto (12 yr old trees)

---

Daniel Reyes showed us  
the Viveros de Cia. Maderera  
de Durango. *J. leyrobusta*  
Robusta in this latter land  
site (both of arroyos along old  
flood plain) has were  
3-4" dbh x 15 ft tall,  
appx. 12 yrs. old. Reyes  
thinks that this rich soil  
site does not produce  
"good" trees as the normal  
sites that are rockier, etc

26 Dec 1973

J. Blancoi

2771-

2775

2775-

2775

Arroyo de Las Adjuntas,  
1 1/2 mi - 2 miles N of  
town of Las Adjuntas (on Rte 40)  
Durango (12 km W of El Salto)  
in pine woods with  
*J. d. robusta*

BLANK  
BULK

to 20" dbh x 20 ft tall  
single stem tree / ~~SAB~~ shrub

Mostly SAB shrubs 2-3 ft tall  
few fruit, only 2 of these 5 have fr.

8800 - 9000 ft.

Scattered to rare at bottom  
of moist, organic soil  
of Arroyo de Las Adjuntas.

♀ cor purple black, lt. blom,  
-lt & green purple

♂ pre anthers

It appears from today's  
collections that T. blanchi  
may be scattered  
up from ravine & arroyo  
at bottom of arroyo)

few red peduncles seen  
Bark - very thin & light colored  
at Grey

27 Dec 1973

2776- (8 trees + BULK)

2783 J. GRYTHROCARPA

~~2776~~  
RT 45  
BULK

0.6 miles S of La Zarca  
Junct. (Rts. 45 & 30). Durango

In BOUTELOVA GRASSLAND  
with Mahonia trifoliata and  
Acacia.

Scattered in this area,  
MORE common to North  
and to West. A few  
occasional plants seen  
on RT. 30 (E to Torreon)

Used for Fence posts  
locally, called "TASCATE"

♀ only one old cone seen on  
plants collected, no  
evidence of new cones

♂ antheris



~~2786~~

28 Dec 1973

2784 to (7 trees)

2790 Juniper flaccida flaccida

13.8 miles East of San Roberto,  
Nueva Leon, (on Rt. 60 to Linares)  
" San Marcos Site

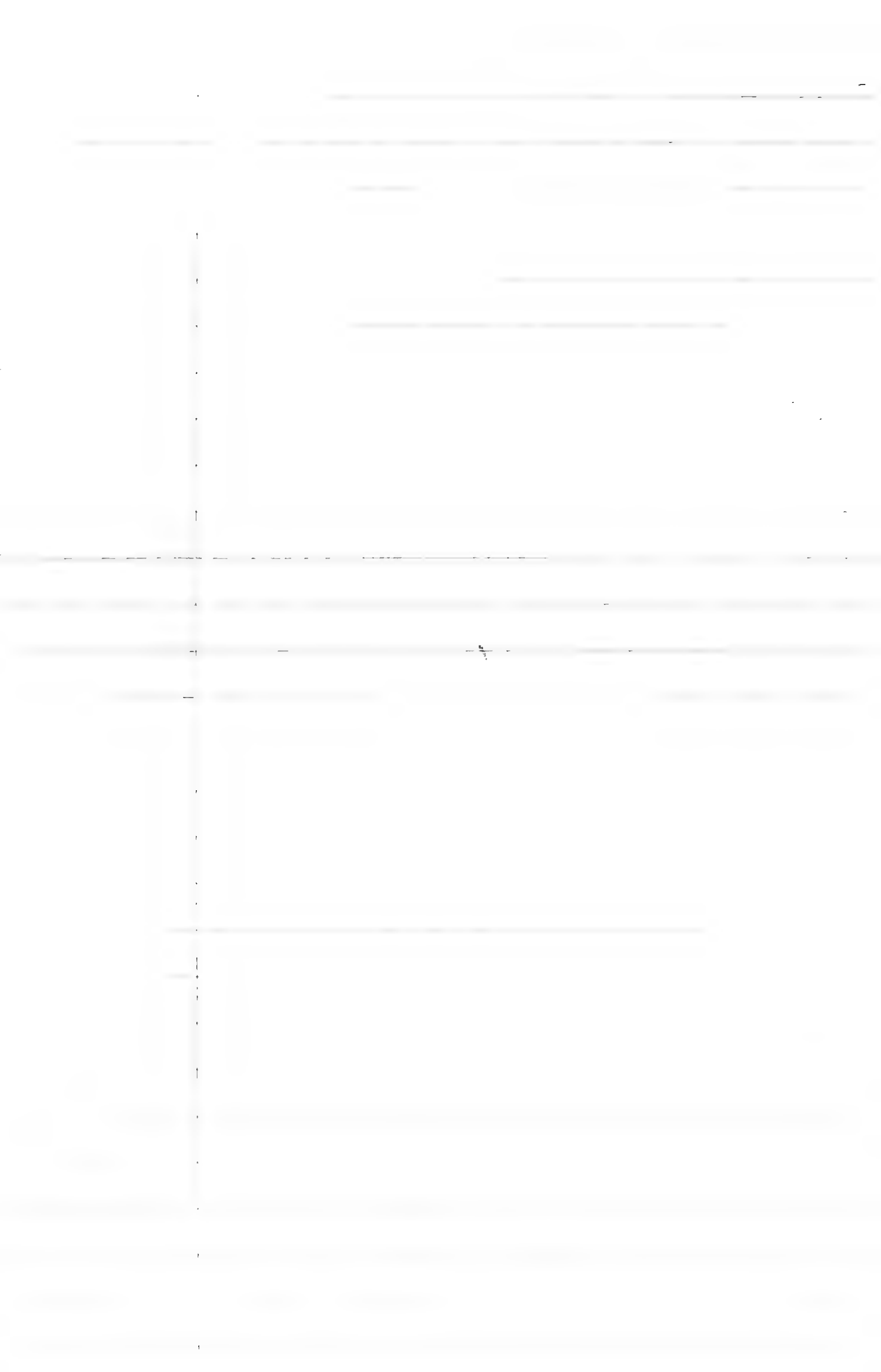
OAK - Piñon - Opuntia - Agave  
- Bouteloua - Jp. flaccida

TILLANDSIA in TREES of J. Flac.  
15 to 20 junipers at this  
SITE: N facing arroyo  
slope

♂ Premthesis  
♀ green.

Branches & foliage flaccid  
Soils - lt. brown, rocky

SAME SITE AS BUCK  
COLLECTION of this trip





2791 - (7 trees)  
2797 J. Sattillensis

28 Dec 1973

11.8 miles East of San  
Roberto, N.L.  
(on Rt. 60 to LINARES)

ON <sup>CaCO<sub>3</sub></sup> ~~Gypsum~~ soils in  
fields of BOUTELOUA & Jp. mono-  
specia grasses

♀ blue black surface with  
light bloom. Mature fruit  
ready to fall, sweet pulp  
juicy, soft put  
♂ Pre-anthesis

Very common as overstory  
in grassland and  
understory in PINON.

^ MLT " seen at ... on Rt 57

- ① 1513 mi N of San Roberto, NL
- ② La TRINIDAD, NL
- ③ SAN FERNANDO, NL (24.7 mi N of ...)
- ④ La ROSA, NL
- ⑤ NAVIDAD, NL
- ⑥ PROVIDENCIA, NL

28 Dec 1973

2798- (5 samples)

2802

"MLT" = Monopyrenoid

14.7 <sup>North</sup> miles of San Roberto,  
Nuevo Leon, near town of  
La TRINIDAD 6300 ft.

All trees in grassland with boulders  
to 20 ft x 2 1/2 ft DBH, on western  
side of Sierra Madre Occidental

♀ rose color, with bloom  
moderate number of cones

♂ pre anthers

stems multitrunked at base to single stems

Bark light grey interlocked



28 Dec 1973

2803-  
2813

(10 Trees)

J. ERYTHROCARPA?

near Last Pass in mountains,  
S of Saltillo.

1.3 mi. S of Los Lirios  
turnoff, on Rt. 57,  
Coah.

7100 ft.

in Piñon-Juniper woods  
as understory shrub under  
piñon. Very common  
in Region ~~on~~

Agave, CACT, also Mahonia  
trifoliata, Juniperus saltilloensis,  
ACACIA

SAME SITE AS BULK # 2584

28 Dec 1973

2814- } J. saltillensis } 2814-2821 = Salt.  
 2824 } J. Ery? (LLR + NCB's) } 2822-2824 = ERY  
 6500 FT.

AT Los Libros Exit  
on Rt. 57, S of Saltilla.

	SALTillensis	LLR
Abundance	very common	occasional
BAIRN-TWIG	smooth, dark grey	shreddy, white
♀	large cones, matted	large,
	lt. bloom	lt. bloom
	Bive black surface	Rose?
	SOFT fleshy pulp	pulp?
⇒	many on plants	few
	pre-anthers	anthers,

Mammal feces with J. saltilla  
fr. & seeds seen at this site.

NCB-LLR is seen on opposite  
side of road along fence,  
evidently due to local digging.

28 Oct 1973

2825-2831 (7 trees)

*T. dippeana dippeana*

8.7 miles from Rt. 57 at  
road to Los Lirios, Coch  
(BULK # 2581 same site)

[ Los Lirios exit is  
S of the 4<sup>th</sup> Rio Chorro  
bridge on Rt. 57 ]

In Piñon - Juniper - oak  
woods, with *T. erythraea*  
over grasses





2832 - (7 trees)

30 Dec 1973

2838

J. dezzlean Robusta

10.6 miles W of Cuauhtemoc, Chi  
Town Square, near the  
Poblado or Casa Colorado.

on Rt. 16,

South side of Road

ON N Facing Slope  
Rocky Soil

w/ Piñon - Evergreen -

Jp. dezzlean robusta woods

Little ground cover

Known as arborescent for  
usually single stemmed in  
woods

♀ green, light brown  
old cones are red brown

♂ preanthesis

To 20 ft tall x 15-20" dbh

single stemmed, in woods

Some older plants are multi  
branched at just above  
ground level

most of cones have seeds  
protruding.

Bark - grey brown, thin  
scaly, checker.

Junipers are more common  
at bottom of this slope

2839-  
2845

(7 trees)

30 Dec 1973

Jungiusia erythrocarpa

5.7 miles E of  
the town square in  
Cuachtemoc, Chih.  
on Rt. 16, near  
Santa Lucia.

Very common in rolling  
hills grassland with  
occasional thorny shrubs (acacias)  
Area used as pastures

♀ fresh cones large, mature  
rose, soft fleshy sweet pulp  
lt. brown

dried ♀ on ground turn  
to a lt. orange color and  
are wrinkled  
many old wrinkly cones  
fall to ground beneath  
shrubs.

♂ ypr. patches

Shrub, multibranched at and  
above base

Some female cons appear  
to be squashed while  
still on bushes. - Bird  
damage?

Bark laced, lt grey  
to 2" diameter x 5 ft tall.

---

It looks like these are  
*T. erythronia* & the plants  
at Los Leros are not  
so strong!

2846 to

2855

(10 trees)

18 January, 1974

~~*J. monosperma* var. *monosperma*~~

COLO  
MONO  
BULK

Exit 4 To STARKVILLE,  
S of TRINIDAD, Colorado,  
LAS Animas County  
(1 1/2 miles N of New Mexico State line)

ON NE SIDE of junction of  
I-25, near TRUCK WEIGHING  
STATION.      appx 6400-6500ft elev

Rocky soil. with Piñon, OAK,  
Rhus trilobata, Chrysothamnus.  
in Piñon-Juniper woodland  
on W facing slope,  
Very dense tree growth.

Stems - multi-branched at base, to 15ft tall

Bark: interlaced striations

Whips: erect

♂ preanthesis (very pre-)

♀ ripe large size, chalky  
blue-black appearance through  
bloom

Birds eating juniper berries

Today, in snow.

Trees snow covered.







Red T7

green - Dupl.

MAAB

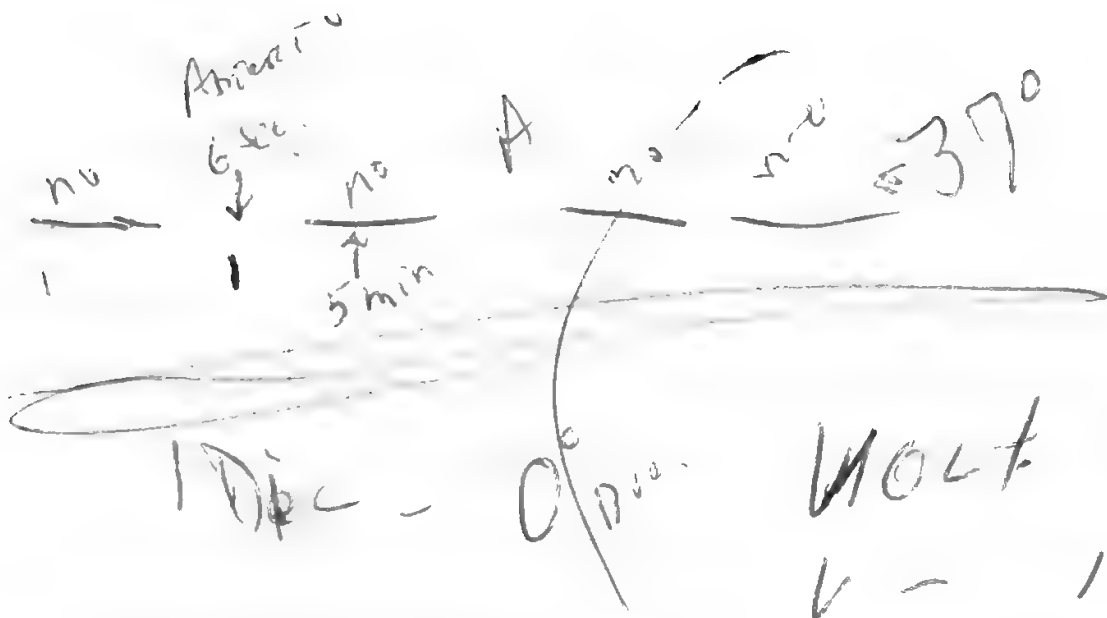
CETENAL

Comision de estudios del  
Territorio Nacional  
1694 Insurgentes Sur  
Mexico, DF

maps - Climate  
Topography,  
Geography,  
Uso del Suelo  
Edaphol.  
Uso potencial

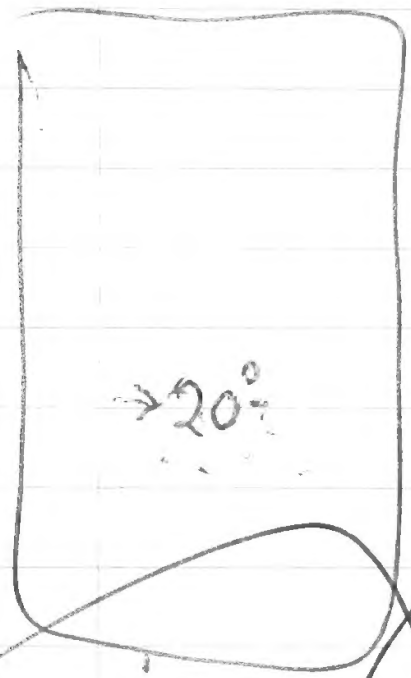
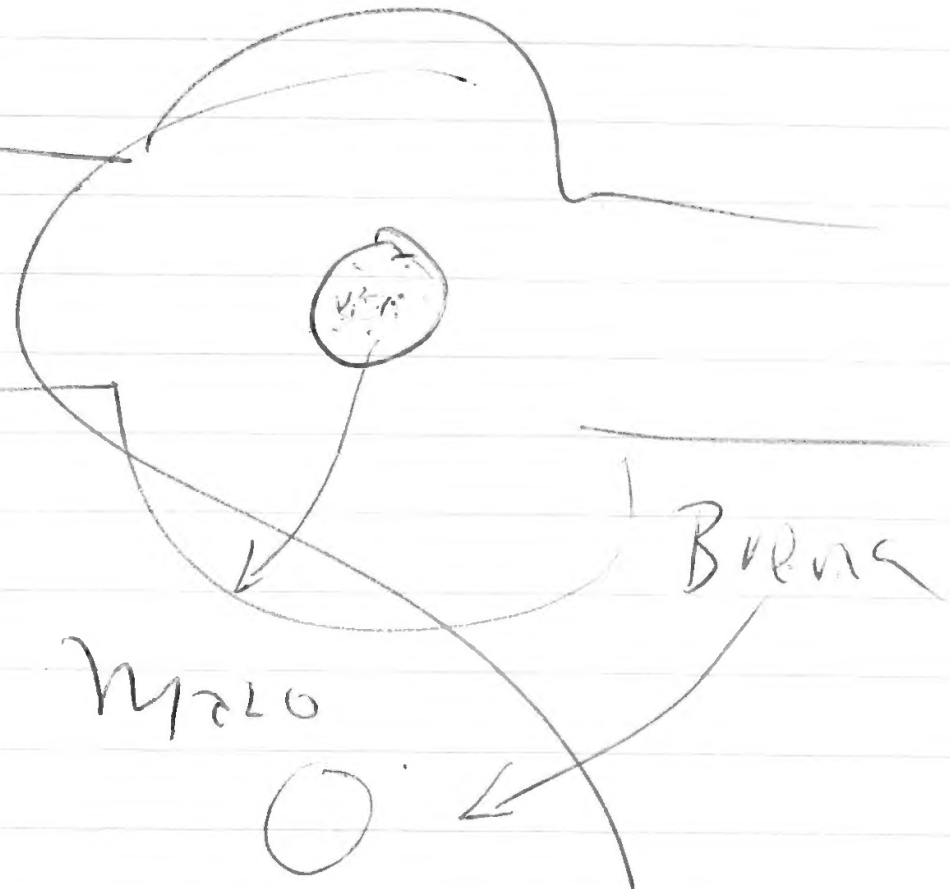
*J. durazensis* fr

Road from TALPA to  
TLALTENANGO in  
Pine-oak woods.  
18 FT. tall.

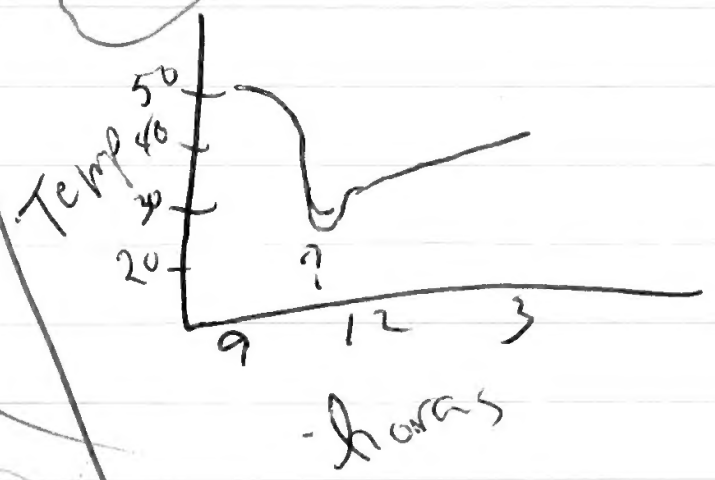


10 Dic →

20°F  
die  
Noch.



Noche  
9A → 50°  
media 12  
3P → 30°  
3P → 39°





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