

## Literatura sobre cactáceas en general con un énfasis en cactáceas columnares

- ACKERMAN, T. L. 1979. Germination and survival of perennial plant species in the Mojave Desert. *Southwestern Naturalist*, 24: 399–408.
- ANDERSON, E. F. 2001. *The Cactus Family*. Timber Press. Portland, Oregon.
- ARECES-MALLEA, A. E. 2002. *Leptocereus* (A. Berger) Britton and Rose: a monographic study of a West Indian genus of Cactaceae (Cactoideae). University of New York, New York.
- ARELLANO, E. Y A. CASAS. 2003. Morphological variation and domestication of *Escontria chiotilla* (Cactaceae) under silvicultural management in the Tehuacán Valley, Central Mexico. *Genetic Resources and Crop Evolution*, 50: 439–453.
- ARIAS, S. Y T. TERRAZAS. 2006. Análisis cladístico del género *Pachycereus* (Cactaceae) con caracteres morfológicos. *Brittonia*, 58(3): 197–216.
- ARIAS, S., T. TERRAZAS Y K. CAMERON. 2003. Phylogenetic analysis of *Pachycereus* (Cactaceae, Pachycereeae) based on chloroplast and nuclear DNA sequence. *Systematic Botany*, 28(3): 547-557.
- ARIAS-MONTES, S. 1993. Cactáceas: Conservación y Diversidad en México. *Revista de la Sociedad Mexicana de Historia Natural*, 44: 109–115.
- ARIAS-MONTES, S., U. GUZMÁN, M. C. MANDUJANO, M. SOTO, Y J. GOLUBOV. 2005. Las especies mexicanas de cactáceas en riesgo de extinción: una comparación entre los listados NOM-ECOL-2001 (México), la lista roja (UICN) y CITES. *Cactáceas y Suculentas Mexicanas*, 50(4): 100-125.
- BENITEZ-RODRIGUEZ, J. L., A. OROZCO-SEGOVIA, Y M. ROJAS-ARECHIGA. 2004. Light effect on seed germination of four Mammillaria species from the Tehuacan-Cuicatlan Valley, central Mexico. *Southwestern Naturalist*, 49(1): 11-17.
- BENSON, L. 1969. *The cacti of Arizona*. 3rd ed. Univ. Arizona Press, Tucson. 218 pp.
- BOWERS, J. E. 1994. Natural conditions for seedling emergence of three woody species in the northern Sonoran Desert. *Madroño*, 41: 73–84.
- BOWERS, J. E. 1996. More flowers or new cladodes? Environmental correlates and biological consequences of sexual reproduction in a Sonoran Desert prickly pear cactus, *Opuntia engelmannii*. *Bulletin of the Torrey Botanical Club*, 123: 34-40.
- BOWERS, J. E. 1996. Growth rate and life span of a prickly pear cactus, *Opuntia engelmannii*, in the northern Sonoran Desert. *Southwestern Naturalist*, 41: 315-318.

- BOWERS, J. E. 1997. Demographic patterns of *Ferocactus cylindraceus* in relation to substrate age and grazing history. *Plant Ecology*, 133:37–48.
- BOWERS, J. E. 1997. The effect of drought on Engelmann prickly pear (Cactaceae: *Opuntia engelmannii* Salm.-Dyck) fruit and seed production. *Southwestern Naturalist*, 42: 240-242.
- BOWERS, J. E. 1998. Reproductive potential and minimum reproductive size of *Ferocactus wislizeni* (Cactaceae). *Desert Plants*, 14: 3-7.
- BOWERS, J. E. 2000. Does *Ferocactus wislizeni* (Cactaceae) have a between-year seed bank? *Journal of Arid Environments*, 45: 197-205.
- BOWERS, J. E. 2002. Flowering patterns and reproductive ecology of *Mammillaria grahamii* (Cactaceae), a common, small cactus in the Sonoran Desert. *Madroño*, 49: 201-206.
- BOWERS, J. E. 2005. New evidence for persistent or transient seed banks in three Sonoran Desert cacti. *Southwestern Naturalist*, 50(4): 482-487.
- BOWERS, J. E., R. H. WEBB Y R. J. RONDEAU. 1995. Longevity, recruitment and mortality of desert plants in Grand Canyon, Arizona USA. *Journal of Vegetation Science*, 6: 551–564.
- BOYLE, T. H., Y A. IDNURM. 2001. Physiology and genetics of self-incompatibility in *Echinopsis chamaecereus* (Cactaceae). *Sexual Plant Reproduction*, 13: 323–327.
- BRAVO-HOLLIS, H. 1978. *Las Cactáceas de México*. 3 Vol. UNAM. México, D. F.
- BRAVO-HOLLIS, H. Y L. SCHEINVAR. 1995. *El interesante mundo de las cactáceas*. Fondo de Cultura Económico. México.
- BRITTON, N. L., Y J. N. ROSE. 1937. *The Cactaceae*. Second edition. Carnegie Institution of Washington.
- BUSTAMANTE, E. Y A. BÚRQUEZ. 2005. Fenología y biología reproductiva de cactáceas columnares. *Cactáceas y Suculentas Mexicanas*, 50(3): 68-88.
- CARRILLO ANGELES, I. G., J. GOLUBOV, M. ROJAS-ARÉCHIGA Y M. C. MANDUJANO. 2005. Distribución y estatus de conservación de *Ferocactus robustus* (Pfeiff.) Britton et. Rose. *Cactáceas y Suculentas Mexicanas*, 50(2): 36-55.
- CASAS, A., J. CABALLERO Y A. VALIENTE-BANUET. 1999. Use, management and domestication of columnar cacti south-central Mexico: a Historical perspective. *Journal of Ethnobiology*, 19(1): 71-95.
- CASAS, A., J. CABALLERO, A. VALIENTE-BANUET, J. A. SORIANO Y P. DÁVILA. 1999. Morphological variation and the process of domestication of *Stenocereus stellatus* in Central Mexico. *American Journal of Botany*, 86(4): 522-533.

- CASAS, A., CRUSE-SANDERS, J., MORALES, E., OTERO-ARNAIZ, A. Y VALIENTE-BANUET, A. 2006. Maintenance of phenotypic diversity in managed populations of *Stenocereus stellatus* (Cactaceae) by indigenous peoples in Central Mexico. *Biodiversity and Conservation*, 15(3): 879 - 898.
- CASAS, A., OTERO-ARNAIZ, A., PÉREZ-NEGRÓN, E. Y VALIENTE-BANUET, A. 2004. Manejo y Domesticación de Cactaceas de Mesoamérica. *Revista de Zonas Áridas*, 7: 75-104.
- CASAS, A., B. PICKERSGILL, J. CABALLERO Y A. VALIENTE-BANUET. 1997. Ethnobotany and domestication in Xoconochtlí, *Stenocereus stellatus* (Cactaceae), in the Tehuacán Valley and La Mixteca Baja, Mexico. *Economic Botany*, 51(3): 279-292.
- CASAS, A., A. VALIENTE-BANUET Y J. CABALLERO. 2001. Evolutionary trends in columnar cacti under domestication in south-central Mexico. Pp. 137-163 en Fleming, T. H. y A. Valiente-Banuet (eds.). *Columnar cacti and their mutualistic: evolution, ecology and conservation*. University of Arizona Press. Tucson, Arizona.
- CASAS, A., A. VALIENTE-BANUET, A. ROJAS-MARTÍNEZ Y P. DÁVILA. 1999. Reproductive biology and the process of domestication of the columnar cactus *Stenocereus stellatus* in Central Mexico. *American Journal of Botany*, 86(4): 534-542.
- CASTETTER, E. F., and W. H. BELL. 1937. Ethnobiological studies in the American Southwest. IV. The aboriginal utilization of the tall cacti in the American Southwest. *University of New Mexico Bulletin*, 307:1-27.
- CASTILLO LANDERO, J. P. 2003. Biología de la polinización de *Stenocereus queretaroensis* (Weber.) Buxbaum., una cactácea con floración biestacional. Tesis de Licenciatura. UNAM. México, D. F. 35 pp.
- CASTREZANA, S. Y T. A. MARKOW. 2001. Arthropod diversity in necrotic tissue of three species of columnar cacti (Cactaceae). *Canadian Entomologist*, 133(3): 301-309.
- CLARK-TAPIA, R., C. ALFONSO-CORRADO, L. E. EGUIARTE Y F. MOLINA-FREANER. 2005. Clonal diversity and distribution in *Stenocereus eruca*, a narrow endemic cactus of the Sonoran Desert. *American Journal of Botany*, 92: 272-278.
- CLARK-TAPIA, R., C. ALFONSO-CORRADO, M.C. MANDUJANO Y F. MOLINA-FREANER. 2006. Reproductive consequences of clonal growth in *Stenocereus eruca*, a rare clonal cactus of the Sonoran Desert. *Evolutionary Ecology*, 20: 131-142.
- CLARK-TAPIA, R., M. C. MANDUJANO, T. VALVERDE, A. MENDOZA Y F. MOLINA-FREANER. 2005. How important is clonal recruitment for population maintenance

- in rare plant species? : the case of the narrow endemic cactus, *Stenocereus eruca*, In Baja California Sur, México. *Biological Conservation*, 124: 123-132.
- CLARK-TAPIA, R. Y F. MOLINA-FREANER. 2003. The genetic structure of a columnar cactus with a disjunct distribution: *Stenocereus gummosus* in the Sonoran Desert. *Heredity*, 90: 443-450.
- CLARK-TAPIA, R. Y F. MOLINA-FREANER. 2004. Reproductive ecology of the rare clonal cactus, *Stenocereus eruca*, in the Sonoran desert. *Plant Systematics and Evolution*, 247: 155-164.
- CONTRERAS, C., Y T. VALVERDE. 2002. Evaluation of the conservation status of a rare cactus (*Mammillaria crucigera*) through the analysis of its population dynamics. *Journal of Arid Environments*, 51: 89–102.
- CORNEJO, D. O., Y B. B. SIMPSON. 1997. Analysis of form and function in North American columnar cacti (Tribe Pachycereeae). *American Journal of Botany*, 84: 1482-1501.
- CRUZ, M. Y A. CASAS. 2002. Morphological variation and reproductive biology of *Polaskia chende* (Cactaceae) under domestication in Central México. *Journal of Arid Environments*, 51: 561-576.
- DAR, S., M. C. ARIZMENDI, Y A. VALIENTE-BANUET. 2006. Diurnal and nocturnal pollination of *Marginatocereus marginatus* (Pachycereeae: Cactaceae) in Central Mexico. *Annals of Botany*, 97(3): 423-427.
- DE LA BARRERA, E. Y P. S. NOBEL. 2003. Physiological ecology of seed germination for the columnar cactus *Stenocereus queretaroensis*. *Journal of Arid Environments*, 53: 297–306.
- DUBROVSKY, J. G. 1996. Seed hydration memory in Sonoran Desert cacti and its ecological implication. *American Journal of Botany*, 83(5): 624-632.
- DUBROVSKY, J. G. 1997. Determinate primary-root growth in seedlings of Sonoran Desert Cactaceae; its organization, cellular basis, and ecological significance. *Planta*, 203: 85-92.
- DUBROVSKY, J. G. 1998. Discontinuous hydration as a facultative requirement for seed germination in two cactus species of the Sonoran Desert. *Journal of the Torrey Botanical Society*, 125(1): 33-39.
- DUBROVSKY, J. G. Y J. L. LEON DE LA LUZ. 1996. Gall-like malformations in a columnar cactus *Pachycereus pringlei* in southern Baja California, their morphology and appearance in populations. *Journal of Arid Environments*, 33: 201–210.

- ESPARZA-OLGUÍN, L., Y T. VALVERDE. 2003. Estudio comparativo de la fenología de tres especies de *Neobuxbaumia* que difieren en su nivel de rareza. *Cactáceas y Suculentas Mexicanas* 48:68-83.
- ESPARZA OLGUÍN L., T. VALVERDE Y M. C. MANDUJANO. 2006. Comparative demographic analysis of three *Neobuxbaumia* species (Cactaceae) with differing degree of rarity. *Population Ecology*, 47(3): 229-245
- ESPARZA-OLGUÍN, L., T. VALVERDE, Y E. VILCHIS-ANAYA. 2002. Demographic analysis of a rare columnar cactus (*Neobuxbaumia macrocephala*) in the Tehuacan Valley, Mexico. *Biological Conservation*, 103: 349–359.
- EVANS, L. S. Y B. J. FEHLING. 1994. Surficial injuries of several long-lived columnar cacti of the Sonoran Desert, Mexico. *Environmental and Experimental Botany*, 34(1): 19-24.
- EVANS, L. S., J. H. SULLIVAN, Y M. LIM. 2001. Initial effects of UV-B radiation on stem surfaces of *Stenocereus thurberi* (organ pipe cacti). *Environmental and Experimental Botany*, 46: 181–187.
- FELGER, R. S. 1970. Arizona and California cacti. *Ecology*, 51(5):945-946.
- FELGER, R. S., AND C. H. LOWE. 1967. Clinal variation in the surface-volume relationships of the columnar cactus *Lophocereus schottii* in Northwestern Mexico. *Ecology*, 48(4): 530-536
- FELGER, R. S. Y M. B. MOSER. 1985. *People of the Desert and Sea. Ethnobotany of the Seri Indians*. The University of Arizona Press. Tucson, Arizona.
- FLEMING, T. H. 2000. Pollination of cacti in the Sonoran desert. *American Scientist*, 88: 432-439.
- FLEMING, T. H. 2002. Pollination biology of four species of Sonoran Desert columnar cacti. Pp. 207-224 en Fleming, T. H. y A. Valiente-Banuet (ed.). *Columnar cacti and their mutualistic: evolution, ecology and conservation*. University of Arizona Press. Tucson, Arizona.
- FLEMING, T. H. 2006. Reproductive consequences of early flowering in organ pipe cactus, *Stenocereus thurberi*. *International Journal of Plant Sciences*, 167(3): 473-481.
- FLEMING, T. H., Y J. N. HOLLAND. 1998. The evolution of obligate pollination mutualisms: senita cactus and senita moth. *Oecologia*, 114: 368-375.
- FLEMING, T. H., S. MAURICE, S. L. BUCHMANN Y M. D. TUTTLE. 1994. Reproductive biology and relative male and female fitness in a trioecious cactus, *Pachycereus pringlei* (Cactaceae). *American Journal of Botany*, 8(7):858-867.

- FLEMING, T. H., S. MAURICE Y J. L. HAMRICK. 1993. Trioecy in *Pachycereus pringlei*: the role of *Leptonycteris* bats. *Bat Research News*, 34(4): 107-108.
- FLEMING, T. H., S. MAURICE Y J. L. HAMRICK. 1998. Geographic variation in the breeding system and the evolutionary stability of trioecy in *Pachycereus pringlei* (Cactaceae). *Evolutionary Ecology*, 12: 279-289.
- FLEMING, T. H., C. T. SAHLEY, J. N. HOLLAND, J. D. NASON Y J. L. HAMRICK. 2001. Sonoran desert columnar cacti and the evolution of generalized pollination systems. *Ecological Monographs*, 71(4): 511-530.
- FLEMING, T. H., M. D. TUTTLE Y M. A. HORNER. 1996. Pollination biology and the relative importance of nocturnal and diurnal pollinators in three species of Sonoran Desert columnar cacti. *The Southwestern naturalist*, 41(3): 257-269.
- FOSTER, J. L. M. Y J. C. FOGLEMAN. 1993. Identification and ecology of bacterial communities associated with necroses of three cactus species. *Applied and Environmental Microbiology*, 59: 1-6.
- FRANCO, A. C. Y P. S. NOBEL. 1989. Effect of nurse plants on the microhabitat and growth of cacti. *Journal of Ecology*, 77(3): 870-886.
- GARVIE, L. A. J. 2006. Decay of cacti and carbon cycling. *Die Naturwissenschaften*, 93(3): 114-118.
- GENTRY, H. S. 1942. *Río Mayo plants: a study of the flora and vegetation of the valley of the Río Mayo in Sonora*. Carnegie Institution Publications, Washington, D. C.
- GIBSON, A. C. Y P. S. NOBEL. 1986. *The cactus Primer*. Harvard University Press. Cambridge.
- GODÍNEZ-ALVAREZ, H; L. RIOS-CASANOVA, Y F. PEREZ. 2005. Characteristics Of Seedling Establishment Of *Stenocereus Stellatus* (Cactaceae) In The Tehuacan Valley, Mexico. *Southwestern Naturalist*, 50(3): 375-380.
- GODÍNEZ-ALVAREZ, H. Y A. VALIENTE-BANUET. 2004. Demography of the columnar cactus *Neobuxbaumia macrocephala*: a comparative approach using population projection matrices. *Plant Ecology*, 174: 109-118.
- GODÍNEZ-ÁLVAREZ, H. Y A. VALIENTE-BANUET. 2000. Fruit-feeding behavior of the bats *Leptonycteris curasoae* and *Choeronycteris mexicana* in flight cage experiments: consequences for dispersal of columnar cactus seeds. *Biotropica*, 32(3): 552-556.
- GODÍNEZ-ÁLVAREZ, H., A. VALIENTE-BANUET Y A. ROJAS-MARTÍNEZ. 2002. The role of seed dispersers in the population dynamics of the columnar cactus *Neobuxbaumia tetetzo*. *Ecology*, 83(9): 2617-2629.

- GODÍNEZ-ÁLVAREZ, H., A. VALIENTE-BANUET Y L. VALIENTE-BANUET. 1999. Biotic interaction and the populations and the population dynamics of the long lived cactus *Neobuxbaumia tetetzo* in the Tehuacán Valley, Mexico. *Canadian Journal of Botany*, 77: 203-208.
- GODÍNEZ-ÁLVAREZ, H., T. VALVERDE, Y P. ORTEGA-BAES. 2003. Demographic trends in the Cactaceae. *The Botanical Review*, 69: 173-203.
- GRANT, V. Y K. A. GRANT. 1979. The pollination spectrum in the southwestern american cactus flora. *Plant Systematics and Evolution*, 133: 29-37.
- HAMRICK, J. L., J. D. NASON, T. H. FLEMING Y J. M. NASSAR. 2002. Genetic diversity in columnar cacti. pp 122-133. In. *Columnar Cacti and Their Mutualists: Evolution, Ecology and Conservation*. Fleming, T. H. and A. Valiente-Banuet (eds.). University of Arizona Press, Tucson Arizona.
- HARTMANN, S., J. D. NASON Y D. BHATTACHARYA. 2002. Phylogenetic origins of *Lophocereus* (Cactaceae) and the senita cactus-senita moth pollination mutualist. *American Journal of Botany*, 89(7): 1085-1092.
- HARTMANN, S., J. D. NASON Y D. BHATTACHARYA. 2001. Extensive Ribosomal DNA Genic Variation in the Columnar Cactus *Lophocereus*. *Journal of Molecular Evolution*, 53:124-134.
- HERNÁNDEZ, H. M. Y R. T. BÁRCENAS. 1995. Endangered cacti in the Chihuahuan Desert: I. Distribution patterns. *Conservation Biology*, 9(5): 1176-1188.
- HERNÁNDEZ, H. M. Y H. GÓDINEZ. 1994. Contribución al conocimiento de las cactáceas mexicanas amenazadas. *Acta Botánica Mexicana*, 26:33-52.
- HICKS, D. J., Y A. MAUCHAMP. 2000. Population Structure and Growth Patterns of *Opuntia echios* var. *gigantea* along an Elevational Gradient in the Galápagos Islands. *Biotropica*, 32(2): 235-243.
- HOLLAND, J. N., Y T. H. FLEMING. 1998. The evolution of obligate pollination mutualisms: Senita cactus and senita moth. *Oecologia*, 114(3): 368-375.
- HOLLAND, J. N., Y T. H. FLEMING. 1999. Mutualistic interactions between *Upiga virescens* (Pyrilidae), a pollination seed-consumer and *Lophocereus schottii* (Cactaceae). *Ecology*, 80: 2074-2084.
- HOLLAND, J. N., Y T. H. FLEMING. 1999. Geographic and population variation in pollinating seed-consuming interactions between senita cacti (*Lophocereus schottii*) and senita moths (*Upiga virescens*). *Oecologia*, 121:405-410.
- HUNT, D. 1999. CITES Cactaceae checklist. Royal Botanic Gardens Kew/ International Organization for Succulent Plant Study. Inglaterra.

- IBARRA-CERDEÑA, C. N., L. I. IÑIGUEZ-DÁVALOS, Y V. SÁNCHEZ-CORDERO. 2005. Pollination ecology of *Stenocereus queretaroensis* (Cactaceae), a chiropterophilous columnar cactus, in a tropical dry forest of Mexico. *American Journal of Botany*, 92:503-509.
- JORDAN, P. W. Y P. S. NOBEL. 1981. Seedling establishment of *Ferocactus acanthodes* in relation to drought. *Ecology*, 62: 901–906
- LARREA-ALCÁZAR, D. M, Y P. J. SORIANO. 2006. Spatial associations, size-distance relationships and population structure of two dominant life forms in a semiarid enclave of the Venezuelan Andes. *Plant Ecology*, 186(1): 137-149.
- LOCATELLI, E., I. C. MACHADO Y P. MEDEIROS. 1997. Floral Biology and Bat Pollination in *Pilosocereus catinifolia* (Cactaceae) in Northeastern Brazil. *Bradleya*, 15: 28-34.
- LUNA-MORALES, C. DEL C. Y J. R. AGUIRRE R. 2001. Clasificación tradicional y distribución ecológica de la pitaya Mixteca en México. *Interciencia*, 26(1):18-24.
- LOMELI-MIJES, E. Y E. P. PIMIENTA-BARRIOS. 1993. Demografía reproductiva del Pitayo (*Stenocereus queretaroensis* (Web.) Buxbaum). *Cactáceas y Suculentas Mexicanas*, 38: 13-20.
- LOU, Y. Y P. S. NOBEL. 1993. Growth characteristics of newly initiated cladodes of *Opuntia ficus-indica* as affected by shading, drought and elevated CO<sub>2</sub>. *Physiological Plant*, 87:467-474.
- LLOYD, F. E. 1907. Observations on the flowering periods of certain cacti. *Plant World*, 10(2):31-39.
- MANDUJANO, M. C., A. FLORES-MARTÍNEZ, J. GOLUBOV Y E. EZCURRA. 2002. Spatial distribution of three globose cacti in relation to different nurse-plant canopies and bare areas. *Southwestern Naturalist*, 47:162-168.
- MANDUJANO, M. C., J. GOLUBOV Y C. MONTAÑA. 1997. Dormancy and endozoochorous dispersal of *Opuntia rastrera* seeds in the southern Chihuahuan Desert. *Journal of. Arid Environments*, 36: 259-266.
- MANDUJANO, M. C., MONTAÑA, C. Y EGUIARTE, L. E. 1996. Reproductive ecology and inbreeding depression in *Opuntia rastrera* (Cactaceae) in the Chihuahuan Desert: Why are sexually derived recruitments so rare? *American Journal of Botany*, 83(1): 63–70.
- MANDUJANO, M. C., C. MONTAÑA Y M. ROJAS-ARÉCHIGA. 2005. Breaking dormancy in *Opuntia rastrera* from the Chihuahuan Desert. *Journal of Arid Environments*, 62(1): 15-21.

- MAUSETH, J. D. Y J. V. LANDRUM. 1997. Relictual vegetative anatomical characters in Cactaceae: the genus *Pereskia*. *Journal of Plant Research*, 110: 55-64.
- MCAULIFFE, J. 1991. Demographic shifts and plant succession along a late holocene soil chronosequence in the Sonoran Desert of Baja California. *Journal of Arid Environments*, 20: 165-178.
- MCAULIFFE, J. R., Y T. R. VAN DEVENDER. 1998. A 22,000 year record of vegetation change in the north-central Sonoran desert. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 141(3-4): 253-275.
- MACDOUGAL, D. T. 1905. The suwarro or tree cactus. *N.Y. Bot. Gard. J.* 6:129-133.
- MCINTOSH, M. E. 2002. Flowering phenology and reproductive output in two sister species of *Ferocactus* (Cactaceae). *Plant Ecology*, 159: 1–13.
- MCINTOSH, M. E. 2002. Plant size, breeding system, and limits to reproductive success in two sister species of *Ferocactus* (Cactaceae). *Plant Ecology*, 162: 273-288.
- MEDEL-NARVÁEZ, A., J.L. LEÓN DE LA LUZ , F. FREANER-MARTÍNEZ Y F. MOLINA-FREANER. 2006. Patterns of abundance and population structure in *Pachycereus pringlei*, a columnar cactus of the Sonoran Desert . *Plant Ecology*, 187(1): 1-14.
- MENDEZ, M., R. DURAN, I. OLMSTED, Y K. OYAMA. 2004. Population Dynamics of *Pterocereus Gaumeri*, a Rare and Endemic Columnar Cactus of Mexico *Biotropica*, 36(4): 492-504.
- MOLINA-FREANER, F., M. CERVANTES-SALAS, D. MORALES-ROMERO, S. BUCHMANN Y T.H. FLEMING. 2003. Does the pollinator abundance hypothesis explain geographic variation in the breeding system of *Pachycereus pringlei*? *International Journal of Plant Sciences*, 164: 383-393.
- MOLINA-FREANER, F. Y R. CLARK-TAPIA. 2005. Clonal diversity and allelic relationships among two closely related species of columnar cacti from the Sonoran Desert: *Stenocereus eruca* and *S. gummosus*. *International Journal of Plant Sciences*, 166: 257-264.
- MOLINA-FREANER, F., A. ROJAS-MARTÍNEZ, T. H. FLEMING Y A. VALIENTE-BANUET. 2004. Pollination biology of the columnar cactus *Pachycereus pecten-aboriginum* in north-western México. *Journal of Arid Environments*, 56(1): 117-127.
- MOLINA-FREANER, F., C. TINOCO-OJANGUREN, Y K. J. NIKLAS. 1998. Stem biomechanics of three columnar cacti from the Sonoran Desert. *American Journal of Botany*, 85(9): 1082-1090.

- MONJE, P. V. Y E. J. BARAN. 2000. First evidence of the bioaccumulation of alphaquartz in Cactaceae. *Journal of Plant Physiology*, 157: 457–460.
- MONTIEL S., Y C. MONTAÑA. 2003. Seed bank dynamics of the desert cactus *Opuntia rastrera* in two habitats from the Chihuahuan Desert. *Plant Ecology* 166: 241–248.
- MOSS, E. H. 1959. *Flora of Alberta*. University of Toronto Press. Toronto.
- MURAWSKI, D. A., T. H. FLEMING, K. RITLAND Y J. L. HAMRICK. 1994. The mating system of an autotetraploid cactus, *Pachycereus pringlei*. *Heredity*. 72:86-94.
- NABHAN, G.A. Y H. SUZÁN. 1994. Boundary effects on endangered cacti and their nurseplants in and near a Sonoran Desert biosphere reserve. In. G.P. Nabhan y J.L. Carr (eds) *Ironwood: an ecological and cultural keystone of the Sonoran Desert*. Occasional Papers in Conservation Biology No. 1. Conservation International. Washington DC.
- NABHAN, G. P. 1985. *Gathering the Desert*. University of Arizona Press. Tucson AZ.
- NARANJO, M. E., C. RENGIFO Y P. J. SORIANO. 2003. Effect of ingestion by bats and birds on seed germination of *Stenocereus griseus* and *Subpilocereus repandus* (Cactaceae). *Journal of Tropical Ecology*, 19: 19-25.
- NASON, J. D., J. L. HAMRICK Y T. H. FLEMING. 2002. Historical vicariance and postglacial colonization effects on the evolution of genetic structure in *Lophocereus*, a Sonoran Desert columnar cactus. *Evolution*, 56:2214-2226
- NASSAR, J. M., J. L. HAMRICK Y T. H. FLEMING 2003. Population genetic structure of Venezuelan chiropterophilous columnar cacti (Cactaceae). *American Journal of Botany*, 90(11): 1628-1637.
- NASSAR, J. M., F. BECK, L. DA S. L. STERNBERG Y T. H. FLEMING. 2003. Dependence on cacti and agaves in nectar-feeding bats from Venezuelan arid zones. *Journal of Mammalogy*, 84(1): 106-116.
- NASSAR, J. M., J. L. HAMRICK, Y T. H. FLEMING. 2001. Genetic variation and population structure of the mixed-mating cactus, *Melocactus curvispinus* (Cactaceae). *Heredity*, 87:69-79.
- NASSAR, J. M., J. L. HAMRICK Y T. H. FLEMING. 2002. Allozyme diversity and genetic structure of the leafy cactus (*Pereskia guamacho* [Cactaceae]). *Journal of Heredity*, 93: 193-200.
- NASSAR, J. M., J. L. HAMRICK AND T. H. FLEMING. 2003. Population genetic structure of Venezuelan chiropterophilous columnar cacti (Cactaceae). *American Journal of Botany*, 90:1628-1637.

- NASSAR, J. M., N. RAMÍREZ Y O. LINARES. 1997. Comparative pollination biology of venezuelan columnar cacti and the role of Néctar-feeding bats in their sexual reproduction. *American Journal of Botany*, 84(8): 918-927.
- NIKLAS, K.J., F. MOLINA-FREANER, C. TINOCO-OJANGUREN, C.J. HOGAN Y D.J. PAOLILLO. 2003. On the mechanical properties of the rare endemic cactus *Stenocereus eruca* and the closely related species *S. gummosus*. *American Journal of Botany*, 90: 663-674.
- NIKLAS K., F. MOLINA FREANER, C. TINOCO-OJANGUREN Y D. J. PAOLILLO. 2002. The biomechanics of *Pachycereus pringlei* root systems. *American Journal of Botany*, 89(1): 12-21.
- NOBEL, P. S. 1980. Morphology, surface temperatures, and northern limits of columnar cacti in the Sonoran Desert. *Ecology*, 61(1): 1-7.
- NOBEL, P. S. 1982. Low-temperature tolerance and cold hardening of cacti. *Ecology*, 63: 1650-1656.
- NOBEL, P. S. 1986. Relation between monthly growth of *Ferocactus acanthodes* and an environmental productivity index. *American Journal of Botany*, 73(4): 541-547.
- NOBEL, P. S. 1996. Responses of some North American CAM plants to freezing temperatures and doubled CO<sub>2</sub> concentrations: implications of global climate change for extending cultivation. *Journal of Arid Environments*, 34: 187-196.
- NOBEL, P. S. Y E. PIMIENTA-BARRIOS. 1995. Monthly stem elongation for *Stenocereus queretaroensis*: relationships to environmental conditions, net CO<sub>2</sub> uptake and seasonal variation in sugar content. *Environmental and experimental Botany*, 35(1): 17-24.
- NOLASCO, H., F. VEGA-VILLASANTE Y A. DÍAZ-RONDERO. 1997. Seed germination of *Stenocereus thurberi* (Cactaceae) under different solar irradiation levels. *Journal of Arid Environments*, 36: 123-132.
- NYFFELER, R. 2002. Phylogenetic relationships in the cactus family (Cactaceae) based on evidence from trnK/matK and trnL-trnF sequences. *American Journal of Botany*, 89: 312-326.
- OAXACA-VILLA, B., A. CASAS, Y A. VALIENTE-BANUET. 2006. Reproductive biology in wild and silvicultural managed populations of *Escontria chiotilla* (Cactaceae) in the Tehuacán Valley, central Mexico. *Genetic Resources and Crop Evolution*, 53(2): 277-287.
- OLVERA-CARRILLO Y., J. MÁRQUEZ-GUZMÁN, V.L BARRADAS, M. E. SÁNCHEZ-CORONADO Y A. OROZCO-SEGOVIA. 2003. Germination of the hard seed coated *Opuntia tomentosa* S. D., a cacti from the Mexico Valley. *Journal of Arid Environments*, 55: 29-42.

- OTERO-ARNAIZ, A., A. CASAS, C. BARTOLO, E. PÉREZ-NEGRÓN, Y A. VALIENTE-BANUET. 2003. Variations in reproductive biology of *Polaskia chichipe* (Cactaceae) associated to domestication process in the Tehuacán Valley, Central Mexico. *American Journal of Botany*, 90: 593-602.
- OTERO-ARNAIZ, A., A. CASAS, C. BARTOLO, E. PÉREZ-NEGRÓN Y A. VALIENTE-BANUET. 2003. Evolution of *Polaskia chichipe* (Cactaceae) under domestication in the Tehuacán Valley, Central Mexico: Reproductive biology. *American Journal of Botany*, 90(4): 593-602.
- OTERO-ARNAIZ, A., J. CRUSE-SANDERS, A. CASAS Y J. L. HAMRICK. 2004. Isolation and characterization of microsatellites in the columnar cactus *Polaskia chichipe* and cross-species amplification within the Tribe Pachycereeae (Cactaceae). *Molecular Ecology Notes*, 4:265-267.
- PALLEIRO, N., M. C. MANDUJANO, J. GOLUBOV. 2006. Aborted fruits of *Opuntia microdasys* (cactaceae): insurance against reproductive failure. *American Journal of Botany*, 93(4): 505-511.
- PAREDES AGUILAR, R., T. R. VAN DEVENDER Y R. S. FELGER. 2000. *Cactáceas de Sonora México: su diversidad, uso y conservación*. IMADES/Arizona-Sonora Desert Museum Press. Tucson, Arizona. 143 pp.
- PARKER, K. C. 1987. Site-related demographic patterns of organ pipe cactus populations in southern Arizona. *Bulletin of the Torrey Botanical Club*, 114(2): 149-155.
- PARKER, K. C. 1987. Seedcrop characteristics and minimum reproductive size of organ pipe cactus (*Stenocereus thurberi*) in southern Arizona. *Madroño*, 34(4): 294-303.
- PARKER, K. C. 1988. Growth rates of *Stenocereus thurberi* and *Lophocereus schottii* in southern Arizona. *Botanical Gazette*, 149(3): 335-346.
- PARKER, K. C. 1988. Environmental relationships and vegetation associates of columnar cacti in the Sonoran Desert. *Vegetatio*, 78(3): 125-140.
- PARKER, K. C. 1989. Height structure and reproductive characteristics of Senita, *Lophocereus schottii* (Cactaceae) in Southern Arizona. *The Southwestern Naturalist*, 34: 392-401.
- PARKER, K. C. 1993. Climatic effects on regeneration trends for two columnar cacti in the northern Sonoran Desert. *Annals of the Association of American Geographers*, 83(3): 452-474.
- PARKER, K. C., Y J. L. HAMRICK. 1992. Genetic diversity and clonal structure in a columnar cactus. *American Journal of Botany*, 79:86-96.

- PAVÓN, N. P. Y O. BRIONES. 2001. Phenological patterns of nine perennial plants in an intertropical semi-arid Mexican scrub. *Journal of Arid Environments*, 49(2): 265-277.
- PÉREZ-MOLPHE-BALCH, E. M. E. PÉREZ-REYES, C. A. DÁVILA-FIGUEROA, Y E. VILLALOBOS-AMADOR. 2002. In vitro propagation of three species of columnar cacti from the sonoran desert. *HortScience*, 37(4): 693-696.
- PETIT, S. 1995. The pollinators of two species of columnar cacti on Curaçao, Netherlands Antilles. *Biotropica*, 27: 538-541.
- PETIT, S. 2001. The reproductive phenology of three sympatric species of columnar cacti on Curaçao. *Journal of Arid Environments*, 49: 521-531.
- PIMIENTA-BARRIOS, E. Y R. F. DEL CASTILLO. 2002. Reproductive biology. Pp. 75-90 en P. S. Nobel (ed.). *Cacti: biology and uses*. University of California Press. California.
- PIMIENTA-BARRIOS, E., G. HERNÁNDEZ, A. DOMÍNGUES Y P. S. NOBEL. 1998. Growth and developed of the arborescent cactus *Stenocereus queretaroensis* in a subtropical semiarid environment, including effects of gibberellic acid. *Tree Physiology*, 18: 59-64.
- PIMIENTA-BARRIOS, E. Y P. S. NOBEL. 1994. Pitaya (*Stenocereus spp.*, Cactaceae): An ancient y modern fruit crop of Mexico. *Economic Botany*, 48: 76-83.
- PIMIENTA-BARRIOS, E. Y P. S. NOBEL. 1995. Reproductive characteristics of pitayo (*Stenocereus queretaroensis*) and their relationships with soluble sugars and irrigation. *Journal of American Society of Horticultural Science*, 120(6): 1082-1086.
- PIMIENTA-BARRIOS, E., Y P. S. NOBEL. 1998. Vegetative, reproductive, and Physiological adaptations to aridity of pitayo (*Stenocereus queretaroensis*, Cactaceae). *Economic Botany*, 52(4): 401-411.
- PIMIENTA-BARRIOS, E., E. PIMIENTA-BARRIOS, M. E. SALAS-GALVÁN, J. ZAÑUDO-HERNANDEZ y P. S. NOBEL. 2002. Growth and reproductive characteristics of the columnar cactus *Stenocereus queretaroensis* and their relationships with environmental factors and colonization by arbuscular mycorrhizae. *Tree Physiology*, 22: 667-674.
- PIMIENTA-BARRIOS, E., J. ZAÑUDO, E. YEPEZ, E. PIMIENTA-BARRIOS, Y P. S. NOBEL. 2000. Seasonal variation of net CO<sub>2</sub> uptake for cactus pear (*Opuntia ficus-indica*) and pitayo (*Stenocereus queretaroensis*) in a semi-arid environment. *Journal of Arid Environments*, 44: 73-83.
- RAE, J. G., Y T. A. EBERT. 2002. Demography of the endangered fragrant prickly apple cactus, *Harrisia fragans*. *International Journal of Plant Sciences*, 163(4): 631-640.

- REYES-AGÜERO, J. A., J. R. AGUIRRE Y A. VALIENTE-BANUET. 2006. Reproductive biology of *Opuntia*: A review. *Journal of Arid Environments*, 64(4): 549-585.
- REYES-OLIVAS, A., E. GARCÍA-MOYA, Y L. LÓPEZ-MATA. 2002. Cacti–shrub interactions in the coastal desert of northern Sinaloa, Mexico. *Journal of Arid Environments*, 52: 431–445.
- RODRÍGUEZ-ORTEGA, C. E., M. FRANCO Y M. C. MANDUJANO. 2006. Serotiny and seed germination in three threatened species of *Mammillaria* (Cactaceae). *Basic and Applied Ecology*, 7(6): 533-544.
- ROJAS-ARÉCHIGA, M., A. CASAS, Y C. VÁZQUEZ-YANES. 2001. Seed germination of wild and cultivated *Stenocereus stellatus* (Cactaceae) from the Tehuacán-Cuicatlán Valley, Central México. *Journal of Arid Environments*, 49: 279-287.
- RUEDAS, M., T. VALVERDE, Y J. A. ZAVALA-HURTADO. 2006. Analysis of the factors that affect the distribution and abundance of three *Neobuxbaumia* species (Cactaceae) that differ in their degree of rarity. *Acta Oecologica*, 29(2): 155-164.
- RUIZ, A., M. SANTOS, P. J. SORIANO, J. CAVELIER Y A. CADENA. 1997. Relaciones mutualísticas entre el murciélago *Glossophaga longirostris* y las cactáceas columnares en la zona arida de La Tatacoa, Colombia. *Biotropica*, 29(4): 469-479.
- RUIZ, A., M. SANTOS Y J. CAVELIER. 2000. Estudio fenológico de cactáceas en el enclave seco de la Tatacoa, Colombia. *Biotropica*, 32(3): 397-407.
- RZEDOWSKI, J. 1978. *La vegetación de México*. Limusa. México.
- SAHLEY, C. T. 1996. Bat and hummingbird pollination of an autotetraploid columnar cactus, *Weberbauerocereus weberbaueri* (Cactaceae). *American Journal of Botany*, 83(10): 1329-1336.
- SAHLEY, C. T. 2001. Vertebrate pollination, fruit production, and pollen dispersal of *Stenocereus thurberi* (Cactaceae). *The Southwestern Naturalist*, 46(3): 261-271.
- SALCEDO-PÉREZ, E. Y J. H. ARREOLA-NAVA. 1991. El cultivo del pitayo en Techaluta, Jalisco. *Cactáceas y Suculentas Mexicanas*, 26: 84-91.
- SCHLUMBERGER, B. O. Y E. I. BADANO, ERNESTO I. 2005. Diversity of floral visitors to *Echinopsis atacamensis* subs. *pasacana* (Cactaceae). *Haseltonia*, 11(1): 18-26.
- SCHMALZEL R. J., F. W. REICHENBACHER Y S. RUTMAN. 1995. Demographic study of the rare *Coryphantha robbinsorum* (Cactaceae) in southeastern Arizona. *Madroño*, 42(3): 332–348.

- SCOGIN, R. 1985. Nectar constituents of the Cactaceae. *Southwestern Naturalist*, 30(1): 77-82.
- SHREVE, F. 1917. The establishment of desert perennials. *Journal of Ecology*, 5: 210–216.
- SHREVE, F. 1931. *The cactus and its home*. Williams and Wilkins, Baltimore. 195 pp.; 43 figs.
- SHREVE, F. 1951. *Vegetation of the Sonoran Desert*. Carnegie Institution of Washington, Publication 591. 192 p.
- SHREVE, F. Y I. L. WIGGINS. 1964. *Vegetation and Flora of the Sonoran Desert*. Stanford University Press. Stanford CA.
- SIMMONS, N. B. Y A. L. WETTERER. 2002. Phylogeny and convergence in cactophilic bats. IN *Columnar cacti and their mutualists*. T. H. Fleming and A. Valiente-Banuet. Tucson, The University of Arizona Press: 87-121.
- SMITH, S. D., B. DIDDEN-ZOPFY, Y P. S. NOBEL. 1984. High-temperature response of North America cacti. *Ecology*, 65(2):643-651.
- SNYDER, E. E. Y D. J. WEBER. 1966. Causative factors of cristation in the Cactaceae. *Cactus and Succulent Journal*, 38: 27–32.
- SORTIBRÁN LUGUI, C. TINOCO OJANGUREN, TERESA TERRAZAS Y A. VALIENTE-BANUET. 2005. Does cladode inclination restrict carbon gain and microhabitat distribution in *Opuntia puberula*? *American Journal of Botany*, 92(4): 700-708.
- SOSA-FERNÁNDEZ, V. J. 1997. Dispersal and recruitment ecology of columnar cacti in the Sonoran Desert. Tesis de doctorado. University of Miami. Pp. 169.
- SOSA, V. J. Y T. H. FLEMING. 2002. Why are columnar cacti associated with nurse plants? Pp. 306-323 en Fleming, T. H. y A. Valiente-Banuet (eds.). *Columnar cacti and their mutualistic: evolution, ecology and conservation*. University of Arizona Press. Tucson, Arizona.
- SUZÁN-AZPIRI, H. Y V. J. SOSA. 2006. Comparative performance of the giant cardon cactus (*Pachycereus pringlei*) seedlings under two leguminous nurse plant species. *Journal of Arid Environments*, 65(3): 351-362.
- TAYLOR, N. P. 1991. The genus *Melocactus* in Central and South America. *Bradleya*, 9: 1-80.
- TERRAZAS, T. Y S. ARIAS. 2002. Comparative Stem Anatomy in the Subfamily Cactoideae. *The Botanical Review*, 68(4): 444-473.
- TERRAZAS, T., Y S. LOZA-CORNEJO. 2002. Phylogenetic relationships of Pachycereeae: a cladistic analysis based on anatomical-morphological data. Pp. 66-86 en Fleming, T. H. y A. Valiente-Banuet (eds.). *Columnar cacti and their*

*mutualistic: evolution, ecology and conservation*. University of Arizona Press. Tucson, Arizona.

TINOCO-OJANGUREN, C. Y F. MOLINA-FREANER. 2000. Flower orientation in *Pachycereus pringlei*. *Canadian Journal of Botany*, 78: 1489-1494.

TORRES RUIZ, A. 2003. Biología de la polinización de *Stenocereus dumortieri* (Cactaceae: Pachycereeae) en el Valle de Tehuacán y el límite sur del desierto Chihuahuense. Tesis de Maestría. UNAM. México, D. F. 96 pp.

TSCHAPKA, M., O. V. HELVERSEN, Y W. BARTHLOTT. 1999. Bat pollination of *Weberocereus tunilla*, an epiphytic rain forest cactus with functional flagelliflory. *Plant Biology*, 1: 554-559.

TSCHIRLEY, F. H., Y F. F. WAGLE. 1964. Growth rate and population dynamics of jumping cholla (*Opuntia fulgida* Engelm.). *Journal of the Arizona Academy of Science*, 3(2):67-71.

TURNER, R. M. 1990. Long-term vegetation change at a fully protected Sonoran Desert site. *Ecology*, 7(2): 464-477.

TURNER, R. M., J. E. BOWERS Y T. L. BURGESS. 1995. *Sonoran Desert Plants: an ecological atlas*. The University of Arizona Press. Tucson, Arizona.

TURNER R.M., H. WEBB R, J.E. BOWERS, Y J. R. HASTINGS. 2003. *The changing mile revisited: an ecological study of vegetation change with time in the lower mile of an arid and semiarid region*. Tucson, University of Arizona Press

VALIENTE-BANUET, A. 2002. Vulnerabilidad de los sistemas de polinización de catáceas columnares de México. *Revista Chilena de Historia Natural*, 75: 99-104.

VALIENTE-BANUET, A., MA. DEL C. ARIZMENDI, A. ROJAS-MARTÍNEZ, A. CASAS, H. GODÍNEZ ALVAREZ, C. SILVA Y P. DÁVILA-VINDIOLA. 2002. Biotic interactions and population Dynamics of columnar cacti. Pp. 225-240 en Fleming, T. H. y A. Valiente-Banuet (eds.). *Columnar cacti and their mutualistic: evolution, ecology and conservation*. University of Arizona Press. Tucson, Arizona.

VALIENTE-BANUET, A., MA. DEL C. ARIZMENDI, A. ROJAS-MARTÍNEZ Y L. DOMÍNGUEZ-CANSECO. 1996. Ecological relationships between columnar cacti and nectar-feeding bats in Mexico. *Journal of Tropical Ecology*, 12. 103-119.

VALIENTE-BANUET, A., O. BRIONES, A. BOLONGARO-CREVENNA, E. EZCURRA, Y M. ROSAS. 1991. Spatial relationships between cacti and nurse shrubs in a semi-arid environment in central Mexico. *Journal of Vegetation Science*, 2: 15–20.

VALIENTE-BANUET, A. Y E. EZCURRA. 1991. Shade as a cause of the association between the cactus *Neobuxbaumia tetetzo* and the nurse plant *Mimosa luisana* in the Tehuacan Valley, Mexico. *Journal of Ecology*, 79: 961-971.

- VALIENTE-BANUET, A., F. MOLINA-FREANER, A. TORRES, M. C. ARIZMENDI Y A. CASAS. 2004. Geographic differentiation in the pollination system of the columnar cactus *Pachycereus pecten-aboriginum*. *American Journal of Botany*, 91: 850-855.
- VALIENTE-BANUET, A., A. ROJAS-MARTÍNEZ, A. CASAS, MA. DEL C. ARIZMENDI Y P. DÁVILA. 1997. Pollination Biology of two columnar cacti (*Neobuxbaumia mezcalaensis* and *Neobuxbaumia macrocephala*) in the Tehuacan Valley, central Mexico. *American Journal of Botany*, 84(4): 452-455.
- VALIENTE-BANUET, A., A. ROJAS-MARTÍNEZ, A. CASAS, MA. DEL C. ARIZMENDI Y P. DÁVILA. 1997. Pollination biology of two winter-blooming giant columnar cacti in the Tehuacán Valley, central Mexico. *Journal of Arid Environments*, 37:331-341.
- VALIENTE-BANUET, A., F. VITE Y J. A. ZAVALA HURTADO. 1991. Interaction between the cactus *Neobuxbaumia tetetzo* and the nurse shrub *Mimosa luisana*. *Journal of Vegetation Science*, 2: 11-14.
- VAN DEVENDER, T. R. 1987. Holocene vegetation and climate in the Puerto Blanco Mountains, southwestern Arizona. *Quaternary Research*, 27(1): 51-72.
- VAN DEVENDER, T. 1990. Late quaternary vegetation and climate of the Chihuahuan Desert, United States and Mexico. Pp. 134-165 en J. Betancour, T. Van Devender y P. Martín, eds. *Packrat middens. The last 40,000 years of biotic change*. University of Arizona Press, Tucson.
- VAN DEVENDER, T. 1990. Late quaternary vegetation and climate of the Sonoran Desert, United States and Mexico. Pp. 104-133 en J. Betancour, T. Van Devender y P. Martín, eds. *Packrat middens. The last 40,000 years of biotic change*. University of Arizona Press, Tucson.
- VAN DEVENDER, T. R. 2002. Environmental history of the Sonoran Desert. Pp. 3-24 en Fleming, T. H. y A. Valiente-Banuet (eds). *Columnar cacti and their mutualistic: evolution, ecology and conservation*. University of Arizona Press. Tucson, Arizona.
- VAN DEVENDER, T. Y T. BURGESS. 1985. Late pleistocene woodlands in the Bolsón de Mapimí: a refugium for de Chihuahuan Desert biota?. *Quaternary Research*, 24: 364-353.
- WALLACE, R. S. 1995. Molecular systematics study of the Cactaceae: using chloroplast DNA variation to elucidate Cactus phylogeny. *Bradleya*, 13: 1-12
- WALLACE, R. S. 2002. The phylogeny and systematics of columnar cacti: an overview. Pp. 42-65 en Fleming, T. H. y A. Valiente-Banuet (eds). *Columnar cacti and their mutualistic: evolution, ecology and conservation*. University of Arizona Press. Tucson, Arizona.

- WALLACE, R. S., Y A. C. GIBSON, 2002. Evolution and systematics. Pp: 1-21.  
en Nobel, P.S. (ed) *Cacti: biology and uses*. University of California Press.  
Berkeley, California, USA.
- WHITTAKER, R. H. Y W. A. NIERING. 1965. Vegetation of the Santa Catalina  
Mountains, Arizona: a gradient analysis of the south slope. *Ecology*, 46(4): 429-  
452.
- WIGGINS, I. L., 1937. Effects of the January freeze upon the pitahaya in  
Arizona. *Cactus and Succulentan Journal*. 8:171.
- WOLF, B.O. Y C. MARTINEZ DEL RIO. 2003. How important are columnar cacti  
as sources of water and nutrients for desert consumers? a review. *Isotopes in  
Environmental and Health Studies*, 39(1): 53-67
- YEATON, R. Y M. CODY. 1979. The distribution of cacti along environmental  
gradients in the Sonoran and Mohave Deserts. *Journal of Ecology*, 67: 529-541.
- YETMAN, D. 1998. *Scattered Round Stones*. University of Arizona Press. Tucson.
- YETMAN, D. A., Y A. BÚRQUEZ. 1996. A tale of two species: speculation on the  
introduction of *Pachycereus pringlei* in the Sierra Libre, Sonora, Mexico by *Homo  
sapiens*. *Desert Plants*, 12: 23-32.
- YETMAN, D. Y T. R. VAN DEVENDER. 2002. *Mayo ethnobotany: land, history,  
and traditional knowledge in northwest Mexico*. University of California Press.  
California.
- ZAVALA-HURTADO, J. A., Y A. DÍAZ-SOLÍS. 1995. Repair growth, age and  
reproduction in the giant columnar cactus *Cephalocereus columna-trajani* (Karwinski  
ex. Pfeiffer) Schuman (Cactaceae). *Journal of Arid Environments*, 31: 21-31.
- ZWARTJERS, P. W. Y S. E. NORDELL. 1998. Patterns of cavity-entrance  
orientation by gilded flickers (*Colapses chrysoides*) in cardón cactus. *The Auk*,  
115(1): 119-126