
Stephen D. Busack, PhD
Director Emeritus, Research & Collections



NORTH CAROLINA
Museum of Natural Sciences

sbusack348@aol.com

naturalsciences.org

585.467.6131 11 West Jones Street Raleigh NC 27601

Mailing Address: 348 Belmeade Rd Rochester, NY 14617 USA

FIELD NOTES

1969

LA BARCA STUDY PLOT

GOOGLE EARTH, VERSION 7.3, 7 AUG 2022

NE CORNER 36.6397 N, 5.8856 W

NW CORNER 36.6375 N, 5.8806 W

SW CORNER 36.6353 N, 5.8822 W

SE CORNER 36.6372 N, 5.8869

CENTER OF PLOT

36.6375, 5.8839

BETWEEN 17 AND ●

LOS BARRIOS WNW TO CASAS DEL CASTAÑO

23.01 KM VIA C-440 (SERVICE RD)

BETWEEN ● AND 16

CASAS DEL CASTAÑO WNW ON C-440.

22 KM TO ALCALÁ DE LOS GAZULES

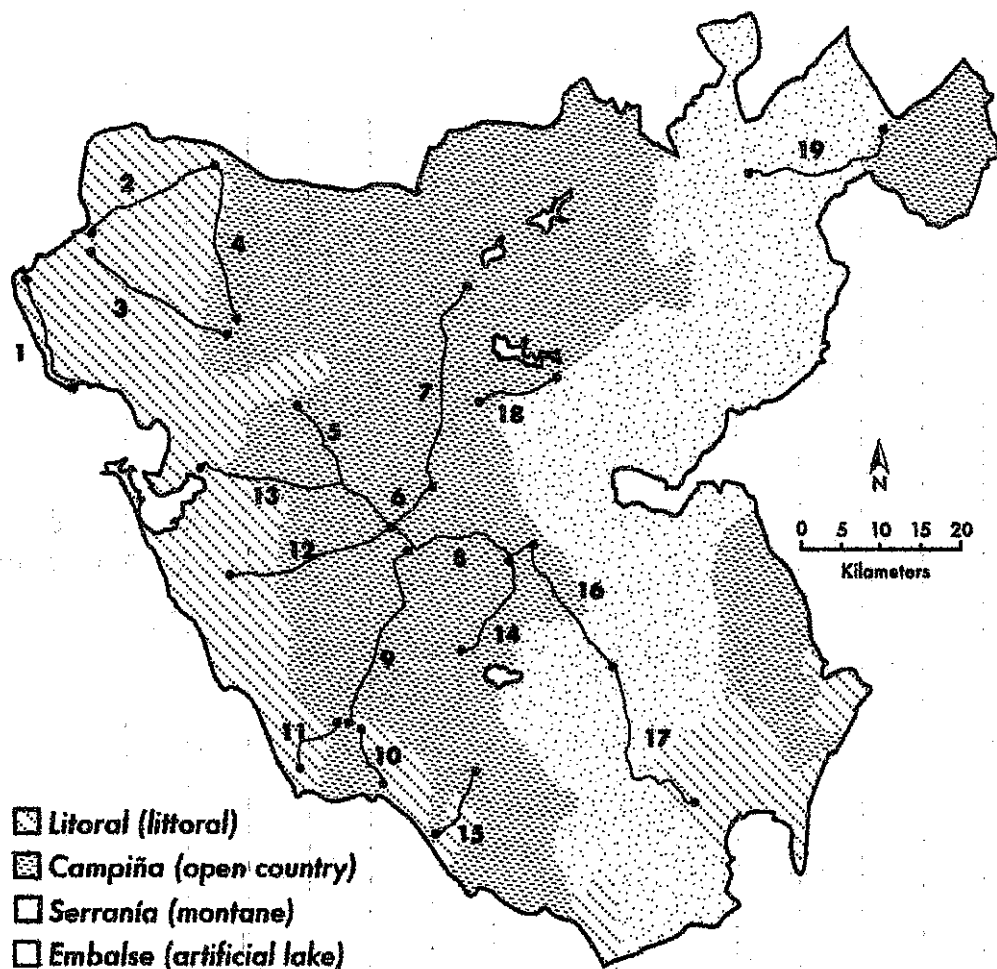


TABLE OF CONTENTS (Listed by locality)

CUBA

Guantanamo Bay 1, 2, 3.

SPAIN

BARCELONA PROVINCE

Callela 12.

CADIZ PROVINCE

Alcalá de los Gazules 14, 15, 48, 51,
62, 63, 66, 67,
70, 75.

Algar 49, 50, 54, 58,
59, 73.

Algeciras 10, 37, 48, 52,
59.

Arcos de la Frontera 22, 27, 29, 35,
58, 59, 71, 73.

Benalup de Sidonia 74.

Benocaz 35.

Bornos 41, 73.

Casas de Castaño 10, 66.

Chiclana de la Frontera 38, 65, 70.

Chipiona 13, 21, 42, 48,
60, 64, 74, 75,
76.

El Bosque 11, 14, 35, 54,
71.

El Torno 56, 57.

Grazelema 35.

Jedula 71.

Jerez de la Frontera 12, 13, 14, 15,
23, 51, 52, 54,
55, 61, 62, 67,
69, 70, 71, 73.

La Barca de la Florida 15, 16, 17, 18,
21, 22, 23, 24,
27, 28, 31, 32,
40, 42, 43, 46,
49, 53, 57, 58,
62, 72.

Los Barrios 10, 37, 38, 51,
63, 65, 75.

PERIMETER
ON P 76

TBL OF CONTENTS (CONT'D)

Medina Sidonia	20, 52, 53, 61, 69.
NAVAL BASE AT Rota	4, 5, 6, 9, 12, 16, 26, 30, 31, 39, 40, 41, 51, 53, 54, 57, 60, 63, 64, 74.
Olvera	41.
Paterna de Rivera	20, 50, 53.
Pruna	41.
Puerto de Santa Maria	7, 8, 10, 12, 13, 26, 29, 34, 38, 45, 47, 52, 59, 60, 63, 65, 76.
Puerto Real	52, 63.
Rota	7, 9, 13, 15, 21, 42, 48, 53, 55, 60, 63, 64, 74, 75.
San Isidro del Guadalete	56, 57.
San José del Valle	22, 49, 50, 58, 59.
San Lucar de Barrameda	42, 48, 54, 60, 74.
San Roque	36, 37.
Sentinil	41
Tarifa	20, 25, 63, 64.
Tempul	50.
Torrecedera	57.
Trafalgar	61, 65.
Ubrique	14.
Vejer de la Frontera	20, 21, 25, 59, 61, 63, 64, 69, 70.
Villa Luenga	14.
Villamartin	24, 73.
GRANADA PROVINCE	
Granada	11.
MALAGA PROVINCE	
Estepona	25, 37.

TBL OF CONTENTS (CONT'D)

Igualeja	36.
Marbella	14.
Ronda	14, 25, 27, 35, 41.
San Pedro de Alcantara	11, 36, 41.
Torremolinos	20.
SEVILLA PROVINCE	
Soria del Rio	18.
Sevilla	54.
Trebujena	73.

across the road running E. between the EM club and the bowling alley (S. side) was a peat moss area in which I caught specimens # SDB 456-457 while they were sunning.

I was supposed to meet CPL Tolman at the EM club so we stopped there for lunch and a few beers. All three specimens were then field preserved. Jeff Flannery joined us at 3:00 pm and we searched the basketball court again. Jeff caught number SDB 454 on the S. side of the court.

We observed approx. 3 other specimens in this area.

All appeared exceptionally young for this species.

SDB 454-457 = LEIOCEPHALUS MACROPUS

12 APRIL 1969

SPAIN, CADIZ PROVINCE, BASE NAVAL DE ROTA, VIC. OF HARBOR.

1-3 pm, 65-70°F, Made preliminary reconnaissance trip through the area immediately behind the hut used as a locker club and the transmitting/announcing station for Armed Forces Radio Network. Mature pine forest in nature, with sandy soil. Substrate consists mainly of fallen pine needles, human debris, and sand. 3 vernal ponds are present, the largest of which contains tadpoles at present. 2 lizards were observed, one small Lacerta and another (probably LACERTA) either more mature or of a different species. Warbler like bird of yellow and black body w/ bright red head was seen and observed for a while. In the center of the forest

there is a thicket containing some palm trees and few deciduous trees of a willow like nature. All in all, as summer approaches, this area could prove interesting -- future descriptions will be in photograph form, however.

13 APRIL 1969 SPAIN, CADIZ PROVINCE, BASE NAVAL DE ROTA, VIC. OF HARBOR

1-3 pm.

Surveyed the area again today. Concentrated my efforts in the area of the thicket and photographed the typical habitat. Between 2-3 pm, I captured 1 *Acontobdactylus e. erythrinus* ~~*A. aegyptius*~~ (SDB 461) by using a rubber band. This species is somewhat like CNEMIDOPHORUS in its actions with the exception of the head bobbing. (at least today). Also I captured a TARENTOLA ~~*Hemidactylus*~~ MAURITANICA (SDB 462) on a large pine. The area was shaded and the lizard was fairly active although this could have been due to my chasing him -- at least for the latter part of the time.

8-10 pm

The nearest vernal pond was filled with the mixed chorus of Hyla and (?) Bufo. 1 Natrix was observed and 7 Hyla arborea were captured (SDB 463-469). Water temperature approx. 69°F, air temp. not less than 60°F, sky clear - partly cloudy.

15 APRIL 1969 SPAIN, CADIZ PROVINCE, BASE NAVAL DE ROTA, VIC. OF HARBOR.

9-10 pm, air temperature lower than the 13th, chorus as 7 Hyla was noted whereas the air temp. was too low

20 APRIL 1969

SPAIN, CADIZ PROVINCE, ROTA NAVAL BASE, VIC. OF HARBOR. 8-9 pm (local time).

Temperature conditions at the pond were a little different tonight. Air temp. was in the low 60's and the water was cold. Although the pond has a sandy bottom, the water doesn't appear to have much, if any, saline content. Tonight Jeff Flannery and I took 10 salamander larvae by hand Pleurodeles waltli (SDB 471-480), 2 anuran larvae (SDB 481), and I captured 1 Hyla arborea that was in chorus with 2 others. (SDB 470). The night was clear, moon at 1/4, but the air temp. probably limited the chorus of frogs. A few anuran (possibly caudata) egg masses were seen and some smaller tadpoles were noticed.

25 APRIL 1969

SPAIN, CADIZ PROV., ROTA NAVAL BASE, VIC OF HARBOR. 8-10:30 pm (local time) 65-70°F, overcast, humid.

Jeff Flannery + I went out after frogs and noted that approx. 1/4 mi. N.W. of the pier there is a RESTRICTED AREA containing a chorus of approx. 50 Hyla. SDB 484 + 485 (DISCOGLOSSUS PICTUS) were taken in this lowland, sandy area about 8 pm. Later we moved to the pond behind the locker club (approx. 100' from the shore line) and collected 3 more larval Pleurodeles waltli (SDB 487-9). One Hyla arborea was taken in the same area later and the chorus consisted of approximately 3 frogs (SDB 486). Two new brown ones also taken both as

25 APR 69

of the same genus but I believe the species to be different. According to Jack McCoy at Carnegie the Genus is DISCOGLOSSUS and the species as indicated: (SDB 482) PICTUS (SDB 483) PICTUS. Both were photographed in life.

2 MAY 1969

SPAIN, ROTA, PROV. DE CADIZ, $1/4 - 1/2$ mi. NNW by road.

9-10pm, ensuing light rain, Temp. in mid 60's.

SDB 491-94 Pelobater cultripes captured while crossing the road. Swamps on either side of road.

6 MAY 1969

SPAIN, ROTA, PROV. DE CADIZ, $1/4 - 1/2$ NNW by road.

9:30-10pm. Cool (mid 50's). 57 Pelobater cultripes captured while crossing the road. The cor has yet to be set up for field work but my tapes should have more data on conditions as time progresses.

Numbers assigned: SDB 495-499, CMFS 16867-16892, AF 701-726

7 MAY 1969

SPAIN, CADIZ PROV, PUERTO de Santa Maria.

7:30-8:05pm (close to sunset), 17°C (62°F) at

Rota, R.H. 74%, B.P. 30.13" and rising, NE wind @ 5-6 mph, overcast and sunny.

Low level ground, patches from 3-7' in depth filled w/ stagnant water. Vegetation of cactus plants, clumps of mesquite like bushes, (reed like leaves [stems?]), dense annual grasses, and clumps of trees with roots somewhat like willows. Soil sandy and very wet. Clumps of 25-200 trees serve as partial windbreaks in some areas at the lot (see photos.)

Tadpoles (Pelobates) found in most potholes and are noted to be in almost all later stages of development. Several are fully developed except for final tail loss. There are literally thousands of tadpoles in the area. One large aggregation of tadpoles was observed feeding on a dead Natrix of species as CMFS 16893-94. 7 small Bufo calamita were also taken (CMFS 16895-16900).

11 MAY 1969

Spain, Cadiz Prov, Puerta de Santa Maria.

1:00-4:40 pm, B.P. 29.89", 73°F, Severe SW wind, Vernal ponds more dry than before; 4 Natrix ^{mura} seen, 1 Chamaeleo chamaeleon observed, a large Lacerta ^{schreiberi} ~~sp.~~ skeleton found in a trash pile; 2:30 pm., 1 Chamaeleo ^{Pseudoeurycea} ~~striata~~ (CMFS 16901)

taken under coconut debris. 2:35 pm., 1 Chalcidea striata (CMFS 16904) found under a rock in dry grass and fairly damp soil; 2:52, another Chalcidea striata (CMFS 16905) found foraging in a clump of grass about 1000' E.

of the road. 4:40 pm, series of Pelobates larvae (CMFS 16914) collected and J. Mireles presented me with 1 Chamaeleo chamaeleon (CMFS 16906) found in his yard in the area where I am collecting.

4:50 pm: 1 Natrix sp. found D.O.R. 3.1 miles E. (by road) of Puerta gate of Naval base.

13 MAY 1969

Spain, Cadiz Prov, Rota, Naval Base, Rota gate.

8:30-9:30 am 60°F slight wind

29 Pleuroclelea ^{waltl} ~~waltl~~ (CMFS 16927-16951)

1 Rana esculenta (CMFS 16926)

taken by hand. The Pleuroclelea are breeding or aggregating for that purpose. The habitat is a small (10' x 70') muddy bottom pond on the golf course. Tadpoles and transformed Pelobates were also in the same area but not as profusely as in Puerto.

16 MAY 1969

Spain, Cadiz Prov, Vic of Rota (2 mi. NW),

W. of road to Chipiona. Forested area (Pine) covered by sandy soil and low pine trees (7' MAX) about 100' N. of the ocean.

60-70°F, 1 Tarentola mauritanica

(CMFS 16955) taken while sunning on a tree limb.

Spain, Cadiz Prov, Puerto de Santa Maria

8:55-9:25, 60-70°F, sunset. 1 Pleuroclelea

waltl (CMFS 16956) collected, vernal ponds

drying up now, many could only be called mud holes. Many Pelobates and 2 Bufo salamita seen. This is also the 1st night I've really noticed mosquitoes and also noted was a westward migration of Pelobates. Why they move toward the ocean is an interesting question.

Spain, Cadiz Prov, Rota gate. Pond on Golf course. 20 Pleuroclelea waltl (AF 727-746) collected along with 2 Rana pernyi

(CMFS 16953-16954) from a chorus of about 10

Pelobates and Pleurodeles larvae common. H_2O temperatures higher than air and the season for Hyla seems to be diminishing as they are no longer heard in chorus.

24 MAY 69

Spain, Cadiz Prov, Vic. of Algeciras. Highway C440, 5.7 mi. (by road) E. of Casas de Castaño (approx. 4.3 mi. W. of Los Baños) in an extremely rocky area 3 LACERTAS were observed. 16.0 mi.

further E. an extremely large (green) Lacerta was observed crossing the road near C440 marker #59.

28 MAY 69

Spain, Cadiz Prov, Puerto de Santa Maria

At the lowland area again, 1000' from shoreline of the Atlantic Ocean, and the vernal pond are extremely dried up now. Annual grasses seem to be coming to fruition. 7:13 pm, soil temp. $68^{\circ}F$ near the road and the temperature of the mud is $68^{\circ}F$. 8:05 pm, several Discoglossus pictus pictus (CMFS 16960-16986) were taken in the mud under boards and rocks, etc.

2 Hyla arborea (CMFS 16958-16959) were also taken in the area. Weston Model 2282 thermometer is being used and the temperatures are: AIR $57^{\circ}F$, SOIL $68^{\circ}F$, S.W. wind at 10-15 mph. R.H. 79%, B.P. 29.895 and rising. Area underneath the board is very damp soil, several Bufo calamita hatchlings (?) were observed in the area. Habitat changes -- mud wet and salt Pond dried up. mud cracks in evidence.

still wet under rocks. 2 Hyla taken in reed like plant, 1 Tarentula mauritanica observed on fence w/ ventral surface to fence and dorsum in direct line with sunlight.



lizard
fence

30 MAY 69

Spain, Prov. de Cadiz

3 mi. W. EL BOSQUE on route 344 2

Lacerta spp. and 1 snake seen on road in montane area. .9 mi. W. EL Bosque on rt. 344 another

Lacerta on road. 12:40 pm, 22.8 mi. E. EL Bosque

on highway CA 3331 another Lacerta was observed.

12:50 pm, 26 mi. E. EL Bosque on highway C344 a

3 1/2' Elaphe scalaris was observed D.O.R. (2 mi.

W. of Prov. de Malaga border).

PROV. DE MALAGA

1 pm. Large Lacerta at 12.2 mi. NW Ronda.

8.4 mi. NW Ronda on CA ³³⁹~~334~~ Lacerta at 1:07 pm

1:25 pm, 70°F 1.3 mi. NW Ronda on CA ³³⁹~~334~~ an

Elaphe ~~scalaris~~ ^{monspessulana} seen A.O.R. 14.4 mi. NNW

San Pedro de Alcantara, 1 Lacerta on archway over gorge on route 339.

1 JUN 69

Spain, Prov. de Granada, GRANADA, La ALHAMBRA

67°F, 20 Lacertas were observed. 1

specimen (CMFS 16987) caught in copulation at the plaza de Los ALJIBES.

Lacerta muralis

4 JUN 69

Spain, Prov. de Cadiz, Puerta de Santa Maria.

7-8 pm (L), 69°F, clear & sunny, area in early summer foliage, low flatlands w/ annual grasses blooming. Underbrush noticeably thicker. Jeff Flannery and I took 2 Lacerta schreiberi (CMFS 16988-9), 1 Psammotrogon a. alpinus (CMFS 16990), 1 Chalcida chalcida (CMFS 16991), 8 Hyla arborea meridionalis (CMFS 16992-999), and 6 Bufo calamita (CMFS 17000, 17901-905).

5 JUN 69

Spain, Prov. de Cadiz, Rota, Vic. of Harbor on base.

78°F, clear & sunny, summer foliage and most collecting done under boards in man made rubble. Jeff Flannery and I collected Tarentola mauritanica (CMFS 17906-918), Pleurochelus walshi (CMFS 17919-921), Bufo calamita (CMFS 17922-923), and Malpolon monspessulanus (CMFS 17924).

8 JUN 69

Spain, Prov. de Barcelona, .9 mi. S. CALELLA on N11. 72°F, dry sand-gravel, low plants resembling snake plants, very rocky terrain, scenic overlook of Mediterranean sea.

3 Lacerta muralis [sp.] (CMFS 17925-927) taken with slingshot, rubber band, and hand (respectively) at 2 pm.

22 JUN 69

Spain, Prov. de Cadiz, Jerez de la Frontera,

5.6 mi. ENE. on highway 342. 1 pm arid land, low mesquite like underbrush, 78°F, 3 Psammotrogon a. alpinus (CMFS 17928-30) shot

with pellet rifle by Jeff Flannery & yo.

30 JUN 69

Spain, CADIZ PROV, Puerto de Santa Maria.

6-8 pm, 80°F, sunny + clear, wind @ 10-20 mph.
Area in general fairly completely dried up. Summer
grasses providing good cover and bare ground at
a minimum. 1 Lacerta was seen in a tree
covered area. 1 Pleurodeles ^{waltli} ~~waltli~~ (CMFS 17934)
and 11 Discoglossus p. pictus (CMFS 17935-17945)
were taken under rocks in moist soil. Those
taken were only specimens seen. All vernal
pools in the area are completely dried up.
Insect life fairly abundant, trails used by small
mammals are in evidence, birds not really noticed.

2 July 1969

Spain, Prov. de Cadiz, Road C-441 from Rota
to Chipiona.

9:30-11 pm, Cruised the highway in search
of specimens. 6 mi. E. of Chipiona is a
dirt road which I followed for its entire length
and which produced CMFS 17948 Pelodytes
punctatus. The evening was clear and temps.
were in the mid-high 60's. Wildlife seen consisted
of 1 small field mouse, 1 rat, and one other frog
which was not taken. The frog was taken 2.2
miles E. (or S.) of C-441 on the dirt road.

5 JUL 1969

Spain, Prov. de Cadiz, Trip to Torremolinos.

23.2 mi. ^{E.} of Jerez de la Frontera on
C-344 at 10 am, one Psammmodromus
~~psammmodromus~~ u. algerius
(CMFS 17950) taken with buckshot on the highway

23.5 mi. ^E of Jerez de la Frontera on C-344 at 10:04, another ^{Psammodromus} ~~Sacerta~~ a. alpinus taken (CMFS 17949) taken with shot. 23.6 mi. ^E of Jerez de la Frontera on C-344 at 10:05 am 1 D.O.R. Sacerta schreiberi taken and designated CMFS 20447). 7.4 mi. ^W of El Bosque on C-344, 1 ^{Psammodromus} ~~Sacerta~~ a. alpinus seen on road at 10:27 am. 1.6 mi. ^W El Bosque on C-344, 1 large Sacerta schreiberi seen along roadside. 6.9 mi. ^{NE} of Mbrigue on unmapped dirt road (CC-3301), 1 snake seen sunning itself on slate like rock formation. It appears to be Elaphe but I can't be sure. Shot at and missed at 11:40 am. Location exactly 1.45 mi SSE of Villa Luenga on unmarked dirt road.

Provincia de Malaga

26.4 mi. ^E S of Ronda on C-339 at 2pm. Sacerta muralis (CMFS 20448) taken with pellet gun. Two others seen along stone embankment covering the bridge. 80°F+.

6 July 69 4 mi. W. of Marbella on 340 at 10:50 am, 1 fresh D.O.R. Malpison monspettulanus seen but not worth preservation. About 36" in length. Overcast and warm (high 70's).

Provincia de Cadiz

1.7 mi SE of Alcala de los Riuales on

C-440, 1 D.O.R. Malpelon monspessulanus
(24-26") seen. Had been dead about 24 hours.
2.6 mi. WSW of Alcalá de los Gazules
at 1:20 pm, 1 D.O.R. Lacerta schreiberi ♂
(CMFS 20450) taken. 5.4 mi. WSW of
Alcalá... one small D.O.R. ^{Psammoglossus} ~~Lacerta~~ a. algerus
(CMFS 20449) taken for preservation at 1:30 pm.
Both recently killed. The entire trip covered
mountainous terrain (the S. Sierra Nevada)
and the weather on 5 July was hot, clear, and
sunny. Most lizards were noted prior to 12 am
and none, for the most part, were seen later.
It would appear that most lizard activity is
in the early morning and a late afternoon
trip shall be attempted in the future. My slides
should show the rocky terrain in most areas
although better notes appear to be in order.

8 JUL 1969

Spain, Cadiz Prov, Vic of Rota and Jerez de la Frontera
6:30-10:00 pm, 78°F.

4.7 mi (by road) S.W. of Jerez de la Frontera
at 7:03 pm, one D.O.R. Natrix maura (L.) (CMFS 20451)
was collected. Between 8-8:30, I surveyed an
area located .5 mi W. of the intersection of C-344
and CA-502 (not on AAA map) about 4.9 mi (by road)
E. of La Barca de la Florida or 17.4 mi E.
of Jerez de la Frontera. The habitat is low flatland
with sandy (but firm) soil. Vegetation is low and
thick in spots. Composed of mesquite like bushes.

annual grasses, and small shrubs. Trees are rare (those over 20' tall) and are estimated at about 1/100 square feet or less. Vegetation sample to be made later and I'll try to sample the area frequently and notes will be made in the other notebook. Seen tonight were 1 medium sized slate-gray or dark olive snake and 1 lizard (of a spp. I haven't seen yet) + 1 rabbit in three different locations or 3 different rabbits and a centipede about 6" in length and olive green in color. Upon returning, one DOR Coluber hippocrepis (CMFS 20452) was collected near the ~~Rota~~ Puerto de Santa Maria gate to the Naval base on the intersection of the road to Rota and the road which goes to 440 and intersects with the road around the base. The time was near 9:30 pm when the snake was hit.

9 JUL 69

Spain, Cadiz Prov, La Barca de la Florida, 4.9 mi E. on CA-502. TURN OVER FOR GEOGRAPHIC INFO.

1584 X
1008 Ft.

COLORED
ES BOOK,
INSIDE
COVER

Perimeter of study area is determined by the 27KM mark of CA-502 and a fence .3 mi E. of that mark. The N-S border is the road to a line of telephone poles on the S. side. At 5:30 pm the temperature was 84°F and it had dropped to 79°F at 9:37 pm when I quit. Wind was out the S.E. at approximately 10 mph.

5:30 pm - 6 Columbiformes were ~~not~~ observed on highway and coloration was white with black markings. 1 swallow was seen about the area (black).

5:45 pm Psammodromus a. algerus shot with #9 shot (CMFS 20453).

5:47 pm Acanthodactylus e. erythrus shot with pellet (CMFS 20455) and another of the same species seen at 5:49 pm.

5:56 pm Psammodromus a. algerus seen in bushes on E. half of area. 6:01 pm; one rabbit was noted darting across the field. 6:10 pm; about 100 ants were observed apparently in process of moving colonies. a series was collected and designated ES1. at 6:18 a beetle was collected in an open portion of the field and designated ES2. 6:20 pm; specimens of Acanthodactylus e. erythrus collected (CMFS 20456) and at 6:25 pm another rabbit was noted; 6:30 pm, a Acanthodactylus e. erythrus was observed but not hit. 6:46 pm; Psammodromus a. algerus seen active in low brush and another noted at 6:49 pm. 6:53; Acanthodactylus e. erythrus seen in brush and appear very active and sunning itself. ~~7:30~~ 7:03 pm; (CMFS 20457) Acanthodactylus e. erythrus taken with pellet. 7:09 pm; another small insect collected (ES3). 7:15 pm, another Psammodromus a. algerus (CMFS 20454) collected w/ shot and at 7:30 pm 5 wood ticks (ES4) were taken off my collecting bags. 7:37 pm and the sun is about set and my day is terminated. The afternoon was clear and sunny for the whole pm.

11 July 1969

Spain, Cadiz - Sevilla Provinces; trip from Rota - Sevilla

Drove 3-6 am without seeing anything worth collecting.

at 7:15 pm (90°F) I picked up one Matrix maura (CMFS 20458) 2.8 mi. S. of Coria del Río on a dirt road. It was AOR and hit by the jeep in front of me. It lived until after midnight in the condition in which it was preserved. The habitat in the vicinity is a combination of corn fields on the W. and rice patten on the East and permutations thereof.

12 July 69

Spain, Cadiz Prov, La Barca de la Florida, 4.9 mi. E. on CA-502. 6:58 am and sunrise was around 6:18 am. 66°F (ground). Prelim. survey indicates little activity. Small sparrow-like bird calling from field on the N. side but none yet on the area. Survey from 7:01-9:25 am.

7:10 am 1 lizard, probably Psammmodromus a. algerius seen; 7:12 am another Psammmodromus a. algerius seen; 7:16 am large grasshopper (E55) taken, few others noted; 7:23 am 1 Psammmodromus a. algerius shot and designated CMFS 20460; 7:28 am another P. a. algerius seen; 7:31 flies active but not yet too common; 7:36 CMFS 20461 P. a. algerius shot and first birds noted on the area.; 7:40 am a rabbit was seen active; 7:41 another P. a. algerius seen foraging. A grasshopper landed in front of it and it moved toward the insect and then away. 7:45 am P. a. algerius seen foraging; 7:48 am P. a. algerius seen sunning. Appears very active. Largest trees on the area are cork trees and are on the S. end of the territory. 7:52 am small.

grasshopper (ES 6) found. 7:57am P. a. algerus taken (CMFS 20462) with shot while foraging on the area of a tree trunk. Specimen seems to be arboreal to a certain extent as they are often found climbing small bushes. 8:03am P. a. algerus observed. 8:07am P. a. algerus observed and a swallow seen flying over the area. 8:10am another rabbit seen. 8:15am a large hawk-eagle like bird seen (dark, probably black, w/ white wing tips) soaring / gliding over area in vicinity of the one rooster on the area. 8:20am another rabbit noted. 8:25am a mole cricket picked up (ES 7). 8:26am Lacerta schreiberi seen in a palmetto-like area. 8:37am the first Acantholactylus e. erythrum seen and shot (CMFS 20464). 8:39am the flies are becoming a nuisance. 8:49 a large L. schreiberi seen foraging. When surprised it went into a bush and ceased movement. 8:59am a series of 10-12 hovering bee-like insects noted in flowered area. Large ant-like flying insects also seen. 9:00am a walking stick (ES 8) was collected. 9:05am A. e. erythrum (CMFS 20465) was shot. 9:11am A. e. erythrum (CMFS 20463) shot while actively foraging. While foraging it turns its head $\perp$ to the ground surface and appears to probe. 9:31am: 79°F (ground surface), clear, sunny, very light W. breeze, 2 ticks taken (ES 9) + (ES 10) in a hornet barrel inside nor. Sev Leiodontom

12 JUL 69

Patuna de Rivera on C-343, 6.3 mi. N.

@ 10:35 am one P. a. alpinus crossed road area of low level plain, several low bushes, several trees. Prairie habitat. 4.8 mi. N. the trees disappear. 1.6 mi N. and it turns to grazing land w/ no trees on the W. and few on E. all annual grasses w/ few bushes and hills up to 100', plains area. 1.3 mi N. @ 10:47 am I hit a swallow (ES 11) crossing the road.

Medina Sidonia, CA-343 and heading S. 8.4 mi. N. Vejer de la Frontera on C-343

@ 11:27 am 100± swallows seen in a rolling plain area (heavily forested patch). 6.7 mi N.

Vejer de la Frontera @ 11:35 am a L. schreibersi seen sunning ADR. Saw rolling plains, W. wind from 25-30 mph, fairly hot (84° in car).

2.8 mi. N. Vejer de la Frontera @ 11:45 on C-343 and a Bufo ^{bufo} ~~salamandra~~ (CMFS 20466) ADR at 84°F in hilly area; well forested with cork and shrubbery. Specimen unskinned before and during capture.

20.8 mi. E. of Vejer de la Frontera on N-340 @ 12:24 am (80°F) 1 Lacerta schreibersi seen on road. Retreated into hard packed sand bank when shot at. Saw rolling plains, some low tree cover. 6.3 mi N. Tarifa on N-340 @

1:05 pm a Malpolon monspeliensis found DOR.

PROV. de MALAGA

Tangemalim. Not. 1 M.D. Tangemalim. 9:00 am

one Rana ridibundus perezi (CMFS 20459) caught in artificial pond behind the hotel.

13 JULY 69

Cadiz Prov, N-340, 4:57 pm, 1 DOR Elaphe scalaris (dead about 2 hrs) approx. 11 mi.

E. of Vejer de la Frontera. Habitat cultivated land (wheat and/or hay field). 2.8 mi. E. of Vejer 1 DOR Malpascus monspessulanus found at 5:02 pm (88°F) dead about 5 hours.

24 JULY 69

Spain, Cadiz Prov, Rota - Chipiona Coastal Road (see AAA map). 7:30 - 10:00 pm, drove road and noted nothing of herpetological interest.

26 JULY 69

Spain, Cadiz Prov, Rota - La Barca de la Florida on unmapped route with no results.

4.9 mi E. on CA 502 @ 2:21 pm, 98°F w/ moderate S.E. wind. 2:25 pm 2 swallows seen roosting (soaring?) over property. 2:39 10+ swallows seen over property. 3:12 pm 1 tick (ES 31) picked up off ground in SE corner of property. ES 16 noted as the most common herbaceous plant. 4:25 pm a small insect (ES 32) picked up off ES 27. 4:35 pm Another as ES 32 found on ES 27 like plant (ES 33). 4:37 pm - a rabbit was observed. 4:55 pm a cast off Lacerta schreiberi skin was found. 5:00 pm ES 34 (small scale insects) were found on car windshield. And the temp. at 5:00 pm is 94° (ambient) Pronecton

measured to be 1008 feet (N-S). Left area to drive further E. on CA 502. a DOR Hedgehog was noted at 5:15 pm on CA 502 just E. of the intersection with an unmarked road running N. to Arco de la Frontera and intersecting with 342. Habitat is small pine wooded area w/ low % ground cover. Clear, sunny, S.E. breeze, and 94°F. 1.1 mi. E. of San José del Valle on CA 502 @ 5:35 pm, 90°F (±), 1 Lacerta schreiberi found DOR (CMTS 20469) and preserved. [NOTE: ES-12 through ES-30 are plant specimens for identification and will be saved. All specimens photographed in life on S.E. portion of property. Annual grasses not collected. ES-19 is noted to be very common on the area.] 8:53 pm, 78°F, full moon and sunset. Surveyed area -- no noticeable life save grasshoppers, etc. 9:15 pm all quiet yet. The NW meadow contains a spp. of tree not yet sampled. A soil sample was taken for composition determination. 9:30 pm, 74°F, a gravid ♀ Rattus was collected 2.7 mi. E. of La Barca de la Florida (AOR) and designated ES 35. 9:42 pm, 1.3 mi W. La Barca de la Florida on CA 502 another Rattus observed crossing the highway and a small bear also seen on road.

NOTE=

9:45pm, 72-73°F, 1 small Rana L. perezi
(CMFS 20470) found A.D.R. on CA 502 1.5 mi
W. of La Barca de la Florida. (12 mi. E. of
Jerez de la Frontera).

27 JUL 69

Spain, Cadiz Prov, Rota - 4.9 mi. E. of La Barca
de la Florida on CA 502. 7:35am, perimeter
road around S.E. corner of Naval Base, Rota,
70°F, a sparrow hit by my car was collected
and designated ES 36. 7 mi. E. of Rota
on road to Jerez de la Frontera 1 D.O.R.

Rattus observed @ 7:45am. 8:15am arrived

4.9 mi E. La Barca. 76°F, clear, sun rising,
and no life noted at first. 8:26am 1 rabbit
active along N. perimeter in center of area,
appears to be feeding. 8:45am flies noted to
be active and birds calling from across
N. perimeter road (CA 502) and on property.

8:52am, 6 grouse set into flight. 8:55am P.

a. algirus (CMFS 20471) shot while foraging in
low-herbaceous shrub. 9:10am flier still active +
small black birds foraging (flitting) in bushes. Grass-
hoppers active and 1 "darning needle" seen. 9:14am
to 9:16am two lizards heard which appear (from the
rapidity of movement) to be a. e. erythraeus. 9:20am
another of the aforementioned was shot at and missed.

9:25am a. e. erythraeus (CMFS 20472) killed while
sunning itself in a clearing. 9:26am Rabbit skull
lost. FS 32 9:31am a. e. erythraeus seen again.

9:33am A. erythrurus (CMFS 20473) shot and photographed.
 9:44am A. erythrurus (CMFS 20474) shot; 9:53 the
 largest A. erythrurus (CMFS 20475) seen yet on area
 was collected. It appears to be an old adult and
 was sunning itself until shot. 9:56am another
 grouse was flushed out of the brush. 10:00am,
 a land snail (ES 38) was collected by breaking
 its air-tight seal with the plant it was pulled
 from. 10:37am, 82°F, no wind, clear sky,
 and sunny (soil exposed to sun very, very hot.).
 It appears here that P. a. algerus is an early
 morning forager and is more arboreal than A.
erythrurus. It has often been found climbing on
 low herbaceous shrubs whereas A. e. erythrurus
 is apparently terrestrial and doesn't appear until
 later in the morning. 1.2 mi E. and N. of study
 area (.8 mi N of intersection of CA502 and dirt road
 to C344 to ARCOS de la Frontera), 11-11:18am,
 2 Rana a. peregrina (CMFS 20476 + 20477) collected
 in stagnant pond under bridge. 2 turtles (Clemmys
leprosa?) seen in the pond. Prevailing vegetation
 in this area is Willow-Cottonwood like trees.
 Soft muck soil forms substrate and leaves form
 blanket around pond. (5-6' deep water), temperature
 in this "oasis" about 82-84°F. Villamartin,
 (N-342) 1.7 mi. NNE, large (150-200) flock
 of swallows observed over cotton-wood area.

27 JUL 69

PROVINCIA DE MALAGA

RONDA, 6.6 mi. NW on CA 339, 1 medium Malpalon monspessulanus (30"± TL) D.O.R. @ 1:25 pm (dead 3-4 hrs). 90°F, area low montane with fast, shallow river about 300'S of road.

RONDA, 2 mi. NW on CA 339, 1 Malpalon monspessulanus found DOR (30-60 minutes) and preserved (CMFS 20478). Montane area, several trees and low herbaceous shrubs for cover. Area primarily annual grasses (rolling plain type).

RONDA, .8 mi N. on CA 339, 1 Malpalon monspessulanus @ 1:36 pm D.O.R. RONDA, 16 mi. S.S.E. on C-339 @ 3:10 pm and 92°F. Area montane, extremely rocky, under bridge with shallow stream and rocky bed. 1 Tarentola mauritanica seen on S. side of bridge.

RONDA, 23.6 mi. SSE on C-339 @ 3:30 pm at 82°F, 1 D.O.R. Lacerta schreiberi (dead about 30 minutes) in heavily pine forested area, rocky soil apparently due to erosion of granite. ESTEPONA, 6.3 mi.

SW on N-340, 1 Rattus DOR @ 4:05 pm.

TARIFA, 9.9 mi. NW on N-340 @ 5:15 pm

1 DOR Malpalon monspessulanus seen. TL 42"± and specimen's been dead at least a day. Full sized adult in highly agricultural area (wheat fields?).

Mountains to N and S. about 3/4 mi. away from road. UEJER de la Frontera, 9.3 mi SE.

on N-340 @ 5:40 pm 1 DOR Lacerta schreiberi in agric. area. Literally no hills to N; 1/2 mi to S.

PROV. DE CADIZ

29 JUL 69

Spain, Cadiz Prov, Rota, Naval Base vic. of Harbor.
 76°F, very humid (86-90%), clear, slight SW breeze.
 7:28 pm 1 Tarentola mauritanica caught under
 wooden debris and another noted. 7:35 pm, 2 more
T. mauritanica caught under discolored shingles.
 7:38 pm - another T. mauritanica seen and 1 mantis
 (ES-39) collected. 7:40 pm T. mauritanica noted active
 in vicinity of brush. 7:50 pm 1 rabbit observed.
 7:57 pm - 4 Rattus observed in wooded area close
 to abandoned house. 8:16 pm - T. mauritanica (CMFS
 20482) captured on stone wall of abandoned house.
 Birds calling from wooded area. Terrain extremely
 dry and we've had no rain for at least a month
 now. 8:24 pm -- another rabbit. 8:30 pm - a rabbit
 (young adult) observed foraging. It appeared to have diseased
 eyes as its eyes were swollen shut. The animal was
 blind for all practical purposes. 8:50 pm - END obs.
 (ES40) taken off T. mauritanica (CMFS 20479-20482).

30 JUL 69

Spain, Cadiz. Province, Puerta de Santa Maria
 Clear, sunny, humid, SW breeze at 8-10 mph, 85-83°F,
 7:05 - 7:50 pm. Area noted to be extremely dry save
 for areas under rocks. 7:10 - 1 spider and 2 beetles
 (ES 41 + 42) taken under rocks. 1 Lacerta schreiberi
 seen sunning. 7:12 pm - Praying Mantis taken (ES 43).
 7:16 - small Dinoglossus pictus taken under rocks in
 damp soil. 7:19 pm ant. collected (ES 44). 7:21 pm
 small D. pictus under rock. 7:23 pm, 5 D. pictus
 seen. 2 - 10 ft. 1 - 10 ft. 1 - 10 ft. 1 - 10 ft. 1 - 10 ft.

about 3-4" below surface of ground. 7:37pm an unidentified lizard seen and at 7:50pm the trip was terminated due to excessive heat and dryness. (ES 45) also taken in the area around 8:00pm.

2 AUG 69 Spain, Cadiz Prov, La Barca de la Florida, 4.9 mi E on CA 502. Clear, sunny, no breeze, 90°-84°F, 2:21-3:41pm. 2:25pm the first P. algirus was observed about 6" off the ground in herbaceous shrub. 2:30pm a L. schreiberi skin was found along SE border of area. 2:35pm 1 A. erythrurus was shot and a rabbit noted at 2:42. 2:51pm - another P. algirus was seen but not collected. another L. schreiberi skin was found at 2:58 and at 3:00 a small, slate grey, passeriform was shot but was damaged too much for salvaging. 3:15pm another A. erythrurus was shot and preserved and the trip was terminated at 3:41pm. (CMFS 20497-20498 assigned)

3 AUG 69 Spain, Prov. de Málaga y Cadiz, N342 from Jerez to Arcos, 344 to El Bosque and Albrigue, unmarked road from Albrigue NE to Grazelema and 339 and 344 to Ronda, 339 from Ronda to N340 and N340 to San Fernando and N10 to Puerto de Santa Maria, unmarked to Rota. Arcos de la Frontera, 11.7 mi. W. 1 Lacerta schreiberi DOR on 342 at 12 noon. PROV. DE MALAGA.

2:30pm, 1 Lacerta schreiberi seen D.O.R. on C 344 . 9 mi W. of Ronda at temp. about 90°F, a live specimen also observed on rocks on S. side

at road. Ronda 11 mi E. C-311 1:30p

Malpolon monspessulanus dead at least 6 hours and it's the largest I've ever seen. My guess is 6' but accurate measurement would be impossible due to specimen's desiccated condition. area highly arid and montane.

7 August Spain, Cadiz Prov, La Barca de La Florida, 4.9 mi. E. on CA-502.

7:56 pm (87°F) - 8:41 pm (83°F). Clear, slight E. breeze. 6 swallows on property at approach. at 8:16 pm Malpolon monspessulanus shed skin found in small hole in ground which may be used for shelter. Swallows still active but, generally, there seems to be very little life about. 8:41 pm - Sunset. No noticeable activity, some insect movement, grasshoppers not noticed. (Very quiet).

8 August Spain, Cadiz Prov., La Barca de La Florida, ^{3.6}~~4.9~~ mi. W. @ 7:20 pm (90°F). 1 Lacerta sp (probably schrabei) crossed CA-501. 4.9 mi E. @

7:49 pm (91°F). Study area quiet. Rabbit found dead in a very primitive trap and @ 7:58 pm a carrion beetle picked up off rabbit. 8:07 pm - small slate gray birds seen flitting around in bushes w/ acorns on them. Thickets seem cooler tonight and area is excessively dry. Large burrow noted on area / probably used by rabbit (feces inside). It is now sunset and patches of varying temperatures are noted. Land with little cover seems to reflect heat until later in the evening than covered areas.

ES 49 →

8 AUG 1969

Temperatures might (depending on my sensitivity to heat) vary as much as 5° from one area to another. Swallows have been active thru most of my time here and large grasshoppers were noted from time to time. No reptilian activity but several recently dug burrows were observed. I can't decide whether they're Hedgehogs or rabbit. From all indications, I'd have to say rabbit at this point. 8:35 pm -- Dusk, no breeze, clear (clouding on Coastal S.) over area. Final ambient temperature 77°F .

5.3 mi E. on CA-502 and .85 mi. N. on dirt road to "Punta de Los Rios" and Arcos. 8:45 pm (80°F -- air) - 9:18 pm (81°F -- air).

1 Rana ridibunda perezi (CMFS 20499) taken and 3-4 others observed in pond. Occasional breezes on area (from SE), not much activity but small fish (Cyprinids?) active in the pond. Area is composed of willow-like trees with ^{much} soil forming base of stagnant pond.

It's interesting to note here that no reptilian activity was noted from here to Arcos or from Arcos, thru Jerez, and back to the base. August, I predict, is probably a big month for instigation of partial aestivation.

11 AUG 69

Spain, Cadiz Prov, Puerto de Puerto de Santa Maria, 1.8 mi E.S.E. Slight W. Breeze, clear, sunny (80°F).

7:11 pm (start). 7:15 pm -- Small lizard seen in tall grasses.

(... ..) 7:20 P. albus.

11 AUG 69

in low bushes. 7:24pm fresh Malpaxos monspessulanus skin found. Many grasshoppers present but few birds on area. 7:26pm large red dragon fly (ES 46) found on branch in pile of coconut fronds. 7:30pm large spider as one found here earlier this month noted under rock. Another large Malpaxos monspessulanus skin found in area with much trash fronds. Shed about 1 day ago or so. 7:41pm - 2 more Malpaxos monspessulanus skins found in grassy area. 7:51pm - collected ant series (ES 47). 8:00pm - another red dragonfly, anta (ES 48), and mosquito noted. 8:15pm another red dragonfly seen and collecting was ended. (76°F at end of collecting). .5 mi. N. Puerto de Santa Maria, 1 BOR Hedgehog found and at 9:30pm on the base at Rota, Hyla a. meridionalis heard calling vic. of stable area.

12 AUG 69

Spain, Cadiz Prov., Rota, Naval Base -- 9:30-11:00

Hyla a. meridionalis heard calling N. of Driveway.

13 AUG 69

Spain, Cadiz Prov., Rota, Naval Base, 5-5:45pm, 84°-80°F. Area of Stables, swampy ground, sunny, partially overcast, many Hyla and Rana seen active. 1 Natrix maura (CMFS 20500) and 1 H. a. meridionalis (CMFS 20513) collected. 6:30-7:00pm. Natrix maura (CMFS 20501) collected while it was swimming in shallow vernal pond. Several Rana observed in pond. They're very active and noisy. Lighter than the ones I've seen before.

13 AUG 69 ing in mud where they are easily captured.
 Temperature (ambient) 84°F at 7:00 pm. Area is
 much soil with semi-aquatic plants and is used
 as pasture for horses and cattle. 7:00 pm - 8:00 pm,
 Vic. of Harbor 1 Tamias mauritanica (CMFS 20814)
 collected and 2 others seen. Area pretty dry right
 now. 1. T. mauritanica was seen in wooded area
 where 1st Spain capture was located. Few birds noticed.
 The omnipresent ocean breeze has dwindled to being
 hardly noticeable and is from W. The sky is heavily
 overcast on the horizon and a patch of cumulus (nimbo
 cumulus?) cloud appears directly over the base. Few
 rabbits heard, none seen. 81°F (ground level)
 8 - 8:50 pm (79°F); Stable area. Several frogs
 seen and a few collected (CMFS 20802-20812):
Rana ridibunda perezi. (Rel. Humid 71%)

14 Aug 69 Spain, Cadiz Prov, Rota, Naval Base vic. Harbor.
 9:00-10:20 pm, 63°F (air), 76°F (water) in area of
 stables. Nyla heard, in the clear and windless
 night. The pond is permanent and about 2' deep
 at deepest point. Rana ridibunda perezi (CMFS
 20815-20834) and Discoglossus pictus (20835) and
 one Mauromys c. leprosa (CMFS 20836) captured.
 1 D.O.P. Rana esculenta found on CA-603
 about 1/2 mi. N. of gate from base and road
 surveyed without further sightings.

16 AUG 69 Spain, Cadiz Prov, La Barca de la Florida, 4.9 mi
 10:00 am - 11:12 am 84-86°F clear

16 AUG 69

and sunny. 1 A. erythrum shot at perimeter road. 10:17 am 2 grouse flushed out and a minute later 2 more left. 10:20 - flies were noted to be common. 10:24 am -- 2 more A. erythrum observed. 10:30 am -- 2ND A. erythrum shot vicinity of fairly open area with acorn covered bushes. 10:35 am - another rabbit skull noted. 10:37 am "B" seen and temperature is high in the open. 10:40 am -- A. erythrum seen and shot at. 10:50 am -- little bird life noted and flier are getting to be a nuisance. 11:12 am A. erythrum shot at a temperature of 84°F (ambient). A. erythrum is designated "B" in primary field notes to explain note & line up. (CMFS 20837-39)

17 AUG 69

Spain, Cadiz. Prov. La Barca de la Florida, 4.9 mi E. on CA-502. 6:56 am - 12:20 pm, 55° - 87°F, sunrise @ 6:50 am. Clear, no wind, quiet save for some birds chirping on area. Quail noted crossing road at 27 km mark. 7:15 am a small brown bird crossed in front of me. 7:25 am a small reddish-brown grasshopper (ES-50) collected. 7:32 am a P. alpinus was shot and noted to be the first seen. 7:44 a rabbit was noted. @ 7:53 it is 64°F. 8:02 am a slate gray bird (junco like) observed / gray dorsum with venter of off white or yellow. 8:07 am another rabbit observed. 8:17 am P. alpinus shot while sunning in palmetto-like bush. 8:37 am P. alpinus seen but missed. 8:45 am P. alpinus shot while

17 AUG 69

sun's rays. This particular species is definitely arboreal to a certain extent. 8:56am P. algirus shot. Most specimens are actively foraging and tend to stay in shaded areas. They enter sun area briefly but keep moving and stop in sunny areas usually less than a minute before moving on. 9:11am - bees and dragonflies noted active, swallows cruising around, and other birds are calling. 9:27am flies becoming active. 9:30am P. algirus seems to have retreated to shelter for the day. 9:56am temperature 81°F in shade. The sun is strong and many bees and flies present. Area is very dry, soil hard-packed, and the dew is gone early in the morning. The sun, once up, heats area rapidly. P. algirus apparently feels the heat on the substrate and rises to the top of bushes to enjoy direct effect of sunlight. All specimens taken were observed sunning or foraging (CMFS 20840-20843). 10:21am, a small aphid (ESS1) taken around N. perimeter road. Specimens of A. erythrurus (2) had tapeworms inside the excretory track which were forced out during injection. 10:40am and it's 82°F. 10:44am a newborn A. erythrurus was noted in sand under my car. 10:59am - a sloughed off Lacerta schreiberi skin found. 11:00am A. erythrurus noted sunning (yearling) 11:06 yearling A. erythrurus shot and discarded. 11:10am A. erythrurus shot. 11:15am A. erythrurus shot. 11:25am A. erythrurus shot. 11:29am A. erythrurus noted

17 AUG 69

in sage brush and chased into bush. 11:32am another rabbit flushed out. 11:50am Lacerta schreiberei seen active. 11:53am another rabbit seen. 12:00am A. erythrum shot close to road. 12:20pm a horsefly and at 12:25pm another was caught. (ES 59) inside the cor. A. erythrum taken designated CMFS 20844-20847

20 AUG 69

Spain, Cadiz Prov, Puerto de Santa Maria, 1.8 mi. ESE. 7:03 - 37:58 pm, 84°F - 79°F.

7:05pm a series of sawbugs (CRUSTACEA) taken (ES 64), 7:09pm another spider (ES 61) taken and a small Natrix skin noted in dry area covered with small rocks of a coral nature. 7:13pm another spider (trap-door like) [ES 62] and grass-hopper [ES 66] taken along bank E. of road to beach. A Malpala monspessulana skin was found in rocks along roadside. 7:25pm a small Natrix maura (CMFS 20849) taken under a rock in damp soil. 7:40pm; 2 more Natrix maura (CMFS 20850-20851) taken in damp soil on bottom land of vernal pond. 7:43pm -- Natrix maura (CMFS 20852) taken under rock in same area. A Lumbricus sp. was observed but not collected. 7:47pm, Natrix maura (CMFS 20853) taken under another rock. 7:58pm several Rattus (5) were noted active on the property. At this time a Grasshopper (ES 60), a small spider (ES 63), and a mantis were ~~observed~~ (ES 65) in representative species in area

20 AUG 69

The area is extremely dry; moist soil found only in depressions. Vegetation profuse but soil is still very loose and sand forms dust bowls beneath my feet. The sky clear and E wind @ approx 10 mph. at end of trip, temp is 79°F.

22 AUG 69

Spain, Prov. de Cadiz, Arcos de la Frontera, 1452 hrs, Clear and sunny, 85°F, driving E. and nothing of note save swallows and finches occasionally. El Bosque, nothing on road, soil very dry, no rain since May and 90°F @ present. Highway CA 524 E. of Grazalema @ 1537 hrs, 90°F, sky clear, sunny, dry area. Annual grasses brown or yellow, cactus bleached out, only Cork seems to be doing well and the exposed leaves are turning yellow.

~~Bena~~ BENOCARZ, 1.2 mi E. on CA 3331 1 small (yearling) lizard (reddish-brown, 2 dorsal-lateral yellow strips running longitudinally down body) guessed at as a. erythrura. The area is very rocky and seems unsuitable for anything but goats.

PROV. DE MALAGA

10.5 mi. W. of Ronda in plateau that's very dry w/ browned grass. Shouldn't kick up a dust storm when driven on // Sun scorched area.

7.1 mi. W. Ronda a flock of 500-1000 swallows swarming over road. (C-344). There's little water below the road (500' ± below). Still

would expect to find little water below the road.

22 AUG 69

11.1 mi. E. Ronda in an elevated plateau typified by vegetation of a sagebrush nature. Some pines in clusters of 5 very scattered. The pattern of trees is erratic. No life seen save swallows E. of Ronda. 18.4 mi. E. Ronda pine trees become more common and the elevation appears to drop. Pine trees line the valley walls on W. side. and the trees appear to grow out of rock.

23 AUG 69

Prov. de Malaga.

8.7 mi. E.W. San Pedro de Alcantara on CA-339 @ 0925 hrs. in a montane area ES 67, 68, + 69 were taken and photographed. 18.8 mi. W. of San Pedro ES 70 was collected and photographed. Little bird life noted, Mountain goats active.

5.1 mi. W. Igualeja (at intersection of CA 339) a dozen quail/partidge (probably partridge) seen in rocky montane area. 1.6 mi W. Igualeja a bird was noted description as follows:

throat bright yellow, beak recurved, and longer than head. Bluish brown dorsum, white venter, black feather tips. a small flock was observed soaring over valley below. 2.0 mi. W. Igualeja produced ES 71 from tree growing out of canyon wall. 4.3 mi. E. Ronda on CA-341 a DOR

Malpolon monspessulanus was observed on road. It appeared freshly killed.

PROV. DE CADIZ

5.0 mi. S. San Roque on N-340 a Malpolon

MEROPIDAE:

Merops apiviter

23 AUG 69

monspessulanus seen at 1425 hrs AOR. The specimen was a young one. 7.2 mi N. San Roque a small fly (ES 72) was taken from my windshield. 7.5 mi. N. San Roque a small bee was taken from the windshield (ES 73).

PROV. DE MALAGA

4.4 mi. S. Estepona on N-340 a 6'+ DOR Malpison monspessulanus noted at 1822 hrs.

PROV. DE CADIZ

24 AUG 69

Vic. Algeciras, clear, clouded in W. over mountains, 1.3 mi. E. Los Barrios on C-440 swallows seen active at 0830 hrs. 1 Bufo

calamita found DOR 8.4 mi. W. Los Barrios in area of low coniferous shrubs; granite substrate, ferns, and cork trees in area but ferns over-ride any other low vegetation.

5.4 mi. S. of intersection of C-346 and C-343 on C-343 one Macropododon cucullatus collected and left unnumbered because of condition.

Time: 1040 hrs. 7.8 mi. S. of intersection of C-346 + C-343 on C-343 two flies were taken (ES 74) @ 1050 hrs on a sunny but overcast morning. 7.9 mi. S. of the same

intersection 5 Clammys leprosa were seen active in a vernal pond. Substrate much frequented by cattle. Temp: 80°F, water about 72°F. and about 6 feet deep. 6.6 mi. N. intersection C-343 and N-340 on C-343 a DOR Bufo calamita

C-346
MEDINA
TO
CHICLANA

24 AUG 69

was found in a plains area which is cultivated but very dry. 8.2 mi. E. intersection C-343 and N-340 on N-340 one Coluber hippocrepis picked off road. Another of the same seen about 10' further down the road and a DOR Natrix maura seen (25.4 mi W. Tarifa). 4.0 mi. W. Los Barrios on C-440 a P. olivaceus seen freshly killed on highway at 1403 hrs temp (air) 80°F, clear, SW wind @ 8-10 mph, sunny. 8.5 mi. E. Chiclana de la Frontera a [1723 hrs] Malpison monspessulanus seen DOR (CMFS 20854) 5.7 mi. E. Chiclana de la Frontera seen DOR on N-340 at 1730 hrs. Both specimens juvenile.

26 AUG 69

Puerto de Santa Maria, 1.8 mi. ESE, Spain, Cadiz P. 1753-2005 hrs. 92°F-75°F. Clear, sunny, no wind. 1800-1826 hrs. collected and photographed specimens # ES 75-77, 78, and 79. 1826-1839 hrs collected ES 80-82 while preparing plants for future reference. 1841 hrs-- ES 85 (series of large black ante) collected from colony living in dry soil under a rock. 1846 hrs a large spider (ES 84) taken and at 1851 a series of smaller reddish brown ante (ES 83) was collected. 1859 hrs an adult Chalcidula c. striatula was observed moving thru high grass. 1900 hrs a Malpison monspessulanus shed skin was found by a trash pile consisting of palm fronds, cactus, and natural debris. The skin seemed to have been shed recently. 1915 hrs a few red dragonflies

26 AUG 69

noted active and the large vernal pond on the rear (E) portion of the property has completely dried now. 1917 hrs another young Chalcidea c. striatus (juvenile) noted and grasshoppers seem to be overly abundant over the entire portion of study. They have been very active all afternoons. 1830 hrs a very large grasshopper w/ blue + red tibia-tarsus (ES 86) was collected. 1940 hrs. 3 fliers seen in conifer area. 1942 hrs a small sulfur winged Lepidopteran noted in area of trees resembling "Beech" trees. 1945 hrs. and a large partridge-like bird flushed out of high grass. Its flight was fast and very low to the ground (5' at most). 1950 hrs. another young Chalcidea c. striatus was observed while feeding. It was active around a dried frame of local cactus plants. TL was no more than 1" and it is probably one of this year's hatchlings. 1952 hrs a small reddish-brown arthropod was noted but not collected. It was millipede like and the first I've seen in Spain 2005 -- end of trip. ES 87 and 88 collected from car windshield at this time.

NAVAL BASE at ROTA (Stable area).

2130-2225 hrs, Temps: Ambient 60°F, Water 74°F.

Water in pond has noticeably decreased. Area about 30% less wet now and literally 100s of Rana c. perezi were present. The night is clear and a full moon is present. Crickets

01 SEP 69 2:15 pm, ES 94 caught on N-342 at Borno, Cadiz Prov. 1530-1550 hrs, Cadiz Prov, on unmarked road between Olvera and Puna one *Sacerta schreiberi* and 2 *Sacerta m. muralis* shot (CMFS 20885-20887) on bridge abutment. 80°F.

(2.7 mi. W. of Sentinel, elev. 694 mts). 6.6 mi. E. of Ronda on CA-339 another *S. m. muralis* (CMFS 20888) was shot. Overcast, sunny, 1657 hrs, 70°F. at an elev. of 224 mts (?). Between Ronda and San Pedro de Alcántara there was quite a bit of accumulated water on the highway indicating that the rainy season has started, at least for the higher elevations.

03 SEP 69 Spain, Cadiz Prov, Rota, Naval Base, vic. of stables. 2000-2100 drove to Puerto and back without seeing anything of interest. 2100-2145 hrs, temps air 62°F, water 66°F. One *Rana exulenta* (CMFS 20889) captured in vernal pond behind stables. ES 95 captured in 2" deep water and 3 others were seen. Three other frogs of the same spp. were observed but eluded capture. The largest pond from which most earlier frogs were taken has dried completely and the muck soil which surrounded it has also dried. The weather has changed; it's cooling off now and wind velocities are increasing. The night, however, was clear and many stars were present. I am somewhat amazed at how rapidly the water level has dropped to almost nil 11:00 ten later and been

4SEP69

Spain, Cadiz Prov, Vic. Rota, San Lucar, Chipiona.

Tonight I decided to drive the roads in search of evidence of herpetological activity. In driving in excess of 75 miles, no activity was noted. 1900-2100 hrs, temperature (a) approx

69°F, cloudy, windy, and max. temp. today was about 72°F. Signs of winter's coming were

noted mainly in the temperature drops since 1 September. The area is still extremely dry as we have had no rain since June (early June).

I drove from ROTA-Chipiona-San Lucar-Rota-San Lucar-Chipiona-San Lucar-Rota and noticed some mice and Rattus on roads but nothing as far as amphibian/reptilian activity.

6SEP69

Spain, Cadiz Prov, La Barca de La Florida, 4.9 mi. E. on CA-502. 1200-1351, 88°F, overcast, sunny, SW wind

1204 hrs 1 A. erythrum shot (juv.) and subsequently destroyed. 1211 -- 1 rabbit seen. 1219 hrs slate-gray bird active in acorn like bush (junco?) 1226 hrs a rabbit flushed out, another slate-gray bird seen, flies becoming a nuisance and some grasshoppers are active. 1232 hrs A. erythrum (CMFS 20891) found while sunning under herbaceous bush. 1236 rabbit flushed. 1240 hrs A. erythrum (CMFS 20894) shot. Was foraging under herbaceous shrub. Rabbit feces were seen all over / very common. 1245 hrs partridge or grouse (red tail feathers) flushed out. 1246 hrs 6 more flushed. 1247 hrs

P. ... also ... in bush at ground level

6 SEP 1969

1254 hr. P. algirus noted active in low shrub.

1306 hr. P. algirus shot at 5 times (pellets) but missed or only injured the breast. It was sunning in the open when first observed and retreated to the solemnity of a nearby bush when disturbed. 1312 hr

another P. algirus seen foraging in bush w/ acorns (CMFS²⁰ 2890) 1315 hr another rabbit flushed. 1324 hr

the third U. erythronus (CMFS 20892) was followed as he foraged for food. Head bobbing seemed to be taking place and movements were short distance and quick. 1331 hr U. erythronus (CMFS 20893) shot.

1339 hr watched a juvenile U. erythronus enter a small hole in earth after foraging in the area about 6' w. of what I would call "his home". 1350 hr U. erythronus (CMFS 20895) 1351 hr. end of survey

Cloudy, SW wind, 94°F @ 1447, 108°F in sun at 1358 hr. 1455 hr a juvenile U. erythronus observed sunning. 1530 hr a rabbit was found dead. Cause could have been buckshot but decomposition was pretty well along. Rabbit has been found in the area and rabbits may be carrying it.

The mist net was set up between 2 trees with hopes for a bird catch in the morning. Another U. erythronus was observed in the shelter of a

low bush 1540 hr CMFS 20896 U. erythronus (juv.) captured along N. boundary of property. 85°F @ 1545 hr. SW wind @ 10-12 mph, overcast & sunny.

25.1.

Sec. 1. Culin Pror. In Base de la Florida 4.9 mi. E

7 Sep 69

0706 hr (Sunrise), 52°F, and on the way here
 3 Rattus and 1 small mouse were observed. One
Rattus just outside the Puerto gate to the base
 and one E. of Jerez. One Rattus W. of La
 Barca de la Florida. I left the base at 0600.
 0737 hr, 56°F, No birds in mist net but the
 slate-grey birds (Junco like) are calling on the area.
 0830 hr, 69°F, Several birds seen. Among them a
 flock of 10-12 pigeons (dove) pure white in color,
 a slate-colored junco, and a finch-like w/ salmon
 venter, short beak, + dark dorsum. Seen to restrict
 activity to lower shrubbery and to cork tree branches.
 0847 hr -- small invertebrate (ES ⁹⁶/₇₅) [mite like] picked
 up off my pants @ 71°F. 0855 hr. P. algerus
 observed for first time today. 0900 hr. P. algerus
 observed foraging near road but under cover.
 0901 the first P. algerus shot while foraging and
 sunning. 0907 hr P. algerus seen foraging
 0914 hr P. algerus observed while moving thru
 low bush. 0920 hr P. algerus shot. he
 was sunning/foraging in a bush bearing acorns.
 0936 hr P. algerus actively moving about. Shot
 at and missed. 0948 hr A. erythraeus juvenile active
 on the area for first time. 0952 hr P. algerus
 shot while actively foraging in and out of protection of
 shrubbery. 0959 P. algerus shot and the length
 of the tail is almost $1\frac{1}{2} \times$ the length of the body.
 1007 hr P. algerus shot/was in open sunning

7 Sep 69

until frightened out. Scanning (apprehensively) under bush when shot. 1012 hr juvenile A. erythrurus shot while foraging actively along soil surface out from plants. 1014 hr a large flock of grouse flushed out (20+ birds). 1026 - 1031 hr P. alpinus shot at and chased. 1038 hr P. alpinus spotted but retreated into bushes / getting very hot in direct sun. 1042 hr A. erythrurus (juvenile) very active. 1048 hr A. erythrurus shot. 1051 hr P. alpinus shot (pullet) while in low coverage weed (exposed, in part, to sun.) 1055 hr 1/2 dg. partridge flushed out. 1100 hr a juvenile A. erythrurus shot foraging in direct sun. 1106 hr another juvenile A. erythrurus shot. 1115 hr, 79°F, and a juvenile A. erythrurus taken by the area around the cor. 1148 and 79°F. $\Rightarrow$ 1300 - 1330, about 80°F, and 3 A. erythrurus (juv.) seen active in area 1.6 mi. E. of Puerto de Santa Maria (.3^{mi} N. on road to housing development). The field is at an $\angle$ of about 30° and is composed of a rocky substrate / outcropping type. Outcropping level with substrate and plant cover is of herbaceous type but low (2' max). Annual grasses are present, sandy soil, Prickly Pear Cactus, and the area is rumored to be a source of Chamaeleo chamaeleon. All specimens collected labelled CMFS 20897 - 20907.

9 Sep 69

Spain, Cadiz Prov, Puerto de Santa Maria, 1.8 mi ESE
1844 - 2008 hrs, 74° - 69°F. 1900 hrs -- several dragonflies have been noted and mosquitoes are very common. 1914 hr.

9 SEP 69

a Rattus observed. 1918 hr a Matris maura collected under a rock in bottom of dried up vernal pond. The soil is still damp in this area. 1920 hr. -- ES 97-99 collected in soft, moist earth under rocks. 1922 hr. Matris skin noted by road; leading under rock that appears to be a sandstone. 1935 hr. -- a heavy dew is beginning to set in. 1937 hr. -- Matris maura collected under rock (as above) and was in conjunction with many millipede. 1938 hr, Matris maura caught. Large colonies of larger black ant species found active under rocks all over the area. 1943 hr large Malpelson monspessulorum skin found in area close to the road. 1952 hr. -- Rattus observed active in "Saw" grass [the needle-like grass]. 1954 hr an adult Matris maura skin found on shoulder of road. 2000 hr. -- Lacerta schreiberi found under rock in dried up vernal pond. 2001 hr another Rattus observed. 2002 hr. -- snake skin (probably Matris found ~~under~~ under a log alongside the road

10 SEP 69

Spain, Cadiz Prov, La Barca de Sa Florida, 4.9 mi E. on CA 502. ~~Finca de Santa Maria, 1.8 mi. ESE.~~

1715-1920 hr, 86°F - 75°F, overcast, SW wind @ 10 mph. 3.3 mi W (1.6 mi E. La Barca) of study area an adult Protonotaria a. algerus was seen active at 1715 hr. Upon entering the area, several (4-6) white columbiforms were noted. The undersides of the tail contained Black feathers. 1735 hr and several grasshoppers were noted active. 1742 hr a P. algerus was shot and a Lacerta schreiberi

10 SEP

was found. 1751 hr P. a. algerius seen on low herbaceous bush. 1756 hr P. a. algerius seen in palmetto-like bush. 1758 hr P. a. algerius shot in palmetto. 1807 hr - 1811 hr P. a. algerius was observed in flight (from its pursuers). 1819 hr P. a. algerius observed active while foraging. 1834 hr P. a. algerius shot and another taken at 1838 hr. 1844 hr several swallows noted over area and the last P. a. algerius was shot at 1915 hr. 1920 -- survey ended.

2000 hr, La Barca de La Florida, 1.5 mi. W. an owl was seen sitting on a fence post along CA-502.

CMFS 20914-20919 assigned to specimen collected.

15 SEP 69

Spain, Cadiz Prov, Punta de Santa Maria, 1.8 mi ESE. 1830-1947 hr, 72°F - 67°F, W. wind @ 8-10 mph and there has been much rain in the past few days. 1835 hr a series of large black ants w/ eggs was collected in damp soil beneath a rock (ES 103) and an adult Matricx maura was found dead (decapitated). 1837 hr under a small rock in damp soil a small reddish spider was taken (ES 101) and at 1844 hr a larger series of small black ants was taken from under cardboard (ES 102). 1855 hr, toward open end of field some small reddish-brown invertebrates (millipede like but w/out shiten) [ES 100] found in damp soil under concrete blocks. 1908 hr a series of snails was removed from pile of ^{Palm} coconut debris (ES 104-106). 1933-1939 3 Matricx maura collected (CMFS 20920-20922) under rocks. 1947 end

15 SEP 69

Spain, Cadiz Prov, Rota, Road survey in area
 2026-2113 hrs, 67°F. 7.9 mi SW. Chipiona
 on unmarked road, 1 Pelobates cultripes with
 one eye missing collected and noted as CMFS 20923
 at 2030. 7.6 mi. SW Chipiona on same road
 CMFS 20925 (Pelobates cultripes) collected. 7.4
 mi. SW Chipiona another Pelobates cultripes
 (CMFS 20924) collected at 2034 hrs. San
 Lucar de Barrameda, 1.9 mi SW on 440
 one Pelobates cultripes collected @ 2113.
 4.8 mi SW on 440 @ 2123 hrs a Bufo calamita
 (CMFS 20926) collected. 7.5 mi SW on 440 @
 2132 hrs a Pelodytes ^{punctatus} ~~punctatus~~ (CMFS 20927)
 collected while crossing the highway. 8.6 mi. SW
 on 440 a series of (5) Pelobates cultripes collected
 @ 2137 and 9.05 mi SW (2) more P. cultripes
 taken from road. 9.1 mi SW on 440 some more
P. cultripes were collected at intersection of 440
 and road to Jerez and Rota @ 2145 hrs. These
 latter specimens were designated CMFS 20928-
 20942.

16 SEP 69

Spain, Cadiz Prov, Rota - Algeciras - Los Barrios -
 Alcalá de los Gazules - Jerez de la Frontera.
 1930-2310 hrs, 72°-66°F, .25 mi NNE Algeciras
 on N-340 one DOR Bufo b. bufo found @
 2030 and a temp. of 63°F. 7.5 mi SE.
 of Alcalá de los Gazules on Rt. 440 on
 ANR Pelobates ... (CMFS 20943) collected

16 SEP

② 2126 hr and temp. of 57°F . Upon return to Rota, the temperature was registered at 66°F and Relative Humidity was 77% at 2310 hr.

18 SEP 69

Spain, Cadiz Prov, La Barca de La Florida, 4.9 mi E.

1737 - 1924 hrs, 75°F - 66°F . Clear, SW wind at $< 10\text{ mph}$. 1754 juvenile P. a. algirus seen

active in high grass, 1758 hrs adult a. e. erythrum seen active under bush w/ acorns. 1803 hrs adult

P. a. algirus shot while active in acorn bush (CMFS 20944). 1819 hrs, small tannish brown finch active. 1831 hrs P. a. algirus disturbed

while sunning. 1841 hrs, ES 108 found (small flying insect). 1900 hrs, ES 109 found on my hand while preparing specimen 108. 1909 hrs,

a Bufo calamita (CMFS 20945) found close to the highway. 1916 hrs, specimen ES 110 (dragonfly--red in color) picked up off bush.

Sunset was at 1935 hrs, 1/4 moon in evidence.

The underbrush was noted to be getting heavier and the soil is noticeably wetter on the surface probably due to rain which we've been having since 12 September. Decided to drive the roads tonight. 1955 hrs, 2 owls spotted AOR 1.4 mi.

E. of San José del Valle. 2000 hrs, owl on road 7.0 mi E. San José del Valle and

at 2017 hrs a small Bufo calamita (CMFS 20950) was taken on highway CA-503 8.9 mi. E. San José

11.00. at 65°F 1022 hrs. 12 mi NW Alcazar.

18 SEP 69 unmarked road, 1 DOR Coluber hippocrepis (CMFS 20946) found @ 65°F. The specimen had been dead about 2 hours when found. 2037 hr, 65°F, another Bufo calamita (CMFS 20951) taken, .6 mi. W. of Algor on unmarked road. 2042 hr, 62°F, .1 mi. W. of Algor Bufo calamita (CMFS 20952) taken. .5 mi. W. Algor @ 2045 hr (63°F) Pelobates cultripes (CMFS 20949) taken AOR on same unmarked road. 2.7 mi. W. Algor @ 2051 hr and 64°F, one Rana ridibunda perezi (CMFS 20948) taken AOR. 2.9 mi. W. Algor at 2053 hr and 63°F one large Bufo b. ^{spinosa} ~~bufo~~ (CMFS 20955) taken. 2052 hr, a Rana esculenta found DOR 2.5 mi. W. Algor on unmarked road (not saved). 2107 hr, 59°F, a Bufo calamita (CMFS 20953) taken .4 mi. W. of Tempul on CA-503. 2114 hr, 61°F, CA-503 1.5 mi. W. of Tempul a Goatsucker (Caprimulgidae) collected and designated ES ~~III~~ III. It has a damaged eye and was simply sitting in the road. 3.8 mi. W. Tempul a rabbit (Lepus?) seen at 2130 hr (62°F). 2129, 63-64°F, a Bufo calamita AOR on CA-503 3.9 mi. E. of San José del Valle (CMFS 20954). 2144 hr, 58°F, .9 mi. W. San José del Valle one Alouatta scalaris (CMFS 20947) found DOR and it was freshly killed (blood was still flowing). 9.1 mi. S + W of Paterna de Rivera on 440 Tm

18 SEP 69 Jerez de La Frontera 1 Rattus AOR at 2300 hrs.
2356 hrs, $65^{\circ} \pm F$, 4 Pelobates cultripes (CMFS
20956-20959) collected at intersection of 440 and
unmarked road to the base (2.7 mi. E. of CA-603
intersection or 9.6 mi. E. of Rota). At 2400,
weather was as follows 73% R.H., $66^{\circ} F$, B.P.
29.92" and rising.

19 Sep 69 Spain, Cadiz Prov, Rota, vic. of Naval Base,
1.8 mi N. Puerta gate to Base (.9 mi S. of intersection
of CA-603 and unmarked road to Jerez de La Frontera).
1814 hrs, $68^{\circ} F$, 1 D.O.R. Malpison mongroculanus
(8-10" juvenile) found. Overcast w/ cirrus clouds,
slight SW breeze, Sunny. 2020 hrs, $63^{\circ} F$, ES 112

ES 112 $\Rightarrow$
could be
Turnix
sylvatica

(~~Phasianidae~~) ^{TURNICIDAE} picked up $\approx$ 5.8 mi. SE Alcalá-
de Los Gazules on Rt. 440. Fresh road built. Earlier,
2.15 mi. SE Alcalá de Los Gazules a goatseeder
was seen A.O.R. and one D.O.R. about 2010 hrs.
9.6 mi. SE Alcalá de Los Gazules a small mouse
was seen AOR at 2030 hrs. 13.4 mi. NW Los
Barrios on 440 at 2052 another mouse observed
but this specimen was apparently grooming while
sitting on the shoulder of the highway. 9.8 mi NW
Los Barrios on 440 at 2110 hrs, a fox was
seen crossing the highway. Body was reddish-brown
(light red), the tail was black (tending to dark
grey), ears were long and pointed, feet were white
w/ black markings, and the size was about that
of a medium sized German Shepherd Dog.

19 SEP 69

4.7 mi. SW Algeciras on N-340 a DOR Rattus sp. was observed at 2200. Puerto de Santa Maria area is currently teeming w/ moths. an unusually high number of insects was seen active on the road tonight. 3.3 mi. NW Puerto de Santa Maria (by unmarked road) a small mouse was seen crossing the road @ 2330 hrs and 65°F. 2350 hrs, 61°F, a Pelobates cultripes (CMFS 20960) collected at intersection of 440 and unmarked road to the base. (9.6 mi. E. of Rota by road). At midnight the following was recorded: 75% R.H., 29.905" B.P., W-NW wind @ 12-18 mph, and temp. 61°F.

SEP 24 1969 Spain, Cadiz, Prov, Rota - Jerez de la Frontera, Puerto Real, Chiclana de la Frontera, Vejer de la frontera, Medina Sidonia, Paterna de Rivera, La Barca de la Florida, Jerez de la Frontera, Rota. 1855-0020, SEPT 25TH, cloudy, wind 10-14 mph (SW), 74°F.

Puerto Real, 2000, 11.15 mi NE, 1 Rattus sp. seen AOR.

Puerto Real, 2000, 9.0 mi N., 73-74°F, 1 AOR Caprimulgus sp. and it was noted that this bird is either blinded by headlights or has a very low critical distance for the flight-flight reaction to become activated. Puerto Real, 3.0 mi N. @ 2017 hrs, 1 Caprimulgus sp. seen AOR and a full moon is noted. Medina Sidonia, 10.6 mi. SE @ 2130 another Caprimulgus sp. on dirt road ES 115 (small beetle) picked

24 SEP 69 up 8.0 mi SE. of Medina Sidonia @ 2145 hr.
 7.0 mi SE of M. Sidonia @ 2148 another
Caprimulgus seen AOR. 6.4 mi SE M. Sidonia
 a reddish-brown dorsum, black tailed, long eared
 rabbit (Lepus sp?) seen @ 2148 hr. 5.3 mi SE
 M. Sidonia a Red-legged Partridge (?) seen @
 2150 hr. 1.9 mi N. Medina Sidonia on C-343
 a small frog (probably Rana p. perezi) seen
 active about 2210 hr. 3.2 mi M. Medina
 Sidonia a Caprimulgus sp. noted at 2219 hr
 4.2 mi N. on CA-343 a praying mantis seen
 @ 2222 hr AOR. Paterna de Rivera, 5.4 mi
 N. @ 2230 hr on AOR Rattus sp seen. 5.75 mi
 N. @ 2245 hr another Rattus seen. La Barca
 de La Florida, 2.8 mi E. on CA-502 a
Caprimulgus sp. seen AOR in area of my
 collecting-study area. Several moths active
 on the road tonight. Rota, 12.8 mi E,
 @ 2335 hr a Bufo calamita (CMFS 20961)
 collected at 62°F. 9.6 mi E. Rota on unmarked
 road a Pelobates cultripes (CMFS 20963) collected
 AOR. At midnight: SE wind 10-14 mph, R.H.
 68%, B.P. 30.065" and ↑, 63°F.

25 SEP 69 Spain, Cadiz Prov, Rota, vic of harbor at NAUBASE.
 0020 hr, 62°F, 1 juv. Bufo calamita (CMFS
 20962) collected on road from ship to locker club.

25 SEP 69 Spain, Cadiz Prov, Rota - San Lucas - Chipiona - Rota.
 1500 - 1500 74°F over road 3 Hyla a melanocephala.

25 Sep 69 seen behind locher club in vernal pond that's still dried up. CMFS 20364 collected. At 2005 hr the following: R.H. 50%, B.P. 30.005" Hg, 73°F, was recorded from weather central. Note also that a Malpalon monspessulanus skin was found in the same area. San Lucar de Barrameda, 5.9 mi E. on 440 @ 2020 hr a small mouse noted active on the road. 3.4 mi. E. on 440 @ 2032 another mouse (as above) seen AOL. 2.5 mi. E. @ 2035 the last mouse recorded was seen.

27 Sep 69 Spain, ^{Sevilla} ~~Cádiz~~ Prov, Sevilla, Playa de America. Psammodromus a. algerius noted active @ 1400 hr and a temperature in the low 80°F's.

28 SEP 69 Spain, Cádiz Prov, Rota - Jerez - Paterna - San José - Tempul - Algor - Arcos - El Bosque - Arcos - Rota - Jerez - Jédula - Arcos - El Bosque - Arcos - Jédula - Jerez - Rota. 0950 - 0045, 29 Sep 1969.

71°F, overcast, some sun, ^{E-SE} ~~SW~~ wind @ 10-14 mph.

Road between Base and 440 fields cotton fields.

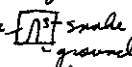
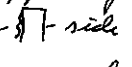
B.P. 29.900" + 1, R.H. 68%, @ 1005 hr. 2.9 mi.

W. Jerez de la Frontera on 440 ore DOR Macropododon cucullatus found D.O.R. (olive-green dorsum, lateral stripes, 20" TL, head rounded as Charina)

Algor, 5.1 mi. NW on unmarked road. one DOR Malpalon monspessulanus found. 74°F, heavy S-SW wind. El Bosque, 10.35 mi. W. on 344 at 1330 hr

and D.O.R. (see skins) are Cal. Chamaeleo (L.)

28 SEP 65

found sunning on bridge. It was lying with its body horizontal to sunlight by using the wall of the bridge as a vertical support for its body. Bridge  (Face view) snake  side view. The face of the bridge was, obviously, rough enough for support of his body. The specimen was a juvenile about 12" TL and it escaped. El Bosque, 8.0 mi W. on 344 one DOR Lacerta schreiberi found fresh @ 1345. 6.3 mi W.

El Bosque on 344 the following was collected:

(6+1) 7 Rana r. perezi (CMFS 20965-971)

1 scorpion (ES 117) → Discopterus pictus

1 centipede (ES 118) (20967)

and ~~an~~ ^{an} adult Rana r. perezi was shot but not collected in vic. of a well. The area is well covered with thickets and has a small creek running through it. The time was 1425-1435 and a temperature of 78°F, overcast with occasional sun. 2.6 mi W. El Bosque on 344 a Columba hippocrepis (L.) was found DOR freshly killed at 1525 hr. (70-75°F). And it should be noted that a light rain has fallen most of the afternoon. Rota, .5 mi. N. on CA-603

a mouse found dead on road at 2155 hr. 1.3 mi. WSW of the junction of 440 to Jerez on unmarked road to Rota another mouse or above was noted. 7.1 mi. E. of Jerez de La Frontera

a mouse (?) AOR on 344 @ 2135 hr. mouse

28 Sep 69 moths, praying mantises, and several Rallus noted active. 1.2 mi E. of Jedula on 342 another small mouse seen AOR. Arcos de la Frontera, 2230 hrs (+), 2 Bufo calamita (CMFS 20972 - 20973) found AOR approximately 3.3 mi. E. of Arcos on ~~344~~³⁴⁴. Jerez de la Frontera, 3.9 mi. WNW on 440 (at intersection of 440 and unmarked road to Rota) @ 0045, 29 September 1969 one Coluber hippocrepis (L.) found D.O.R. [fresh] (CMFS 20974).

30 September Spain, Cordia Prov, Rota - Jerez - San Isidro del Guadalete - El Torno, - La Barca de La Florida - Torrecera - Jerez - Rota. 1839 - 2250 hrs, 70°F - 64 or 65°F, SW wind @ 9-15 mph, 6.6 mi. E. of Jerez de la Frontera turned S. from CA-502 to unmarked road to San Isidro del Guadalete and El Torno. 1935 sunset. 2 Rana sp (probably R. perezi) seen AOR at San Isidro del Guadalete @ 1945 hrs and 65°F. San Isidro is 3.6 mi S and E of the turnoff noted above. .8 mi. E. of San Isidro, at 1951 and 66°F, 1 Bufo calamita (CMFS 20975) was collected, 1 D.O.R. Rana r. perezi was noted D.O.R. and a Discoglossus p. pictus (CMFS 20976) was collected A.O.R. .11 mi E. a Rallus was seen D.O.R. 2.0 mi. E. of San Isidro in the town of El Torno. Discoglossus p. pictus seen A.O.R. .6 mi SE of El Torno @ 2000 hrs at 65°F. 4 miles further east of El Torno the road intersects with CA-502
 1.2 mi E. of El Torno 1.2 mi E. of El Torno

30 Sept

another Rattus was noted DOR @ 2027 hr. 1.4 mi. E. of La Barca is a turnoff to CARTUJA which is an unmarked dirt road. .2 mi N. of Torrecera a centipede (ES 119) was collected @ 2045 hr @ 63-64°F. Torrecera is 3.0 mi. S. of CA-502.

8.0 mi. S. of Torrecera at 2127 hr @ 64°F a small Rana sp. (probably R. perezi) seen AOR.

10.3 mi S. of Torrecera in C-440 which goes to Alcalá de Los Zagales. A small mouse was noted D.O.R. on the unmarked road to San Lucas from Puerto de Sta. Maria about .5 mi W. of the intersection with the road which goes to Rota. Outside of the Naval Base, at 2250 hr (64-65°F) a Tarentula mauritanica was noted AOR on CA-603. (E. portion of Base by ^{Puerto} gate)

01 OCT 69

Spain, Cadiz Prov, Rota - Jerez - San Isidro - El Torno - La Barca de La Florida, - San José del Valle - Tampul - algar - Arcos de La Frontera - Jécula - Jerez - Rota.

1836 - 0005, 02 OCT 69, 66°F - 60°F. Little wind at start, cumulo-stratus cloud cover to N and E.

.8 mi. E. of San Isidro @ 1941 hr + 62°F, 1 Rana sp. (probably R. perezi) seen DOR, 2 Discoglossus p. ^{pictus} seen and one collected (CMFS 20979-81 series). .8 mi.

W. of El Torno, 1950 hr, 59°F, another Discoglossus p. ^{pictus} ~~p~~ (20979-81 series) collected. .3 mi. E. of El Torno the third of the 20979-81 series was taken at 2000, 61°F.

.6 mi E. on AOR D. p. pictus seen. .7 mi. E. another D. p. pictus seen AOR and note that several mottled

are mottled Tarentula 6 mi W. of La Barca a Rana

1 OCT 69

R. perezi (CMFS 20978) was collected @ 2017 hr and 58°F. San José del Valle, 1.1 mi. W. on CA-502 ES 120 and 121 collected (beetle and orthopteran). Algor, 1.9 mi. W. on CA-521 a Caprimulgus sp. found D.O.R. @ 2130 hr and 57°F. 1.2 mi. W. on CA-521 one Bufo calamita (CMFS 20977). A rabbit (as one described previously) seen A.O.R. 3.8 mi. W. Algor on unmarked road to Arcoz. 4.1 mi. E. Arcoz de la Frontina a Bufo calamita (20982-84 series) taken at 2207 hr, 58-60°F. The remainder of the Bufo calamita series was taken 3.8 mi. E. of Arcoz on the unmarked road to Algor at 2212 @ 61°F (A.O.R.) at 0005, 2 Oct the following: Wind W, 7-13 mph; R.H. 81%; B.P. steady at 29.900", and the temp was 60°F.

4 OCT 69

Spain, Cadiz Prov, La Barea de La Florida, 4.9 mi E. on CA-502. 0728-1020 hr, 61°F-69°F. Sunrise @ 0725. 75-80% R.H. Cumulo-nimbus clouds to E., stratus over area. 0759 Mulpalon monopessulanus skin found and small birds noted as being fairly common & active. 0809 ES 124 collected on ground. The plant life is greener, the foliage is more intense and purple flowers are appearing on ES-14. ES 23 is starting to bear a yellow flower. 0819 - - seen brake over heavy shrub layer. 0829 - flies and other flying insects are very common. ES 123 was collected on a large mushroom that was found (for the first time) today. 0848 = 63°F. 0900, (CMFS 20985) Bufo calamita 1000 - - 0915 ES-122 found on mushroom

4 OCT 69

0935, Lacerta schreiberi (CMFS 20988) shot. Body laid at 4 to absorb max. sunlight. 0942, 2 Bufo calamita (CMFS 20986-20987) collected. 0955-69°F. ES 125 collected by road @ 1020. Algor - San José del Valle (reverse order) 1.6 mi. E. San José 3 red-legged Partridge seen. Algor - Arcos. 2.8 mi. W. ~~Arcos de La Frontera~~ ^{Algor}, ES 127 found & AOR. 4.3 mi E. Arcos de La Frontera ES-126 found @ 1143 on road. 8.2 mi. E. Arcos de La Frontera a Hedgehog found AOR @ 1151 El Bosque - Benaocay - Villa Luenga - Jorgelima - Zahara - Ronda. PROV. de MALAGA rain in the mountains today. Ronda, 5.7 mi E. on C-339 @ 1521 a small fly (ES 128) collected.

5 OCT 69

Spain, Malaga - Cadiz Prov, Torremolinos - Marbella - Estepona - San Roque, - Algeciras - Vejer - Chiclana - Pto. Sta. Maria - Rota. CADIZ PROV.

Algeciras, 28.7 mi W. on N-340 Coluber hippocrepis found D.O.R. 29.7 mi. W. on N-340 C. hippocrepis found D.O.R. 35.7 mi. W. on N-340 Coprimulger found D.O.R. Vejer de La Frontera, 8.9 mi. W. on N-340 one Coluber hippocrepis (L.) found D.O.R.

5 OCT 69

fresh @ 1455. Rota - Puerto de Santa Maria - San Lucas de Barrameda - Chipiona - Rota. 1817-2155. Overcast and clear (N+E and S+W), Sunset @ 1910 hrs, 60-70°F @ 1817. Puerto de Santa Maria, 1.8 mi. ESE. 1909, 68°F, 8-10 mph wind from SW. ES 129-135 collected. 1925; 2 Melospiza ~~melodia~~ ^{melodia} #1 ... road. 66°F @ 1925 D.O.

5 OCT 69 Puerto de Santa Maria, 6.6 mi. N.E. @ 1955 one
small mouse seen A.O.R. San Lucor de Barra-
 meda, 4.9 mi. S.E. on 440 small mouse @ 2005.
 4.1 mi SE another small mouse seen active.
 4.0 mi. SE on 440 one Pelodytes punctatus (CMFS
 20992) found AOR @ 2010 and 62°F. 3.0 mi. S.E.
 a DOR Rattus was observed. 2.9 mi S.E., 63°F,
 one small mouse seen A.O.R. 1.8 mi SE. @ 2020
 an AOR Pleurodeles waltl (CMFS 20991) found A.O.R.
 3.7 mi SW on C-441 a Rattus was observed A.O.R.
 @ 2037. Chipiona, 1.7 mi S.E. @ 2052 and 65°F
 an AOR Hyla a. meridionalis (CMFS 20995) found A.O.R.
 1.9 mi. S.E. a DOR Rattus seen. 3.5 mi S.E. one
Pelodytes punctatus seen A.O.R. but not collected. 3.6 mi
 S.E. Pelodytes punctatus (CMFS 20993) found AOR @
 2104 and 66°F. 3.9 mi. S.E. Pelobates cultripes
 found D.O.R. (not saved) @ 2107 and 63°F. 4.4 mi.
 S.E. one Pelobates cultripes (CMFS 20996) found @ 2100
 and 65°F. 5.1 mi S.E. two more P. cultripes (CMFS
 20999 [14]) collected at 2114 and 67-68°F. ROTA,
 4.7 mi. NW, 2117, 65°F, Pelobates cultripes (CMFS
 20997) found AOR. 4.5 mi. NW, 2120, 65°F, P.
cultripes (20999 [14]) found. 4.4 mi NW, P. cultripes
 (CMFS 20994) found @ 2120, 66°F. Pelodytes punctatus
 4.2 mi. NW @ 2125, 66°F, Pleurodeles waltl seen
 DOR and not saved. 4.2 mi. NW, 2123, 65°F, P.
cultripes AOR (20999 [14]). 3.6 mi. NW, 2125, 65°F, P.
cultripes AOR. 3.2 mi. NW, 2125, 65°F, P. cultripes AOR.

5 OCT 69. 2.8 - 2.6 mi NW, 2137 - 2140, 65°F, P. cultripes found A.O.R. (20999 [47]) 2.5 mi NW, P. cultripes (CMFS 20998). 2.3 mi. NW, 2 small mouse seen A.O.R. and P. cultripes collected. at 65°F, and 2155 one Bufo calamita (CMFS 21000) was collected on the Naval Base of Rota.

6 OCT 69 Spain, Cadiz Prov, Rota - Pto. Sta. Maria - Pto. Real - San Fernando - Chiclana - Vejer - Trafalgar - Vejer - Medina Sidonia - Jerez de La Frontera - Rota. 1848 - 2335 hrs. Partly cloudy, 68°F. (1915 - sunset).
Trafalgar Light House, 2.7 mi N. @ 2137 and 65°F, 1 Matrix maura A.O.R. in area w/ cactus and heavy undergrowth. (CMFS 18051). Vejer de La Frontera, 1.6 mi. N.E. on C-343 @ 2100 one Caprimulgus sp. found D.O.R. 4.7 mi. NE on C-343 @ 66°F a scorpion (ES-136) found A.O.R.
12.5 km Medina Sidonia, 7.8 ^{12.1} mi. S.E. on C-343 at 65°F and 2150, one rabbit (Lepus?) seen A.O.R.
Jerez de La Frontera, 20.5 mi. S.E. on 440 one Rattus seen D.O.R. at 2220. 14.0 mi. S.E. at 2240, one A.O.R. Rattus observed. 12.5 mi. S.E. at 2250 one Pelodytes punctatus found (CMFS 18052) A.O.R. 12.3 mi. S.E. on 440, Hyla a. meridionalis (CMFS 18056) found A.O.R. at 2253. 12.2 mi. S.E., at 2255 one Pelodytes punctatus (CMFS 18053) collected. 11.3 mi. S.E. on 440 at 2300 one P. punctatus observed A.O.R. 8.2 mi. S.E. at 2321 one Plausiodon welli seen D.O.R. 8.1 mi S.E. at

6 OCT 69 2321 one Rana perezi (CMFS 18055) collected AOR on 440. 7.9 mi S.E. - 7.8 mi S.E. series of Pleurocklea walli (CMFS 18057 [11]) collected between 2326 and 2335 hrs. 7.8 mi. S.E. one Pelodytes punctatus (CMFS 18054) taken AOR on 440.

7 OCT 69 Spain, Cadiz Prov, La Barca de La Florida, 4.9 mi. E. on CA-502. 1731 - 1847 (sunset = 1905 hrs). Clear, sunny, NE wind, 10-14 mph. Flies, bees, wasps all abundant. Purple flowers quite abundant on ES 14. 1800 - millipede (ES 137) collected. The ground is noticeably more moist now, mushrooms noted to be quite common. 1813 hrs Psemmochromus a. algirus seen active. 1836 hrs. Bufo calamita (CMFS 18059) collected. 1847 -- end survey. Jerez de La Frontera, 6.9 mi W. DOR/AOR one Macropodochelone cucullatus (CMFS 18058) found at 1956 hrs. 10 mi. W. @ 2000 (65-66°F) one small mouse seen A.O.R.

9 OCT 69 Spain, Cadiz Prov, Rota - Jerez - Alcalá - Los Barrios - Algeciras - Tarifa - Ujén - Puerto de Santa Maria - Rota 1850-0040, 10 OCT 69. 67-70°F, sky overcast and it has been intermittent rain all day, 14-30 mph SW wind. Jerez de La Frontera, 6.8 mi. S.E. @ 1933 and 69°F, one Natrix maura found DOR on st. 440. 7.0 mi SE @ 1935 one Natrix maura found DOR. 19.4 mi SE @ 2010, one Rattus found D.O.R. Alcalá de Los Gazules, 10.9 mi. NW an owl found DOR. Brown louse w/ white oval spots. white unclutched

9 OCT 69

w/ black spots. Tibio-tarsus feathered to toes.

6.6 mi NW a small snake found AOR3.8 mi. W. a Rana esculenta(?) found DOR @ 2050
on 440. 1.5 mi. W. a DOR Rattus @ 2101.Alcalá de los Sagales, 4.9 mi. SE @ 2125 and 66°F
one Hyla a. meridionalis found A.O.R (CMFS 18061)10.7 mi SE one small snake found AOR at 2135.

another mouse at 2150, 14.3 mi. S.E. Los Barrion,

6.2 mi. NW @ 2214 (irrelevant) a 48" (TL) Coluberhippocrepis found DOR. Praying mantids and
locusts are common tonight. Los Barrion, 4.8 mi.S. on N-340 one DOR Rattus seen. Tarifa, 16.3mi. NW on N-340 1 Natrix maura (CMFS 18060) found
freshly DOR @ 2330. Vejer de la Frontera, 7.1 mi SEa Natrix maura found DOR on N-340. Note that3 mice (as above) were noted 4.3 mi NE Pto. Sta Maria
at 0040, 10 October 1969. 10 October 1969 provided

the first substantial rainfall for the Rota area this fall.

13 OCT 69

Spain, Cadiz Prov, Rota - Puerto de Sta. Maria - Pto Real -

Chiclona de La Frontera - Vejer - Barbate de Franco -

Pto. Real - Chiclona - Rota. Overcast, cumulus → cumulo-
nimbus clouds, SW wind @ 8-10 mph, 70°F. 9.8 mi.E. of Puerto Real on N-340 a DOR Coluber hippocrepis
was found. at 2005 hr, R.H. = 81%, B.P. of 29.865" and 1,69°F. Bufo calamita (CMFS 18064) found on Naval Base
at 2310 and 68°F. Rota, 1.6 mi. W. on Chiclona Rd.1 Pelobates cultripes (CMFS 18067) found AOR @ 2320 + 65°F.P. cultripes (CMFS 18068/177) found at 2.5 2.7 2.8

13 OCT 69

3.1, 3.3, 3.9, 4.1, and 4.3 mi. W. Rota. Pelodytes punctatus (18069-75) found 3.8, 4.3, 4.8, and 5.9 mi. W. Rota on Chipiona road. All between 2326 and 2356 hrs. @ 2405, winds were SW 8-12 mph, RH 90%, BR 29.940" + 1, 65°F. Chipiona, 1.2 + .3 mi. E. on Chipiona - Rota road 2 Rattus were observed active.

14 OCT 69

Pelodytes punctatus taken at 4.1 mi E. Chipiona (18069-75 series) 0034-0125, 4.8 mi. E. Chipiona one Discoglossus p. pictus (CMFS 18076) taken. Anura maura at 4.9 mi. E., Pelobates cultripes (18068[11]) at 5.5 mi. E. and 1 Pelodytes punctatus also taken at 0045, 5.5 mi. E. Rota ~~Rota~~, 3.5 mi W. Pelodytes punctatus (18069-75) and 2 more P. cultripes at 3.4 and 2.0 mi. W. @ 0125, Bufo calamita (18066) taken on naval base.

15 OCT 69

1900-2217, Rota - Pto. Sta. Maria - Jerez - El Torno - La Barca de La Florida - Arcos - Jécula - Jerez - Rota. @ 2217 BP 29.890, RH 57%, and 68°F. Nada

16 OCT 69

Spain, Cadiz Prov, Rota - Pto. Sta. Maria - Pto. Real - Chiclona - Vejer - Tarifa, and return. 1845-2200 hrs. Vejer de La Frontera, 10.3 mi. E. on N-340 @ 2017 Macropodoclon cucullatus (CMFS 18077) found DOR. Tarifa, 11.9 mi W. on N-340, a juv. Natrix maura found DOR. @ 2034. 10.1 mi W. on N-340 a DOR Rattus Vejer de La Frontera, 25.3 mi. E. on N-340 an adult Elaphe scalaris found @ 2123 hrs and 65°F. 13.1 mi. E. on N-340 Natrix maura (18078) found @ 2125. Another N. maura also at 2130 in almost same location. 12.8 mi E. one 48" (±) adult Malsodon monensis found DOR

- 16 OCT 69 12.4 mi. E. Malsodon monspessulanus (adult) found DOR.
 7.6 mi. M. Chiclana de La Frontera one hedgehog AOR on N-IV.
- 18 OCT 69 Spain, Cadiz Prov, Rota - Pto. Sta. Maria - Pto Real - Chiclana
 - Conil - Trafalgar - Vejer - Zahara - Tarifa - Algeciras - Los
 Barrios - Casas de Castaño - Alcalá de Los Gazules - Jerez -
 Rota. 1334 - 2400 hrs. at start: overcast w/ cumulo-
 nimbus clouds. S-SW winds @ 12-17 mph, R.H. 84%,
 B.P. 29.640 and ↓, 66°F. Rain from last night didn't
 seem to effect Puerto de Sta. Maria area much. Ground
 wet but very little standing water noted after 1400,
 it started raining -- a substantial rain. A pine
 forest was checked over in Trafalgar -- looks good
 for sauria. (Los jardines de Meca). Survey started
 after sundown and the following are the results:
 Los Barrios, 8.2 mi. W. on C-440 one Triturus
m. pygmaeus (CMFS 18134) (a spp. new for me) found @
 1911 hrs. and 68°F. 8.6 mi. W. @ 1922 and raining
 a Dicoglossus p. pictus (CMFS 18127-28) found AOR.
 8.8 mi. W. @ 1925 a Bufo b. spinosus (CMFS 18097) A.O.R.
 9.2 mi. W. a Bufo b. spinosus (CMFS 18099) found and
 9.3 mi. W. a Bufo b. spinosus (CMFS 18098). 9.9 mi. W.
 a large Salomandra s. salamandra (CMFS 18132) found @
 1938; the species is new for me in Spain. 11 mi. W. @
 1950 and 68°F a Rana a. perezi (CMFS 18117) collected.
 11.1 mi. W. at 1955 a Hyla a. meridionalis was
 found (CMFS 18123) AOR. 12.2 mi. W. another Hyla
 (CMFS 18122) and a Bufo b. spinosus (18093) collected @
 2002. 12.3 mi. W. missed Bufo b. spinosus (18092) @ 2004

18 OCT 69 14.2 mi. W. Los Barrios @ 2019 a Bufo l. spinosus (18095) collected. Casas de Costano is 14.3 mi. W. Los Barrios! 14.5 mi. W. @ 2022 a Pelodytes punctatus (18112) found. 15.0 mi. W. @ 2026, 60°F, another Salamandra s. salamandra (18129) collected in Rain. Yesterday and today provided the only really substantial rain since my arrival in Spain. Alcalá de Los Sagales, 12.8 mi. E. @ 2033 + 59°F another large Salamandra s. salamandra (18131) collected. 12.8 mi. ^{E.} another small Rana and a Discoglossus p. pictus collected @ 2034 + 59°F. 11.9 mi. E., 2041, 62°F, a Salamandra s. salamandra (18130) collected. 11.8 mi. E., 2043, a D. p. pictus was seen DOR but NOT collected. 11.5 mi. E., 2046, 63°F, a H. a. meridionalis (18121) collected. 10.8 mi E. @ 2051, 64°F, a Pelodytes punctatus (18109) found AOR. 10.8 mi. E, 2057, 62°F, another P. punctatus (18110); 10.3 mi. E., 2 Pelobates cultripes (18100-18101) found AOR and a Dead specimen noted. 10.3 mi. E., 2100, 61°F, a P. punctatus (18111) collected. 10.3 mi. E, 2104, a Rana s. perezi (18118) found AOR. 9.3 mi E, 2112, a P. punctatus (18108) AOR. 8.8 mi E, a P. punctatus collected @ 2117. 8.8 mi. E, @ 2120 a Rana s. perezi (18115) collected. 8.7 mi E, another Rana s. perezi (18116) found A.O.R. 8.6 mi. E., @ 2126 a Pelodytes punctatus (18113) A.O.R. 8.4 mi. E., 2131, ✓ Pelobates cultripes (18103) and a Rana s. perezi (18120) collected. A Pleurodeles waltl found DOR but not saved and another Discoglossus p. pictus (18124) found.

18 OCT 69

Alcalá de Los Nogales, 8.4 mi. E. on 440, a Rana r. perezi (18119) found AOR. 8.0 mi. E. @ 2139 a P. waltoni collected (18090) with a Pelodytes punctatus (18125). 8.0 mi. E. a Pelodytes punctatus found @ 2139. A Rana r. perezi and H. a. meridionalis found at same location ± 2142. 7.9 mi. E, 2145 a P. cultripes (18102), a Bufo b. spinosus, and P. waltoni (18107) collected. 7.6 mi. E, 2152, P. waltoni; 7.6 mi E, P. punctatus (18114); 7.4 mi E, Pelodytes cultripes seen AOR but not collected and a Bufo b. spinosus (18094) taken. 7.3 mi. E. P. cultripes (18104); 7.2 mi. E. P. waltoni (18089), a Pelodytes cultripes AOR. at 7.2 mi. E. and at 7.0 mi. E. a series of P. waltoni (18079-91) taken along w/ a P. cultripes (18100). 6.9 mi. E. 4 P. cultripes (18101-18104) collected. 6.1 mi. E. P. waltoni (18091) found. 0.8 mi. E., 2230, Salmonella s. salmonella (18133) found and it's still raining! Jerez de la Frontera, 6.4 mi. ^W a P. waltoni found on road to NAUBASE. Note that all Pleurodeles waltoni appear to be moving S. when captured

19 OCT 69

Spain, Cadiz Prov, Rota-Jerez-Rota. 1856-2405 hrs. Partial overcast (stratus clouds), W wind 15-20 mph, R.H. 69%, 29.580 B.P. and ↑ at 1905 hrs. Jerez de la Frontera, C-440, 4.6 mi. E. @ 1941 one Rana r. perezi found D.O.R. 5.2 mi. E. @ 1945 and 58°F one Rana r. perezi (18142) A.O.R. 5.3 mi. E. @ 1947 a small R. r. perezi found AOR. 5.5 mi. E., 1947, @ 55°F, 2 Pleurodeles waltoni (18136[48]) found A.O.R. 5.8 mi E. 1950 one Discosaurus a. nictator (18140)

19 OCT 69

A.O.R. Pleurodele waltl also takes at following
locales:

6.0 mi (1955) [5]; 6.1 mi (1956) [2];
6.1 mi (1956) [1]; 6.2 (2000) [1]; 6.3 mi [3]; 6.4 (2007)
[4]; 6.4 mi [1]; 6.5 mi (2011) [6]; 6.6 mi [3]; 6.7 mi
[2]; 6.8 mi [1]; 6.8 mi [2]; 6.9 mi (2020) [2]; 7.0 mi
[2]; 7.1 mi [1]; 7.2 mi [3]; 7.2 mi D.O.R.; 7.3 mi.
[5]; 7.5 mi [1]; 7.6 mi (2030) [3]; 7.6 mi [1];
7.7 mi. [2]; 7.8 mi D.O.R.; 8.0 mi [1]; 8.1 mi
[1]; 11.2 mi [1]; 11.4 mi. D.O.R.; 12.0 mi. (2106) [1];

all E. of Jerey also note that not all specimens
taken were noted. () = time; [] = # of specimens.

6.2 mi E. a small DiscoGLOSSUM ~~Rana~~ p. pictus (18143) was taken.

6.4 mi. E. Pelodytes punctatus (18137) taken. 6.4 mi. E.

a R. r. perezi noted at 57°F. 7.9 mi. E. H. a. merid-
ionalis was heard ± 2045. Pelobates cultripes (18141)

11.2 mi. E. @ 2058 and 57°F. 12.0 mi. E. @ 2106 and
57°F a Pelodytes punctatus (18138). 12.5 mi. E. @ 2109

and 61°F a P. punctatus (18139). 13.2 mi. E. Rana
heard calling. 13.2 mi. E. a P. punctatus seen but
not collected. 14.0 mi. E. a P. punctatus seen @ 2118

and 59°F. A sprinkle of rain presently and the heavy
rain from last night is gone from the road. The
ground is still moist. 14.2 mi. E. a Rattus seen.

14.7 mi. E. @ 2124 (57°F) a P. punctatus (18150 [17])

15.6 mi. E. @ 2132 (55°F) a H. a. meridionalis (18147).

15.9 mi. E. @ 2136 (55°F) a P. punctatus (18150 [15]) found.

Other Pelodytes punctatus at following locations

(times) and [numbers]: 17.1 mi E. (2153) [58°F].

C-440

19 OCT 69

17.2 mi E. (2150) [1]; 17.3 mi E. (2159) [2]; 17.4 mi E. (2200) [3]; 17.9 mi E. [1]; 18.0 mi E. (2209) [3]; 18.1 mi E. (2210) [1]; 18.1 mi E. (2211) [1]; 18.6 mi E. [1]; 19.8 mi E. End Survey. (L to Medina Sidonia). In addition a Bufo b. spinosus (18149) collected at 17.1 mi E., 2153, 58°F. At 17.3 mi E. H. a. meridionalis heard calling from N. of Road. At 2235 a grey rabbit w/ white tail seen in rain. 11.9 mi E. a small owl crossed the road and a Rattus was seen 10.9 mi E. Jerez, 2.2 mi W. @ 2320 a Pelobates cultripes A.O.R. 4.4 mi W. 2 P. waltl found D.O.R. 4.5 mi W. another waltl found (18144) and one waltl (18145) @ 2330, 5.7 mi W. on 440 (unmarked road to Naval Base). 7.4 mi W. a waltl found D.O.R. Bufo calamita (18148) found 4.7 mi W. Jerez and 9.1 mi W. an A.O.R. P. cultripes seen. 2405 hrs: SW wind @ 15-20 mph, R.H. 91%, B.P. 29.640 and steady, 60°F in Rota.

21 Oct 69

Spain, Cadiz Prov, Rota - Jerez - Medina Sidonia - Viera - Chiclona - Puerto Real - Rota. 1911-2330 hrs, 60°F-55°F. 7.0 mi W. Jerez de la Frontera, 1909 hrs, 59°F, 2 Pelobates cultripes observed AOR on unmarked road from Rota to C-440. Medina Sidonia, 1.4 mi SE, 2016, 60°F, 1 Discoglossus p. pictus (18151) collected. 2.5 mi SE, 2025, 61°F, 1 Pelodytes punctatus (18153) collected. 7.7 mi SE, 204, 62°F, 1 Bufo b. spinosus (18152) found A.O.R. 7.7 mi S.E., 2 insects caught (ES-138). Viera de La Frontera, 7.5 mi N.E. a DOR Bufo b. bufo observed on unpaved rd.

21 OCT 69

NE
C-343

5.4 mi. NE, 2140, 58°F, 1 Pelodytes punctatus (18154) and
at 4.8 mi NE on 343 another P. punctatus (18155)
① 2147, 57°F. Between .7 and 3 mi ^{NE} of Ujez
a heavy concentration of land snails noted. At some
spots, they completely cover the road. (± 3/4 moon, clear).
Chiclana de la Frontera, 8.3 mi S.E. on N-340 a Bufo
salamita @ 2044, 56°F. D.O.R. 2.7 mi SE, 2250, 56°F
a Pleurodeles waltli seen D.O.R.

22 OCT 69

Spain, Cadiz Prov, Rota - Jerez - Alcalá - Jerez - Rota.
1805-2330 hrs, Winds E @ 4-7 mph, R.H. 80%, B.P.
29.995 and steady, 67°F @ 1805. Alcalá de los
Zagules, 9.2 mi. NW on C-440, 1925, 1 Coluber hip-
pocrepis (L.) D.O.R. 6.7 mi. SSE, 2011, 61°F, one Pelodytes
punctatus (18158) on 440. 2.2 mi. SE, 2027, 59°F, one
Rana perezi (18156) found. .5 mi ^E SW, 2050, 62°F,
P. punctatus (18159-63) found A.O.R. .6 mi ^E SW, a D.O.R.
M. a meridionalis seen D.O.R. .8 mi ^E SW, 2057, 62°F, a
P. punctatus (18159-63) collected. 4.8 mi. NW on 440 a
P. punctatus (18159-63), 2120, 61°F collected. 5.0 mi NW,
2123, a D.O.R. P. punctatus seen D.O.R. 5.1 mi. NW, 2125, 62°F,
P. punctatus (18159-63) collected. 6.7 mi NW, 2142, 58°F, one
Pelodytes punctatus (18159-63). 7.0 mi NW, 2147, 56°F, one
P. punctatus (18159-63) found A.O.R. Between 10.6 and 11 mi
NW on unusually large aggregation of snails found. Jerez
de la Frontera, 19 mi SE, a Rattus noted alive. 18 mi
SE a grey rabbit (white tail) seen alive. 13.6 mi. SE, a
D.O.R. Rattus seen. 11.4 mi. SE another D.O.R. Rattus. 11.2
mi SE a Pelodytes punctatus observed A.O.R. another P.

22 OCT 69 punctatus @ 10.1 mi. SE on 440 @ 2250. 9.0 mi. SE. another live rabbit seen. 5.1 mi. W. on unnamed road to Naval Base, a Pleurodela walli (18157) collected while apparently migrating southward. It was noted to use its rib "projections" as a defense mechanism by "backing up" in my hands while I was transferring it to a collecting bag. 9.6 mi W. on same road a Pelobates cultripes seen AOR but not collected.

24 OCT 69 Spain, Cadiz Prov, Rota - Jerez - Jidula - Arcos - El Bosque - Arcos - Jidula - Jerez - Rota. 1915-2150 2405 hrs, 3-4 Pelobates cultripes seen AOR between Base and 440 to Jerez. 11.1 mi. NE Jerez on 342 on Rattus seen AOR. Arcos de la Frontera, 2019, 59°F, 2.8 mi SE one DOR Pelobates cultripes seen fresh DOR. 3.7 mi SE, 2227, 63°F, another DOR Pelobates cultripes found. 6.1 mi SE. a DOR Bufo calamita @ 2035 and 53°F. 6.5 mi. E., 2039, 54°F, one B. calamita (18164-68) found. 7.0 mi E., 2042, 56°F, another B. calamita (18164-68) collected. 7.6 mi E, 2046, 59°, the 3rd calamita found. 5.6 mi W. El Bosque on 344 a Pelodytes punctatus found @ 2113 and 57°F. 1.5 mi. E, 2131, 57°F, a DOR Matrix maura found fresh. At El Bosque, 2139, 54°F, a small Rana s. perezi found (18172-73). El Bosque, .3 mi. SE on CA-524, 2142, 57°F, a Discoglossus p. pictus (18170-71) found AOR under a full moon. 3.6 mi SE, 2231, 54°F, the largest Rana s. perezi (18172-73) found. Arcos de la Frontera, E, 2304, 55°F, a D. p. pictus (18170-71); 3.5 mi E., 2315, 55°F, the largest Bufo calamita (164-68) found. 3.3 mi. E., 2317, 60°F B. calamita (18164-68) collected. Jidula 2.8 mi. SW on

24 OCT 69 Rotten DOR. E wind 4-7 mph, R.H. 78%, B.P. 30.090 and steady, 63°F in Rota at 2405 hrs.

25 OCT 69 Spain, Cadiz Prov, Rota - Jerez - La Barca - San José - Tempul - Algor - El Bosque - Benaoján - Villaluenga - Villamartín - Borna - Arcos - Jécula - Jerez - Rota. 0836 - 2130. Cloudless, Sunny day at 0836. La Barca de La Florida, 0928 - 1358 hrs, 72°F - 79°F. START: Slight C. Breeze, clear, birds heard singing from area. [11:40 hr and 75°F] 0935 - a Malpaxon monspersulorum seen sunning under bush close to road. 0955, the first (and only) Psammotrochus a. alpinus (18178) shot while climbing from ground level to top of bush (4-5') to sun itself. 1009, ES 139 collected. 1014 a B. calomita feeding (18174) stomach contained 2 slugs which were disgorged upon preservation. 1043 - ES 140 collected. at 1100 hr a sub-adult Lacerta schreiberi seen active but not collected. 1107 a rabbit flushed. 1125 a juvenile lizard (sp. unknown) seen. 1137 hr, the 1st Acanthodactylus e. erythrinus (18175) collected. Several grasshoppers, moths, and lepidoptera seen active. One grey moth observed (slate grey w/ black wing spots) and a small butterfly with Black wing tips tending to orange at body level seen. Orange wing area contained black markings -- spots! 1236 -- 77°F. 1237, 2 A. e. erythrinus juveniles seen. Also 18176 was shot while actively foraging. 1256 hr the 1st Lacerta schreiberi (18179) was shot -- it ran for cover and stopped while under the bush apparently relying on its protective coloration for protection. 1301 hr, the 2nd L. schreiberi (18180) shot while sunning. 1309 hr. A. e. erythrinus (18177) shot and other juveniles

25 OCT 69

were seen active at 1320 and 1337. At 1358 = 79°F.

END--! Algor, 3.0 mi. W. on CA-521 at bridge
abutment between 1500-1557 (77°F) 4 *Lacerta muralis*
(15151-15184) collected while several others were observed.
A *Rana* - *r. perezi* (15185) caught under bridge in shallow
stagnant pool. A *Coluber hippocrepis* was noted on
the W. wall of the bridge but not collected. It was
sunning from a hole about 7' from the top (8' from
the ground level) and retreated into the hole when an
attempt was made to collect it. The majority of land
in this area is typical grazing land. Arcos de la
Frontera, 8.2 mi. E. on ^{N 344} 440 a *L. muralis* was noted
on a bridge over a shallow creek. Not collected due to
speed of animal. Villamartin, 15.1 mi. NE on 342 (339?)
a DOR *Rana r. perezi* seen DOR @ 1950 and 68°F. (?)
Borox, 3.7 mi SW, 2102, 67°F, a *Eloche* *scoloris*
(CMFS 15187) collected A.O.R. A *Chamaeleo chamaeleon*
(15186) presented to me upon return to the Base.

26 OCT 69.

Spain, Cadiz - Sevilla Provinces, Rota - San Lucar - Trebujena -
Sebriga - ~~Sebriga~~ ^{Sebriga} - Jidula - Arcos - Borox - El Cuervo - Jerez - Rota.

SEVILLA PROV: Trebujena, 2.9 mi NE on 441 one *Rattus*
@ 1245. 3.7 mi NE, 1300-1317, in a flat land area by
an irrigation canal with surface aquatic vegetation, literally
100s of *Rana r. perezi* seen and 2 juveniles collected (15188-9),
a subadult *Matris maura* seen and a juvenile (15190)
collected. 74°F, cloudless sky, slight breeze. CADIZ PROV:
a *C. hippocrepis* (L.) found DOR 12.2 mi NE of Jerez on
N-IV. Borox 6.2 mi NE on N-342 collected on west

26 OCT 69 wall of bridge over Río Barbate, Rana a. perezi noted active but Tarantula mauritanica (18191) collected at 1510 and 77°F.

05 NOV 69 Spain, Cadiz Prov, Rota - Pto de Sta. Maria - ferry - Rota.
1900-2000 hrs, 61°F, 91% R.H. E winds 5-7 mph. Nothing of interest on highway. Bufo calamita (18154) collected on base in vic. of harbor.

08 NOV 69 Spain, Cadiz Prov, Rota - Chipiona - San Lucar - Trebujena and return. 1943-2130, 61-58°F, Mucha lluvia hoy.

NOTE: Pelodytes punctatus smells a pungent mint-like odor upon capture.

Pelobates cultripes collected AOR (CMFS 18200-18207) Rota, 2.2 mi, 2.3 mi, 2.8 mi, and 3.2 mi NW.

Pelodytes punctatus (18195-18199) collected between Rota, 3.2 mi NW and Chipiona 4.2, 3.9, and 3.3 mi SE. Times Between 1952 and 2019 hrs. San Lucar de Barrameda, 1.4 mi NE on 441, one B. calamita (18209) collected and 5.4 mi NE one P. punctatus collected (18208) at 2115 and 58°F. 7.3 mi NE another P. punctatus was observed AOR.

09 NOV 69 Spain, Cadiz Prov, Pto. Sta Maria - ferry - Medina Sidonia - Benalup de Sidonia - Los Barrios and return on N-340. 1205-2000, 60°F-70°F, cumulo-nimbus clouds, sunny. Benalup de Sidonia, .8 mi SE on dirt rd, one M. c. leprosa (Schwigger) seen sunning in temp. pool. 3.5 mi SE a series of entomological specimens taken, 3.8 mi SE a scorpion collected, and a fly taken in same vicinity. Nothing of herpetological interest.

12 NOV 69

Spain, Cadiz Prov, Pto de Sta Maria - Pto Real - Chiclana - Toriña - Alarcón - Los Barrios - Alcalá - Lera - Base Naval de Rota.

12 NOV 69

1828-2255, overcast, R.H. 86%, S-SW wind 8-12 mph, 68°F.
 Los Barrion (440) .8 mi. ^W one Pelobates cultripes
 (18210) @ 2035 hrs. 1.4 mi. ^W one Pelodytes punctatus
 (18211) @ 2042 and 64°F. 6.3 mi. ^W one Bufo b. spinosus
 (18213) @ 2112 and 64°F. 8.0 mi. ^W one Triturus m.
pygmaeus (18214) @ 2120 and 63°F. Alcalá de
 Los Segales, 16.8 mi. ^W E. one Bufo b. spinosus (18216) @
 2200, 60°F. 7.6 mi E. one Rana a. perezi (18212)
 at 2220, 61°F. 7.0 mi E. one Bufo b. spinosus (18217)
 @ 2025, 61°F. Alcalá de Los Segales, 2.6 mi. W. of
 2252 2255, 63°F. one Pelodytes punctatus (18215).

19 NOV 69

Spain, Cadiz Prov, Rota-Chipiona - Rota. 1900-2100, 58-52°F,
 Raining all day, Intermittent at night.

Pelobates cultripes found AOR (cmfs 18223-18233) at
 following locations: Rota, 2.1 mi NW (1920) [57], 2.7 mi NW
 (1925) [57]; 2.6 mi NW (2005) [57], Chipiona, 2.6 mi SE
 (2026) [52]; 3.2 mi SE (2030) [52], (2) 5.6 mi SE (2046) [52],
 5.9 mi SE (2050) [52], 6.0 mi SE (2051) [52], 6.1 mi SE, +
 6.2 mi SE (2058) [52]. Pelodytes punctatus (18218 [55]) found
 at following locations: Rota, 4.9 mi NW (1940) [54], 5.0 mi NW
 (1942) [55], 5.2 mi NW (1945) [54]. Chipiona, 3.4 mi SE
 (1956) [55]; 2.5 mi SE (2025) [52], 3.4 mi SE (2034) [52];
 4.0 mi SE (2037) [52], 5.4 mi SE (2040) [51]; (2) 5.7 mi
 SE (2048) [51]; 5.9 mi SE (2051) [52], + (3) 6.1 mi SE.
Discoglossus ⁽¹⁸²¹⁹⁾ p. pictus collected 3.8 mi NW Rota @ 1930
 + 55°F, one other seen at 4.4 mi NW (1935) [52]. B. a.
meidionaki observed 4.4 mi NW Rota @ 1935 + 52°F.
Bufo calamita (18220) collected 5.6 mi SE Chipiona at 2045 +

19 NOV 69

Pleuroschelus waltl collected at 6.3 mi SE
Chipiona @ 2100 and 52°F. (CMFS 18222) while another
noted AOR @ 7.8 mi. SE. Several more Pelodytes
punctatus seen than collected!

21 NOV 69

Spain, Cadiz Prov, Puerto de Santa Maria, 1.8 mi ESE.
Vernal pond beginning to acquire water (1-2") again
and chorus of frogs noted in limited numbers.
Pelodytes cultripes (CMFS 18234) taken in area
of pond while remaining motionless (58°F) in
surface mud. A juvenile Pleuroschelus waltl (CMFS
18236) was taken on road from Pto - Naval Base,
and another P. cultripes (18235) was also taken
on that road. Frog chorus noted on base and
along perimeter road from base but specimens
calling are extremely wary and elude collection.
Breeding probably hasn't started yet but this is
an uncertainty.

INDEX TO SPECIES

ACANTHODACTYLUS

erythrurus erythrurus 5, 17, 19, 23,
24, 27, 32, 33,
34, 35, 40, 42,
43, 44, 45, 49,
72.

AMEIVA

auberi 1.

ANOLIS

sp. 1.

BUFO

bufo bufo 20, 48, 69.

spinosus 50, 65, 66, 67,
69, 75.

calamita 8, 9, 10, 12,
37, 48, 49, 50,
53, 56, 58, 59,
61, 62, 63, 64,
69, 70, 71, 72,
74, 75.

species 5.

CHALCIDES

chalcides striatus 8, 12, 38, 39.

CHAMAELEO

chamaeleon 8, 45, 73.

COLUBER

hippocrepis 16, 38, 50, 54,
55, 56, 59, 63,
70, 73.

DISCOGLOSSUS

pictus pictus 6, 7, 10, 13,

INDEX TO SPECIES (CONT'D)

DISCOGLOSSUS

pictus pictus

26, 31, 55, 56, 57,
64, 65, 66, 67, 68,
69, 71, 75.

ELAPHE

scalaris

11, 21, 50, 64, 73.

HYLA

arborea meridionalis

5, 6, 10, 11, 12,
30, 53, 60, 61, 63,
65, 66, 67, 68, 69,
75.

LACERTA

muralis

11, 12, 14, 41, 73.

schreiberi

8, 12, 14, 15, 19,
20, 21, 22, 25, 26,
27, 28, 33, 34, 41,
46, 55, 59, 72.

species

4, 10, 11, 13, 28.

LEIOCEPHALUS

macropus

1, 3, 4.

MACROPOTODON

cucullatus

37, 54, 62, 64.

MALPOLON

monspessulanus monspessulanus 11, 12, 14, 15, 20,
21, 25, 28, 30, 34,
36, 37, 38, 46, 51,
54, 58, 64, 65, 72.

MAUREMYS

casifica leprosa

24, 31, 37, 74.

NATRIX

maura

8, 15, 18, 30, 34,
38, 46, 47, 59, 61,
62-64, 71, & 73.

INDEX TO SPECIES (CONT'D)

NATRIX

species

5, 8.

PELOBATES

cultripes

7, 8, 9, 10, 48,
50, 51, 52, 53, 60,
61, 63, 64, 66, 67,
69, 71, 74, 75, 76.

PELODYTES

punctatus

13, 48, 60, 61, 62,
64, 66, 67, 68, 69,
70, 71, 74, 75, 76.

PLEURODELES

waltl

6, 8, 9, 10, 12, 13,
60, 61, 62, 67, 68,
69, 70, 71, 76.

PSAMMODROMUS

algius algius

12, 13, 14, 15, 17,
18, 19, 20, 23, 24,
27, 29, 32, 33, 38,
40, 42, 43, 44, 45,
46, 47, 49, 54, 62,
72.

RANA

esculenta

9, 31, 41, 50.

ridibunda perezii

9, 21, 23, 24, 29,
30, 31, 39, 50, 53,
55, 56, 57, 58, 62,
65, 66, 67, 68, 70,
71, 73, 75.

SALAMANDRA

salamandra salamandra

65, 66, 67.

TARENTOLA

mauritanica

5, 9, 11, 12, 25,
26, 31, 40, 57, 74.

INDEX TO SPECIES (CONT'D)

TRITURUS

marmoratus pygmaeus

65, 75.

