

FIELD NOTES

1971

Stephen D. Busock

[7 JANUARY - 11 SEPTEMBER]

Morocco from pp. 58-76.

Sevilla Province from p. 102

Juén Province on p. 111

FIELD NOTES

1971

PT II

Stephen D. Busch

[11 SEPTEMBER - 10 DECEMBER]

FIELD

NOTES

1972

Stephen D. Busch
Rota, Spain

24-25 DEC 71

1 Jan - 11 MAR 72

EQUIPMENT:

Black Body Temperatures taken with:

WESTON
INSTRUMENTS
614
FRELINGHUYSEN
AVE,
NEWARK,
NJ
07114

MODEL
2282

WEKSLER 1 3/4 dial size Bi-Metal Thermometer graduated from 0-100°C. 8" stem painted black with enamel. Thermometer is type 2A08-4 mfg by WEKSLER INSTRUMENTS CORP, FREEPORT, N.Y. 11520 (Fed. Stock # 6685-245-7678, \$7.50 ea)

2 Thermometer are used, one in open shade, one in sun and each is graduated against the other at termination of every run.

FAHRENHEIT THERMOMETER MANUFACTURED BY TAYLOR - SIMILAR TO TODAY'S ACURITE 00661 SOIL THERMOMETER. 1.8" IN DIAM X 7.5" HIG OR
G-25-125 F - 9" STEM - PLAIN BY OMEGA, 25-125°F, BI-METAL, 1.73" HEAD (WWW.OMEGA.COM/POTST/G-DIALTEMP.HTML) STAINLESS STEEL BODY + STEM

MAMMAL NAMES FROM:

RANCK, GARY L. 1968. The Rodents of Libya: Taxonomy, Ecology
and Zoogeographical Relationships. USNM BULL. 275, 264 pp, 8,
54 figs (\$1.50)

USEFUL DATA FOR SPANISH RESEARCH:

GILES, ROBERT H. (Ed) 1971. Wildly Management Techni
633 pp, 7 appendices (Tables), figs available from:

The Wildly Society, Inc.

Suite S-176, 3900 Wisconsin Ave, N.W.

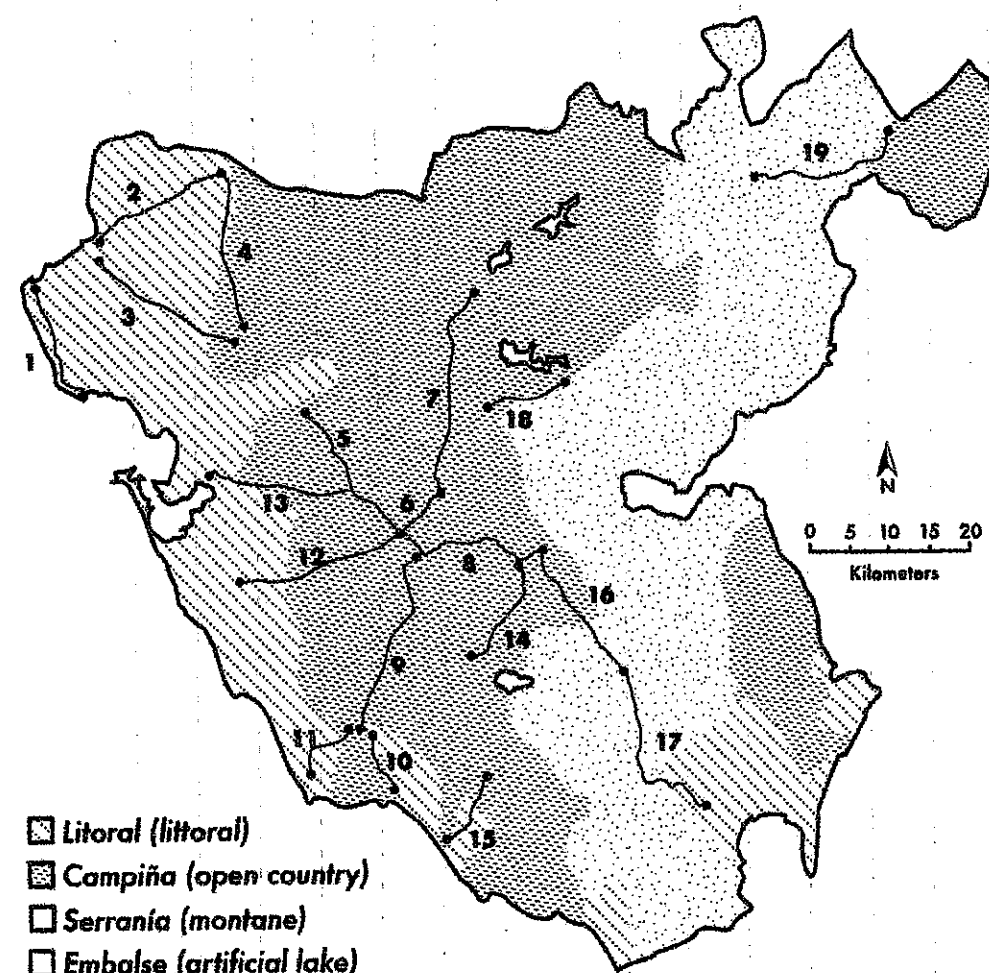
Washington, D.C. 20016

FOR FIELD BALANCES (30g - 1kg): [PESOLA scales -- Spring Type]

BLEITZ WILDLIFE FOUNDATION

5334 HOLLYWOOD BOULEVARD

HOLLYWOOD, CALIFORNIA 90027



Spain, Cádiz Province

7 JAN

Naval Base - P^{to} Sta Maria - P^{to} Real - Chiclana - Vejer - Facinas -
P^{to} Real - Naval Base

1131 - 1630, 49°F - 64°F, Clear skies, Rain (intermittently
since 1 January and a heavy rain fell on 5 January 1971.

Facinas, 8 kms NE @ 1312 and 60°F a large adult
Malpelon m. monspessulanus (19447) collected DOR. No signs
of lizard activity on normal sites along road NE of Facinas.

Casas del Costoño, 12 kms NW ~ DOR Pelodytes cultripes
and a Black-Backed Stilt seen at 1450 (61°F). 14 kms NW

(2) Pleurodeles waltli seen DOR and there is surface water on
road.

Puerto Real, 19 kms E ~~CA 7012~~ A-405 (1545-1555), 64°F (air), vicinity
of small pond overhung by Pistacia lentiscus with Chamaecyparissium
pumilus in area. Bottom of pond with annual grasses, thorns
around perimeter. Pond is in open and 6 Pelodytes punctatus
(19449-454) picked up under rocks. 18 kms E. at 1604

cm
54287

(3) clutch of Pelodytes punctatus eggs (19448) taken from 56° water
(58°F air). The eggs are laid in tight cluster and strings
rather than masses; they are supported by the twigs (=wrapped
around twig). §

10 JAN

La Algaída (vic Borsaga)

1135 - 1426

1135 = 50°F

One Elk (♂) seen on entry to area.

1240 = 51°F

1257 - Psammotrochus a. alpinus seen active in C. album
off substrate.

1352 = 54°F ; 1426 = 55°F

END

11 JAN

Naval Base

1 Tarentola mauritanica (19455) collected by R. Gardner.

Puerto Real (1925-2100) 57°F.

It has been raining all day and now we are having intermittent rain.

Hyla a. meridionalis (19456-19463) collected 3, 4, 11, 13, 15, 12 kms E. with a chorus noted at 15 km E.

Pelobates cultripes (19472-19480) collected 4, 5, 15, 19, 14, 12, and 6 km. E.

Bufo salomita (19492) collected at 6 km. E.

Rana r. perezi (juv) (19464) collected at 4 km. E.

Pleurodeles waltli collected at 6, 17, 20, and 5 km. E. (19481-19484). A DOR specimen noted at 10 km. E.

Discoglossus p. pictus (19485) collected 13 km. E. at 2003.

Pelodytes punctatus (19465-19471) collected 14, 18, 19, 13 kms E.

Bufo b. spinosus (19486) collected 18 km E.

Triturus m. pygmaeus (19487-19490) collected at 6, 11, and 15 kms E. 10 km. E. a DOR specimen (19491) was collected.

12 JAN

Rota-Chipiona Road

8:15-9:15 pm.

A series of Pelodytes punctatus (19493-19497) and Pelobates cultripes (19498-19502) collected.

14 JAN

Rota-Chipiona Road

2300-2400 hours and Raining

A series of Pleurodeles waltli (19503-19506), Bufo salomita (19507-19511), Triturus m. pygmaeus (19512), Pelodytes punctatus (19513[9]), and Pelobates cultripes (19514-19531[47]) collected.

20 JAN

Puerto Real, vicinity E. to intersection to Medina Sidonia/prop.

20 JAN	a series of <u>Hyla a. meridionalis</u> (19532-19533), <u>Rana r. perezi</u> (19534-19536), <u>Pelodytes punctatus</u> (19537), <u>T. m. pygmaeus</u> (19538-19540), <u>Plumodela waltl</u> (19541-19548), <u>Bufo calamita</u> (19549-19550), and <u>Pelobates cultripes</u> (19551-19553) collected between 2000-2200 in rain.
22 JAN	Puerto Real, vic. E. 1930-2200. Raining a series of <u>Pelobates cultripes</u> (19554-19555), <u>Plumodela waltl</u> (19556-19562), <u>Discoglossus p. pictus</u> (19563), <u>Triturus m. pygmaeus</u> (19564-19570), <u>Hyla a. meridionalis</u> (19571), <u>Rana r. perezi</u> (19572), and <u>Pelodytes punctatus</u> (19573-19577) collected AOR
23 JAN	Puerto Real, vic. E. (2) clutches of <u>Pelodytes punctatus</u> eggs (19581) taken under AIR 61°F and Water 62°F in pond mentioned in 7 January entry. An adult <u>P. punctatus</u> (19578) collected
CM 54355	
24 JAN	Puerto Real, vic. E. a <u>natrix maura</u> collected AOR (19579).
30 JAN	Puerto Real, vic. E. a <u>Pelobates cultripes</u> (19580) collected AOR.
05 FEB	Naval Base vicinity W.R. Maxwell reports a DOR <u>Cope scalaris</u> seen near Naval Base.
07 FEB	La Aljaida (vic. Bonsaya) 60°F = 1505 1530- <u>Acontodactylus e. erythrinus</u> juvenile seen sunning itself in a probably self-made depression in sand. 1533 - <u>a.e.e.</u> (above specimen) resting again, lying above sand level with entire body in sun's rays (19582)

07 FEB

1551 = 58°F

1624 = Psemmochromus a. algerius seen under log (juvenile).

1632 = 57°F END

20 FEB

Puerto de Santa Maria - Puerto Real - Vejer - Tarifa - Facinas -
Algeciras - Los Barrios. (1100-1800)

Puerto de Santa Maria, 1.8 mi. ESE

1132 (51°F); Pond low in H₂O and no eggs or
larvae seen in pond. A Discoglossus p. pictus seen in pond.

Facinas

1235-1610, 64°F-74°F, clear skies

A series of Lacerta hispanica vaucheri captured 5.1 mi NE,
5.8 mi NE, 6.0 mi NE (2 seen, 1 captured), 8.05 mi NE at 1411
and 71°F (2 seen, 1 shot), 8.2 mi NE at 1417 and 74°F (3 seen, 1
shot), 8.3 mi NE at 1421 and 66°F (1 shot, 1 seen), 8.5
mi NE (2 seen, 1 shot), 9.0 mi ^{NE} at 1445 and 69°F (3 seen, 1 shot),
9.6 mi NE (1 seen on rock in flooded area), 10.2 mi NE at 1456
and 70°F a specimen shot which appears to be in breeding condition
with orange on chin, sides, and tail's ventral aspect), 13.9 mi NE
from 1600-1605 (69°F) 2 L. h. vaucheri shot, all specimens catalogued
CMFS 19592-19602.

Tarentola mauritanica seen 5.1 mi NE, 5.7 mi NE (1317, 64°F),
5.8 mi NE (1325, 70°F) [sub adult], 5.9 mi NE (1330, 71°F) [adult +
juvenile], 6.0 mi NE (1346, 71°F) [6 seen, 4 captured], 6.6 mi.
NE (1358, 68°F) [2 seen], 7.9 mi NE (1407, 68°F), 8.2 mi
NE, 8.5 mi NE (1430, 70°F) (3 seen, 1 shot); 13.9 mi NE (1600-1605,
69°F) [1 seen], 14.1 mi. NE (1610, 74°F) [6 seen, 1 shot] and those
collected are tagged CMFS 19583-19591.

Psemmochromus a. algerius juvenile seen 6.0 mi NE at
1346 and 71°F.

20 FEB

Lura a. peregi seen at 6.0 mi. NE (1346, 71°F)
but escaped into stream.

Lacerta lepida seen at 10.9 mi. NE (1504, 70°F)
and observed to be a medium sized adult.

Habitat along the entire route consists of medium-high (2500M)
rock-mountains in the distance but the road travel over a large
elevated plane through the area. The dirt road is lined with
elaborate rock retaining walls, bridges, and culverts in numerous
areas. Some forested areas along the route.

21 FEB 71

La Algaída

1035-1300 (52-59°F)

Mosquitoes at pest proportions

1112 = 54°F

1210 = 56°F

1218 - 1 juvenile Psammochromis a. alpinus (19603) collected
in area of Pinus needles. Animal was sunning when captured.

1237 - 1 juv. P. a. alpinus seen in Juncus acutus area.

1238 - 1 juv. P. a. alpinus seen in C. album area.

1240 - 1 juv. A. e. erythrus buried shallowly in loose
surface sand. Ran to C. album when disturbed.

1300 = 59°F

26 FEB 71

La Algaída

1300-1615 (62°F - 70°F)

1300 = 62°F

1309 - hatching Psammochromis a. alpinus seen active in
area of Pinus pinea.

1327 - juv. Acanthodactylus e. erythrus seen active in
area of Corema album.

1338 - juv. A. e. erythrus seen active area of C. album.

26 FEB 71

1345 - juv. Acanthodactylus e. erythrum seen active in C. album and J. phoenicea.

1350 - Adult A. e. erythrum seen active in C. album

1358 = 65°F

1422 - 2 A. e. erythrum juveniles seen in area of J. acutus, P. perna, C. album, + J. phoenicea. 1 collected.

1430 - juvenile A. e. erythrum seen in C. album.

⇒ 1434 - A. e. erythrum adult seen basking in open sand vic. of C. album.

1436 - A. e. erythrum juv. seen basking vic. C. album.

1440 - A. e. erythrum juvenile seen in C. album

1442 - A. e. erythrum sub-adult shot in C. album.

1447 - A. e. erythrum juv. seen in J. phoenicea

1450 - A. e. erythrum juv. seen in C. album.

1455 - A. e. erythrum juv. taken in C. album.

1458 - A. e. erythrum juv. shot in open sand vic. C. album.

1502 - A. e. erythrum juv. (subadult?) shot vic of J. phoenicea / C. album.

1505 - A. e. erythrum juv. seen in C. album.

1507 - P. a. alpinus seen in C. album.

1512 - A. e. erythrum juv. seen in C. album.

1517 - A. e. erythrum sub-adult seen in C. album.

1523 - A. e. erythrum juv. seen in J. phoenicea.

1525 - A. e. erythrum juv. seen in J. phoenicea.

1532 = 71°F

1558 - A. e. erythrum juv. seen in C. album.

1610 - A. e. erythrum juv. shot in C. album area.

1615 = 70°F and mosquitoes are present. (CMFS 19604(6) = A. e. erythrum)

27 FEB 71

Facinas road area.

1030-1545 in actual collecting time. (at Facinas at 1200)

Facinas, 5.4 mi NE (63°F, clear and sunny) at 1220 (64°F) 4 Lacerta h. vaucheri shot. Other specimens shot at following locations: 6.7 mi NE (62°F) [2 on culvert], 6.9 mi NE (1322, 66°F) [3], 7.0 mi NE (1327, 68°F) [2], 7.9 mi NE (1338, 66°F) [2], 8.0 mi NE (1342, 68°F) [1], 8.4 mi NE (1347, 62°F) [1], 9.5 mi NE (68°F) [1 on rock], 9.7 mi NE (1403, 66°F) [1], 10.3 mi NE (1425, 72°F) [4], 10.3 mi NE (1428, 72°F) [1], 14.2 mi NE (1528, 72°F) [1] while specimens were also sighted at: 6.0 mi NE (1228, 64°F) [1 juv], 6.2 mi NE (64°F) [1], 6.3 mi NE (1235-1255, 66°) [1], 6.9 mi NE (1322, 66°F) [5], 7.0 mi NE (1327, 68°F) [1], 8.0 mi NE (1342, 68°F) [2], 9.7 mi NE (1403, 66°F) [3], 10.3 mi NE (1425, 72°F) [2], 14.2 mi NE (1528, 72°F) [2] but not captured. Lacerta h. vaucheri captured designated as CMFS 19613 (23). Trautola mauritanica were captured at: 6.0 mi NE (1228, 64°F) & 6.3 mi NE (1235-1255) [3] while specimens were observed at: 6.1 mi NE (66°) [2], 6.2 mi NE (64°) [1], 6.3 mi NE (1235-1255, 66°) [5], 13.6 mi NE (1530, 68°F) [1], 14.2 mi NE (1528, 72°F) [2], and 14.4 mi NE (1538, 72°F) [2]. Those T. mauritanica captured were designated 19606-19611. The first Psemmadromus a. alpinus (19605) of the season was taken at 1355 (64°) 9.4 mi NE of Facinas. A pair were observed but only one specimen was taken. A single adult Natrix maura (19612) was taken about 12 mi. NE sometime around 1400. It was concealed in a H. laurifolium bush until scared from hiding by my footsteps.

6 MAR 71

Pto de STA Maria - Jerez de la Frontera - El Bosque - Utrique -
Alcalá de los Gazules - Benalup de Sierra - Vejer - Rota.
1045 = 54°F and cloudy.

Utrique, 3.6 mi. on dirt road to W. brought me
to Pantano de Los Hurones which is apparently either a man-
made lake or a washed out area in the spring. Nothing was
seen but the temperature could account for specimen absence.

11.2 mi. S. of Utrique (on road to Salis) there is a road
through Monte Pucio de Jerez off to W. This track
(suitable in dry weather for a VW sized car) travels for 15.6
miles through mountains high for Cadiz Province. In some
areas the rock ledges give rise to Pine forest (Both
P. pinaster and *P. pinaster* depending on altitude) and the
area is a possibility for both *Agropyron* and *Viperina* although
prospects look slight for the moment.

13 MAR 71

Rota - Pto STA Maria - Pto Real

1300 - 1500, 60 - 59°F (B.P. 29.76 →, 77% Rel Hum, 60°F @ 1405)

Overcast, cumulus clouds, rain yesterday and this forenoon, moderate
wind now, sunny.

Puerto Real, 1350, overcast & cool (60°F), surface water in
valley areas low, run-off to must have been high. 10.7 mi. E.
the pond from which *Pelodytes* eggs taken earlier is now dry.

2.3 mi. E. a young *Malpolar monspessulorum* (≈ 20") seen DOR.
in flat area w/ flooded pond < 30 feet away.

Puerto de Santa Maria, 1441, 64°F. 1 juv. *Sacantha lepida*
(19614) captured under small stone. Pond which normally has
Pelodytes is now dry.

As a note of conjecture: the 1st set of eggs taken this
year probably give way to 2nd set, breeding season probably has not

13 MAR 71

yet begun.

Naval Base, Rota, a Natrix maura (19615) was collected in the port area.

18 MAR 71

Puerta de Santa Maria - Puerta Real - Chiclana - Vejer - Cabo Trafalgar and return.

1837 - 2145, 58° - 54°F

Cabo Trafalgar at 8.3 mi. S. Vejer, nothing seen on road (1958, 55°, clear and windy).

Vejer - P^{to} Real, some frog activity noted at 54°F (Hyla) Road wet with surface moisture (= dampness).

Puerta Real, 2128, 55°F, 8.7 mi E. and road is dry but Hyla heard calling.

19 MAR 71

Rota - Puerta de Santa Maria - Puerta Real - Chiclana - Algeciras - Los Barrios - Casas del Costoño - Alcalá de los Gazules - Puerta Real.

1830 - 2400, 54 - 50°F. Raining all day but clearing to West.

Vejer de la Frontera, 1943, 54°F, rained heavily here as road is wet, droplets of rain occasional. 19.9 mi. SE @ 2007 and 50°F 1 juvenile Bufo b. spinosus (19616) AOR.

Tanja, 2020, and a Pleurodeles waltli seen on W. edge of town. 4.0 mi N. (2028) one Hyla a. meridionalis seen AOR.

Algeciras, 2044, 50°F, 3.7 mi. N + W a H. a. meridionalis (19621-19624) taken, several heard in chorus. 4.3 mi N + W on Los Barrios road another H. a. meridionalis taken AOR. 4.7 mi N + W a Pleurodeles waltli (19627) adult taken @ 52°F and 2103. 4.9 mi N + W, 2104, 52°F and light rain, one H. a. meridionalis (19621-19624) taken AOR.

Los Barrios, 2.3 mi N + W at 2116 (50°F) a Desmoglossus pictus pictus adult (19625-19626) taken AOR. 7.1 mi N + W, 2135,

19 MAR 71

raining and 45°F on adult Discoglossus p. pictus (19625-626) collected AOR. 7.9 mi. NW, 2140, 45°F, a Rana r. perezi (19629) large adult (= R. esculenta?) collected AOR. 8.1 mi. NW, 2141, 45°F, one Bufo b. spinosus (19630-19632) taken AOR (injured by car). 9.9 mi NW, 2150, 50°F, 1 adult B. b. spinosus collected AOR. 10.7 mi NW a large chorus of Hyla a. meridionalis heard (50°F). 12.4 mi. NW, 49°F, one Bufo b. spinosus (19630-19632) AOR.

Casas del Costoño, 2.2 mi. NW, 1 Hyla a. meridionalis (19621-19624) collected AOR @ 2212 and 45°F. 7.3 mi NW, 2228, 45°F, 3 Pelodytes punctatus (19617-19620) collected AOR and the rain has stopped. Hyla heard occasionally. 9.4 mi NW @ 2235 and 47°F a Pelobates cultripes (19628) collected AOR. 9.5 mi NW, 46°F, 2236, 1 pelodytes punctatus collected AOR.

Alcalá de los Gazules - 1 to Medina Sidonia (2250-2322, 45°F) = little activity of note.

21 MAR 71

La Algaída (vic. of Bonanza)

1430 = 62°F

1440 - Acanthodactylus e. erythrum adult shot, juvenile and 2 adults seen.

1444 - 2 A. e. erythrum juv. seen in Coccyzus albus.

1445 - Psammochromis a. alpinus adult shot in C. albus.

1450 - 1 A. e. erythrum juvenile shot

1 Psammochromis a. alpinus adult seen in C. albus.

1455 - A. e. erythrum seen in C. albus.

1457 - A. e. erythrum adult and 1 juvenile seen in C. albus.

1459 - P. a. alpinus adult + 1 juvenile A. e. erythrum seen in C. albus.

21 MAR 71

1503 - A. e. erythrum juvenile in C. album.

1505 - A. e. erythrum adult shot in Juniperus phoenicea.

1507 - A. e. erythrum subadult shot in C. album.

1508 - A. e. erythrum juvenile shot in C. album.

1509 - A. e. erythrum adult seen in J. phoenicea.

1512 - A. e. erythrum adult shot in C. album.

1515 - A. e. erythrum subadult seen in C. album.

1517 - A. e. erythrum juv. shot in C. album.

1520 - A. e. erythrum adult seen in C. album.

1523 - P. a. alpinum seen in J. phoenicea; A. e. erythrum seen in J. phoenicea and C. album complex.

1525 - A. e. erythrum adult shot in C. album while sunning in open spot, another took refuge in J. phoenicea.

1530 - A. e. erythrum juv. shot in C. album.

1531 - A. e. erythrum juv. observed in C. album.

1535 - 2 P. a. alpinum seen in J. phoenicea.

1541 = 60°F

1545 - 2 juv A. e. erythrum seen with 1 juv P. a.

alpinum.

1552 - 1 A. e. erythrum subadult shot in J. phoenicea.

1559 - 1 P. a. alpinum shot in C. album.

1602 - A. e. erythrum seen in C. album.

1605 - 2 juv A. e. erythrum shot in C. album.

1611 - P. a. alpinum seen in J. phoenicea.

1615 - A. e. erythrum juv seen in C. album.

1617 - A. e. erythrum adult shot in C. album.

1618 - A. e. erythrum juv. shot in C. album.

1622 - juv A. e. erythrum shot while sunning in open sand.

21 MAR 71

- 1624 - juv. A. e. erythrum seen in C. album.
 1626 - subadult A. e. erythrum shot in vic. of C. album.
 1632 - A. e. erythrum juv. seen in C. album.
 1634 - juv. A. e. erythrum shot in C. album.
 1638 - A. e. erythrum seen in C. album.
 1640 - A. e. erythrum adult seen in J. phoenicea.
 1648 - A. e. erythrum subadult shot in J. phoenicea.
 1700 - A. e. erythrum adult shot in C. album.
 1705 - juv. A. e. erythrum shot and 1 seen in Halimium
halimifolium.
 1710 - P. a. algium adult shot in Pinus needles.
 1710 = 58°F = END.

P. a. algium = 19633 - 19635

A. e. erythrum = 19636 - 19645(10).

26 MAR 71

Punta de Santa Maria - Puerto Real

2030 - 2154, 56 - 53°F, clear. (High = 70° for today)

Hyda heard calling at Pto de Sta Maria, Nothing
 else of note.

27 MAR 71

In Algaída (vic Bonanza)

0915 = 58°F + windy

0948 - juv. A. e. erythrum seen sunning near C. album.

1009 - adult P. a. algium seen in J. phoenicea.

1035 = 61°F

1044 - adult A. e. erythrum seen in H. halimifolium.

1052 - P. a. algium seen in Juncus acutus / J. phoenicea.

1057 - adult P. a. algium (same as 1005 sighting) seen
 in J. phoenicea.

1100 - juv. A. e. erythrum shot in open sand vic.

H. halimifolium / C. album.

27 MAR 71

1107 - juv. A. e. erythrum seen on sand adjacent to C. album.

1110 - juv. A. e. erythrum shot in open sand.

1112 - adult A. e. erythrum seen in C. album.

1119 - adult A. e. erythrum seen in C. album.

1121 - juv. A. e. erythrum seen near J. phoenicea.

1127 - juv. A. e. erythrum seen in J. phoenicea.

1129 - juv. A. e. erythrum seen in C. album.

1135 - adult A. e. erythrum shot in vic. of C. album.

Rear portion of legs orange, tail orange still light.

1142 - A. e. erythrum adult shot in C. album / J. phoenicea combination.

1145 - juv. A. e. erythrum seen in H. halimifolium.

1148 - juv. A. e. erythrum seen in C. album.

1201 - juv. A. e. erythrum seen sunning.

1203 - juv. A. e. erythrum seen in H. halimifolium.

1210 - juv. A. e. erythrum seen in C. album.

1213 - juv. A. e. erythrum seen in C. album.

1215 - juv. A. e. erythrum seen in C. album.

1219 - juv. A. e. erythrum seen in field of Juncus acutus, retreated to J. phoenicea.

1221 - A. e. erythrum adult seen in C. album / open sand.

1226 - A. e. erythrum adult seen in C. album.

1230 - 2 juv. A. e. erythrum seen in C. album / J. phoenicea.

1240 = 67° F.

1258 - A. e. erythrum adult seen in C. album.

1307 - juv. A. e. erythrum seen in sand depression.

1308 - juv. A. e. erythrum in open area near H. halimifolium.

27 MAR 71

- 1314 - A. e. erythrum adult seen in C. album.
1315 - Adult A. e. erythrum seen in C. album.
1324 - Adult A. e. erythrum shot in C. album, a
juv. A. e. erythrum also seen.
1325 - juv. A. e. erythrum seen in open sand.
1326 - P. a. algium adult seen in J. phoenicea.
1337 - Subadult A. e. erythrum seen in C. album.
1340 - juv. A. e. erythrum shot in C. album.
1342 - Adult A. e. erythrum shot in C. album.
1350 - Adult A. e. erythrum seen in C. album.
1354 - Adult A. e. erythrum shot in C. album.
1356 - juv. A. e. erythrum seen in C. album.
1358 - juv. A. e. erythrum seen in J. phoenicea.
1401 - A. e. erythrum adult seen in C. album.
1404 - juv. A. e. erythrum seen in C. album.
1405 - juv. A. e. erythrum seen in C. album.
1406 - A. e. erythrum adult seen in C. album.
1407 - A. e. erythrum adult shot in C. album,
one other seen.
1413 - A. e. erythrum juv seen in C. album.
1419 - A. e. erythrum juv seen in C. album.
1421 - A. e. erythrum juv seen in H. halimifolium.
1424 - A. e. erythrum adult seen in J. phoenicea.
1430 = 72° F.

1500-1545 - 2 adult A. e. erythrum shot and 1
P. a. algium adult shot in area not study area.

A. e. erythrum = 19647 - 19655 (V)

P. a. algium = 19646

29 MAR 71

Rota - Algeciras (to meet Triton) - Los Barrios - Facinas
0830 - 1631, 60 - 64°F.

Los Barrios, 4.1 mi WNW at 60°F (1320) one Masticophis leprosa shell (large adult) seen and several Rana r. perezi heard calling.

Facinas, 14.3 mi N, 3 Tarantula mauritanica seen on culvert. 14.1 mi N, 1331, 61°F, 1 T. mauritanica (19657-59) shot. Ulex are blooming a bright yellow. 13.4 mi N., 64°F, in area of brick wall, 1 Lacerta lepida adult seen in crevice. 9.9 mi N., 1315, 61°F a Lacerta hispanica vaucheri seen. 9.0 mi N, 1407, 64°F, a L. h. vaucheri (19660-19664) shot off culvert. 8.5 mi N., 1418, 66°F, 2 L. h. vaucheri (19660-19664) shot, 1 seen from bridge over small stream. 8.4 mi N, 68°F, 2 T. mauritanica (19657-19659) seen on concrete, 1 shot. 8.1 mi N, 1428, 69°F, 1 L. vaucheri seen on stone effacement, 7.0 mi N, 1440, 70°F, one Lacerta lepida (19656), 1 L. h. vaucheri (19660-19664) captured, 2 L. h. vaucheri seen on a stone bridge. 6.3 mi. N, 1448, 70°F, one Rana r. perezi juvenile seen in pond. 5.5 mi N. between 1445-1510, 72°F, 2 T. maurit-anica seen, 1 captured on a bridge.

2 APR 71

Rota - Vejer de la F^{ra} - Bendup de Sidonia - Alcalá de los Gazules - Galix (= Galix) - 3 APR 71

1845-2400, ± 54°F, Rain all day, runoff in Rota considerable as of noon. 54" of rain had fallen.

Vejer de la Frontera (raining), 9.1 mi. N., 2010, 50°F, 1 Hyla a. meridionalis (CMFS 19672-19678, AF 747-752) collected AOR. 9.2 mi N, 2011, 50°F, a juvenile H. a. meridionalis collected.

2 APR 71

Bernalup de Sidonia, 2023, 0.2 mi N @ 50°F an adult Hyla
a. meridionalis collected AOR. 0.6 mi N, 2028, 50°F another H.
a. meridionalis (CMFS 19672-19678, AF 747-752) collected. 1.0 mi
N., 2030, 2 H. a. meridionalis and 1 Discoglossus p. pictus
taken at 50°F. 1.3 mi N, 2034, 52°F, one H. a. meridionalis
collected AOR. 1.7 mi N, 2036, 54°F another Hyla collected.
2.5 mi. N., 2041, 50°F, one Pelodytes punctatus (CMFS 19667-68
~~19669-71~~) taken AOR. 2.8 mi N, 2045, 50°F, 1 Bufo calamita (skeltonized)
taken along with a Hyla a. meridionalis DOR noted. 3.0 mi.
N., 2046, 2 Bufo calamita and 1 Hyla a. meridionalis
taken AOR @ 50°F. 3.4 mi. N., 2050, 51°F one Triturus
m. pygmaeus (19666) and one Bufo calamita taken AOR.
4.1 mi N, 2056, 48°F, 1 T. m. pygmaeus adult seen DOR.
4.4 mi N, 2058, 48°F, 1 adult Hyla a. meridionalis taken.
4.7 mi N, 2100, 48°F, 1 Bufo calamita taken AOR. 5.5 mi
N., 2105, 48°F, 1 DOR H. a. meridionalis noted. 7.8
mi. N, 2114, 48°F, a Discoglossus p. pictus taken AOR.
8.5 mi N, 2119, 50°F, an AOR H. a. meridionalis taken.
8.8 mi N, 2122, 56°F, another D. p. pictus (19669-71) taken.
9.3 mi N, 2124, 50°F, a Pelodytes punctatus (19667-68) taken.
Alcala de los Engules, 7.0 mi N, 2210, 46°F, one Bufo
calamita taken AOR (19684-19685) and at 7.9 mi N, 2217, 46°F,
another B. calamita taken. 8.1 mi N, 2220, 46°F, a Hyla a.
meridionalis (19688-19691) taken and at 8.5 mi N, 2222, 48°F another
H. a. meridionalis taken.
Galiz, 2247, 47°F a Hyla a. meridionalis (19688-91)
taken AOR. 2.6 mi. N, 2300, 44°F an AOR H. a. meridionalis
taken. 2.9 mi N, 2304, 45°F, a Discoglossus p. pictus (19687)
taken AOR. 8.8 mi N, 2327, 41°F another D. p. pictus (skeltonized)

2 APR 71

collected AOR 10.2 mi. N, 2334, 41°F, a Salamanchea t. byrniae (19683) collected AOR 15.6 mi N, 2358, 44°F, one Rana r. peregi (19686) taken AOR.

3 APR 71

Albrique - El Bosque - Arcos.

0003 - 0142

Albrique, ^{1.6}~~2.3~~ mi S, 44°F, one Bufo l. spinosus (19665) taken AOR. 2.6 mi N, 0020, 43°F, one large Discoglossus p. pictus (19695-19697) taken and photographed in life. Raining.

El Bosque, 1.7 mi W, 0053, 44°F, a D. p. pictus taken AOR. 2.8 mi W, 0057, 45°F, one adult Rana r. peregi (19694) taken AOR. 3.2 mi W, 0059, a D. p. pictus taken AOR. 4.2 mi W, 0104, 45°F, an AOR D. p. pictus taken (19695-97).

4.4 mi W, 0105, 1 wounded D. p. pictus ♀ taken AOR. 8.7 mi W, 0122, 43°F, an AOR D. p. pictus taken AOR. 13.9 mi W, 0135, an AOR Bufo calamita (19692-19693) taken in a Quercus suber forested area which seems to have many calamita within.

3 APR 71 (2)

Jerry de la Frontera - Arcos de la Frontera - El Bosque - Albrique - Grazalema - Algodonales - Bornos - Pto Real - Rota

2000 - 0132, ± 50°F (later entries under 4 APR 71)

Jerry de la FIA, 2000, 50°F, 7.4 mi E. a Hyla a. meridionalis seen AOR. C-344

Arcos de la FIA, 1.8 mi E, 2041, 52°F, 1 Rana r. peregi (19699) collected AOR. 5.2 mi E, 1 D. p. pictus seen DOR. 5.7 mi E, 2050, 45°F, 2 Bufo calamita (19701-705) taken AOR. 6.6 mi NE, 2100, a juvenile B. calamita taken AOR @ 50°F. 7.6 mi E, 2102, a DOR Bufo calamita noted and another DOR Bufo calamita seen at 7.9 mi E. 11.9 mi N+E, 2114, 50°F, a Bufo calamita taken AOR. 15.9 mi E, 2128,

5.7 mi E
6.6 mi E
11.9 mi E

3 APR 71

46°F, an AOR Bufo b. spinosus (19698) taken. 17.3 mi. E, 2134, a DOR Bufo calamita seen. 17.4 mi. E, 2135, 48°F, an AOR Bufo calamita (19701-705) taken. 18.2 mi E, 2137, 48°F, 1 juv. Discoglossus p. pictus taken AOR.

El Bosque, 4.3 mi. S, 2204, 48°F and raining, a Discoglossus p. pictus seen DOR. 5.0 mi S, 2207, 44°F, and rain a DOR Rana a. perezi noted. 5.8 mi. S, 2211, 44°F, on AOR D. p. pictus noted in the rain.

Benascay, 2230, 40°F, a Bufo b. spinosus (19706) taken AOR.

Villaluenga del Rosario, 4.9 mi WNW, 2300, 40°F, an AOR Bufo calamita (19707) found.

Gragalma, 2310 and rain; 2318, 2.4 mi N, 35°F, and SNOW!!

4 APR 71

Algodonales - Villamartin - Bormos

0017 - 0132

Algodonales, 4.0 mi W, 0017, 45°F, one AOR Bufo calamita (19708-19710, AF 753-755) caught in heavy rain. 8.9 mi W, 0030, 40°F, a Bufo calamita caught. 10.2 mi W, 0038, 42°F, a small B. calamita taken AOR. 10.3 mi W, 0039, 43°F, an AOR B. calamita taken. 11.1 mi W, 0042, 43°F, an AOR B. calamita taken. 13.5 mi W, 0050, 42°F, an AOR B. calamita taken AOR.

Villamartin, 2.5 mi W, 0103, 42°F, an adult Pluricollis walli (19711) taken AOR.

4 APR 71

Puerto Real, vic. E, road survey $\pm$ W.R. Maxwell.

Triturus m. pygmaeus (19712-19716), Pelobates cultripes (19717), Pelodytes punctatus (19718), Pluricollis walli (19719), and Hyla a. meridionalis (19720-19724) taken all AOR.

6 APR 71

Vejer de la Frontera - Bernalup de Sidonia - Alcala de los Sogalos -
Casas del Castaño - Los Barrios - Algeciras - Tarifa

1840 - 2400

Bernalup de Sidonia, .4 mi N, 2007, 55°F, rain on relatively
flat marsh-land, 1 Hyla a. meridionalis seen AOR. 1.5 mi. N.
and another Hyla seen. 2.8 mi N. at 2017, 2 Bufo
salamita (19727-19729) collected. 2.9 mi N at 2018, another
B. salamita (19727-19729) collected. 3.0 mi N at 2019, 50°F,
1 B. salamita noted AOR. 5.7 mi N, 2028, a Pelabeta
culturper adult seen AOR. 7.6 mi N at 2034 and 52°F
a Rana a. perezi (19725) collected AOR in Rain.

Alcala de los Sogalos, 4.7 mi ESE, 2104, 53°F, 1
Pleurochilus walli (19731) taken AOR. 5.8 mi ESE, 2107, 55°F,
a Rana a. perezi (19734-19735) taken AOR. 6.1 mi ESE, 2110,
55°F, Rain, a Hyla a. meridionalis (19740-19743) collected and
several others heard. 6.7 mi ESE, 2114, a Triturus m. pygmaeus
(19730) taken along w/ a Pelodytes punctatus (19733). 6.8 mi.
ESE, 2115, a Hyla a. meridionalis (skel?) and a Pelodytes
punctatus (skel?) taken. 8.0 mi ESE, 2121, a Hyla a. meridionalis
(19740-19743) collected. 8.6 mi ESE, 2124, a Rana a. perezi
w/ distinct yellow dorsal line taken AOR (19734-19735). 9.3 mi.
ESE, 2127, an AOR Discoglossus p. pictus (19732) collected and
hundreds of Hyla a. meridionalis heard. 9.7 mi. ESE, 2131, a
juv. Rana a. perezi (19734-19735) AOR w/ huge mixed chorus
of frogs heard. 11.8 mi ESE, 2137, an AOR H. a. meridionalis
taken in rain.

HOLOTYPE

Casas del Castaño, 1.9 mi ESE, 2154, an AOR juv. Rana
a. perezi (19734-19735) taken. 2.1 mi ESE, 2156, a Bufo b. spinosus
(19736-19739) taken AOR. 2.8 mi ESE, 2158, another B. b. spinosus.

6 APR 71

3.0 mi ESE, 2201, an AOR Bufo b. spinosus (19736-19739) taken. 5.2 mi ESE, 2210, a juv H. a. meridionalis (19740-19743) taken AOR in heavy rain. 5.7 mi ESE, 2213, ceased raining, 50°F, an AOR B. b. spinosus (19736-19739) taken. 6.7 mi ESE, breeding Hyla noted to N. 7.0 mi ESE, 2220, 50°F, an AOR H. a. meridionalis (19740-743) and at 7.5 mi ESE, 2222, an AOR Discoglossus p. pictus taken (may have been skeletonized).

Algeciras, 7.1 mi S at 2305 an AOR Bufo b. spinosus (19744) taken.

Tarifa, 17.9 mi WNW, an AOR Bufo calamita seen on N-340 but not taken. 17.9 mi WNW Tarifa, a Bufo b. spinosus seen and another also seen 28.5 mi WNW at 2345.

8 APR 71

Vejer de la Frontera - Cabo Trafalgar

1930, 55°F, and raining on and off all week.

Vejer, 7.8 mi S a Pelodytes cultripes (19745-6) collected AOR at 2300. Trafalgar, .4 mi N, 2340, 50°F, another P. cultripes captured.

Hyla a. meridionalis tends to breed in shallow bodies of water in large groups, Pelodytes punctatus seems to prefer puddles in congregations of 2 or 3. Chorus of P. punctatus usually not present or present in small groups of 3-5 spread over a large area. ♂ Pelodytes seem to be individualistic whereas Hyla is definitely group oriented.

10 APR 71

In Algecira (vic. Boranga)

0930 - 56°F

1007 - Psammochromis a. algerius (19747) adult w/ orange markings on jaw, upper labial, and lateral aspect

10 APR 71

of head shot in Juniperus phoenicea

1015 - Acanthodactylus e. erythrum seen in
J. phoenicea was sunning previously

1045. 58°F

1030 - END Survey

15 APR 71

Rota - Chipiona Road

one ~~Pelodytes~~ Pelodytes punctatus (19748)
captured AOR on Rota end of road. No further data

16 APR 71

Rota Naval Base

An adult Clupea scalaris (19749) brought in
by Jeff Scott with approx. 6 rabbit juveniles in digestive
tract. 2 of the rabbits were removed upon preservation.

17 APR 71

In Algaich (vic. Boronja)

0930 = 62°F

0934. Acanthodactylus e. erythrum adult shot in sand
a Psammochromis a. alpinus seen

0942 - A. e. erythrum shot

0944 - A. e. erythrum shot and 2 others seen

0952 - P. a. alpinus juv seen in J. phoenicea, 2
A. e. erythrum juv seen.

0953 - A. e. erythrum adult seen in J. phoenicea

0954 - A. e. erythrum juv seen in sand, P. a. alpinus
adult in J. phoenicea.

0956 - A. e. erythrum juv. seen in Halimium halimifolium

0958 - 2 A. e. erythrum juv. seen in C. album

0959 - A. e. erythrum adult shot in J. phoenicea

1005 - A. e. erythrum adult shot in J. phoenicea

1008 - juv. A. e. erythrum seen in C. album

1009 - juv. A. e. erythrum seen in open sun

1010 - juv. A. e. erythrum seen in Coronilla album.

17 APR 71

- 1014 - Psemmodromus a. algirus seen in Juncus acutus.
- 1015 - Leontodactylus e. erythrum adult shot ca. J. phoenicea.
- 1019 - 1 A. e. erythrum adult, 2 juv. seen in J. phoenicea.
- 1022 - A. e. erythrum adult seen in J. phoenicea.
- 1028 - 3 A. e. erythrum juv., 1 A. e. erythrum adult seen in Corema album area.
- 1032 - A. e. erythrum adult shot, 1 seen in J. phoenicea.
- 1034 - A. e. erythrum juv. seen in open sun.
- 1035 - A. e. erythrum subadult seen in C. album.
- 1038 - A. e. erythrum adult shot in C. album.
- 1039 - P. a. algirus shot in J. phoenicea.
- 1040 - A. e. erythrum juv. seen in J. phoenicea.
- 1044 - 3 A. e. erythrum seen, 1 shot in J. phoenicea.
- 1046 - P. a. algirus adult seen in C. album.
- 1048 - A. e. erythrum juv. seen in C. album.
- 1050 - A. e. erythrum adult seen in C. album.
- 1051 - A. e. erythrum juv. seen in C. album.
- 1052 - A. e. erythrum adult shot in C. album.
- 1055 - P. a. algirus seen in sand while sunning.
- 1058 - 2 adult, 1 subadult, 1 juv. A. e. erythrum seen in C. album.
- 1101 - A. e. erythrum juv. and subadult in C. album.
- 1102 - A. e. erythrum juv. seen in C. album.
- 1105 - A. e. erythrum adult shot in open sand. adult P. a. algirus seen in J. phoenicea.
- 1108 - A. e. erythrum shot in H. halimifolium area.
- 1109 - P. a. algirus seen in J. phoenicea.
- 1111 - P. a. algirus shot and 1 seen in J. phoenicea.
- 1115 = 71°F (total shade)

17 APR 71

- 1137 - A. e. erythrum adult shot in f. phoenicea
- 1139 - A. e. erythrum juv. ran into f. phoenicea from sand in direct sun.
- 1141 - juv. A. e. erythrum seen in C. album.
- 1142 - A. e. erythrum adult in f. phoenicea
- 1143 - A. e. erythrum juv. in C. album
- 1144 - A. e. erythrum adult shot in C. album, a juv. seen.
- 1145 - A. e. erythrum adult seen in C. album.
- 1146 - 3 A. e. erythrum juv. seen in open sand
- 1153 - A. e. erythrum adult and 2 juv. seen in C. album area, adults bury in C. album roots when pursued.
- 1157 - A. e. erythrum shot in C. album.
- 1158 - P. a. algerus seen in f. phoenicea.
- 1159 - A. e. erythrum shot in f. phoenicea.
- 1204 - 2 juv. A. e. erythrum seen in C. album, 1 adult seen in f. phoenicea.
- 1206 - Adult A. e. erythrum seen in f. phoenicea.
- 1207 - Adult A. e. erythrum shot in f. phoenicea.
- 1209 - Adult A. e. erythrum seen in f. phoenicea.
- 1211 - 2 juv. A. e. erythrum seen in C. album.
- 1214 - juv. A. e. erythrum seen in C. album.
- 1220 - Adult A. e. erythrum shot in C. album and 3 juv. seen in open sun.
- 1222 - juv. A. e. erythrum seen in open sand
- 1224 - Adult A. e. erythrum shot under P. pinus in shade.
- 1226 - juv. A. e. erythrum shot in open sand.
- 1228 - juv. A. e. erythrum, adult shot in C. album.
- 1230 - Adult A. e. erythrum shot, juv. seen in C. album.

17 APR 71

- 1232 - Adult Acanthostylum seen in J. phoenicea
- 1234 - juv. A. e. erythrum shot, 1 juv. P. a. algium seen.
- 1235 - Adult P. a. algium shot in C. album.
- 1239 - 2 juv. A. e. erythrum seen in open sand.
- 1241 - 1 juv. A. e. erythrum shot.
- 1243 - Adult A. e. erythrum seen in J. phoenicea.
- 1245 - Adult A. e. erythrum seen in H. halimifolium.
- 1246 - Adult A. e. erythrum shot, adult seen in J. phoenicea.
- 1251 - A. e. erythrum juv. shot in open sand.
- 1252 - A. e. erythrum seen in C. album.
- 1259 - A. e. erythrum adult and juv seen in C. album.
- 1303 - A. e. erythrum juv in C. album.
- 1305 - A. e. erythrum juv in C. album.
- 1307 - 2 adult and 1 juv A. e. erythrum seen in area of H. halimifolium, J. acutus, J. phoenicea, and C. album.
- 1309 - A. e. erythrum adult shot in open sand, 1 juv. seen in C. album.
- 1311 - A. e. erythrum adult shot in open sand.
- 1315 - 1 A. e. erythrum juv. in open sand.
- 1319 - 2 juv. A. e. erythrum seen in C. album.
- 1322 - Psemmochromus a. algium adult ♂ w/ bright orange chin (see color transparency) collected.
- 1324 - A. e. erythrum adult seen in bright sun.
- 1326 = 74°F (shade)
- 1342 = 76°F (shade)
- 1351 - P. a. algium shot in P. lentiscus.
- 1400 - Blanus unicus (CMFS 19750) found under P. lentiscus in loose sand / Pinus needles.

17 APR 71

1401 - Acanthodactylus e. erythrum adult in C. album.1407 - Adult A. e. erythrum and juv P. a. alpinus seen in C. album.1411 - juv. A. e. erythrum seen in C. album.1414 - P. a. alpinus adult in f. phoenicea.1417 - P. a. alpinus adult shot in C. album.1421 - A. e. erythrum adult seen in C. album.1425 - A. e. erythrum adult seen in C. album.1430 - Adult + 2 juv. A. e. erythrum seen in C. album.1431 - A. e. erythrum in C. album.1432 - A. e. erythrum adult shot in C. album.1435 - 1 adult, 2 juv. A. e. erythrum seen in f. phoenicea.1437 - 1 adult, 1 juv. A. e. erythrum seen in f. phoenicea.1441 - 2 adult A. e. erythrum seen in f. phoenicea.1442 - A. e. erythrum seen in f. phoenicea.1445 - A. e. erythrum juv. in C. album.1447 - A. e. erythrum adult in C. album.1449 - A. e. erythrum adult seen in f. phoenicea.1455 - A. e. erythrum juv. in C. album and a P. a. alpinus in C. album.1457 - juv. A. e. erythrum in f. phoenicea.1459 - Adult P. a. alpinus shot in f. phoenicea.1501 - A. e. erythrum adult shot in f. phoenicea.1510 - A. e. erythrum adult shot in open sun.1513 - A. e. erythrum seen in C. album area.1516 - A. e. erythrum adult seen in f. phoenicea.1522 - P. a. alpinus juv. seen in f. phoenicea.1527 - P. a. alpinus juv. seen in H. halimifolium.1532 - P. a. alpinus seen in f. phoenicea.

17 APR 71

1536 - 2 Psammochromis a. algirus shot in P. lentiscus
and H. halimifolium

1539 - P. a. algirus seen in J. phoenicea

1541 - Acanthodactylus e. erythrinus shot in open sand

1555 - P. a. algirus seen in open area of Pinus pinus

1559 = 69°F (open shade)

1604 - A. e. erythrinus juv shot in C. crispus

1606 - A. e. erythrinus subadult seen

1609 - 2 juv. A. e. erythrinus seen in sand, an adult
seen in C. album

1611 - A. e. erythrinus adult in C. album

1614 - A. e. erythrinus adult shot in C. album

1617 - 2 P. a. algirus adults seen in C. album, 1 of 2
shot

1621 - A. e. erythrinus juv. in C. album

1624 - A. e. erythrinus adult shot in C. album and a
juv. seen in C. album

1625 - A. e. erythrinus juv. seen in C. album

1628 - juv. A. e. erythrinus seen in C. album

1629 - juv. P. a. algirus seen in J. scutellaria

1630 - 2 juv. A. e. erythrinus in open sand

1634 - juv. A. e. erythrinus shot in open sun

1644 - juv. A. e. erythrinus seen in C. album

1646 - Adult P. a. algirus seen in C. album

1649 - 2 juv. P. a. algirus seen in open sun

1653 - juv. A. e. erythrinus seen in open sun

1656 - juv. A. e. erythrinus seen in C. album

1710 = 72°F

Acanthodactylus = CMFS 20564-20595 (7)

Psammochromis = 20596-20605

17 APR 71

Black - Bull Temperature Readings

TIME

SUN

SHADE

(10 APR 71)

0950

23°C

20.5°C

1030

20°C

17.0°C

TIME

SUN

OPEN
SHADE

SKY

0944

33.5°C

21°C

1030

37.5

23

1101

41

24

1155

39.5

25.5

PART
CLOUDY

1215

37.5

25.5

PART
CLOUDY

1237

42

28.5

CLEAR

1253

41.5

27.5

1307

48

32.5

1409

43.5

32

WEST
WIND

1449

45

30

1504

41

29

1530

33.5

29

CLOUDY

1620

34.5

26

PART
CLOUDY

1636

36°

26.5

CLOUD

1644

35°

26.0

CLOUD

1700

33°

25°

30 APR 71

Jeny - Anax - Borna - Villamartin - Algodonales - Zahara - Grazalema -
Utrique, 15.8 mi S.

1800 - 2250, 65°F.

Grazalema, 2.4 mi S., 2054, 48°F, one AOR Diocaplossus p.
pictus (CMFS 20608), 3.8 mi S., 2106, 50°F, 1 Bufo b. spinosus

30 APR 71

(CMFS 20606-20607), and 5.4 mi. S, 2115, 50°F, another Bufo b. (bufo) (spinosus)? (CMFS 20606-20607) collected AOR.

1 MAY 71

Utrique, 15.8 mi S - Salis - Alcalá de los Gazules - San Roque - Cádiz Prov. border - San Enrique de Guadix - San Martín de Tesorillo - Jimena de la FIA - Castellón de la FIA - Algeciras - Tarifa - Vejer de la FIA - Chiclana - Rota.

Alcalá de los Gazules, 6.6 mi ESE, 1203, 60°F, raining, a Mauremys c. leprosa (CMFS 20610) collected AOR. 7.4 mi ESE, 1210, 59°F, a DOR Blanus cinereus (CMFS 20609) collected.

2 MAY 71

Jerez - La Barca de la Florida - San José del Valle - Tempul - Salis - Alcalá de los Gazules - Benalup de Sierrón - Vejer de la FIA.

0850 - 1840

La Barca de la Florida, 4.4 mi. E, area burned, only Pinus pinus left of original study area.

San José del Valle, 2.5 mi E, Macropododon cucullatus seen DOR at 1000 (52°F).

Salis, 6.0 mi N. I turned W. on logging road and into Montes Propios de Jerez, a heavily forested area.

1100 - 1130, .3 mi W., 61°F, 4 Cnemidophorus a. alpinus seen, 1 adult and 3 juveniles in rocks, a Tarentola mauritanica (CMFS 20611) shot, 1 Lacerta b. vaucheri shot (20612-4) under partial clouding skies. 2.0 mi W., 58°F, a L. b. vaucheri seen on bridge. 2.8 mi W. in a rock-lichen area, 1153 - 1154, 65°F, one spider collected. 3.1 mi W., 1206, 66°F, a P. a. alpinus shot (CMFS 20615-20620). Illex sp. seen blooming. 5.7 mi W. another P. a. alpinus shot and one seen along with a T. mauritanica and a large series of Rana c. perezi. A juv T. mauritanica also

3.1 mi W.
5:17 PM

2 MAY 71

seen. 6.3 mi W. a Cistun lodanifer area noted. 7.1 mi. W. a photo taken (W). 7.5 mi W, 1255, 73°F, a Psammochromus a. alpinus shot (20615-20620) on a rock. 7.7 mi. W. a Tarentola mauritanica seen. 7.8 mi W, 68°F, in area of heavy rock and a small shack, 1303, 74°F, a juv. P. a. alpinus seen, at 1412 a large Blanus cinereus collected under a rock on a hillside (20621), a Lacerta h. vaucheri (20612-20614) shot, 2 P. a. alpinus (20615-20620) shot, several juveniles of both spp. seen. (60°F and overcast) 8.8 mi W. a L. h. vaucheri seen on a rock. 10.6 mi W. a P. a. alpinus (20615-20620) shot at 1436 (64°F) in Cistun lodanifer area, Ulex also present w/ Q. suber. 11.9 mi W, 56°F, 1500, a L. h. vaucheri shot from board in a Pinus pinaster area w/ Q. suber. 15.6 mi W in road to Algor - Salis once again. From previously mentioned bldg. to here is bad road for 2-wheel drive vehicles at this time of year. For last 3-4 miles, I've been plowing the car through many large areas of muddy ground. Vejer de la Frontera, 1.7 mi NW an Elaphe scalaris seen DOR.

4 MAY 71

Puerta de Santa Maria, 1.8 mi ESE, 1830-1840, one Rana a. perezi seen but no Pelobates cultripes tadpoles seen.

Rota - Chipiona - Rota - Pto Real - Rota

1930-2230. 60°F - 54°F.

Rota, 6.0 mi. W. on Lacerta lepida (20622) found under a Rail-Road tie with several centipede in area. (ES 302)

Puerta Real, 1.3 mi E, 2115, 56°F, one Pelobates cultripes (20623-20624) taken AOR. 4.4 mi E, 2200, 54°F, one P. cultripes juvenile taken AOR. 1.7 mi E, 2210, 56°F, a DOR

4 MAY 71

Natrix maura seen along with a Bufo calamita, 1.0 mi E.
a DOR Hyla a. meridionalis noted.

8 MAY 71

Naval Base - Pto de Sta Maria - Pto Real - Chiclona - Vejer - Facinas -
and return.

1200 - 1700, 64°F, overcast w/ occasional sun.

Naval Base, a Natrix maura seen DOR.

Facinas, 6.9 mi N, 1355, 62°F, a Lacerta hispanica
vaucheri seen. 8.6 mi N, 1405, 60°F another L. h. vaucheri
seen.

Vejer de la FIA, 1.2 mi. W on N-340, a DOR Elaphe
scalorin (20625) seen but not salvaged.

Chiclona de la FIA, 2.1 mi ENE, 1525, 66°F, one
adult Elaphe scalorin seen DOR. 2.6 mi ENE, 1528, 70°F,
an adult E. scalorin (20625) collected. 11.5 mi ENE,
66°F, cloudy, 1545, one adult Lacerta lepida seen DOR.

Puerto Real, 1.2 mi E, an adult Lacerta lepida seen AOR
at 1625.

9 MAY 71

Jerez de la FIA - Arcos de la FIA - Pontación de Borno - Borno -
Villamartin - Algodonales - Zahara - Grazalema - Villaluenga - Benacay -
Utrique - El Bosque - Arcos - Jerez.

1300 - 1933, 66°F, overcast

Jerez de la Frontera, 11.2 mi. ENE (1400, 65°F) one DOR
Chalcidus s. striatus (20626) collected.

Arcos de la Frontera, 4.2 mi. N and 2.3 mi. E.
at Pontano de Borno, 1430 - 1500 (70°F), a series of Rana r.
perezi (20627 - 20634) collected along with a series of eggs (20635)
to the E. of the dam in concrete drainage trough.

Villamartin, 4.8 mi E, 1600 (70°F) a Psammotrypa
a. alpinus seen AOR but not taken.

9 MAY 71	Algodonales, .8 mi. E, 66°F, a <u>Sacota lepida</u> seen DOR in a condition as to make it not worth saving.
12 MAY 71	Puerto de Santa Maria - PTO Real - junction de la F ^{ta} - Pota 1845-2130, 66°F. PTO de Sta Maria, 1.8 mi ESE, 1845-1955, 66°F-62°F. At 1918 a <u>Chalcid</u> <u>c. striatus</u> (20637) taken under a rock in a grassy area. At 1930 a <u>Malpison m. monspessulorum</u> (20638) found under a rock. The specimen was in ecdysis and not preserved on date collected - consult log for exact preservation date. 1943, 4 <u>Rana c. perezi</u> noted in small stagnant pond (1 adult, 3 subadults). 1945, 2 other <u>Rana c. perezi</u> seen in ponds. The water level is very low in this area right now but the ponds are still damp. PTO Real, drove road to E. from 2010-2130 but found nothing on the road.
16 MAY 71	Vejer de la F ^{ta} - San Roque - Cádiz Border - Arenillas - San Enrique de Guadix - San Roque - Los Barrios - Casas del Castaño - Benalup de Sierrita - Vejer de la Frontera. 1630-2400, 63°F-54°F, It has been raining the past two days while we were at sea. Vejer de la Frontera, 6.5 mi. ESE, a <u>Sacota lepida</u> (20639) seen DOR. 22.2 mi. ESE (1748, 65°F) a DOR <u>M. m. monspessulorum</u> (20640) collected. Los Barrios, <u>Bufo b. spinosus</u> (CMFS 20646-20653) collected 4.4 mi WNW (2047, 58°F), 6.4 mi WNW (2057, 58°F), 7.8 mi WNW (2106, 60°F), 8.0 mi WNW (2110, 55°F), 8.8 mi WNW (2115, 55°F, light rain), 9.3 mi WNW (2117), and 14.6 mi WNW (2138, 52°F, rain). A <u>Hyla a. meridionalis</u> (20641-20642) collected 8.0 mi. WNW (2110, 55°F). Casas del Castaño, a <u>Bufo b. spinosus</u> (CMFS 20646-20653)

16 MAY 71	collected 3.2 mi WNW. <u>Hyla arborea meridionalis</u> (20641-42) collected 1.1 mi. WNW and a chorus heard at 2212 7.7 mi WNW. a <u>Discoglossus p. pictus</u> (20645) collected .2 mi WNW at 2143 at 55°F. <u>Pelodytes punctatus</u> (20643) collected 7.1 mi. WNW, 2208 and 56°F while at 9.1 mi. WNW a specimen was seen AOR. a juvenile <u>Pelobates</u> <u>cultreus</u> was collected AOR 10.0 mi WNW at 2220 and 54°F (20644).
	Berap de Sidonia, <u>Triturus m. pygmaeus</u> (20660-20664) collected AOR 4.3 mi N, 2304 (54°F), 3.8 mi N, 2307 (54°F), 3.5 mi N, 2308 (54°F), 3.4 mi N, 2311, 54°F (a juvenile), and 1.5 mi N, 2323 (54°F). a <u>Pelodytes</u> <u>punctatus</u> (20658) collected 9.5 mi N at 2240 and 56°F. <u>Pelobates cultreus</u> (20666-20667) collected 7.9 mi N. at 2248 (54°F) and 2.5 mi N. at 2318. a <u>Rana s. perezi</u> (20665) collected 7.7 mi N at 2258 and 55°F. <u>Pleurodela waltl</u> (20654-20655) collected at 4.7 mi. N (2259, 54°F) and at 2.2 mi. N. (2319, AOR). a <u>Matrix</u> <u>maura</u> seen DOR 4.6 mi. N at 2300 (time irrelevant). a single <u>H. a. meridionalis</u> (20659) collected 3.1 mi. N at 2313 and 54°F. Two <u>Bufo calamita</u> (20656-20657) collected 3.0 mi N (2315, 54°F). 7.4 mi. S. at 2345 a DOR <u>Macropsobolus</u> <u>cucullatus</u> (20640) collected
17 MAY 71	Veja de la Frontera, 5.1 mi. W at 0009 hrs a juvenile <u>Molgea m. mangroveana</u> seen DOR. Chiclana - Medina Sidonia - Puerto Real. 2100-2335 (56-55°F). Rota, Naval Base, <u>Bufo calamita</u> recorded on Naval Base. Chiclana, 5.5 mi. ENE, at 2211 (56°F) a <u>Rana s. perezi</u>

17 MAY 71

(AF 756) collected AOR.

18 MAY 71

Rota - Chipiona Road

1930 - 2000, 71°F (H₂O), 58°F (air)

2.1 mi. W. Rota a series of Peleobates cultripes (2002)
Indoles collected for Norm Gradwell, Univ. of Calgary
One DOR Malpison m. monspessulanus collected 2.7 mi. W.
(CMFS 20668).

20 MAY 71

Jerez de la Frontera - La Barca de la Florida - El
Torno - San Isidro de Guadalete.

2100 - 2300, 54°F.

Jerez de la Frontera, 10.1 mi. E. (55°F, 2121) one
Bufo calamita (20672) collected AOR. 11.0 mi. E. a large
chorus of Hyla a. meridionalis noted to N. The road
to Algor is currently blocked due to resurfacing of the
road.

La Barca de la Florida

El Torno, 1.2 mi. SW at 2150 (54°F) an AOR

Rana r. perezi (20669 - 20671) collected.

San Isidro de Guadalete, .1 mi. NW at 2155 (54°F)

two AOR Rana r. perezi collected (20669 - 20671).

25 MAY 71

La Algaída (vic. Bonanza)

1330 = 66°F, 2 Psammochorus a. algerius (adult + juv)

seen along with an Acanthodactylus e. erythrinus in Cereus
album

1333 - P. a. algerius in Juniperus phoenicea

1335 - 2 A. e. erythrinus seen active (adults) vic. J. phoenicea

1337 - A. e. erythrinus adult seen in J. phoen.

1339 - A. e. erythrinus juv seen in C. album

1340 - Subadult A. e. erythrinus seen in C. album

28 MAY 71

- 1344 - Subadult A. e. erythrum shot in f. phoen.
 1345 - Adult Aee shot near C. album
 1347 - juv. P. a. alpinum seen in Juncus acutus
 1349 - juv. Aee shot Halimium halimifolium area.
 1351 - juv. Aee shot in C. album
 1352 - juv. Aee seen in C. album
 1354 - juv. Aee shot and one seen in C. album
 1355 - adult Aee seen in open sand
 1357 - Adult Aee shot while foraging in C. album
 utilized tongue to feel on small insect
 1401 - juv. Aee seen in C. album
 1402 - juv. Aee seen in C. album
 1405 - juv. Aee shot in C. album
 1416 - Ad. Aee seen in C. album / f. phoen.
 1420 - Aee subadult shot while sunning in open sand.
 1422 - Aee subadult shot while active in Juncus
acutus / open area
 1425 - Adult Aee shot while in direct sun.
 1430 - 2 adult Aee seen and one juv. shot in C. album
 1432 - juv. shot, 3 other juv. Aee seen in C. album
 1434 - Sub adult Aee shot near C. album in direct sun
 1440 - Aee adult seen in C. album : very active
 1451 - Aee adult shot in C. album
 1454 - Aee juv. seen in C. album
 1456 - adult Aee seen in f. phoen.
 1458 - Aee adult shot in C. album
 1510 - Aee juv. seen in C. album
 1512 - P. a. alpinum juv. shot in f. phoen.
 1517 - Aee adult seen in C. album

28 MAY 71

1520 - Aee adult seen in Pinus pinea, C. album,
J. phoeniceae area

1524 - Aee juv. seen in C. album

1528 - P. a. algerium adult shot in C. album

1532 - A. e. e. adult shot in C. album

1536 - Aee juv. shot in C. album

1538 - Aee juv. seen in C. album

1541 - Aee juv. seen in C. album

1545 - Aee subadult shot after it ingested a
 leaf of Halimium halimifolium

1547 - Aee juv. shot in J. acutus

1551 - Aee sub. shot in C. album (pink on rear
 legs fading)

1555 - Aee juv. seen in open sand

1557 - Aee adult seen in C. album

1558 - Aee juv. seen in open sand

1602 - Aee juv. seen in J. phoen.

1610 - 2 adult Aee seen in C. album

1611 - 2 juv. Aee seen in C. album

1613 - juv. Aee shot in open sand near C. album

1614 - Ad. + juv. Aee seen in open sand

1615 - juv. Aee shot in open sand vic. C. album

1620 - juv. Aee shot in open sand, 2ND specimen seen

1623 - adult Aee seen in H. halimifolium area in
 open sand

1626 - adult P. a. algerium seen in J. phoen.

1628 - Aee juv. shot in open sand under C. album

1634 - Aee juv. seen in C. album

1636 - Ad. Aee seen sunning on leeward bank of sand
 juv. Paa seen in H. halimifolium area

28 MAY 71

- 1640 - juv. lee seen in sun/sand near f. phoen.
1643 - Adult lee seen in open sand vic. C. album
1653 - juv. lee seen in open sand vic. C. album
1654 - 3 juv. lee seen sunning in open sand
1656 - juv. lee seen sunning in open sand
1659 - P. a. algium adult seen in f. phoen.
1704 - lee juv. in C. album after seen in open sand.
1708 - lee juv. shot in open sand of C. album area
1711 - lee juv. seen open sand / C. album.
1717 - Adult a.e.e. shot while sunning near C. album.
1720 - Adult lee seen vic C. album
1721 - Adult lee shot in open vic C. album
1723 - juv. lee seen in open sand vic C. album.
1724 - Adult lee seen in C. album after open sand
1728 - Subadult lee shot in open sand vic. C. album.
1730 - Adult Paalgium shot in f. phoeniceae
1734 - juv. lee shot in C. album.
1736 - Adult lee seen in open sand.
1742 - Subadult lee shot open Pinus pinus needle
area vic. of f. acutur and H. halimifolium
1745 - Subadult lee seen open sand vic. C. album.
1749 - Subadult lee seen windward bank of sand - sunning
1750 - juv. lee seen in C. album
1754 - Adult P. a. algium shot in C. album
1800 = END (1907 = 61°F)

CMFS 20673 - 20687 (16) = lee

20688 - 20691 = P. a. algium

28 MAY 71

TIME	SUN	OPEN SHADE	SKY - WIND - ETC.
1330	43	27	Clear
1402	43	25	Clear / wind
1435	40	27.5	Clear / wind
1502	42	30	Clear / calm
1532	41	32	Clear / wind
1600	38.5	29	Clear / wind
1631	35	24	Clear / wind
1700	34	24.5	Clear / wind
1730	30	23.5	Clear / wind
1800	27	22	Clear / wind

Temperatures are °C, Times are local.

29 MAY 71

La Algaída (vic. Bonanza)

0715 = 57°F.

Left area at 0740 with no sign of possible clearing as yet. Rain very possible. 0730 = 16.5°C and overcast (no sun available, hence both temps were =)

30 MAY 71

La Algaída (vic. Bonanza)

0900 - Mosquitoes present and sky clear - slight breeze as opposed to wind of 28 MAY.

0906 - 2 juv. bee seen in C. album

0907 - juv. bee shot in C. album

0908 - juv. bee seen in C. album

0911 - juv. bee seen in C. album

0912 - Adult bee seen foraging in C. album area

0915 - bee juv. seen in f. phoen.

0916 - bee juv. in f. acutis.

0917 - bee juv. in f. phoeniceae

0918 - bee subadult shot in f. phoen., P. a. alpinus seen in same area.

30 MAY 71

- 0920 - See juv. seen open sand vic. H. halimifolium
0925 - See adult shot in C. album
0926 - See subadult shot in C. album
0927 - 2 See juv. seen in C. album
0928 - juv. See seen in C. album
0929 - juv. See seen chewing on H. halimifolium
petal in C. album area.
0932 - juv. See seen in C. album
0933 - Subadult See seen in C. album
0935 - Adult See shot in open sand
0939 - adult P. a. alpinum seen in J. phoen.
0941 - juv. See seen in open sand
0942 - juv. See seen in C. album
0944 - juv. See seen in open sand
0946 - juv. See seen in C. album
0948 - juv. See shot in C. album
0949 - Adult See seen in open sand
0950 - Adult See seen in open sand
0952 - See juv. shot in J. phoen.
0957 - P. a. alpinum juv. seen in J. phoen.
See juv. shot in C. album
0959 - 2 See juv. seen in C. album
1000 - juv. See seen in C. album
1003 - 2 juv. See seen in C. album
1006 - P. a. alpinum adult in breeding condition shot
in J. phoen.
1008 - juv. See shot in open sand.
1009 - Adult See seen in open sand
1011 - Adult See shot in C. album.

30 MAY '71

- 1011 - juv. Dec seen in J. phoeniceae
 1013 - Adult Dec shot, juv seen in C. album
 1018 - P. a. alpinum adult shot in C. album
 1021 - P. a. alpinum juv. shot in C. album, J. phoen.,
 at base of P. pinea.
 1022 - Adult Dec seen in Corema album / J. phoeniceae
 1024 - juv. Dec seen in C. album
 1026 - juv. Dec seen in C. album
 1028 - juv. Dec seen in open sand
 1029 - juv. Dec shot in open sand
 1032 - juv. P. a. alpinum shot in C. album
 1034 - juv. Dec seen in C. album
 1037 - juv. P. a. alpinum shot in C. album
 1039 - juv. Dec seen in C. album
 1040 - Adult Dec buried beneath Pinus needles
 in C. album - juv. seen in open sand vic. C. album
 1042 - juv. Dec shot in open sand
 1045 - Adult Dec seen, juv. Dec shot in J. phoen.
 1047 - Subadult Dec shot, juv. seen in open sand
 1048 - juv. Dec seen in C. album / open sand
 1050 - juv. Dec seen and one shot in C. album area
 1055 - Adult Dec shot, juv. seen in C. album
 1058 - Dec juv. seen in open sand
 1104 - P. a. alpinum adult seen in J. phoen.
 1105 - P. a. alpinum adult seen in J. phoen.
 1110 - Dec adult seen in open area vic. C. album,
H. halimifolium
 1112 - Dec adult in J. phoen.
 1113 - Dec adult in C. album

30 MAY 71

1117 - dec juv. seen in C. album

1120 - juv. dec seen in open sand

1122 - juv. dec shot in C. album

1123 - 1 adult, 1 juv. dec seen in Juncea acutis,

J. phoenicea area

1131 - juv. dec seen in C. album

1137 - Adult P. a. alpinum shot in J. phoenicea in
N. Crotone area

1140 - dec adult shot in open sand

1144 - dec adult shot in C. album, dec juv. seen
in open sand.

1145 - juv. dec in open sand

1150 - juv. dec in open area of J. acutis / J. phoen.

1154 - Adult and juv. dec seen in open sand / shale

1159 - Adult dec seen in C. crispum area

1206 - Adult dec in H. halimifolium seen

1210 - juv. dec seen in open sand - C. album area

1213 - Adult dec shot in Juncea acutis / Juniperus

phoenicea area

1215 - dec juv. seen in C. album

1219 - dec adult shot in C. album area

1229 - dec adult shot in C. album

1233 - dec adult seen in J. phoen., juv. seen open sand

1236 - dec juv. shot in C. album

1238 - dec juv. seen in C. album.

1239 - dec adult + juv. seen in open sand

1241 - dec juv. seen in C. album

1243 - P. a. alpinum juv. shot in C. album

dec juv. seen in area

30 MAY 71

- 1244 - lee juv. seen in C album
 1247 - lee adult seen in open sand
 1249 - lee juv. shot in C album, adult seen.
 1254 - lee adult shot, juv. seen in open sand
 1255 - lee juv. seen in C album
 1256 - Adult lee seen in C album
 1302 - lee juv. in open sand
 1304 - lee juv. in C album, adult in J. phoen.
 1305 - lee adult in J. phoen.
 1306 - lee juv. in open P. pinea needle area
 1309 - lee juv. seen in open sand
 1310 - lee adult in C album
 1312 - lee juv. in open sand
 1314 - lee juv. in open sand
 1317 - P. a. alpinum adult seen in open sand
 1320 - P. a. alpinum adult seen in open sand and
 then to rest (?) under root of P. pinea
 1325 - lee juv. seen in open sand
 1326 - lee adult seen in C album area
 1327 - lee juv. seen in open sand.
 1328 - lee juv. seen in C album
 1330 = END. (1405 = 76°F)

CMFS 20692 - 20700,
 21051 - 21056 (12) = lee
 21057 - 21060 (4) = P. a. alpinum

30 MAY 71

TIME	SUN	OPEN SHADE	SKY - WIND - ETC
0900	36	22	Clear
0930	39.5	23	Clear
1000	40	24.5	Clear
1035	44.5	25	Clear
1100	48	26	Clear
1130	51	28	Clear
1200	53	27	Clear
1230	56	28	Clear
1300	52	28.5	Clear
1330	53	28	Clear / wind

Temperatures are °C, Times are local Time.

Open shade temperatures are taken at base of *J. phoenicea* on open sand area, Sun temperatures are taken at base of large *P. pinea* which is on a sand dune. Thermometer for sun temps is moved around base of tree as the earth revolves and shadows change location.

In Algaída - Vejer de la Frontera - Facinas - Casas del Costero - Benalup de Sierrón - Rota

End survey at 2310.

Vejer de la Frontera, 3.2 mi. E (1615, 72°F) one OOR *Malpella m. monopressulorum* sighted.

Facinas, 5.4 mi N (1653, 81°F) one *P. a. algerim* seen on a rock in vicinity of *Pistacia lentiscus* plants.

5.6 mi. N (1658, 76°F), 2 *Lacerta h. vaucheri* seen in copulation, 1 collected (2106157). 6.0 mi N (1705, 79°F) one *Lacerta bipida* seen and a *Psammochromis ^{OCCIDENTALIS} hispanica* (21073) collected. 6.2 mi. N. (1712, 82°F) a large *L. bipida* seen and a *Tarentola mauritanica* (21067-21072) collected. 6.3 mi N. (1723, 80°F)

5/10 1/2016

30 MAY 71

2 Laureta h. vaucheri (21061 [5]) shot, one Rana r. perezi shot (21066), 3 Tarentola mauritanica (21067-21072) shot, 2 T. mauritanica not collected and one L. h. vaucheri seen on side of a concrete bridge. 6.4 mi N (1733, 83°F) another L. h. vaucheri shot on bridge. 6.5 mi N (1734, 84°F) a Tarentola mauritanica seen on a culvert. 6.7 mi. NE (1742, 81°F) a T. mauritanica shot (21067-21072) and a DOR Laureta lipida (21062-21064) collected. 6.9 mi. NE (1758, 73°F) a L. lipida and a T. mauritanica seen. 7.1 mi. NE (1802, 76°F) a L. lipida seen. 7.2 mi. N (1804-1807, 75°F) a Laureta lipida subadult (21062-21064) shot along with a Laureta h. vaucheri (21061 [5]). 8.3 mi. NE (1811, 72°F) a Psammochromis a. alpinus. 10.9 mi. N. (1833, 73°F) a Laureta lipida seen swimming. 12.0 mi N (1841, 67°F) a Tarentola mauritanica (21067-21072) shot. 12.9 mi N. (1850, 68°F) a juvenile Maurus myz (= Clemmys) caspica leprosa (CMFS 21065) collected AOR. 13.4 mi. N. (1900, 68°F) an adult Laureta lipida (21062-21064) shot. 14.5 mi. N. (1909, 74°F) a T. mauritanica seen and a Caluher hippocypis skin seen.

Casas del Castaño, 7.3 mi NW (2005, 64°F)

a DOR Rana r. perezi noted.

Benalup de Sielonia, 9.2 mi N (2052, 62°F)

an AOR Rana r. perezi (21075-21078) collected. 8.9 mi N.

(2056, 62°F) a series of H. a. meridionalis heard to E. and

2 R. r. perezi (21075-21078) collected AOR. 7.5 mi. N (2101,

62°F) another R. r. perezi taken. 1.6 mi N. (2117, 60°F)

a R. r. perezi seen AOR. 1.2 mi N (2118, 60°F) a R. r. perezi

seen AOR. 1.1 mi N (2121, 62°F), 3 Pelobates cultripes

- 30 MAY 71 juvenile (21080 [37]) collected AOR. 0.6 mi N. (2125, 62°F)
 a Hyla a. mindionalis (21079) collected. 0.3 mi. N.
 (2127, 62°F) one Macropododon maculatus (21074) collected
 or a freshly killed specimen (cut w/ machete or some-such).
 3.7 mi. S. a large adult Lacerta lepidota noted DOR
 4.6 mi. S. at 2143 a chorus of H. a. mindionalis heard
 and a DOR R. a. perezi seen.
- 1 JUN 71 Puerto Real
 7.0 mi E, a lg. adult C. scalaris seen DOR
 and 7.3 mi E. a DOR Matrix maura noted.
- 3 JUN 71 Rota, Naval Base
 a Lacerta lepidota seen AOR at 1730 and at 2000
 two Blanus viridis (21081-21082) collected in a Pinus pinus
 area in harbor area. Both specimens were in sand/Pinus needle
 aggregate under a small stone.
- 5 JUN 71 Zahara - Grazalema
 7.9 mi. S. Zahara, 1500-1630, surveyed mountain
 area with no luck. 50°F, cloudy.
 5.8 mi. SW Grazalema, a DOR Bufo b. spinosus seen.
- 6 JUN 71 Jerez de la Frontera - Vejer de la Frontera - Benalup de
 Sielonia - Alcalá de los Gazules - Casas del Castaño - Rota
 1800-2400.
 Jerez de la Frontera, 10.8 mi. E. a DOR Elaphe scalaris
 (21083) collected.
 Vejer de la Frontera, 7.6 mi NE a large (1M.) Elaphe
scalaris found DOR. 8.4 mi. NE a large adult Lacerta lepidota
 seen DOR.

6 JUN 71

Benidrup de Sidonia, 4.9 mi. NE (2126, 55°F) on
AOR Bufo calamita (21084) taken. 9.1 mi NE (2140, 54°F)
one Rana perezi (21085) collected AOR.

Alcalá de los Gazules, 4.4 mi. SE, 2 Pelobates
cultus (21092 [3]) and 1 Hyla a. meridionalis (21090)
taken AOR. 5.2 mi SE (2204, 54°F) another P. cultus
(21092 [3]) collected. 7.9 mi SE one Bufo h. spinosus
(21086-21089) taken AOR at 2212, 55°F. 8.0 mi. SE a
Chalcideus c. striatus (21091) taken AOR at 2215 and 56°F.
10.2 mi. SE (2223, 55°F) another B. h. spinosus (21086-89)
taken AOR.

Casas del Costano, 3.2 mi SE (2245, 56°F) a
B. h. spinosus (21086-89) taken AOR. 7.1 mi SE (2258, 56°F)
another B. h. spinosus collected.

7 JUN 71

Rota, Naval Base

1054 (76°F) a Matrix maura (21094) collected AOR
and a Blanus cinereus (21093) taken and donated to me.

Puerto de Santa Maria, 1.8 mi ESE

1200-1310, 70°F, clear + sunny.

a Matrix maura (21109) and C. c. striatus (21108)
collected under rocks in area. Some P. a. algeri and another
Chalcideus also seen.

Puerto Real

4.7 mi E (1345, 69°F) a P. a. algeri seen in
Pistacia lentiscus.

4.9 mi E from 1345-1610, I surveyed an area
of Quercus coccifera, P. pinea, P. lentiscus, Chamaecrista
pumila, Cistus crispus, etc. and found several Acanthodactylus
e. erythrinus (21095-21103 [5]) and Psammodromus a. algeri

- 7 JUN 71 (21104-21107). 2 Lacerta lepida seen along with one Malpelon m. monspessulanus.
- 9 JUN 71 Rota - Chipiona
7.2 mi. W. Rota a DOR Malpelon m. monspessulanus (21118) collected at 1640. The specimen was fresh and apparently unhurt (but dead).
- 10 JUN 71 Puerto de Santa Maria, 4.8 mi. N. a DOR Malpelon m. monspessulanus collected at 1820 on P^{to} - San Juan Road. Too badly deteriorated to save. 3.4 mi. SE P^{to} de S^{ta} Maria a DOR Malpelon m. monspessulanus seen. a Blanus cinereus (21119) was captured 2 mi. W. Rota on Chipiona road behind Arroyo Hondo Apartment by a rock on board.
- 13 JUN 71 Jerez de la Frontera (0905, 64°F) - Arcos (0945, 66°F) - Bormos (0948, 68°F) - Villamartin (1000, 69°F) - Zahara (1050, 69°F) - Grazalema (1432, 76°F) - Villaluenga (1455, 70°F) - Benacoz (1503, 70°F) - Ubrique (1517, 79°F) - Galis (1637, 74°F) - Algar (1712, 76°F) - Arcos (1745, 76°F) - Jerez de la F^{ra} (1820, 74°F).
0842 - 1835, 64°F, sunny.
Villamartin, 9.6 mi. ENE a DOR adult Elaphe scalaris seen. 12.3 mi. ENE a Lacerta lepida seen AOR at 1025 and 71°F.
Zahara, 7.2 mi S. from 1120 - 1410 (72°F) and partly cloudy. a Blanus cinereus (21133) taken under a rock in wet soil about 1/2 way up. mountain. a series of Lacerta h. vaucheri (21134[8]) collected, two Chalcideus spp. (probably C. striatus) seen, and the possibility of my having seen one Psemmochromis hispidus is there. The quick movement and stoutness of the tail-less body was my only clue to the specimen's identity. 7.4 mi S (1420, 72°F) another L. h. vaucheri shot off rock on roadway.

13 JUN 71

Ubrique, 3.8 mi S. (1525, 79°F) a juv. M. m. monspessulanum seen AOR. 14.6 mi S (1620, 72°F) a Lacerta h. vaurchii seen on a rock.

Galis, 3.9 mi N (1649, 79°F) a Psammochromus a. algerius seen AOR.

Algar, 2.3 mi. NW (1720, 79°F) a large adult Malpison m. monspessulanum seen DOR.

17 JUN 71

Puerta de Santa Maria - Puerta Real

2025-2200, 68°F, (high today was 82°F)

Puerta Real, DOR Malpison m. monspessulanum seen DOR at 2.4, 7.2, 8.0, 8.1, and 10.4 mi. E.

Two Blanus cinereus (21137-21138) collected on the Naval Base (port area) earlier this evening (1900) 23.2°C

18 JUN 71

La Algaicha (vic. Bonanza) (1320 = 81°F shade)

1332 - Acanthodactylus e. erythrinus ^{adult} seen in C. album.

1335 - lee adult seen in J. phoen.

1339 - lee juv. in open sand vic. C. album.

1342 - lee adult shot at base of C. album.

1347 - lee juv. seen active around C. album.

1356 - lee adult shot base of C. album.

1359 - lee adult seen base of J. phoen (same as 1335).

1401 - lee juv. shot base of C. album.

1407 - lee adult seen in C. album area

1409 - lee juv. moving thru open sand

Small flies (sand flies?) really pesty

1411 - lee adult seen in C. album.

1414 - lee juv. seen base C. album.

1416 - lee adult shot in C. album.

18 JUN 71

1419 - Dee adult seen under J. phoen.1424 - Dee juv. shot beneath C album + J. phoen.1430 - Dee adult seen in J. phoen.1432 - 2 adult Dee seen in J. phoen area1445 - Psemmochromus a. alpinus seen in ecotonal area to N. of C album area.1447 - juv. Dee seen in J. phoen.1451 - Adult Dee seen in J. phoen.1453 - juv. Dee seen in J. phoen.1457 - juv. Dee seen under H. halimifolium1459 - Adult Dee shot under C album, 1 seen.1503 - Adult P. a. alpinus shot at base of P. pinus.1505 - Dee juv. seen in open sand.1510 - juv. Dee shot in H. halimifolium / C album area.1517 - Adult Dee seen in open shade of P. pinus.1520 - 1 juv., 1 adult Dee seen in open sand.1528 - juv. Dee seen in C album.1532 - Adult Dee shot under C album in direct sun.1537 - Dee subadult shot in J. phoen.1549 - Dee adult seen in shade of P. pinus.1554 - P. a. alpinus juv. shot in H. halimifolium1602 - Dee adult seen in shady area vic. C album1606 - P. a. alpinus adult shot vic. J. phoeniceas1608 - P. a. alpinus juv. shot vic. H. halimifolium1622 - P. a. alpinus seen in J. phoen.1626 - Dee juv. seen at base of J. phoen.1628 - Dee juv. seen in open sand.1636 - Dee adult seen near H. halimifolium in sun.

18 JUN 71

- 1638 - P. a. alpinus seen in H. halimifolium
1641 - juv. bee shot in H. halimifolium
1643 - juv. bee seen in J. phoen.
1644 - 2 juv. bee seen in open sun
1646 - Adult bee seen in J. phoen.
1648 - Adult bee seen in open sun
1650 - juv. bee seen in open sun
1651 - juv. bee seen in open sun
1656 - juv. bee seen in open sun
1657 - juv. bee shot under C. album
1659 - juv. bee seen in open sun
1704 - juv. bee seen in open sun
1707 - Adult bee seen in open sun
1709 - juv. bee shot in open sun
1710 - juv. bee seen in open sun
1714 - Adult bee seen in open sun
1716 - juv. bee seen in open sun
1717 - Adult P. a. alpinus seen in shade of P. pinus
1720 - juv. bee seen in open sun.
1722 - juv. bee seen in shade of H. halimifolium
1724 - Adult bee seen in shade of C. album.
1726 - 2 bee juv. seen in open sun
1728 - juv bee seen in open sun
1730 - bee juv. seen in open sun
1736 - bee subadult shot in open sun
1738 - bee juv. seen in open sun
1740 - bee juv. seen in sun under C. album.
1742 - bee juv. seen in open sand
1743 - bee juv. seen in open sand

18 JUN 71

- 1746 - P. a. alpinus juv. seen in open sun
 1747 - lee juv. seen in open sun
 1750 - 2 lee juv. seen in open sun
 1751 - P. a. alpinus adult seen in open sun
 1753 - lee juv. in open sun
 1758 - lee juv. in open sun
 1759 - Subadult P. a. alpinus seen in E. album along with lee in open sand.
 1807 - juv. lee seen in open sand
 1809 - P. a. alpinus subadult shot open sun near J. phoen.
 1812 - lee juv. seen in open sun vic. of E. album.
 1814 - lee juv. seen in open sun.

TIME	SUN	OPEN-SHADE	SKY-WIND-ETC	°F
1330	46	32	Clear	89.6
1400	50	36.5	Clear	97.7
1428	50.5	39.5	Clear	103.1
1500	48	39.5	Clear / wind	103.1
1533	48.5	36.5	Clear	97.7
1603	45.5	36	Clear	96.8
1632	42	38	Clear 100.4	107.6
1701	41	36	Clear	96.8
1732	41	35.5	Clear	95.9
1802	41	33.5	Clear	92.3
1817	41	33.5	Clear	

Temperature = °C, Black Body

Times = Hours local.

lee = CMFS 21139-21146 (6); P. a. alpinus = CMFS 21147-21151

19 JUN 71

La Algaída (vic. Bonanza)

0620 = 58°F and one P. a. algeri seen active in Pistacia lentiscus (may be repuscula spp.)

0729 - P. a. algeri seen in C album.

0757 - P. a. algeri seen sunning in J. phoen.

0820 - P. a. algeri adult shot while sunning under J. phoen.

0825 - P. a. algeri adult seen in open sun in C album.

0826 - 2 juv. P. a. algeri seen in open sun.

0828 - P. a. algeri seen open sun

0835 - P. a. algeri subadult shot in H. halimifolium

0838 - lee juv. seen in sun near C album

0844 - lee juv. shot in open sun.

0847 - lee adult seen vic. C album.

0849 - 2 P. a. algeri subadult seen in open sun vic. C album.

0853 - P. a. algeri adult seen in J. phoen.

0854 - lee adult seen in open sun near J. phoen.

0856 - lee subadult seen sunning / moving about under C album.

0907 - P. a. algeri seen sunning near C album.

0908 - P. a. algeri juv seen in open sand.

0909 - lee adult shot in open sand.

0911 - Adult lee seen in open sand

0912 - juv. lee seen in open sand

0914 - Adult lee seen in open sand.

0916 - 2 juv. lee seen in open sand

0917 - Adult lee seen in open sand

19 JUN 71

0921 - Subadult bee seen in C album

0923 - Adult bee seen in C album area

0924 - juv. bee seen in J. phoen.

0926 - Subadult bee seen in C album.

0927 - Adult bee seen in open sand

0929 - juv. bee seen in open sand

0930 - 2 juv. bee seen in open sand

0932 - 2 juv. bee seen in C album

0935 - P. a. alpinus adult seen in J. phoen.

0937 - bee adult seen in open sand

P. a. alpinus shot in P. lentiscus

0944 = 76°F (shade)

0950 - juv. P. a. alpinus shot from P. pinus trunk about 24" from ground level.

0951 - Adult bee seen in open sand

0958 - juv. bee shot in open sand

0959 - juv. bee seen in open sand

1002 - juv. bee seen in open sand

1004 - juv. + 1 adult bee seen in shade of P. pinus in C album.

1006 - bee juv seen in open sun.

1008 - bee juv. seen in B. halimifolium

1010 - bee adult seen in C album.

1012 - bee adult and 1 juv. seen in open sand.

1013 - P. a. alpinus seen in J. phoen.

1014 - bee adult seen foraging. Stays in sun 2-4 seconds, moves to shade, back to sun, etc.

1016 - bee adult seen in open sun vic. J. phoen.

1017 - 3 bee juv. seen in open sun.

19 JUN 71

- 1020 - P. a. alpinum adult seen in f. phoen.
 1025 - bee juv. seen in open sand
 1026 - bee juv. seen in open sand.
 1030 - juv. bee seen in open sand
 1032 - juv. bee seen in open sand
 1033 - adult and juv. bee seen in C album.
 1034 - juv. bee seen in open sand
 1035 - adult bee seen in C album.
 1037 - adult bee seen in C album
 1040 - juv. bee seen in open sand
 1041 - juv. bee seen in open sand
 1042 - juv. bee seen in open sand
 1045 - bee adult shot in f. acutus area / open sun.
 1048 - Subadult bee shot open sun, other specimen seen.
 1050 - juv. bee seen in C album.
 1051 - bee juv. seen in C album.
 1052 - bee adult seen in C album.
 1054 - bee juv. seen in open sand
 1055 - adult bee seen in open sand
 1057 - juv. bee seen in f. acutus.
 1059 - 3 juv. 1 adult bee seen in open sun/sand vic.
C album.

- 1105 - bee juv. seen in open sand
 1108 - bee juv. shot under f. phoen in open sun.
 1111 - bee adult seen in open sand
 1112 - P. a. alpinum seen in f. phoen.
 1115 - bee adult seen in f. phoen.
 1118 - bee adult seen in open sun
 1121 - bee adult seen in C album

19 JUN 71

1123 - 2 juv. lee seen in C album.1125 - Subadult lee shot in open sun1129 - juv. lee seen in C album.1130 - juv. lee seen in open sand1131 - 2 juv. lee seen foraging in open sand area.1133 - 2 juv. lee seen in C album.1134 - juv lee seen in C album.1136 - 2 juv. lee seen in C album.1140 - Adult lee ^{seen} in shade of P. pinea $\bar{c}$ C album.1142 - juv. lee seen in open sand1144 - juv. lee shot in J. phoen.1146 - juv. lee seen in open sun, ran to C album.1147 - Subadult lee seen under J. phoen.1151 - lee adult shot in C album.1155 - lee adult seen in J. phoeniceae1157 - Adult P. a. alpinum seen in H. halimifoliumjuv. lee seen in C album.1204 - lee adult seen in C album.P. a. alpinum adult seen in H. halimifolium1205 - lee seen in ecotonal area (N) in J. phoen /P. lentiscum combination.

1208 = 81°F (shade)

1220 - Adult lee seen in J. phoen.1221 - juv. lee seen in J. phoen and juv. P. a. alpinumseen in shade of Pistacia.1223 - juv. lee seen in H. halimifolium1236 = lee juv. shot in H. halimifolium1237 - lee juv seen in open sand.1240 - P. a. alpinum seen in C album.

19 JUN 71

1242 - lee juv. seen in J. phoen.1247 - lee juv. seen in J. acutus1251 - lee juv. seen in C album.1253 - lee juv. shot in J. phoen.1256 - Subadult lee seen in C album.

1258 - Adult lee shot in Cistus crispus, J. phoen.,
and C album under shade of P. pinea: specimen has
bifurcated regenerated tail.

1305 - 2 juv. lee seen in C album.1308 - juv. lee seen in C album.1309 - Adult lee shot in C album.1314 - juv. lee shot in C album.1316 - lee adult seen in J. phoen.1317 - P. a. algium adult seen in H. halimifolium

1320 - Adult lee shot in H. halimifolium in shade
of P. pinea

1324 - lee adult shot under C album.

1326 - P. a. algium adult shot at base of P. pinea
in J. phoen.

1336 = 87°F (shade)

TIME	SUN	OPEN-SHADE	SKY-WIND
0700	20	18.5	Clear
0730	20	18.5	Clear
0800	27.5	21.5	Clear
0835	30	22.5	Clear/breeze
0900	34	24	Clear/breeze
0930	37.5	26	Clear/breeze
1000	38	28.5	Clear/breeze

19 JUN 71

TIME	SUN	OPEN-SHADE	SKY-WIND
1029	41.5	29	Clear/breeze
1103	42	32	Clear/breeze
1128	42	32	Clear/breeze
1200	45	33.5	Clear/breeze
1227	47.5	34	Clear/breeze
1300	54	32.5	Clear/breeze
1330	53.5	34	Clear breeze

Temperatures = °C black bulb

Times are hours local.

CMFS 21152-21157 = P. a. alpinus

21158-21165 (9) = A. e. erythraeus

Vejer de la Frontera - Facinas - Casas del Castaño -
Alcalá de los Gazules - Benaolup de Sidonia.

Vejer de la Frontera, 82°F, 1.5 mi W @ 1628
a. POR Malpison m. monspersulorum seen.

Facinas under very windy condition, 5.5 mi N.
(1710, 71°F) a juv. Lacerta lapida (21173) shot. 5.6 mi N.
(1717, 74°F) a Tarentola mauritanica (21178-21180) collected,
2 others seen on bridge along w/ a Lacerta lapida. 6.2 mi.
N (1730, 70°F) two T. mauritanica seen and one (21178-21180)
captured (also photographed in lab). a Hemidactylus turicus
(21181) taken under a rock along a bridge abutment. Apparently
Hemidactylus and Tarentola cohabit. 6.3 mi N (1745, 72°F)
two T. mauritanica seen and one taken, a Lacerta h. vaucheri
(21175-21177) taken. Last time a Rana a. perezi taken here
in a deep sink hole. Water level is now very low and there
is ~~no~~ no water feeding the hole. 6.5 mi N (1751, 70°F) a
T. mauritanica seen and a L. h. vaucheri shot. 6.8 mi. N.

19 JUN 71

(1801, 69°F) a Tarentola mauritanica seen on bridge abutment.
6.9 mi N (1807, 66°F) a Lacerta h. vaucheri seen and
a Lacerta lepida also seen. 7.0 mi. N. (1810, 67°F)
a Tarentola mauritanica seen on a culvert along with a
Lacerta lepida. 7.2 mi. N (1822, 66°F) a Rana r.
perezi (21174) collected under a rock, a L. h. vaucheri
(21175-21177) shot and another specimen seen. 8.7 mi N.
a Lacerta lepida seen on a rock at 1833 and 64°F.
9.2 mi N. (1835, 65°F) a Malpison m. monspessulanum
(25-26") seen DOR. 9.4 mi. N. (1838, 66°F) a L. h. vaucheri
seen on bridge.

Casas del Costano, 1.6 mi. W (2007, 64°F) a
Lacerta lepida seen DOR. 5.3 mi W (2015, 68°F) one
Malpison m. monspessulanum (21166) young specimen DOR.
12.6 mi WNW (2025, 69°F) a M. m. monspessulanum
juv. seen DOR.

Benalup de Sideria, 4.1 mi. S. (2055, 66°F)
a DOR Malpison m. monspessulanum (1 M.+) noted.
End Survey at 2115.

MOROCCO

01 NOV 1969

Israhe, 13.7 mi N at 1315 and 13.5 mi N. of KASAR.
EL KEBIR DOR Malpalam m. mospessulanum seen.

29 JUN

Tetouan Prov, El Araba, 7.8 mi. N. a Coluber hippocrepis seen DOR.

Casablanca Prov, El Jolida at International Campground about 500 ft. E. of beach to N. of City. CMFS 22002-22014 collected about 2200 (65°F) in campground. Bufo mauritanicus were found at pool side, Tarentola mauritanica on wall of a building, and Hyla a. meridionalis were collected in the wash room area.

30 JUN

Casablanca Prov, El Jolida, 5.5 mi. N. a series (CMFS 22015-22033) of Acanthodactylus erythrum atlanticus and 3 Chalcider oxellatus rosii (CMFS 22034-036) collected in a sand dune area with some low vegetation. The day was cloudy but the temperatures were near 70°F. A Macroprotodon cucullatus sp. and a Malpalam mospessulanum seen DOR in the same area. Collection was taken from 0900-1100 and some local boys helped at a cost of 6 Acanthodactylus for \$1.16 (80 francs). 10.8 mi. N. on a beach road a DOR Malpalam mospessulanum sp. seen but not saved. I returned to the beach area at 1600 and collected another Chalcider (22037) and a series of Acanthodactylus (22038-22042), part of which cost us 40 francs, until 1730. From 2100-2200 at the Campground a series of Bufo mauritanicus (22043-22045), a Hyla a. meridionalis (22046), and a Tarentola mauritanica (22047) were taken. The campground area itself is well shaded and

30 JUN

grassy. Bufo were found along the path in the pool area. Hyla were confined to washrooms, and Tarentola to lighted areas of buildings.

01 JUL

Agadir Prov, Agadir, 5.0 mi. N, a small series of lizards was taken from 1800-1900. 3 Saurodactylus mauritanicus brosseti (22048-50) were collected under rocks in arroyo area about 1/4 mi. E. of the ocean. Chalcida ocellatus solosii (22051) was taken in loose sand/broken wood under a rock on an Eremias olivieri olivieri (22052) was collected with a rubber bowl in an area of cactus-like plants.

02 JUL

Agadir Prov, Goulmine, 1.6 mi. N. a series of Saurodactylus m. brosseti (22053-57) taken under rocks on desert floor. CMFS 22053 was photographed as it in my first Tropiscolus t. algericus and all specimens were taken from 1300-1330 (79°F) under extremely windy conditions. 3.1 mi. N. we surveyed another area from 1400-1430 with no luck at all -- this area, also, was desert floor and was very dry. 13.0 mi. N from 1900-2000, 9 more Saurodactylus m. brosseti taken beneath decayed cactus where they appeared to live in close proximity to the roots of the plant. 20.8 mi. N. at 2100 a Bufo mauritanicus (CMFS 22077) collected AOR at the camping area in Goulmine we collected a series of Rana esculenta ridibunda (CMFS 22058-22076) from 2200-2230 in a drainage area in the campground. For the most part, this area has been little good for collecting. The desert floor is very dry and the cloud cover has been heavy. The temperature

02 JUL 71

was 64°F but now it's only 72-76°F at 1130.

03 JUL 71

Agadir Prov, Taroudant, one Chamaeleo c. chamaeleo (22087) found DOR on main road passing E-W thru town. 4.3 mi. ENE an Acanthodactylus sp. seen in shrubbery which I believe to be Lycium monosperma; a snake was also seen but not collected (Probably Malpison).

Marrakech Prov, Tizi-n-test, 7.2 mi. N. at 1625 and 80°F an Agama bibrani (photographed but escaped prior to preservation) shot from rock outcropping. This species is common along the mountain road, especially this particular part which is now under construction. Asni, .5 mi. N. we camped along the road in this area near a fresh, cool water stream. A series of Rana esculenta isidibunda (22088-22101) and Bufo mauritanicus (22102-104) taken from 2130-2230 and about 68°F.

04 JUL 71

Marrakech Prov, Tahanoute, 10.9 mi N. a Natrix maura seen DOR. Toddert, 1.8 mi SE, a Psoralea alpinus (22105) taken from side of road. The area is very arid, montane (High Atlas) and with little vegetation. Ouarguete, 2.4 mi. S., 3 Acanthodactylus boshianus asper (AUDOUIN) (22106-22108) taken between 1530 and 1700 (100°F) and with a very stiff E. wind. This area was shaded, somewhat, by palms but the Acanthodactylus seem to prefer the low, sparse, vegetation of the more open areas. 12.5 mi S at 2100 and 84°F a Cerastes ruber (22109) was collected DOR. The habitat area of this species seems to be rock littered sand with sparse vegetation.

05 JUL 71

Marrakech Prov, Ouarguete, 6.0 mi. S. from 0530-1000 (58-76°F) in an area of a creek bed which still

05 JUL 71

contains flowing water and is sheltered on both sides by loose sand dunes and sparse vegetation. (5) Acanthodactylus boshianus asper (AUDOUIN) (22110-22114) taken along with a Rana e. ridibundula (22115) and a juvenile Bufo mauritanicus (22116). Acanthodactylus seems to begin activity in this area around 0730. 2.4 mi. S. a series of 4 Acanthodactylus boshianus asper (AUDOUIN) (22117-120) and a Chalcidus acellatus subtypicus (?) (22121) taken in area of palm trees. Chalcidus was under a large piece of dried clay in moist soil/grass. Acanthodactylus seem to stay in sun longer here than in San Luca, Spain area but this is, of course, subjective. Temperature at 1300 = 98°F and a heavy E. wind began at 1330. This wind (if it's same as yesterday) should stop about 1900. 1900-1915 (no wind), 6.6 mi SE, 90°F a series of Rana esculenta ridibundula taken from shallow pools which are remnants of an apparent desert creek. The series is labelled 22122-22128 and a series of 9 Bufo mauritanicus juvenis were also collected along the stream margin. These specimens are collectively known, now, as 22116 (10) and are the 9 unlabelled animals. From 1930-2200 we drove 70 miles (35 mi. S. on Zagora Road and return) without sighting a single specimen save a few scorpions. The heat at 2200 was still about 85°F and the area is very, very dry.

06 JUL 71

Manakich, Ouarguete, 2.4 mi. SE from 0730-0815 a series of Acanthodactylus boshianus asper (AUDOUIN) (22129-134) taken from Palm-shaded area containing many adobe-type wall remnants. The lizards tend to start daily activity at a temperature of about 74°F and conclude most of their foraging.

06 JUL 71

about 10 am when air temperature is over 90°F. 10.7 mi. W. at 0909 and 92°F an Azoma bibroni (22135) was shot while sunning on a culvert. He was originally seen crossing the road in an area with little vegetation and rock cover. Agouim, 9.6 mi. SE at 1100 and 86°F another Azoma bibroni (22136) was shot in a heavily rock-laden area. It was sunning atop a very high rock and at least 3-4 others were seen in the same area. Toddert, 10.8 mi N, 1230 and 86°F a large Lacerta lepida patet (22137) was shot under a rock which lay along a dried stream bed. The rock was in the shade of a group of Fir trees and the Lacerta was apparently sunning when we disturbed it. Oukaimeden, 1700-1800, collected a large series of Quedenfeldtia trachyblepharon (22138-150) from rock laden area at elevation in excess of 2650 M. The geckos were sunning themselves on the W. slope of the Mountain upon which most of the town is located.

07 JUL 71

Marrakech Prov, Oukaimeden, 0930-1100 searched rocky area (photographed) to S. and saw only one Quedenfeldtia during this time. From 1130-1230, 3.2 mi. N. at 82°F and under clear skies we captured several Q. trachyblepharon (22151-162) and three Lacerta (22163 = L. perspicillata, 22164-165 = L. ^{HISPANICUS} andersoni) in a field containing many large rocks and a few areas of talus. Quedenfeldtia appear to live in rock crevices around which it is active along the stream bed/shore which passes from the melting snow to the S. to the bottom of this particular mountain and found Lacerta andersoni (22166-22188) to be very active in the afternoon sun. Hyla

07 JUL 71

one heard calling in the evening hour but not collected as yet. The area in which we camped is a basin or plateau surrounded on all sides by the High Atlas. Lacerta andreaskyi appear to prefer the lower areas i.e.: most collected at stream bed, other 3.2 mi N. of here at lower elevation. There were also many, many juveniles of the species seen in the area and about 4 were taken. From 1730-1830 another series of Quedenfeldtia trachyblepharus was collected (22189-22196) in the same area as the first night (by T.V. relay station) at 0330 on 7 July the temperature here was 38°F and at 2100 it was 54°F making the temperature variations in this valley great.

08 JUL

Marrakech Prov, Ouhaimeden, 7.8 mi. N. from 1030-1130 (92°F) several Q. trachyblepharus (22197-22204) collected along with 3 Lacerta h. vaucheri on side of hill containing a small waterfall and many large rocks. A Bufo mauritanicus (22223) was collected in a culvert in wet grass. 8.8 mi. N. another series of Quedenfeldtia (22209-22213) collected along with some Lacerta andreaskyi (22214-15) in rocky area and retaining wall drain holes. At camp in the valley at Ouhaimeden we collected from 1500-1600 another small series of Lacerta andreaskyi (22216-22222) along the stream bed. At 1700, or thereabouts, I began to feel the results of too much sun, took 2 salt tablets and aspirin and went to bed at 1900.

09 JUL 71

Marrakech Prov, Ouhaimeden, from 1000-1130 a series of Lacerta andreaskyi (22224-22245) captured along stream bed. Again, many juveniles were seen. The species seems very adept at going in and out of rock formations as a form of self-protection.

09 JUL 71

Most are seen near water's edge but a few were picked up about 12' from the stream or were some found where no water was available (7.8 mi N). We left Ouhaimeden at 1340 and stopped 7.8 mi N (1400-1430, 94°F) where a Lacerta h. vaucheri was seen and a small series of Quedenfeldtia trachyblepharus was taken (CMFS 22246-22250).

10 JUL 71

Marrakech, Marrakech Prov, Camped here today for tour of city and general purposes. Larry left on a plane to Tangier at 1600 (DH 149.50) and Doc is feeling the effects of 100°F continuous heat.

11 JUL 71

Agadir, Agadir Prov, 42.6 mi. N. on beach road from 1130-1145 (88°F) two Acontodactylus pardalis (?) (22251-22252) collected in sandy area under low shrubs. 14.2 mi. N at 1245 (84°F) a large ^{EUMECOS} ~~Scorop~~ ^{SCOROPIDAE} Scorop (22253) collected under a large plant. The skink was first seen crossing the road and later was dug out from the root system of a large roadside plant. Coloration in a grey with orange banding. At Agadir we climbed the hill over the harbor where a fortress (or ruins of one) site and found one Agama bibrani (22254) at 1530 and 80°F while seeing a few more sunning on exposed rocks. In life the species coloration was as follows (♂):

DORSAL: Top of head pale cream, temporal yellow, dorsum with pinkish cast and blue spotting on lateral aspect. Tail bluish. Shoulders dark blue, forearms light blue -- rear legs colored as front legs.

VENTRAL: Lower labial yellowish, chin dark blue, 6 full (anterior-posterior) longitudinal orange stripes; stomach blue, final series of pre-anal scales in yellow.

11 JUL 71

1.2 mi. N. at 1655 and 78°F a Tarentola mauritanica (22255) was collected in a culvert and an Agama bibroni was seen sunning. 6.6 mi. N. at 1730 and 80°F a Eremias o. olivieri (22256) was collected from the side of a stone wall in an otherwise barren (but plowed) field. From 2100-2300 drove 60 miles (or for or 30 mi. S.) and the following resulted: 8.7 mi S. of Agadir (2100, 67°F) a Bufo mauritanicus (22257) was collected AOR and at 2119 (65°F) a Macroprotodon cucullatus brevis (22259) was taken AOR 19.1 mi. S. of Agadir. 8.5 mi. S. at 2216 and 68°F another Bufo mauritanicus collected AOR. The evening was damp but very pleasant.

12 JUL 71

Agadir Prov, Agadir, 10.6 mi. N. from 0920-1045 (70-78°F) on a cactus laden hillside three Saurodactylus m. brossiti (22260-22262) were taken along with a large black scorpion (Butor?) and a few phots. The area on the E. side of the hill is very dry with many rocks lining the ground. There are rock ledges and a ravine is also present. Vegetation is primarily cactus with low-level thorns (much like the Spanish alex) -- a few thorny trees are also present. The ground is too dry, even under rocks, to be expected to be productive. 12.5 mi. N. at 1125 (90°F) an Agama bibroni (22263) was shot from NW side of a large rock. The dorsum on this specimen (♀) is yellow with red banding, the venter is white and the head has a bluish cast to it. The rest of the body is a greyish-blue. at 1400 (76°F) a Perra esculenta ridibundula (22264) collected

12 JUL 71

from beneath a bridge to the E. of the compound. The Rana was in a small pool supplied by what appears to be a leak in the water main. At 1600 (90°F) an Agama hibroni (22265) shot in the area of hill and rock directly to the N. of Agadin. It was sunning itself on a concrete ledge. At 2000, we decided to drive 58 mi. S. to Tignit and see what could be found. 21.4 mi. S. at 2030 (66°F) a Bufo v. viridis (22269) was collected AOR. 27.6 mi. S. at 2049 and 68°F an AOR Bufo marmoratus (22270) was collected. 46.4 mi. S. at 2134 and 64°F a freshly DOR Macrotodon cucullatus brevi (22266) was collected. We turned around at Tignit at 2200 after going through a second military roadblock (1st was at Agadin proper) and proceeded N. 7.6 mi N. at 2220 and 66°F a Naja haje haje (22268) adult was sighted crossing the road. After giving the snake a wide berth, I backed up and positioned the high beams so I could see the animal. After I had stalled the car about 50' from the snake I decided it was, indeed, Naja. He was about 2' on the road with remainder of body on the shoulder at first. I got out of the car and he lifted his head to, apparently, watch what was happening, turned, and began to scowl out into the cultivated field to the E. While I followed with a flashlight, I hollered to Dool to bring the pellet rifle and a snake stick. In his excitement, Dool brought the rifle but no light for himself or any ammunition for the gun except that loaded in the chamber.

12 JUL 71

I fired the rifle and apparently hit the snake. He stopped moving momentarily and then changed direction. As the snake approached me, I pumped furiously on the rifle, asked for a pellet, and almost died on the spot! Dad ran to the car and got a flashlight for him and brought the can of pellets with him. Meanwhile I slowly backed away from the snake and hoped the light wouldn't fade away -- the flashlight has been in use for almost 6 months without a battery change. When the pellets arrived I was thinking of beating the cobra with the gun butt but managed to load the rifle and fire a second shot. The Naja turned (whw!) and we followed it across the field -- my pumping the gun and Dad telling me to hurry up. The third shot stopped the Cobra, he thrashed a bit, and died. We carefully placed the carcass in a gallon jar and returned to Agadin where the beast was preserved. 32.7 mi. N. at 2300 and 66°F a DOR Coluber hippocrepis (22267) was collected. 41.2 mi. N. at 2315 and 67°F a DOR C. hippocrepis adult seen on road. Survey ended at 2400.

13 JUL 71

Drove from Agadin to Zoulimeine
Agadin Prov, Bou-Syabarn, from 1315-1345 (99-100°F)
a series of Agama bibroni (22271-75) were taken between 10.2 and 8.2 mi. N. in an area of many large rocks. The Agama were all sunning and this particular species will sit through much human activity before starting. I shot 3 pellets at the first specimen before successfully hitting it and it never moved its head. The sunlight

13 JUL 71

must have produced an intense heat upon the lizard but all kept their dorsal surface angled toward the rays of the sun.

Agadir Prov, Soulimine, 10.4 mi. NE from 1945-2005 (76°F) two Saurodactylus mauritanicus brosseti (22279-22296) collected at base of cactus plant. The species seems to prefer the dried base/roots of this cactus as a habitat type over the rocky areas the other gecko seems to inhabit. 19.3 mi. NE (2126) @ 74°F on AOR Bufo mauritanicus (22277) was collected.

Bou-Lyahann, 2.4 mi SW at 2051 (74°F) an AOR Macroprotodon succellatus brevis (22278) collected. At 2150 the survey ended after 50 mi. of night driving for collection purposes.

14 JUL 71

Agadir, Soulimine, 7.9 mi. NE from 0900-0930 (64-72°F) an Ayuma sp. (probably bibroni) was seen at base of cactus and 3 Saurodactylus m. broseti (22279-296) were captured along with a large series of scorpions. 9.7 mi. NE from 0945-1115 (78-82°F) we tore apart several of the dry cactus plants and collected Saurodactylus m. broseti (22279-296) along with 2 Tropiscolotes t. algericus (22297-302) under rocks in dry soil. 10.3 mi. NE from 1130-1225 (80-87°F) another series of both species of geckos was taken. It appears that Saurodactylus (22279-96) prefer the bases of dried cactus plants as a habitat whereas Tropiscolotes prefer the undersides of rocks. The area in which we collected was extremely dry as the cactus were easily pulled from the ground and subsequently torn apart. Also noted was the fact that there is hardly any

14 JUL 71

moisture under any rock regardless of size. Saurodactylus were almost always found in pairs under the cactus -- never more than 2/bush but sometimes only one was seen. At 1930 we decided to drive the road to Tan-Tan in search of specimens. 38.6 mi. S. of Goulmine at 2025 (64°F) a DOR Malsodon monspessulorum insignitus (22303) was collected DOR. The specimen is in pretty bad shape from decomposition but an attempt to save it appeared in order. Tan-Tan is exactly 83 mi. to the S. of Goulmine and the road appears to be kept in good condition. 8.1 mi. N. of Tan-Tan at 2139 (70°F) the first AOR Stenodactylus s. mauritanicus (22304-22307) was collected. 5.4 mi. N. of Tan-Tan at 2145 (72°F) two S. s. mauritanicus (22304-7) were collected AOR in area that appears to be composed of loose sand and low shrubbery. 5.3 mi. N and 9.0 mi. N. (2216 [66°F]) and 2227 [66°F] respectively Geckonia chagaliae was collected (CMFS 22308-9) AOR and at 10.7 mi. N. at 2235 and 68°F another Stenodactylus s. mauritanicus (22304-7) was taken AOR. 34.9 mi. N. of Tan-Tan at 2330 and 64°F a Lytoschynchus d. diadema (22310) was collected AOR and photographed alive. The survey ended at 2400 hr and nothing additional was collected. 22310 was observed giving a cobra like display; when approached the neck was flattened appreciably and the snake raised his head and body about 3" off the ground while maintaining a posture like that of a cobra. The entire display lasted about 15-20 seconds.

NOTE
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15 JUL 71

Agadir Prov, Goulimine, 0730 = 62°F. 0830-0845 and we surveyed 20 mi. S. of Goulimine with nothing being seen. 0850-0910 (68°F) one large skink Sphenops boulengeri (22311) was shot and a Saurodactylus m. brosetti (22312-19) collected 15.0 mi. S. in area of bridge over arroyo. Another skink was seen but not collected. 12.0 mi. S. from 0920-0950 (73°F) several Saurodactylus (22312-19) collected in basin of cacti. 8.7 mi. S. we surveyed area of sand and water hole but collected nothing. 8.6 mi. NE Goulimine from 1845-1915 (72°F) a series of geckos were taken, again, under cacti (22323-326). Drove S. and the following are the results: 46.3 mi. S. Goulimine, 2040, 66°F a OOR Stenodactylus s. mauritanicus (22320-22) collected. 47.1 mi. S. at 2047, 66°F, an AOR Stenodactylus s. mauritanicus (22320-22) collected. 47.1 mi. S. at 2047, 66°F, an AOR Stenodactylus s. mauritanicus (22320-22) collected and the last of the 22320-22 series was taken at 12.0 mi. S. at 2223 and 61°F. At 2245 the survey was terminated after 101 miles had been driven. The land area is much like that N. of Goulimine; the shifting sands don't really begin until you get to Tan-Tan. And then (about 83 mi. S) the roads end for conventional vehicles.

16 JUL 71

Agadir Prov, Goulimine, 11.0 mi. NE from 0930-1020 (72°F) a series of Saurodactylus m. brosetti (22327-336) taken from below the rotted parts of cactus plants -- in loose soil which is still damp or appear to be at least slightly damp. The whole collecting area is ~~very~~ ^{very} dry.

16 JUL 71 From 1030-1040 (74°F) 11.2 mi. NE on Agama libroni (22337-38) and a Saurodactylus m. brosetti (22327-336) taken from under rock. 12.5 mi. NE from 1045-1100 (81°F) another of the 22327-336 series taken. 9.3 mi. NE, 1110, 82°F, the final Agama (22337-38) collected. From 2000-2300 we surveyed 100 mi. of road to the S. of Goulimine and collected 22341-342 (Stenodactylus a. mauritanicus) at 42.7 mi S. (2050, 68°F) and at 36.5 mi S. (2200, 64°F). An AOR Coluber hippocrepis (22343) was taken 46.0 mi S. of Goulimine at 2106 and 66°F. A small series of Gehonia chagaliae Mocquard (22339-40) was collected at Tan-Tan, 33 mi. N (2120, 66°F) and Goulimine, 21.2 mi. S. at 2230 (62°F).

17 JUL 71 Agadir Prov, Goulimine, 5.0 mi. NE (1008, 78°F) one Agama libroni (22344-22363) was shot while another was seen alongside the road. 11.4 mi. NE (1023, 74°F) a second Agama was shot and 24.3 mi. NE at 1046, 86°F, a third was taken. All the following locations are for the Agama series 22344-363 which was taken this morning. One pair was noted courting (Head Bobbing in ♂, close proximity of ♀: female noted to "nose" ♂ after I had shot it -- escaped before I could reload). Bou-Izakarn is 25.6 mi NE of Goulimine.

Bou-Izakarn, .7 mi. N, 1055, 84°F, ♂ shot
 5.7 mi N, 1117, 76°F, ♂ shot
 6.0 mi. N, 1119, 70°F, 1 specimen shot
 6.1 mi. N, 1127, 77°F, 1 shot
 6.3 mi N, 1135, 78°F, 1 ♂ caught live
 (dug from burrow)

17 JUL 71

7.0 mi N, 1145, 76°F, ♀ shot
 7.1 mi N, 1146, 77°F, ♂ shot
 7.4 mi N, 1157, 76°F, 2 seen
 8.2 mi N, 1204, 74°F, 1 shot
 8.4 mi N, 1208, 78°F, 1 seen
 9.4 mi N, 1217, 76°F, ♀ seen
 9.7 mi N, 1219, 78°F, ♀ seen
 10.1 mi N, 1222, 73°F, ♂ seen
 11.6 mi N, 1232, 76°F, ♀ shot
 7.4 mi N, 1257, 84°F, ♂ shot, ♀ seen
 6.4 mi N, 1259, 80°F, 2 ♀♀ seen
 5.8 mi N, 1320, 80°F, 1 ♂ seen
 6.0 mi N, 1323, 82°F, 1 ♀ shot
 6.4 mi N, 1328, 81°F, ♂ shot
 6.8 mi N, 1332, 82°F, ♂ shot
 7.0 mi N, 1340, 80°F, ♂ seen and eluded

me by climbing a tree

7.4 mi N, 1343, 80°F, ♂ shot
 7.5 mi N, 1346, 82°F, ♂ seen
 7.8 mi N, 1351, 82°F, 1 juv. shot
 7.9 mi N, 1354, 81°F, ♂ seen
 8.2 mi N, 1400, 86°F, ♂ shot
 11.2 mi N, 1400, 88°F, ♂ shot

Agadir Prov, Agadir 10.1 mi SE on the road to Tafraoute
 at 2400 a DOR Basiliscus f. fuliginosus (22364) collected
 in good condition. 2.0 mi. S. on the same road at 2300
 a DOR Coleman's lizard (22365) collected.

18 JUL 71

Agadir Prov, Agadir, 9.2 mi N. a DOR Scincopus fasciatus (Peters) (22366) collected at 1155.

18 JUL 71

Safi Prov, Essouira, 3.0 mi. S. a single Acanthodactylus erythrinus atlanticus (?) (22368) collected while 2-3 others were seen. At 2155 a Bufo mauritanicus (22367) was taken AOR in the same location and a small chame was heard from the river near the bridge area. We drove 41 miles tonight, quit at 2210, and found only the 1 Bufo.

19 JUL 71

Safi Prov, Essouira, 3.6 mi. S. from 0800-0930, 80°F± in area of sand, heavy shrubbery, and a Lycos (which may be monosperma) 6 Acanthodactylus erythrinus lineomaculatus (22368-374) collected. 3 others seen along with one large lizard of unidentified genus and one small ~~snake~~ (L I M. TL).

Marakech Prov, Marakech, 15.6 mi. W. (2036, 78°F) 2 Rana esculenta ridibunda taken AOR (22375-377) 20.4 mi. W. on road to Essouira a Bufo mauritanicus (22379-81) collected @ 2048 and 80°F. 22.4 mi. W. at 2054 and 78°F a small Bufo v. viridis (22378) collected AOR. 18.3 mi. W. (2206, 74°F) a large AOR B. mauritanicus taken. 11.3 mi. W. (2220, 74°F) a large Rana esculenta ridibunda taken AOR. The area driven was mostly 40 miles of flat plateau with little vegetation save the Eucalyptus-lined highway in the city proper at 2245 and 76°F another Bufo mauritanicus taken AOR.

20 JUL 71

Marakech Prov, Marakech, 0730, 74°F, a Tarentula mauritanica (22382) collected from a tree at the TCM compound.

Beni-Mellal Prov, El Ksiba, 2.8 mi. S. camped at organized compound. 12.5 mi. S. (2022, 78°F) a B. mauritanicus (22383-390) collected AOR. 13.1 mi. S., 2030, 75°F,

20 JUL 71

a Natrix maura (22391) taken on a fresh DOR 13.3 mi. S. at 2032 (72°F) a Bufo marmoratus taken AOR 17.7 mi. S. at 2050 and 72°F a B. marmoratus taken AOR. Other B. marmoratus taken AOR as follows:

18.2 mi. S., 2053, 73°F (2)

22.8 mi. S., 2113, 72°F

32.8 mi. S., 2145-2200, 69°F

18.1 mi. S., 2241, 69°F

and at 32.8 mi. S. from 2145-2200 (69°F) a series of Rana esculenta ridibunda (22392-22400) taken from a stone-bottomed pond of rapidly flowing water. The entire area covered to about 12.0 mi. S. is heavily montane; we are camped at 1100 M. and most of the area is a selection of Pinus, Quercus, and rough, scant undergrowth. After 12 mi. S. the land seems to be a raised (= elevated) plateau with a fair amount of springs passing thru it.

21 JUL 71

Beni-Mellal Prov, El Kaba, 5.3 mi. S. at 0840 and 86°F a Lacerta perspicillata D+B (22401) taken from a stone wall while sunning itself. 8.9 mi. S., 0907, 94°F, a ♂ Agama bibroni (22402-22405) shot and a ♀ seen beneath a small pine. 13.2 mi. S. at 0930 and 92°F a Clemmys caspica leprosa (22406) taken from a shallow, fast moving spring while a smaller specimen was seen sunning on a rock in same area. 29.2 mi. S. at 1034 and 95°F 2 Agama bibroni (22402-5), ♂ + ♀, shot while sunning. 30.2 mi. S. @ 1058 and 102°F a ♀ Agama shot. Along the entire route there were pine forests alternated with open plateaus littered with talus. The area

21 JUL 71

is pretty much like any other mountain area in Spain/Morocco. The Agama appear to be tolerant of exceptionally high temperatures as we didn't see any before about 1000 hrs. Lacerta lepida patet seen on side of the road but none collected. Early afternoon (1300-1400) a couple of Acanthodactylus e. atlanticus (22407-22408) collected at the camp. ($\pm$ 1200 M) along w/ one Psammochromis a. algirus (22409) which was taken along a stream bed with heavy vegetation, a Tarentula mauritanica (22410) was taken from a bathroom wall, and a Hyla a. meridionalis (22411) was collected on the road near a swimming pool about 2215 and 76°F.

22 JUL 71

Beni-Mellal Prov, El Kiba, 6.0 mi. S. at 1037 a Lacerta lepida patet (22412) was shot AOR and 1.6 mi. S. another L. l. patet (22413) was collected under a rock in a pine forest. Both specimens were taken from a very rocky area although the first was shot while crossing the highway. Later in the day (1500-1600) a series of Psammochromis a. algirus (22414-22417), 2 Acanthodactylus e. atlanticus (22418-19), a Tarentula mauritanica (22420) and one Rana esculenta ridibunda (22421) collected in area of rapidly moving stream which passes through a Pinus area. The Psammochromis were active along the fence in the area, the Acanthodactylus seemed to prefer the stream area or did, of course, the Rana. The Tarentula was found on the outside wall of the shower and 2 Lacerta lepida patet were seen in the shade of a clump of Eucalyptus which is upstream from the pinned-in campground. Drove about 66 miles this night and at Beni-Mellal, 2.8 mi. N. at 2136 I captured a Rana esculenta ridibunda (22422) AOR. Back in the area of the pool near El Kiba at 2255

22 JUL 71

we took one Bufo mauritanicus (22423) AOR in the Eucalyptus area with an elevation of about 1300 M. Also saw a large (4'+) black snake AOR but did not capture it. From what I did see, it could have been Malsodon if they're known to be black in some subspp. (?)

23 JUL 71

Drove from Beni-Mellal to Ouezzane through some of the most beautiful country I have seen in Morocco. The serpentine road crawls through the mountains at a leisurely pace and the scenery as we change from mountain to open prairie and back in tremendous! El Ksiba, 2.4 mi NE, on the highway to Fes produced one P. a. algerius (22424) but we saw and collected nothing the rest of the day.

24 JUL 71

Kenitra Prov, Ouezzane, at the foothills of the Rif mountains. 12.7 mi. N. on P-28 (Tetouan highway) at 0815, DOR, we retrieved one of the largest Coluber hippocrepis (22425) I have ever seen! 36.1 mi. N. at 0940 and 86°F a P. a. algerius (22426) was taken from the side of a bridge. An Agama libroni and 2 Acanthodactylus (probably e. atlanticus) were also seen AOR but not collected.

Tetouan Prov, Tetouan, from 45.8 - 21.4 mi. S, a series of Agama libroni (22427-22429) taken as follows:

45.8 mi. S, 0950, 86°F, ♂ shot from sign

44.6 mi. S, 1057, 78°F, ♂ shot from rock (in sun)

21.4 mi. S, 1200, 87°F, ♂ shot from stone wall.

and, once again, this species is seen to head-bob while sunning and these specimens were all noted because of this habit.

Tanger (1600). Decided to return to Spain tomorrow. All in all, the trip was a successful one. July in Hot and Dry for the most part; but comfort is possible to attain.
(See vertical file "Morocco, 1971" file)

Spain, Cádiz Province

31 JUL 71

La Algaida

1050 = 88°F

1102 - Acanthodactylus e. enythrus adult seen in Juniperus
phoeniceae1105 - dec adult seen in C. album1108 - dec adult seen in C. album1112 - 2 dec adults seen active in open sand / C. album1117 - dec juv. (sub-adult?) caught in C. album1120 - dec juv. seen in C. album1122 - dec adult seen in C. album1125 - dec adult seen in C. album1129 - dec adult seen in J. phoeniceae / C. album1138 - dec adult seen in J. phoeniceae1141 - dec adult seen in C. album

⇒

This time of day the species appears to stay
in sheltered areas and in extremely warm.1151 - Psammodesmus a. alpinus adult taken from
Juniperus phoeniceae1155 - dec adult seen in J. phoeniceae1158 - dec adult seen C. album / J. phoeniceae1204 - dec adult seen in J. phoeniceae

1204 - 1229 = LUNCH

1238 - dec adult seen in J. phoeniceae / Pistacia
lenticulus1302 - dec adult seen in C. album

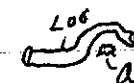
1453 = 96°F

1517 - P. a. alpinus caught shade of C. album1526 - P. a. alpinus caught shade of C. album

1557 = 95°F

31 JUL 71

- 1621 - bee seen in C album shade
 1632 - bee adult seen in C album
 1638 - bee adult seen in C album
 1645 - Poa seen active in C album
 1656 - Poa seen in f. phoeniceae (shade)
 1700 - 94°F (Shade)
 1720 - bee adult seen in f. phoeniceae
 1723 - bee adult seen in open sand
 1740 - bee adult seen in C album
 1743 - bee juv. seen in C album
 1751 - bee adult seen in C album
 1755 - bee adult seen in C album
 1759 - bee adult seen in C album
 1805 - bee adult seen in f. phoeniceae
 1810 - bee adult seen in f. phoeniceae
 1826 - bee adult seen in sun under log in sand



a.e. erythrum (Sun coming from directly in front)

- 1828 - bee adult caught in C album, another seen
 1834 - bee adult seen in f. phoeniceae
 1840 - bee adult caught in C album
 1842 - bee adult seen in C album
 1849 - bee adult seen in C album

CMFS 21185-89 = P.a.
 21188-21190 = a.e.

01 AUG 71

La illyrida - cont'd -

0600 = 62°F

0700 - start

- 0745 - P.a. alpinum seen sunning in f. phoeniceae
 0752 - P.a. alpinum seen sunning in f. phoeniceae
 0802 - P.a. alpinum seen sunning in H. latimipsum in periphery

01 AUG 71

0807 - Psammochromis a. alpinus sunning in Pistacia lentiscus in ecotonal (V) area.

0813 - P. a. alpinus sunning in f. phoeniceae

0831 - P. a. alpinus sunning in f. phoeniceae

0843 - P. a. alpinus sunning in open sand near H. halimifolium, f. phoeniceae

0852 - Dec adult seen sunning in f. phoen. area

0857 - P. a. alpinus seen in C. album

0858 - 2 Dec. erythrum adults seen in open sand vicinity of H. halimifolium + f. phoeniceae.

0907 - 2 Dec adults seen in C. album

0915 - Dec hatching (of 1971) captured in peripheral area where brush is more dense than normal area.

0921 - Dec adult seen in C. album area, sunning.

0926 - Dec adult seen sunning in C. album.

0934 - Dec adult seen in open sand; when it ran into C. album it apparently disturbed a P. a. alpinus that appeared to chase the Dec out of the area. Poa ran along Dec's right rear quarter nudging it (I think) with its nose. Psammochromis exerts species dominance over Acantholactylus ??

0943 - Dec adult seen sunning, later ran into Corema album.

0945 - P. a. alpinus seen in C. album, Dec adult seen earlier in same area in open sun.

0950 - Ad. Dec seen open sun vic. C. album

0955 - Adult Dec caught in open sand

1002 - Adult Dec seen in open sand / H. halimifolium

area

01 AUG 71

1004 - Acanthodactylus e. erythrus seen in H. halimifolium in sun

1009 - Aee hatching seen in open sand with H. halimifolium

1012 - Aee adult seen in open sand near C album.

1013 - Aee adult seen in Cocoon album

1017 - Aee adult seen in open sand vicinity of C album.

1020 - Aee adult seen in C album.

1023 - P. a. alpinus seen in J. phoeniceae

1025 - Aee adult seen in C album.

1027 - Aee juv seen in J. phoeniceae

1028 - Aee adult seen in C album

1037 - 2 adults, Aee seen in C album.

1042 - 2 adult Aee in open sun vic. J. phoeniceae

1044 - Adult Aee in open sand vic. J. phoeniceae

1047 - Aee adult seen in open sand vic. of C album.

1050 - Adult Aee seen in J. phoeniceae

1052 - Aee hatching seen in C album

1053 - Aee adult seen in J. phoeniceae

1058 - Aee seen in open sand vic J. phoen. (adult)

1059 - 2 adult Aee seen in open sand vic of C album

1100 = END

1136 = 76°F (shade)

All specimens not recorded were sent to F. H. Pough at Cornell for metabolic work.

CMFS 21192 + 21191 = A. e. erythrus

A Chamaeleo e. chamaeleon (21193) taken DOR on NAUBASE.

	TIME	SUN	OPEN SHADE	WEATHER
31 JUL 71	1100	53	35.5	Slight Breeze, Clear
	1135	57.5	38	"
	1200	57.5	41	"
	1230	56	42	"
	1302	55.5	39.5	"
	1328	55.5	42	Slight Breeze, Clear
	1359	53	43.5	"
	1428	54	44	"
	1500	53	43	"
	1535	52	41	"
	1604	50	40.5	Slight Breeze, Clear
	1634	47	40	"
	1654	46	39.5	"
	1726	49.5	38.5	"
	1800	42.5	38	"
	1834	42.5	36	Slight Breeze, Clear
	1900	35	35	"

Temperature = °C, Black Body

01 AUG 71	0700	19.5	21.5	Clear, Breeze
	0730	25	22	"
	0800	32.5	23	Clear, Still
	0834	36.5	25	Clear, Breeze
	0908	45	25	"
	0937	45	27	"
	1000	51	28	"
	1030	52	29	"
	1101	54	32	Clear, Breeze

04 AUG 71

Rota, Naval Base, a Coluber hippocrepis (CMFS 22452) donated by a group of men from Air Terminal area.

07 AUG 71

Rota, Naval Base, a Natrix maura (CMFS 22451) donated by Miguel Moya.

Jerez de la F^{ta}, a Lacerta b. vanehni (CMFS 22472) donated by Lt. Jerry Thomas and was collected on the W. end of town by the Alcázar.

08 AUG 71

w/ early severe
Thunderstorm

Ferinas, 5.4 mi. N., 1938, 74°F, a Tarentula mauritanica (22453-22454) taken from side of bridge.

6.4 mi N., 1948, 72°F, another T. mauritanica shot from a retaining wall

13.3 mi. N., 2054, 65°F, an AOR Bufo spinosus (22455) collected.

Los Banios, 5.8 mi. W., 2104, 66°F, a B. b. spinosus (22462-22465) taken AOR. 6.8 mi W, 2107, 65°F another AOR

⇒

Bufo b. spinosus taken; this specimen has an extremely red dorsum. 8.9 mi. W., 2114, 64°F, another AOR B. b. spinosus collected (22462-22465). 10.4 mi W, 2120, 64°F, a

DOR Malpasia m. mongsperalana seen - 13.7 mi. W, 2130, 65°F an AOR Rana s. perezi (22467-22468) collected and one also seen 13.9 mi. W, 2132, and 64°F. 15.4 mi. W. at 2134, 63°F, another Bufo b. spinosus (22462-22465) with a red dorsum taken.

CMFS
22456

Casas del Costazo, 6.4 mi W, 2157, 67°F, a Rana s. perezi (22467-22468) collected and a DOR Natrix maura noted. 7.1 mi. W., 2200, 65°F, a Triturus m. pygmaeus (22461) collected AOR. 7.2 mi W, 2204, 65°F, a Pluriodon waltl (22466) taken along with a juvenile AOR Belobata cultripes (22460). 13.1 mi. W, 2221, 66°F, 2 Hyla

08 AUG 71

arborea meridionalis (22457-22459) collected AOR. 13.3 mi. W, 2224, 66°F, another H. a. meridionalis

Benalup de Siidonia, 9.0 mi. N, 2237, 68°F, one Hyla a. meridionalis (22471) collected AOR. 6.6 mi. N, 2246, 65°F, one Rana s. perezi (22469-70) collected AOR. 6.0 mi. N, 2300, 65°F, one large Rana s. perezi AOR (22469-70). [2400-END SURVEY]

10 AUG 71

Rota, beach area from 1900-1950 and nothing seen (78°F)

Puerto Real, 10.5 mi. E., one Rana s. perezi (22475) collected AOR, 2100, 66°F.

13 AUG 71

Borongan, vic. W, "La Algaider"

1242 = 92°F

Between 1245 and 1300 (3) Acanthodactylus s. erythrinus adults were seen in peripheral area.

1304 - bee adult seen in J. phoeniceae

1312 - Paa adult seen in C. album.

1314 - Paa adult seen in C. album.

1316 - bee adult seen in C. album.

1318 - 2 bee adults seen, 1 shot in shade of J. phoeniceae

1321 - bee adult shot in C. album / P. pinea area

1323 - bee adult seen in C. album in shade

1327 - bee adult seen in C. album

1333 - bee adult seen in H. halimifolium / J. phoeniceae

1337 - bee adult shot in C. album

1345 - bee adult seen in C. album.

1348 - bee adult shot in C. album.

1355 - bee adult shot in J. phoeniceae

13 AUG 71

1405 - bee adult shot in C. album1408 - bee adult seen in C. album1410 - Po. alpinum (adult) seen on base of
P. pinen with J. phoeniceae1417 - bee subadult (?) shot in J. phoeniceae1428 - bee adult shot in C. album

1437 = 95°F

1451 - Poa seen in peripheral area / Cist. crispus1455 - Adult bee shot in C. album

⇒

1457 - Flies at pest proportions

1502 - bee adult shot in J. phoeniceae1507 - bee adult seen in C. album

⇒

1515 - Sacra lepida subadult seen under J. phoeniceae1523 - bee adult seen in C. album1520 - Poa adult seen in J. phoen.1536 - bee adult shot in open sord / pine
needles in shade1539 - bee adult seen in sun in open sord.1546 - bee adult seen in C. album1550 - bee adult seen in C. album1552 - Adult bee seen in C. album1555 - Adult bee seen in C. album, Adult Poa
shot in C. album1558 - bee adult shot in H. baliniophilum

1608 = 87°F

1618 - juv. bee in peripheral area of H. baliniophilum1622 - 2 bee adults in Pistacia lentiscus of N. periphery1624 - Poa adult in C. crispus of N. periphery

13 AUG 71

1631 - lee adult seen in C. album / f. phoeniceae
combination

1635 - lee adult shot in C. album.

1637 - lee adult seen in f. phoeniceae

1639 - lee adult shot in H. halimifolium / juncus
acutus

1644 - Adult lee seen in C. album after disturbed.
was sunning in open sand

1648 - lee adult shot in C. album while sunning

1652 - juv. lee seen in C. album

1656 - lee adult sunning in open sand

1703 - lee adult shot while sunning

1705 - lee adult seen sunning in open sand

1707 - lee adult shot in f. phoeniceae

1709 - lee adult seen in C. album

1714 - lee subadult (?) shot while sunning

1721 - lee adult seen in open sun

1723 - juv. lee seen in open sun in area of
H. halimifolium and f. phoeniceae.

1725 - lee juv. seen in C. album.

1727 - juv. lee seen in H. halimifolium / open sun

1728 - juv. Podgium seen in open sun / f. phoeniceae

1735 - juv. lee seen in open sand

1745 - juv. lee seen in open sun

1752 - lee adult shot in f. phoeniceae

1755 - juv. lee seen in open sun

1756 - Adult lee seen in open sun

⇒ 1801 - Sub. lee shot in open sun / was originally
in hole made by Lepus.

13 AUG 71

1816 - See adult seen in @ album1821 - See adult shot under @ album1826 - juv. See seen in open sun1828 - Adult See shot in H. boliviifolium / open sun.1843 - Adult See shot in open sun near @ album1845 - juv. See seen in @ album / open sun.1848 - Adult See shot in sun under J. phoenicea

Black Body Temperature = °C

TIME	SUN	OPEN SHADE	WEATHER
1300	55	34.5	Haze: sun
1330	52.5	37	Clear, breeze
1359	54	38.5	"
1430	50.5	40	"
1457	56.5	41	Clear
1530	52	39.5	Clear, breeze
1601	48.5	39	clear, wind
1630	40	36.5	windy
1700	37	34	wind, haze
1730	37	32.5	breeze, haze
1800	35.5	32	"
1830	32.5	30.5	"
1900	29.5	28.5	"

CMFS 22476 = P. a. alpinusCMFS 22477 - 22500 = A. e. erythraeus

14 AUG 71

0742 = 22°C (both), no sun, very overcast, "La Algueta"

17 AUG 71

Rota, Naval Base, 1935 a M. m. monspeliensis seen DOR

PTO de STA Maria, 2000-2030, nothing seen

PTO Real, 2045-2200, E. scalaris seen D.O.R. on road E.

20 AUG 71

Boranga, vic. W. at "En Algaicha", 1400 a
 D.O.R. Melipon m. mospessulorum noted at entrance (N).
 1527 = 84°F; 1710 = 81°F, 1850 = 76°F. From 1500-1800,
 3 (2 adults, 1 juv) Acontodactylus e. erythrus taken
 alive and sent to F. Horvy Pough at Cornell Univ.
 for physiological measurements.

21 AUG 71

"En Algaicha"

0700 = 52°F with mosquitoes at pest proportions

0838 = Psommodromus a. algium caught while
 sunning under Juniperus phoeniceae.

0850 - P. a. algium adult seen in C. album

0901 - P. a. algium adult seen in C. album

0910 - P. a. algium adult seen in C. album

0922 - P. a. algium adult seen in C. album

0925 - P. a. algium adult seen in C. album

0928 - P. a. algium adult seen in C. album

0930 - A. e. erythrus juv. seen in open sun

0936 = 74°F

0946 - P. a. algium seen in Listia lenticum
 of peripheral (N) area

0949 - P. a. algium seen in J. phoeniceae

0950 - A. e. erythrus seen in open sun

0951 - A. e. erythrus juv. caught in J. phoen.
 area.

0954 - 2 A. e. e. adults in C. album area.

0959 - 1 A. e. e. adult seen in C. album

1001 - P. a. algium adult seen in C. album

1005 - A. e. e. adult seen in open sun.

1006 - A. e. e. juvenile seen in open sun.

21 AUG 71

- 1011 - lee adult seen in C album
 1016 - lee adult seen in C. album
 1018 - lee adult seen in C. album
 1019 - P. a. algerian adult in f. phoeniceae
 1025 - 2 lee juveniles seen in C album
 1028 - 2 adult lee seen in C album
 1031 - Adult lee in C album
 1032 - juvenile lee in open sun
 1033 - Adult lee in open sun
 1034 - juvenile lee in open sun
 1035 - juvenile lee in open sun
 1040 - Adult lee (2) in C album
 1043 - Adult lee in open sun
 1044 - Adult lee in f. phoeniceae
 1045 - adult lee in open sun
 1047 - juv. lee in C album
 1049 - 2 adult lee in open sun.
 1055 - lee adult in C. album
 1101 - lee adult in C. album
 1107 - 2 lee adults seen in C album
 1111 - lee adults in C album
 1113 - lee adults in f. phoeniceae
 1117 - lee adults in open sun
 1118 - lee adults in C album
 1120 - lee adults in C album
 1124 - lee adult in C album
 1126 - lee adult seen in C album
 1127 - P. a. algerian adult seen in C. album
 1129 - lee adult in open sun

21 AUG 71

⇒

1136 - Dec adult in C album1137 - P. a. alpinum adult in C album1143 - Dec adult in open sand, disappeared into a large hole beneath C album root over1146 - Adult Dec in C album1148 - Dec adult in C album1152 - 2 adult Dec in C album1156 - Adult Dec in J. phoeniceae1210 - 2 adult Dec in C album1214 - Dec adult in open sun1215 - juv. Dec in Juncus acutus1217 - 3 adult Dec seen in J. phoeniceae over1220 - Dec adult in C album1236 - P. a. alpinum in J. phoeniceae1240 - P. a. alpinum adult in J. phoeniceae1243 - 2 adult Dec in C album1245 - 2 adult Dec in C album1252 - Adult Dec in shade of C album1255 - Adult Dec in J. phoeniceae1258 - Adult Dec in C album

1308 = 85°F

1342 = 88°F

CMFS 22501 = Psammochomus a. alpinum22502 = Acanthodactylus e. erythrinus

TIME	SUN	OPEN SHADE	WEATHER
0800	26	20	Clear
0830	31	22	Clear
0900	35	22.5	Clear
0930	40	24	Clear

Black-Body Temperature = °C

21 AUG 71

TIME	SUN	OPEN-SHADE	WEATHER
1000	44	26	Clear
1030	47	28	"
1100	45	30	"
1130	53	34.5	"
1200	57.5	35.5	"
1229	58.5	36.5	Clear
1300	58.5	36.5	"

Black - Body Temperature = °C

Drove from "La Algaída" to Punta Paloma. Nothing seen D.O.R. from Pto de Sta Maria to Punta Paloma.

Punta Paloma, 1700-1845, 6 Acontobolus erythrum seen, 1 captured and sent to Cornell.

Facinas, 1924, 7.1 mi. NE, 2 Tarentola mauritanica seen on bridge but not taken. 14.9 mi NE (or 5 mi. W. of Los Barrios) set up camp and from 2000-2020 collected one Mauremys caspica leprosa (22503), at least 12 others were seen in the pond (fresh water). A T. maurit-
anica was seen on the bridge and many Rana a. perezi were noted in the pond area.

22 AUG 71

Punta Paloma, 1000, one Lacerta lepidota seen crossing the road.

Borbate de Franco, .3 mi. W., 1115-1200, 85°F, in an area of Pinus pinus, Logos monosperma (predominant cover), Halimium halimifolium (occasional), sparse grasses, and a substrate of sand/Pinus needles. 2 juv. Ace collected and 7-8 adults were seen. 2.0 mi. W, 1315, where Pinus pinus (dominant tree) shows land with Eucalyptus and Halimium halimifolium, Cistus crispus,

22 AUG 71

Chamaecrope palmarum are well established, 2 adult Acanthodactylus e. erythrum were taken to be sent to Cornell. Quercus roscifera is also present here making area somewhat similar to 3.5 mi. E of P^{to} Real in structure. La Barca de La Florida is much the same but lacks the Pinus structure. Logos monosperma is noticeably missing here at 2.0 mi. W. and the sand is more compacted. 2.9 mi. W. and Juniperus phoenicea comes into area heavily. 7.1 mi. W. at 1337 and Cabo Trafalgar -- the Acanthodactylus population stretches at least to here.

Sancti Petri, 1440, no Acanthodactylus seen but they probably are here -- the Pinus configuration extends this far.

Puerto Real, 1505, 3.5 mi. E. (90°F), one Malpison m. monspiculorum seen AOR. 3.8 mi. E., in an area of Quercus roscifera, Pinus pinaster, Pistacia lentiscus, and Chamaecrope palmarum, one (1) Acanthodactylus taken, 1 Lacerta lepida and 1 P. a. alpinus seen (90°F). [1615 = END SURVEY]

28 AUG 71

Embalse de los Huesos, 1159 @ 84°F a Lacerta lepida shot from a retaining wall (22504-505); 1.2 mi SW at 1215 @ 81°F another L. lepida shot from wall (22504-505).

Salis, .4 mi. ENE a Psammachromis p. alpinus seen at 1310 and 74°F. 4.8 mi. ENE in ^{Montes} Propios de Jerez a P. a. alpinus (22507) shot and 1 specimen seen. One Chalcida c. striatula collected (22506) under a rock in a Pinus pinaster area. .5 mi W (on road to Alcalá de los Gazules) a Columba hypoleucis (22508) -

28 AUG 71

shot on retaining wall, (1530 + 78°F). 3.4 mi. S.,
3 Lacerta h. vaucheri seen, 1 of which was a hatchling.
5.4 mi. S. another 2 L. h. vaucheri were seen. 6.5 mi.
S. a Psammochromis a. algirus (22515) was shot at
1626 and 86°F. 7.0 mi. S. a Tarentola mauritanica
(22509) taken from a culvert at 1635.

Alcala de los Gazules, 6.9 mi. E. a Rana
a. perezi (22510), 4 Bufo h. spinosus (22511 [4]), and
2 Maremys (= Cnemidophorus) aspasia leprosa (22512-22513)
taken from 1830-1915 ca. 72°F.

Cosos del Castro, 8.4 mi. E. a group of (3)
M. a. leprosa seen in river's ponds.

29 AUG 71

Los Barrios, 8.6 mi. W. one Lacerta lepida (22514)
DOR. 12.9 mi. W. a P. a. algirus seen AOR.

Benalup de Sierrona, 9.3 mi. S. a DOR Elaphe
scalaris juvenile seen.

Barbate de Franco, 2.8 mi. W. and 2 mi. S.
a series of Acanthodactylus e. erythraeus and Psammochromis
a. algirus (22516-22532) shot in sandy area of P. pinus
(ca. 85°F).

04 SEP 71

Cota, Naval Base, M. Maya contributed a D.O.R. Coluber
hippocrepis (CMFS 22533).

05 SEP 71

El Bosque, 3.9 mi. E. at 1100 and 85°F a subadult
Lacerta lepida seen AOR.

Benamaon, 1 mi. N., 2 Lacerta h. vaucheri (22538-
22541) shot, 2 Psammochromis a. algirus (22534-22537) shot,
1 P. a. algirus and 1 L. lepida seen. (94°F) The L. lepida
was seen in water of stream and appeared to be at home
in this aquatic environment.

05 SEP 71

El Bosque, .3 mi. SE, 1 D.O.R. Malpalm m.monspessulanus seen

Ubrique, 2.8 mi. S. another Malpalm m. monspessulanus seen D.O.R. 8.6 mi. S. @ 1330 a DOR Lacerta lepida noted DOR. (8.1) mi. S. in a Pinus pinea area and Q. suber area, 1550, 84°F, an AOR.

36,611/11
5.4511 W <
~ 8.4 km (MP)
SE (20892100)
UR 012011
579 m
(20 APR 2019)

Psammochromis a. algius (22534-22537) shot 10.8 mi. S., 1403, 77°F a P. a. algius shot from granite like outcropping (22545) 14.5 mi. S., 1600-1645, a Tarentola mauritanica (22546) shot from rock outcropping in Pinus pinaster area 16.4 mi. S., 1700-1720, 79°F, 3 Lacerta h. vaucheri (22542-22544) shot from bridge.

Galiz at 1725

Algor, 1834, 80°F, a juv. L. h. vaucheri taken from a retaining wall. (0900-2000 total survey)

06 SEP 71

Rota, Naval Base, Miguel Mayn donated one Lacerta lepida (22547) that was caught live.

Rota, Beach area (on Chiperona Road), produced 8 Acanthodactylus e. erythrinus which were shipped to Pough at Cornell. a Chamaeleo c. chamaeleon (22548) was also taken and preserved.

07 SEP 71

Rota - PIO Real.

Puerto Real (2105), many Rattus (rattus or norvegicus?) seen all over. September is definitely the beginning of rat season. One small kangaroo mouse with white tail tip seen. (may be tuft of hair on tail tip). 7 mi. E. at 56°F and 2200 a Caprimulgus caprimulgus seen AOR. (2030-2230)

11 SEP 71

"La Aljida" vic. Bonnaia

0816 - 60°F

0900 - flier at pest proportion

0919 - Psammodesmus a. algeri seen in C. album.0921 - P. a. algeri seen in open sand0954 - Acrothodactylus e. erythrum juv. seen in open sand0956 - lee seen sunning under C. album.1002 - lee juv. in open sand.

1013 - 70°F

1022 - lee adult in open sand1025 - lee adult in C. album/open sand.1026 - lee adult in J. phoeniceae1029 - lee juv. shot in open sand $T_B = 49.3^\circ\text{F}$.1035 - P. a. algeri seen in J. phoeniceae in open sun1036 - P. a. algeri adult seen in J. phoeniceae1037 - lee juv. in open sand1042 - lee adult in open sand1045 - lee adult shot in open sand $T_B = 99.9^\circ\text{F}$ 1049 - P. a. algeri adult shot in J. phoen. $T_B = 96.4^\circ\text{F}$ 1051 - lee adult seen in shade near C. album.lee juv also seen.1056 - P. a. algeri seen in J. phoeniceae1058 - lee adult shot open sand $T_B = 99.4^\circ\text{F}$ 1104 - P. a. algeri adult shot open sand $T_B = 100.9^\circ\text{F}$ 1108 - lee adult shot in open sand $T_B = 99.9^\circ\text{F}$ 1109 - lee adult seen in J. phoeniceae1120 - P. a. adult seen in C. album1124 - lee adult shot sunning in J. phoen. $T_B = 102.4^\circ\text{F}$ 1126 - lee adult seen in J. phoeniceae

11 SEP

Spain, Cádiz Prov.

"La Algaida" vic Bóveda 'cont'd:

- 1127 - Acanthodactylus e. erythrinus adult seen in C. alb.
 1130 - Dee adult shot in C. album $T_B = 96.2^\circ\text{F}$ (in bush)
 1134 - Dee adult seen in C. album
 1143 - P. a. algium adult seen in C. album.
 1146 - Dee adult shot in open sun $T_B = 102.0^\circ\text{F}$.
 1148 - Dee adult shot open sun $T_B = 102.2^\circ\text{F}$, another seen in same area.
 1151 - Dee juv. seen in open sand.
 1158 - Dee adult seen in C. album area.
 1201 - juv. P. a. algium, adult Dee and juv. Dee seen in open sand/sun.
 1205 - Adult Dee shot in C. album area $T_B = 100.5^\circ\text{F}$.
 1214 - Dee adult seen in open sand; went into hole and disappeared. I dug 6" down and 6" to each side of original hole and did not find him.
 1217 - Dee adult seen in C. album
 1219 - Dee adult seen in C. album
 1220 - Dee juv. shot in C. album $T_B = 98.6^\circ\text{F}$.
 1226 - Dee adult shot in J. phoenicea $T_B = 98.0^\circ\text{F}$
 1228 - Dee adult seen in open sand
 1229 - Dee adult seen in open sand
 1237 = 73°F
 1253 = Dee adult shot in open sand $T_B = 101.0^\circ\text{F}$
 1305 = Dee adult shot in open sand $T_B = 98.0^\circ\text{F}$
 1312 = Dee adult shot in C. album $T_B = 97.2^\circ\text{F}$
 1316 - Dee adult shot in C. album (shaded sun)
 $T_B = 101.0^\circ\text{F}$
 1320 - Dee adult seen in open sand.

11 SEP

1330 - Dee adult seen in Cereus albus / open sand.1332 - Dee adult seen in open sand1337 - Dee adult seen in open sand in C albus1345 - Dee adult shot in open sand $T_B = 101.8^\circ F$
and an Dee adult seen.1354 - Dee adult seen in C albus.1358 - Dee adult shot in open sand $T_B = 102.6^\circ F$.1405 - Dee adult seen in C albus area under
Pinus pinea shade.1410 - Dee juvenile shot in open sand $T_B = 95.4^\circ F$.1416 - Dee adult seen in open sand1426 - Dee adult shot open sand / C albus $T_B = 99.5^\circ F$.1430 - Dee adult shot in shade of Juniperus phoenicea
 $T_B = 95.6^\circ F$ 1439 - 2 P. a. algium adults seen in open area
near P. lentiscum in N. periphery.1446 = $80^\circ F$ 1454 - Dee adult seen in open sun1458 - Dee adult shot in open sun $T_B = 104.5^\circ F$.1501 - P. a. algium adult seen in C albus.1509 - Lacerta lepida seen in open sun.1520 - P. a. algium adult shot in C albus. $T_B = 99.6^\circ F$.1528 - Dee adult shot in open sand $T_B = 99.4^\circ F$.1539 - Dee adult shot in C albus $T_B = 100.3^\circ F$.1544 - Dee adult seen in J. phoenicea area / sun-shade1547 - Dee adult shot in shade of J. phoenicea / C albus $T_B = 98.8^\circ F$.1613 - Dee adult shot open sand $T_B = 100.9^\circ F$.

11 SEP

1618 - Dec adult shot in open sand $T_B = 99.6^\circ F$ 1619 - Dec juvenile seen in open sand1638 - Dec juvenile shot in open sand $T_B = 92.5^\circ F$ [estimate: $\pm 93^\circ F$]1641 - Dec juvenile shot in f. phoeniceae $T_B = 93.0^\circ F$ 1647 - Dec adult shot in C. album $T_B = 99.4^\circ F$

and one juvenile seen in open sand.

1653 - Dec juv. shot in f. phoeniceae T_B unreadable1659 - Dec adult seen in f. phoeniceae1709 - P. a. alpinum adult in C. album seen.1711 - Dec juv. shot in open sand $T_B = 98.9^\circ F$ 1721 - Dec adult seen in open sand1738 - Dec juvenile shot in open sand T_B - NOT AVAILABLE

1800 - END

1807 = $71^\circ F$ Psammochromis a. alpinum = CMFS 22549-22551Acanthodactylus e. erythrumum = CMFS 22552(7)-22577TEMPERATURES, BLACK BULB, 0° (see pt 1, note)

TIME	SUN	OPEN SHADE	WEATHER
0830	26.5	19.0	Partly cloudy / still
0900	33.0	20.0	" "
0930	34.5	21.5	" "
1000	40.5	23.0	" "
1033	43.0	26.0	Partly cloudy / breeze
1101	44.0	26.0	" "
1136	43.5	29.5	" "
1207	47.0	31.5	" "
1232	45.5	30.5	" "

11 SEP

TIME	SUN	OPEN SHADE	WEATHER
1302	48.0	33.0	Partly Cloudy / Breeze
1331	49.5	34.5	" "
1402	47.0	36.5	" "
1433	43.0	33.5	Clear / Breeze
1504	47.0	29.5	" "
1530	49.0	27.0	" "
1600	48.0	26.5	" "
1630	47.5	26.5	Clear / Wind
1700	44.0	27.5	" "
1730	33.0	27.5	" "
1800	31.5	26.0	Clear / Wind

Rota, Naval Base, M. Moya contributed a small series of H. a. meridionalis (22578-22580) and a Malpison m. monspessulanus (22581) which were collected on the base proper.

17 SEP

Chiclana de la Frontera, 12.4 mi. SSE, 1440, 83°F, a DOR Elaphis scalaris (22582) collected.

Cabo Trafalgar at 5.0 mi. W. of Barbate de Franco, 1630 = 79°F (air)

1636 - Acanthodactylus & Euphras adult seen.

1657 - Dec adult seen

1746 - Dec adult shot in C. pumila.

1750 - Dec shot in Cistula cuspis

1751 - Dec juv. seen in P. lentiscus

1800 - Dec juv. seen on rock formation near

Halimium halimifolium

CMFS 22583-22584 = Dec

18 SEP

Borbate de Franco, 5 mi W, at 0900 one Acanthodactylus e. erythrinus (22585) shot and 1 juvenile seen. At 0915 a juvenile Coluber hippocrepis (22572) captured on sand in P. purica / H. halimifolium area. $T_a = 74^\circ\text{F}$. 4.2 mi W, 0930-1010, $T_a = 74^\circ\text{F}$, 2 Poomochromis a. algeris (22590-22591) and 1 A. e. erythrinus (22586-22589) collected. 3.5 mi. W, 1015, 78°F , another A. e. erythrinus adult (22586-22589) shot. 3.1 mi W, 1021, 77°F , 2 A. e. erythrinus (22586-589) shot under Lagotis monosperma and one sunning on a rock.

Punta Paloma, a series of Acanthodactylus e. erythrinus (AF 757-764) taken from 1135-1300. At 1314, $T_a = 77^\circ\text{F}$.

Veja de la Frontera, 10.8 mi. SSE at 1126 and 81°F a juvenile Malpison m. monspessulanus (22593-22594) picked up. DOR. 12.0 mi. SSE another juv. Malpison m. monspessulanus (22593-22594) picked up. DOR.

Facinas, 6.2 mi. N, 1423, 79°F , a Tarentola mauritanica seen on a culvert but not collected. 6.3 mi. N, 1426, 78°F , a subadult Lacerta h. vaucheri shot (22597-22605) shot off top of culvert. 6.4 mi. N, 1432, 78°F , an adult I. mauritanica (22606-22616) shot on culvert, and at 1438, 79°F , an adult I. mauritanica found under bridge. 6.6 mi. N, 1443, 79°F , a juv. I. mauritanica and Lacerta h. vaucheri seen in culvert. 6.8 mi. N, 2 I. mauritanica shot from culvert at 1450 and 80°F , only one specimen saved. 7.0 mi. N, 1500, ~~an~~ an adult seen

18 SEP

and a juvenile *Laetia hispanica vaucheri* shot on bridge (22597-22605). The adult was on the vertical support - both shot but adult couldn't be retrieved.

7.1 mi. N, 1505, 78°F, an adult *L. h. vaucheri* shot under culvert; 1507, 81°F, a *Tarentola mauritanica* (22606-22616) shot from culvert. 8.1 mi. N, 1515, 77°F, a juvenile *Malpolon m. monspessulanus* collected (22617) A.O.R. 8.3 mi. N., 1519, 80°F, a *T. mauritanica* seen on a culvert. 8.6 mi N, 1525, 86°F (sun), a *T. mauritanica* seen under bridge. 8.9 mi. N, 1530, 80°F, a *L. h. vaucheri* shot from bridge. 9.0 mi N, 1534, 81°F, *T. mauritanica* shot from culvert. 10.1 mi. N, 75°F, 1547, 2 *L. h. vaucheri* (1 adult, 1 juv) shot off bridge while 1 adult and 1 juv. *L. h. vaucheri* seen. 10.5 mi. N., 1556, 75°F (shade), 2 *L. h. vaucheri* adults shot.

10.8 mi N, 1635, in *Quercus suber* area of rocks one *Laetia h. vaucheri* and one tadpole (22595) captured in area of vernal pond. 12.7 mi. N, 1654, 75°F ±, an adult *T. mauritanica* shot from a culvert.

12.8 mi. N, 1657, 77°F, a *L. h. vaucheri* shot from rock. 13.3 mi N, 1711, 78°F, one *Tarentola mauritanica* shot from a culvert, and 1 adult seen. 13.4 mi. N, 1717, 81°F, an adult *T. mauritanica* shot from a culvert. 13.6 mi. N., 1720, 73°F, 2 *T. mauritanica* seen and at 1727, 76°F, a *T. mauritanica* shot and a *L. h. vaucheri* seen on a culvert. 13.7, mi. N, 1730, 74°F, a *T. mauritanica* shot from culvert. 14.0 mi. N, 1737, 76°F, a *T. mauritanica* seen on bridge. 14.5

18 SEP

mi. N, 1544, 82°F (direct sun) an adult Touitola mauritanica (22606-22616) shot in a culvert. 14.7 mi N, 1749, 76°F (shade) one adult T. mauritanica shot from culvert in shade.

Casas del Costano, 1.4 mi. W, 1930, 64°F, one Caprimulgus caprimulgus seen AOR in humid area. 11.4 mi. W. a marmot-like, reddish-brown mammal with a head of brown and w/ black-tipped brown ^(ear) and bi-colored fur seen. Animal exhibited eye-shine.

P^{to} de S^{ta} Maria, one Lacerta lepida (22618) collected and donated to my collection. HMC Moreie made the donation: collector unknown.

19 SEP

Zahara, 7.3 mi. S. one L. h. vaucheri seen on stone abutment at 1228, 80°F. 8.0 mi. S. at 1300-1410 (75°F) 2 Psammochromis a. alpinus (22619-22620) + one Lacerta h. vaucheri (22621) shot. Area consists of granite rock with Ulex for vegetation, 1000 M. or more in elevation, no signs of water at all. 1415 a L. h. vaucheri seen on side of rock.

Grazalema, 2.3 mi. S., 1505, 84°F, a Lacerta lepida seen crossing highway. 10.7 mi. S. at 1525 and 76°F a Lacerta lepida seen DOR.

PROBABLY
A
WEASAL 800
1/2010

25 SEP

USNM
193120

USNM
193119
525995
525999

Sevilla Province = Embalse N 37.678369
Pontono La Minilla W 6.183680, 193 m
~~(38°40'30" N, 06°11'35" W)~~
(³⁷⁰38°40'30" N, 06°11'30" W)
4.8 mi. E on N-630 one Malpaso m.
monopessulanus (AF 771) taken DOR. In area of
dam a Natrix maura and several Rana r. perezi
seen. From 1400-1430, Peter W. Hopkins and
I collected a series of Rana r. perezi (AF 765-770)
at the base of the bridge downstream from the dam.
Literally hundreds of Rana hatchlings noted on area
of small, smooth, stones and relatively shallow water.
No Clemmys were noted but several fresh-water fish
were in evidence - some of appreciable size. Around
the dam, talus is in evidence but there is a conspic-
uous lack of underbrush. Some gravel pits (3) are
there, also, but they yield nothing but local Rana.

Cochi Province

26 SEP

Rota - La Barca de la Florida - El Torno - San Isidro -
Jerez - Puerto Real

Puerto Real, 9.9 mi. E. a DOR Malpison m.
monspessulanus (22634) collected at 1310 and 81°F.

29 SEP

Puerto de Santa Maria, 1.8 mi. ESE, 1800-
1930, 76°F, 2 Natrix maura (22635-22636) juveniles
taken under a rock in vernal pond area.

Puerto Real, 5.6 mi. E, 1955, 72°F, one DOR
Malpison m. monspessulanus (22637) collected.

01 OCT

Puerto Real, 9.0 mi. E, 2125, 71°F, one Hyla
a. meridionalis (22638) collected A.O.R.

03 OCT

Naval Base, 1300, 83°F, one Acanthodactylus c. erythrinus
seen in stable area.

Villamartin, 6.1 mi. ENE on N-342, 1 Coleman
hippocrepis seen D.O.R.

Algodoralen, .6 mi. W. at 1500 and 82°F, one
L. lepida seen on a wall, not collected.

Torre-Albaquime, 1.8 mi. S., 1558 and 78°F,
a blue-tailed juvenile L. h. vaucheri seen on wall.
2.9 mi. S. (77°F, 1615-1645), under bridge in a fast, clear
stream by Eucalyptus stood a large series of Rana r.
perezii seen. a possible Rana esculenta (Brown blotches,
large size, no mid-dorsal line) seen.

Villalengua del Rosrio, 1.4 mi. NE a DOR L.
lepida seen in a talus area. .5 mi NE a DOR juv.
Claphe scalaris seen (1800, 66°F).

Ubrique, .7 mi. N. (70°F, 1700) a DOR Coleman
hippocrepis seen.

9 OCT 71

Punta Paloma, 1245, 71°F, a juvenile Acanthodactylus e. erythrum seen active (clear + sunny)

S. of Cádiz - Matoya border. A montane area (now burned) with rocky outcroppings which may contain P. a. alpinus, T. mauritanica, Malpison m. monspesulanus, Coluber hippocrepis, Macropodactylus maculatus (probably) and maybe Bufo b. spinosus.

Vejer de la Frontera, 7.6 mi. N. a DOR
Lucerta lepida seen at 1720 (74°F).

1830 - END.

12 OCT 71

Puerta Real, vic. E, 1930-2110 and nothing seen. 70°F.

15 OCT 71

La Algaída

1300 - Acanthodactylus e. erythrum seen on approach road.

1418 - A. e. erythrum adult shot in C. album after direct sun exposure $T_B = 98.4^\circ\text{F}$

1422 - A. e. e. adult shot in open sun near C. album $T_B = 101.6$ 1 adult seen.

1425 - Aee adult shot in open sand near C. album $T_B = 100.4^\circ\text{F}$.

1430 - Aee juv. seen in open sand.

1432 - Aee adult seen in J. phoeniceae.

1440 - Adult Aee seen in open sun

1445 - Adult Aee seen in J. phoeniceae

1456 - juv. Aee seen in open sun

1457 - Adult Aee seen in open sun

1507 - juv. Aee in open sun

1515 - juv. Aee in open sand/shade $T_B = \pm 93.4^\circ\text{F}$

15 OCT 71

1521 - juvenile lee in open sand/sun $T_B = 98.6^\circ F$ 1527 - Adult lee in open sand (seen)1537 - lee adult shot in direct sun/open sand $T_B = 105.9^\circ F$ 1541 - lee adult shot in J. phoeniceae $T_B = 96.5^\circ F$ 1555 - lee adult shot in J. phoeniceae $T_B = 97.6^\circ F$ 1605 - lee juvenile seen open sand1606 - lee juvenile seen in H. halimifolium
in shade of P. piraen.1609 = $77^\circ F$ (closed shade)1645 - lee juvenile shot in C. album $T_B = 93.6^\circ F$ 1650 - lee juvenile seen in open sun1712 = $76^\circ F$ 1800 = $74^\circ F$

16 OCT 71

In Algaida

0800 - Mosquitos at pest proportions

0840 = $58^\circ F$ & overcast0928 = P. a. algerium adult shot in C. album $T_B = \angle 93^\circ F$ 0946 - lee juvenile seen in C. album.1000 - lee juvenile seen in H. halimifolium

in open sun.

1006 - lee juv. seen in shade of C. album.1014 - lee juv. seen in open sun/ C. album.1016 - lee juv. shot in open sun. $T_B = \angle 93^\circ F$ 1029 - P. a. algerium juv. seen in open sun.1031 - P. a. algerium juv. seen in C. album1034 - P. a. algerium adult shot J. phoen. $T_B = 95.6^\circ F$

16 OCT 71

- 1044 - lee juv. seen in open sun
 1049 - lee juv. seen in open sun
 1051 - Paa juv. seen in open sun / C. album
 1054 - lee juv. seen in open sun / C. album
 1056 - lee juvenile seen in open sun / C. album
 1102 - 2 lee adults seen in open sun
 1103 - juv. lee seen in direct sun
 1115 = 73°F

- 1120 - lee juvenile seen in open sand
 1123 - Paa adult seen in open sand near

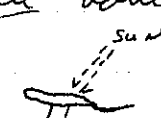
J. phoeniceae

- 1125 - Adult lee shot in open sand // $T_B = 103.8^\circ F$.
 1129 - Adult lee shot in open sun $T_B = 95.5^\circ F$
 1137 - juv. lee shot in open sun $T_B = 93.9^\circ F$.
 1139 - juv. lee seen in open sun

- 1144 - ~~2~~ lee Adult P. a. alpinum shot in J. phoeniceae $T_B = 97.1^\circ F$.

- 1147 - 2 lee juv. seen in open sun.
 1148 - juv. lee seen in open sun.
 1151 - juv. lee seen in open sun.
 1152 - juv. lee seen in open sun
 1157 - juv. lee seen in C. album
 1202 - lee juv. seen in C. album.
 1206 - lee juv. seen in open sand
 1211 - lee adult shot in open sand $T_B = 100.0^\circ F$.
 1215 - lee juvenile seen in open sun
 1217 - lee juvenile seen in open sun / sand
 1218 - lee juvenile seen in open sand / sun
 1225 - lee adult seen in C. album.

16 OCT 71

- 1229 - lee juvenile seen in open sun / sand
- 1234 - lee juv. seen in open sun / sand
- 1240 - lee adult shot open sand / sun $T_B = 99.2^\circ F$
- 1244 - lee adult shot open sun, H. halimifolium
 $T_B = 99.8^\circ F$
- 1248 - lee adult shot open sun, C. album
 $T_B = 99.4^\circ F$
- 1253 - lee adult shot open sand / sun

 $T_B = 103.8^\circ F$
- 1257 - lee adult seen in open sun
- 1259 - lee adult shot open sun / C. album
 $T_B = 98.2^\circ F$
- 1306 - lee adult seen in C. album
- 1308 - lee juv. seen in C. album
- 1313 - lee adult seen in open sand
- 1318 - lee adult seen in open sand
- 1322 - P. a. algium juvenile seen in C. album
- 1324 - lee adult seen in open sun.
- 1337 - lee adult shot open sun / C. album
 $T_B = 101.9^\circ F$
- 1340 - lee adult shot open sun / C. album
 $T_B = 101.6^\circ F$
- 1342 - lee juv. seen in open sand
- 1343 - P. a. algium adult seen in open sand
- 1349 - lee adult seen in C. album
- 1359 - lee adult shot in C. album
 $T_B = 101.3^\circ F$
- 1414 = $76^\circ F$

15 OCT 71

TIME	SUN	OPEN SHADE	WEATHER
1405	52.5	30.0	Clear/Breeze
1437	49.5	28.5	Clear/Wind
1504	48.0	27.0	"
1531	43.0	27.0	"
1600	45.0	26.5	"
1626	44.0	26.5	"
1706	—	26.0	"

Black-Body Temperature ($^{\circ}\text{C}$), time expressed as hours.

16 OCT 71

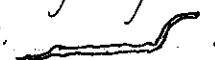
TIME	SUN	OPEN SHADE	WEATHER
0850	—	17.0	Cloudy/Still
0907	25.0	18.5	Cloudy/Still
0938	28.5	20.5	Haze/Still
1003	35.0	22.0	Haze/Still
1036	31.5 (HAZE)	23.0	Haze/Still
1101	43.0	25.5	Haze/Breeze
1131	44.0	26.5	Clear/Breeze
1203	41.0	28.0	Haze/Still
1235	43.0	29.0	Clear/Breeze
1304	43.0	30.0	Clear/Breeze
1329	45.5	30.9	Clear/Breeze
1402	38.0	29.5	Clear/Wind

Black-Body Temperature ($^{\circ}\text{C}$), time expressed as hour.

CMFS 22639-656(5) = Deerlythum
 22657-659 = P. a. algerum

17 OCT 71

Vejer de la Frontera, 17.1 mi. SSE a DOR
Macropododon cucullatus ^{noted} ~~collected~~ at 1050 hr and 72°F.

Fuente, 5.9 mi. NE, 72°F, 111 hr, one Lacerta
lepidota (22666-22668) shot from rock. 6.2 mi. N, 1120,
 80°F, one Tarentola mauritanica (22660-661) and
 2 Lacerta hispanica vaucheri (22662-22665) taken, one
 fresh Malpison m. monspessulanum slough found in
 culvert. No other seen. 6.4 mi. NE in a shaded
Quercus suber area, culvert + retaining wall, at 76°F,
 a T. mauritanica was seen; 3 L. h. vaucheri were
 seen, one of which was shot (22662-22665). 6.9 mi.
 NE, 1140, 77°F, one Lacerta lepidota subadult (22666-668)
 shot while sunning. 7.0 mi. NE, 75°F, 1145-1150, in
 area of a large bridge, 1 T. mauritanica (22660-661)
 taken and 2 L. h. vaucheri seen. 10.0 mi. NE, 1210,
 80°F, one L. h. vaucheri seen on bridge. 10.1 mi.
 N, 83°F, 1213, 1 juvenile Malpison m. monspessulanum
 seen crossing the highway. Crossed w/ head $\approx$ 8"
 above pavement.  10.4 mi. N, 78°F, 1222,

1 Lacerta lepidota seen, 2 L. h. vaucheri seen, and 1
L. h. vaucheri shot on bridge abutment. 10.6 mi. N,
 81°F, 1225, a L. lepidota seen on side of a wall, escaped
 into retaining wall. 12.9 mi. N, 84°F, 1244, 1 juv.
L. h. vaucheri seen on retaining wall. 13.1 mi. NE, 1246,
 84°F, one adult Lacerta lepidota shot in drain hole.

Los Barrios, 5.3 mi. W, a juvenile Lacerta
lepidota shot off side of retaining wall = (22669).

11.4 mi. W, 1325, 80°F, 1 Lacerta h. vaucheri seen on bridge.

Casas del Castaño, 12.8 mi. WNW, 1 juv. DOR

17 OCT 71

Malpais m. monspersulorum seen

Alcala de los Gazules, 2.4 mi. W + 4 mi. S,
1422, 88°F, (South of I to Benalup de Sierrita), one
adult Lacerta lepida (22670) shot in dry area of
cultivat.

Jaén Province

23 OCT 71

Cordoba-Jaén Province line on N-IV a juv. Megalos monspesulanus seen A.O.R. at 1630 and 56°F

Cazorla, 16 mi. NE in the Coto Nacional (Sierra Segura or Sierra de Cazorla) one Blanus cinereus (CMFS 22678) collected in Pinus (pinaster?) needle covered sandy substrate

24 OCT 71

Cazorla, 19.2 mi. NE, 1050 km, 63°F, one Lacerta hispanica (?) seen on rock outcropping. 23.3 mi. NE on road to Nacimiento de Guadalupe a Lacerta lepida seen on a rock at 1115 (66°F). 13 kms up road

⇒
N 37.8567°
W 2.97370
1256 m
F 7092

from sign to Nacimiento is a pine area seemingly set up for camping. 1500 (58°F), overcast w/ intermittent rain, one juvenile Pseudoeurycea a. algerina (22679) collected on a large outcropping of granite near the Pine forest.

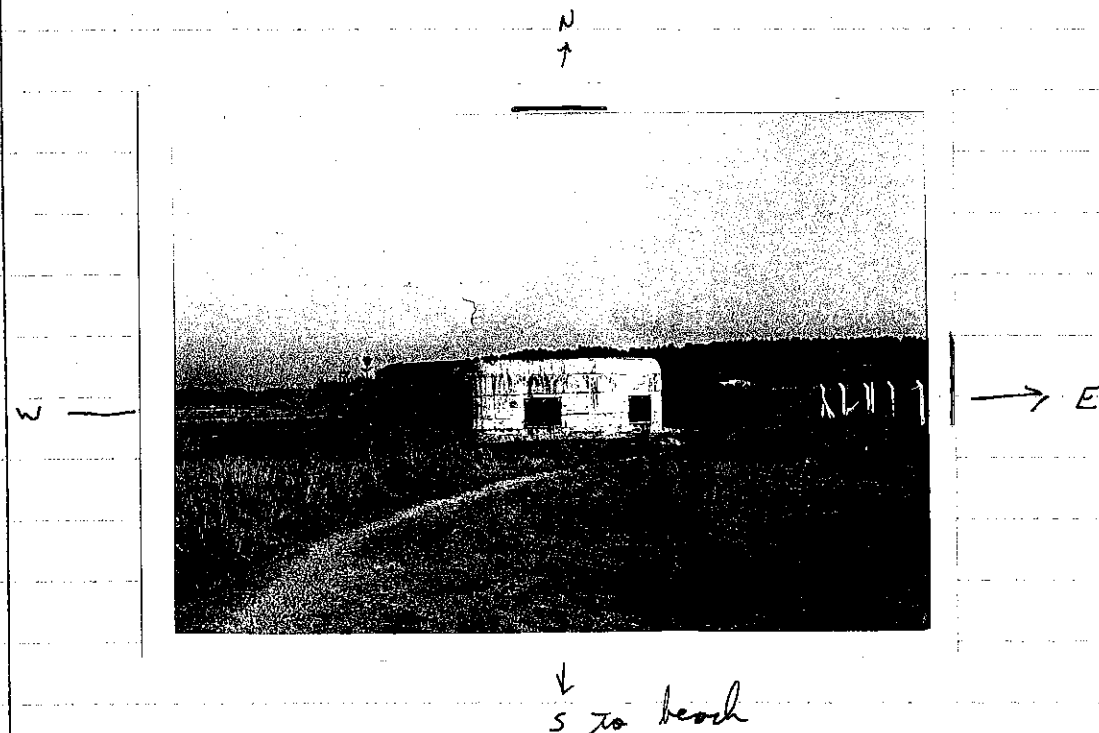
Payal de Beceno, on road to Ubeda (± 2 mi. NW), a dor juv. Elaphe scalaris seen.

Torre Perogil, .6 mi SW, a juv. Coluber hippocrepis seen OOR.

Codig Province

27 OCT 71

2.6 mi NW (4.1 km NW, BEARING 312°)
 Rota, approximately 1 1/2 - 2 mi W. on Chipiona road.
 CMFS 22682-692 (Tarentola mauritanica) and 22693-
 22697 (Hemidactylus turcicus) collected in a "pill box"
 next to 2 new houses in a fairly barren field.
 Photo below of "pill box" and adjacent area



28 OCT 71

Rota, same area or above, 2 more Tarentola
mauritanica (22698-22700) were taken.

20 NOV 71

"La Algrida"

1104 am - 54°F

1138 am - 57°F

1200 am - 56°F

Nothing of interest noted

20 NOV 71

Rota, in area of "pillbox", $1\frac{1}{2}$ - 2 mi. W.
 66°F (outside temperature), 3 Tarentola mauritanica
 (22703-705) and a Hemidactylus t. turcicus (22702)
 collected. Several (7+) other Tarentola seen.

21 NOV 71

La Algaia

1245 = 60°F

1250 - Acanthodactylus e. erythraeus juvenile taken
 on hill exposed to direct sun. $T_B = 99.3^{\circ}\text{F}$

1309 - 2 Deer seen in area

1344 - Psammochromis a. alger seen in Pistacia
lentiscus

1356 - Dee juv. seen in C. album while sunning1404 - Dee juv. seen sunning near C. album1410 - Dee adult seen in Juniperus phoeniceae1411 - 2 juv. Dee seen sunning1420 - juv. Dee seen sunning in open sand1422 - juv. Dee seen sunning in open sand1424 - juv. Dee seen sunning in open sand1426 - juv. Dee taken in sun near C. album $T_B = 95.4^{\circ}\text{F}$ 1429 - Dee juv. taken in C. album $T_B = 93.5^{\circ}\text{F}$ 1436 - 2 Dee juv. seen under f. phoeniceae1444 - Dee juv. seen in f. phoeniceae1448 - Dee juv. seen in C. album1453 - Dee juv. seen in C. album1459 - Dee juv. seen in open sun1502 - Dee juv. seen in open sun1512 - Dee juv. seen in open sand

21 NOV 71

1524 - lee juv. seen in open sand1526 - 2 lee juv. seen in open sand

1535 = 63°F.

Time	Sun	Open Shade	Weather
1300	40°C	19°C	Clear / Calm
1330	40°C	19°C	Clear / Calm
1400	40°C	22°C	Clear / Calm
1430	39.5°C	23°C	Clear / Calm
1500	39°C	22°C	Clear / Calm
1530	41°C	19.5°C	Clear / Calm

Block-Body Temperature Readings (°C) 21 NOV 71

CMFS 22711-22713 = Acanthodactylus e. eurythrum

Rota, 1 1/2 - 2 mi W, in "pillbox" area again, 5 T. mauritanica (22706-22710) collected in pillbox and 1 juv. Coluber hippocrepis collected (22714) in stone walkway

30 NOV 71

Rota - Chipiona Road, 2100-2200 hr, 53°F, after heavy daily rains for 2 days, the following:

P. ultrijer (22715-22722 [7])B. salomita (22723-725)N.a. meridionalis (22726)P. punctatum (22727)

specimens were collected. All taken A.O.R.

6 DEC 71

Rota, Naval Base, one Tarentola mauritanica (22728) and one gravid Chamaeleo e. chamaeleon (22729) collected by Miguel Moya.

9 DEC 71

Rota - Chipiona Road, two Palobates ultrijer (22730-7)

9 DEC 71

collected A.O.R. During slight rainfall.

10 DEC 71

Rota, Naval Base, M. Moya presented me with
a juvenile Hemidactylus turcicus (CMFS 22732)
collected on the Naval Base under a log. A Pleurodela
waltl was also found in the area.

Spain, Sevilla Prov.

24 DEC 71:

Transposed from notes of Miguel Moya:

Sevilla Prov, Carmona, 16 miles N or 6 mi. SW

Fuente de Andalucía

" Triturus m. pygmaeus (75 [divided between Carnegie and USNM 60:15]) captured between 2200 hr and 0330 hr, 25 DEC 71.

They were scattered from NE to SE around old olive tree trunks & found up to eleven specimens at the same tree as far off as about 3 or 4 feet from the tree trunk but normally on it.

I captured more than I recall on the East side of the tree. It had rained there the first time since July '71, it was raining about 1900 hr to 2130 hr of the 24th, not very hard, most

[] min

of the toads [Bufo catesbeiana] I captured was (sic) while raining.

I saw many (about 20) Pleurodeles Walthi (sic) also while collecting Triturus (sic) but none of good size. about 0230 hr a heavy fog was covering the area."

01 JAN 72

Sevilla Prov, Carmona, 16 mi. N. or 16 mi. SW Fuente

de Andalucía.

" captured on 1 Jan 72 about 2200 hr. Temperature around 31.°F. I captured few Triturus and saw Pleurodeles also

[] min

[Triturus captured here are still w/ Moya] They were from the same area I captured the 75 aforementioned, that is a small area of 23 olive trees. The 1st Jan I went to another area w/ many old olive trees but captured only 1 Triturus and one Pleurodeles

and no toads. However, among the trees there was a house in ruins (wall made of earth and straw) where I captured 2 Triturus and saw 1 Pleurodeles."

Spain, Cádiz Prov.

15 Jan 72

Los Barrios, Rain and 51°F, one R. a. meridionalis seen AOR 0.5 mi. W. 7.1 mi. N., 46°F, 2130, one Bufo l. spinosus AOR (CMFS 22836-22838) collected. 9.1 mi. WNW, 2140, 46°F, a B. l. spinosus (22836-838) collected. 9.4 mi. WNW, 2142, 48°F, one DOR Salamandria a. bijanae (CMFS 22827-828) collected. 10.7 mi. WNW, 2148, 48°F, one Hyla a. meridionalis (CMFS 22833-22834) collected and several heard calling from S. 11.4 mi WNW, 2150, 47°F, a Discoglossus p. pictus (22829-22831) collected AOR. 11.7 mi WNW at 2157, 48°F, an adult Bufo l. spinosus (22836-22838) ~~seen~~ collected AOR. 12.4 mi. WNW, a D. p. pictus seen DOR. 13.0 mi WNW, 46°F, 2159, 1 D. p. pictus (22829-831) collected AOR. 13.3 mi. WNW, 2201, 48°F, still raining, one D. p. pictus AOR/injured but NOT collected. 14.1 mi. WNW, 2204, 48°F, a D. p. pictus collected AOR.

Cosca del Castroño, 1.1 mi. WNW, 2214, 48°F, 1 Salamandria a. bijanae (CMFS 22827-828) found DOR. 4.1 mi. WNW, 1 Pelodytes ultripes seen at 2220. 4.7 mi. WNW, 2220, a DOR Discoglossus p. pictus seen. 6.6 mi. WNW, 2229, 48°F, one Pelodytes punctatus AOR. 6.7 mi. WNW, 2232, 48°F, one Rana a. perezi (22832) collected AOR. 6.9 mi. WNW, 2234, rain, 48°F, one Hyla a. meridionalis (CMFS 22833-22834) collected AOR. 7.5 mi. WNW, Hyla in lowland with Quercus puber, 1 P. waltti, P. ultripes, and 1 P. punctatus seen at 2237.

Benalup de Sidonia, 4.4 mi. N., 2315, 48°F, 1 T. m. pygmaeus (CMFS 22840) adult taken AOR. 2.3 mi. N., 50°F, 2323, one Pluriodon waltti (22839) collected AOR. 1.5 mi. N., 2326, 50°F,

15 Jan 72	raining, an AOR <u>Pleurochela waltii</u> collected and shipped to H. W. Greene alive. 3.9 mi. S., 2340, 50°F, 1 <u>Pelohates rufipes</u> seen AOR at 2400.
24 Jan 72	Rota, Naval Base, one <u>Natrix maura</u> (22841) collected by Miguel Mayn.
3 FEB 72	Rota, Naval Base, (CMFS 22842) <u>Bufo calamita</u> collected in Port area. AOR
4 FEB 72	Puerto Real, vic. E, one <u>Bufo calamita</u> (22843) collected. Rota-Chipiona Road, Dr. A. Horsch and I collected one male <u>Hyla arborea meridionalis</u> for skeletal purposes. (CM)
10 MAR 72	Spain, Cádiz Prov, Rota:
⇒	Released from USN today, tomorrow begins world's longest voyage! [International Biological Project: Desert Biome !!]
11 MAR 72	Today was fairly uneventful for the most part. I caught IBERIA's 0930 hr. flight from Sevilla to Madrid. Flight was smooth, nothing was served. Left Madrid at 1330 on ALITALIA bound for Rome. Arrived in Rome about 1500 and waited, somewhat impatiently, in an under-construction airport, for the flight to Tunis. It's 1700 and, at long last, we're boarding. The long bus arrives, carries us to our plane, and I get a "private" seat next to a window over the wing. My thoughts are anticipatory as we ascend through the clouds. Every now and then a cloud betrays its shadowed sea below and the azure Mediterranean can be seen. It is calm and still, Spring is about to happen.

272

Sunset is dramatic under these circumstances!

As we approach Carthage airport one sees a gentle blend of old and new. In the bay and along the shore are sailed vessels bearing what I suspect are nets. Further inland, electricity spreads its light upon the darkening land. As I look Eastward into the sea, there is an island in the sun which is as orange as a rock could be. It still amazes me to be flying south to Africa on the day I should be flying W. to the U.S.A.

We land perfectly at TUNIS-CARTHAGE and I am immediately impressed by the warmth of the air. Arabic writing in all that betrays my location: it could be small-town Mediterranean and it could be today, tomorrow, or yesterday. A handsome, bronzed man in a grey suit beckons me to approach. He has something in his left hand and I can see that it's probably my letter so I cautiously approach. Dr. Georges Naviloff thanks me for sending the photograph and says he'll meet me after customs has seen my baggage.

Customs looks at nothing; perhaps it's my pre-constructed list that impresses them. Dr. Naviloff formally introduces himself and we walk to his car. Somehow, I found the Mercedes-Benz with a removable hardtop hard to take! Guess Tunisia provides money for the rich and sand for the poor. I'm introduced to Tunis, paid, fed, and settled in the hotel for the night. The hotel is nothing special save expensive. \$5.00 for a room furnished or such is a pitiful amount. I slept well and was called for at 0530 on the 12th to start adventure #1.