

SUPPLEMENT
TO THE
BIBLIOGRAPHY
OF THE
NORTH AMERICAN LAND TORTOISES
(GENUS GOPHERUS)



JOHN F. DOUGLASS

DEPT. ECOLOGY & EVOLUTIONARY BIOLOGY
UNIVERSITY OF MICHIGAN

In remembrance
of
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SMITHSONIAN
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INTRODUCTION

Additional references have come to my attention since circulation of the "Bibliography of the North American land tortoises (genus Gopherus)" in 1975 (U. S. Dep. Int., Spec. Sci. Rep. - Wildl. No. 190, 60 pp.). The following sources have been searched for references on tortoises of the genus Gopherus:

Biological Abstracts, through Vol. 62 (1976)*
BioResearch Index (including BioResearch Titles),
through Vol. 12 (1976)*
Chelonia, through Vol. 3, No. 2 (1976)
Copeia, through 1976, No. 3
Herpetologica, through Vol. 32, No. 3 (1976)
International Turtle & Tortoise Society Journal,
through Vol. 7, No. 2 (1973)
Journal of Herpetology, through Vol. 10 (1976)
The Zoological Record, through Vol. 109 (1972).

This supplement includes papers containing information on behavior and ecology of North American tortoises; as in the Bibliography of 1975, no thorough effort has been made to include papers dealing strictly with morphology, taxonomy, fossil forms, or distribution. Each numbered item in the bibliography has been read and its contents indexed by subject. The references cited in each article have also been searched (four exceptions noted on page 9) and included when appropriate. A copy of each numbered item listed is on file in the Library of Archbold Biological Station, Lake Placid, Florida.

A subject index to the contents of numbered items in the bibliography is provided on pages 9-18. Relevant page numbers are given in parentheses following reference numbers. Reference numbers 500 and below in the index designate items in the Bibliography of 1975. The index section formerly called "Thermoregulation" has been split into several categories; relevant references, including all of those from that section in the earlier work, are included under appropriate headings in the new section.

It is hoped that this supplement will serve as a useful addendum to the Bibliography of 1975.

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Possible sources of additional references suggest themselves:

- a) physiological journals, particularly those in which the scientific names of experimental subjects do not appear in titles or indices; b) local periodicals of narrow circulation and certain popular periodicals of natural history; c) literature on the burrow associates of Gopherus. A search of literature on some of the organisms associated with the burrows of G. polyphemus, for example, would yield records not included here.

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General: 82(3); 97; 462; 464. Gopherus spp.: 45(30-31); 96(553); 324(18). G. agassizii: 32(35); 45(25, 28-29); 47(564); 48(193, 195); 49(45-46); 53(372-373); 57(115, 116); 58; 81(1267); 85(262); 89(27); 96(553, 556); 109(10); 117(514); 124(325-326); 130(10); 132; 136(156); 140(83, 84); 143(32); 178(186); 194; 202(229); 254(258-259); 255(227); 256(87); 257(102); 260(276); 265(6); 272(5, 8); 284(71); 297(227, 229); 298; 303(172, 174); 304(364); 308(195, 196, 202); 310(23); 327(67); 328(143-144); 333(127, 132); 341(215); 351(10); 358(241, 245); 368; 396; 410(180, 182, 183); 414; 428; 433; 434; 444(990, 991); 459(122); 462(51); 463; 464; 465(2016); 473(4); 478; 479(7, 8, 9, 10, 11); 487; 498(13, 14-15); 514(273); 520; 525; 539(33); 544; 545; 571; 572(20); 581(640); 583; 616; 618; 632; 633(530); 634(43). G. berlandieri: 47(564); 48(177, 200); 124(331); 136(156); 178(192); 207(442); 418; 529(72); 545; 606; 634. G. flavomarginatus: 47(564); 346(23); 545; 594(11); 595(16, 18). G. polyphemus: 47(564); 48(192); 63(28); 105(453); 124(335); 133(12); 178(201); 199(58); 201(16); 217(11); 235(44-45); 242(57); 263(196); 302(122); 333(127-128); 358(249, 250); 440(444); 441(455); 497(8); 529(72); 539; 542; 545; 569(94); 583; 617.

BURROWS AS REFUGES FROM TEMPERATURE EXTREMES

General: 97; 462; 616(27). Gopherus spp.: 39(32, 33); 45(30, 31, 34); 48(191, 197); 96(553); 220(353); 545. G. agassizii: 39(32); 45(25, 28-29); 47(564); 48(193, 195, 197); 49(46); 57(115); 81(1267, 1268); 83(399-400); 89(26, 27); 96(553, 556); 109(10); 124(325-326); 125(21); 136(156); 140(83); 178(186); 255(227); 256(87); 278(62); 286(230); 297(229); 298; 303(172); 304(364); 335; 358(240); 410(182, 183); 433; 463; 464; 465(2016); 479(11, 12); 498(14-15); 514(273); 515(57); 525; 530(204); 545; 572(20); 599(283-284); 619(3); 632; 633; 634(43); 638(8). G. berlandieri: 45(23); 47(564); 48(197, 201); 136(156); 207(442); 545; 634. G. flavomarginatus: 47(564); 346(23); 594(11); 595(18). G. polyphemus: 45(20); 47(564); 48(192, 195, 197); 107; 124(335); 125(87); 178(201, 206); 183(50); 199(2); 225(28); 235(44-45); 249(23); 302(122); 539; 542; 545.

SHADE-SEEKING BEHAVIOR

General: 19(12); 462; 616(27). Gopherus spp.: 45(31). G. agassizii: 49(46); 57(115); 89(27); 96(556); 207(448); 254(259); 260(276-277); 271(5); 272(7, 8); 298; 303(172); 308(196); 327(68); 335; 358(240); 410(182); 463; 464; 479(17); 498(12, 14); 545; 591; 632; 633; 634(43); 638(12). G. berlandieri: 178(194); 207(447); 355(14); 452(20); 545; 606(453); 632(69); 634. G. polyphemus: 235(44); 539; 542; 545.

BASKING

General: 88; 97; 98; 363; 462. Gopherus spp.: 45(31-32); 88(113). G. agassizii: 45(25, 32); 48(193, 195); 49(45); 98(16); 117(514); 178(186); 255(227, 229); 272(5, 7); 298; 304(364); 327(68); 358(240); 444(992); 545; 591; 620(6); 632; 633; 634(43). G. berlandieri: 45(32); 178(192); 545; 634. G. flavomarginatus: 166; 545. G. polyphemus: 45(16, 31-32); 62(35); 63(27-28); 82(12); 178(201); 183(47); 187; 217(11); 235(44-45); 363; 402(39); 409; 539; 545.

BASKING POSTURES

General: 97; 363(24). Gopherus agassizii: 45(32); 49(45); 66(47); 117(514); 178(201); 255(227); 444(992); 545; 632; 633; 634(42). G. berlandieri: 45(32); 66(47); 178(201); 545; 634(42). G. polyphemus: 45(16, 31-32); 63(27); 66(47); 178(201); 539; 545.

EFFECTS OF RAIN ON ACTIVITY

Gopherus agassizii: 57(115); 117(514); 135(680); 178(186); 255(227); 265(6); 303(172); 308(196); 313; 328(144); 358(240); 438; 444(990, 991); 459(122); 464(186); 545; 583; 632(44, 47, 48, 54); 633(530). G. berlandieri: 452(26); 545; 591(77); 606(449). G. flavomarginatus: 279(342); 346(23); 545; 594(11); 595(18). G. polyphemus: 1; 100; 105(453); 178(201); 183(47); 192(372); 225(27); 235(44); 242(57); 268(16); 302(122); 440(444); 539(14, 23); 545; 584(174).

BODY TEMPERATURES (including preferred body temperatures, critical thermal maxima)

General: 97; 98; 248; 462; 464. Gopherus spp.: 45(30-31). G. agassizii: 96(553); 97(383); 98(16, 17); 161(443); 178(186); 207(448); 248(33, 39); 297(227); 298; 304(364); 464(168, 179-181); 545; 554(18); 591; 599(295); 632; 633; 634(43); 636. G. berlandieri: 178(192); 248(33, 39); 378; 545; 606(450, 452, 453); 632(67, 68, 69); 634. G. polyphemus: 82(12, 13); 96(553); 124(338); 178(201); 248(33, 35, 39); 409; 545; 632(67, 68, 69).

HEATING AND COOLING RATES

General: 88; 97; 98(17); 363. Gopherus agassizii: 98; 298; 409; 464; 545; 632; 633; 634(43). G. berlandieri: 545; 634. G. polyphemus: 409; 542; 545.

SHELL AS AN INSULATING SHIELD

General: 363; 632(6). Gopherus agassizii: 32(36); 297(229); 298; 410(183); 498(14); 545; 632; 633. G. polyphemus: 363; 545.

EVAPORATIVE HEAT LOSS (including panting, frothing)

General: 82(3, 33); 97; 363; 632(6). Gopherus spp.: 45(31). G. agassizii: 260(276-277); 298(124); 409(517); 464(177, 178, 185); 523; 545; 632(48, 74, 77-79); 633(530). G. polyphemus: 62(11, 35); 409(516, 517); 539(47); 542; 545.

DEATH FROM DIRECT INSOLATION

Gopherus agassizii: 109(10); 127; 178(186); 202(226); 260(277); 303(172); 335; 351(11); 358(240); 479(12); 498(13); 530(205); 545; 632(76, 90); 638(11); 640. G. berlandieri: 178(192); 207(447); 545. G. polyphemus: 545.

DEATH FROM COLD

Gopherus polyphemus: 263(196).

TEMPERATURE AS A LIMITING FACTOR

General: 82(3). Gopherus spp.: 45(7). G. agassizii: 109(10); 202(228); 298; 552; 629(303); 632(88). G. berlandieri: 231; 358(246). G. polyphemus: 160(293); 161(442); 225(27); 285.

LIGHT AS A LIMITING FACTOR

Gopherus polyphemus: 508(36, 41, 43).

WATER BALANCE (moisture requirements, drinking, water loss)

Gopherus agassizii: 514(273); 520; 523; 525; 552(7); 556; 571(140, 144); 572(19, 20); 583; 593; 595(18); 599(283, 284); 607; 632(74, 76, 77, 79, 90); 638(7). G. berlandieri: 597; 606(454). G. flavomarginatus: 594(11); 595(18). G. polyphemus: 524(92); 526; 545; 583; 610(184).

BONE REGENERATION

Gopherus agassizii: 554(123); 572(20). G. polyphemus: 554(63).

BURROW CHARACTERISTICS

Gopherus spp.: 514(68, 110, 490); 556; 586(342); 587(28). G. agassizii: 525; 528(4); 530(204, 205); 544; 545; 562(247); 572(20); 584; 614(141); 632(23, 86-87, 90); 633(530); 634(43). G. berlandieri: 529(72); 545; 606(448, 450, 453); 632(67, 69); 634(42, 43). G. flavomarginatus: 544; 594(8, 9); 595(16, 17). G. polyphemus: 125(87); 133(3-4); 501(26); 502; 508(29, 31, 33, 41); 511; 516(135); 524(92); 527; 529(72); 539; 542; 544; 545; 565(215); 566(612, 618); 568; 569(94-95); 579; 584; 585(307, 308); 586(337); 594(9); 595(17); 610(183, 184); 617.

BURROW TEMPERATURE

Gopherus spp.: 45(31); 545. G. agassizii: 260(276); 298; 545; 571(144); 599(284); 632; 633(530). G. berlandieri: 545; 632(67, 69); 634. G. flavomarginatus: 594(11); 595(18). G. polyphemus: 133(4); 545.

BURROW MOISTURE AND HUMIDITY

Gopherus spp.: 45(30); 545. G. agassizii: 599(284); 632(79). G. polyphemus: 133(3); 545; 569(94).

BURROW OCCUPANCY AND CONSTANCY

Gopherus agassizii: 525; 539(33, 39, 60); 544; 572(20); 599(475); 620(7); 632(23, 86). G. berlandieri: 539(60); 544; 606(453). G. flavomarginatus: 544; 594(9); 595(16, 17). G. polyphemus: 125(87); 133(4); 501(26); 502; 508(6, 27, 30; Tables 17, 19; Fig. 2); 524(92); 538; 539; 540; 542; 544; 545; 595(17); 617.

BURROW ASSOCIATES (commensals and obligates)

Gopherus spp.: 514(490); 556; 558(154); 586(342). G. agassizii: 530(204); 558(154); 586(337). G. berlandieri: 502; 529(72); 544. G. polyphemus: 133(1, 11-12); 138(66, 195, 303-304, 305); 358(252-253, Pl. 89); 501(26-27, 31); 502; 527; 529(72, 235, 348, 350); 537; 539(3, 11); 542; 544; 545; 546; 558(154); 565(218, 263, 312, 313, 355, 372); 566(612, 618); 579; 585(111, 13, 183, 227, 307, 308); 603; 610(184-185); 631; 643(94).

HOME RANGE

Gopherus agassizii: 539(33, 60); 572(20); 599(475); 620(7). G. berlandieri: 544; 606; 634(41, 42). G. flavomarginatus: 594(9); 606(453-454). G. polyphemus: 235(44); 508(1, 30); 524(92); 538; 539; 540; 544; 545; 606(453-454).

POPULATION DENSITY

Gopherus spp.: 594(8-9). G. agassizii: 525; 528(2); 532(19); 562(250); 572(20); 581(639, 640); 599(475); 615(9); 632(13). G. berlandieri: 606(450, 451). G. flavomarginatus: 594(8-9); 595(14, 15, 16, 17). G. polyphemus: 123(105-106); 501(26); 508; 537; 538; 539; 540; 542; 545; 546; 568; 584(174); 586(337); 621.

SOCIAL ATTRACTION (see also BURROW OCCUPANCY AND CONSTANCY)

General: 523. Gopherus spp.: 523. G. agassizii: 523; 544; 591. G. berlandieri: 544. G. polyphemus: 502; 508(8).

MIGRATIONS

Gopherus berlandieri: 606(449). G. polyphemus: 508(15, 16, 18, 24).

POSSIBLE TERRITORIALITY (see also AGONISTIC BEHAVIOR)

General: 43; 523; 539; 599(475). Gopherus spp.: 624. G. agassizii: 523; 539(60); 599(475). G. berlandieri: 539(60); 606(453). G. flavomarginatus: 539(49). G. polyphemus: 539; 540; 545.

ORIENTATION AND HOMING

Gopherus agassizii: 599(475). G. berlandieri: 606(448). G. polyphemus: 539; 542; 569(94).

DISEASES; DIETARY DEFICIENCIES

Gopherus sp.: 549. G. agassizii: 532(19); 552; 554(59, 121-123); 575. G. berlandieri: 597; 628. G. polyphemus: 554(56, 116); 555; 591(68).

INJURIES

Gopherus agassizii: 552(6). G. polyphemus: 501(26); 554(63).

PARASITES

Bacteria: Gopherus agassizii: 552. G. polyphemus: 554(116).

Fungi: Gopherus agassizii: 552(8); 575.

Nematodes: Gopherus spp.: 596. Gopherus sp.: 596. G. agassizii: 596.

G. flavomarginatus: 596. G. polyphemus: 596.

Leeches: Gopherus polyphemus: 569(94).

Ticks

Amblyomma tuberculatum on Gopherus polyphemus: 537; 538; 544; 641; 642.

Other ticks: Gopherus polyphemus: 527; 544; 566(612).

PREDATORS (see also EGG PREDATORS and USE AS FOOD BY HUMANS)

Gopherus agassizii: 525; 528(6); 532(19); 546; 572(20); 591; 593; 632(76). G. berlandieri: 546. G. polyphemus: 546; 585(183); 631.

EGG PREDATORS

Gopherus agassizii: 525. G. polyphemus: 546; 584(174).

HABITAT DESTRUCTION; URBANIZATION

Gopherus agassizii: 505; 525; 528; 532(19); 562; 572(20); 581(639); 614(140); 615; 632(13). G. polyphemus: 508; 553(75).

HIGHWAY MORTALITY

Gopherus agassizii: 572(20); 614(140). G. polyphemus: 550(366).

WANTON KILLING

Gopherus agassizii: 505; 528(4, 6); 532(19).

GASSING OF BURROWS

Gopherus polyphemus: 585(iii, 183, 227).

USE AS FOOD BY HUMANS

Gopherus agassizii: 502; 522(95, 96); 629(299). G. berlandieri: 502.
G. flavomarginatus: 522(96); 594(11); 595(15, 16). G. polyphemus: 501;
 502; 503; 508(4, 11, 38, 39, 40); 510; 537; 539(46); 543; 546; 550(366,
 367); 553(75); 567; 568; 582; 584(174); 585(iv); 625; 630(172).

USE AS PETS; CARE IN CAPTIVITY

Gopherus spp.: 524(93). G. agassizii: 520; 525; 531; 532(19); 535;
 552; 559; 562(250); 571; 572(20); 573(11); 581(639); 600; 609; 614(140);
 620. G. berlandieri: 535; 559; 604(15); 614(141). G. flavomarginatus:
 595(16). G. polyphemus: 513; 524(92); 537; 605; 630(172).

OTHER ECONOMIC IMPACTS AND USES

Gopherus agassizii: 600. G. polyphemus: 501(27, 31); 508(4);
 577(34-35); 625; 643(92).

CONSERVATION (legislation, recommendations)

Gopherus spp.: 556. G. agassizii: 52; 504; 505; 517; 525; 528; 531(8);
 532; 533; 559; 562; 571(144); 572(20); 581(639); 592; 614(141); 615;
 639. G. berlandieri: 559; 604(15); 614(141). G. flavomarginatus:
 594(7, 11); 595(15, 16, 18). G. polyphemus: 508(25, 26); 537; 538;
 585(iv, 336).

METHODS OF CAPTURE

Gopherus berlandieri: 512. G. flavomarginatus: 595(15, 16-17). G.
polyphemus: 501(26); 503; 524(100-101); 539; 566(618).

MARKING SYSTEMS

Gopherus agassizii: 581(640). G. berlandieri: 634(41). G. poly-
phemus: 539(3).