

Zeitschrift: Acta Tropica
Herausgeber: Schweizerisches Tropeninstitut (Basel)
Band: 16 (1959)
Heft: 1

Artikel: Miscellanea : Taxonomic research on the etiology of hookworm : disease occurring on the shores of the Black Sea, Turkey
Autor: Oytun, H. ükrü / Güralp, Nevzat
DOI: <https://doi.org/10.5169/seals-310806>

Nutzungsbedingungen

Die ETH-Bibliothek ist die Anbieterin der digitalisierten Zeitschriften auf E-Periodica. Sie besitzt keine Urheberrechte an den Zeitschriften und ist nicht verantwortlich für deren Inhalte. Die Rechte liegen in der Regel bei den Herausgebern beziehungsweise den externen Rechteinhabern. Das Veröffentlichen von Bildern in Print- und Online-Publikationen sowie auf Social Media-Kanälen oder Webseiten ist nur mit vorheriger Genehmigung der Rechteinhaber erlaubt. [Mehr erfahren](#)

Conditions d'utilisation

L'ETH Library est le fournisseur des revues numérisées. Elle ne détient aucun droit d'auteur sur les revues et n'est pas responsable de leur contenu. En règle générale, les droits sont détenus par les éditeurs ou les détenteurs de droits externes. La reproduction d'images dans des publications imprimées ou en ligne ainsi que sur des canaux de médias sociaux ou des sites web n'est autorisée qu'avec l'accord préalable des détenteurs des droits. [En savoir plus](#)

Terms of use

The ETH Library is the provider of the digitised journals. It does not own any copyrights to the journals and is not responsible for their content. The rights usually lie with the publishers or the external rights holders. Publishing images in print and online publications, as well as on social media channels or websites, is only permitted with the prior consent of the rights holders. [Find out more](#)

Download PDF: 29.03.2026

ETH-Bibliothek Zürich, E-Periodica, <https://www.e-periodica.ch>

Taxonomic Research on the Etiology of Hookworm Disease occurring on the Shores of the Black Sea, Turkey.

By H. ŞÜKRÜ OYTUN and NEVZAT GÜRALP.

University of Ankara, Faculty of Medicine, Department of Parasitology
(Director: Prof. Dr. H. Ş. Oytun).

During the summer of 1951, one of us visited the Turkish provinces on the shores of the Black sea and studied the hookworm problems of the area. Special attention was given to the occurrence and identification of these parasites and to prophylactic measures being taken. A report of the findings was submitted to the Ministry of Health and Social Help and later results of the work were published in both Turkish and German.

A taxonomic study has been made both of the parasites we obtained from infected people and of those sent to us later by Dr. MUHARREM, Director of Health and Social Help of Trabzon. This paper reports the results of this study.

Materials and Methods.

The specimens were obtained from stools of patients who had been treated with carbon tetrachlorid at either Trabzon State Hospital or the Necator Control Dispensary at Rize. The infected individuals were originally from Akçaabat, Vakfıkebir, Of, Sürmene, Yumra, Pazar, Tirebolu, Görele, Trabzon, Çaykaya and Giresun, the majority being from Akçaabat, Vakfıkebir and Of. They were from 10 to 50 years old.

Stools were mixed with water and the parasites were removed by means of a fine brush or a needle. They were washed first in tap water, then in 10% saline solution, a brush being used to clean them properly. They were fixed in 10% formalin and preserved in 70% alcohol-glycerin solution. They were cleared in Amann's lactophenol.

Results.

Hookworms were collected from the stools of 61 patients; 55 females and 6 males. All told, 1,869 hookworms were collected and identified.

Of these 1,791 (95.83%) were identified as *Necator americanus* (STILES 1902) and 78 (4.17%) as *Ancylostoma duodenale* (DUBINI 1843). No specimens of any of the other three species known to occur in man, namely *Ancylostoma caninum* (ERCOLANI 1859), *A. brasiliense* (DE FARIA 1910), and *A. malayanum* (LANE 1916) were found.

Only *N. americanus* occurred in 48 (78.69%) of the 61 hookworm infected patients. Both *N. americanus* and *A. duodenale* were found in the other 13 (21.31%) infected patients.

The largest number of hookworms collected from a patient was 55, of these, 39 were *N. americanus* and 16 *A. duodenale*.

The largest number of *N. americanus* collected from a single individual was 52 and of *A. duodenale* 16.

Discussion.

Workers in other countries have reported that women are more susceptible to hookworms than men are. Our findings tend to substantiate this.

A. caninum is known to occur in dogs in Turkey. Since this parasite has been found in human beings in other countries, it may be that a larger series of examinations would result in finding it as a parasite of man in Turkey also.

Summary.

A taxonomic survey has been made on the hookworms collected from the infected patients on the Black sea shores of Turkey and diagnosed as *Necator americanus* and *Ancylostoma duodenale*. *N. americanus* is much more prevalent than *A. duodenale*.

References.

1. AKIL MUHTAR (1926). Türkiyenin Karadeniz vilâyetlerinde *Necator*. İstanbul Tıp Fak. Mec. 8, 321-325.
2. BELDING, D. (1942). Textbook of clinical Parasitology. New York.
3. BRUMPT, E. (1949). Précis de Parasitologie. Paris.
4. CHANDLER, A. C. (1955). Introduction to Parasitology. New York: John Wiley and Sons Inc..
5. FAUST, E. C. (1949). Human Helminthology. Philadelphia.
6. GARIN, CH., ROUSSENT, J. et GONTHIER, B. (1932). L'Ankylostomose. Paris: Masson et Cie.
7. CRAIG CH. FR. and FAUST, E. C. (1948). Clinical Parasitology. Philadelphia.
8. İSMAIL HAKKI (1926). Ankilostom-Nekator. İstanbul Tıp Fak. Mec. 8, 449-473.
9. MİMİOĞLU, M. ve AKYOL, M. (1955). Hatay Vilâyetin de Ancylostomiasis üzerinde çalışmalar. A. Ü. Vet. Fak. Dergisi. C. 2, No. 1/2.
10. NEDİM NİMET (1936). Menşei Zonguldak olan 3 *Necator* vak'ası münasebeti ile. Anadolu Klin. Yıl 4. No. 2, S. 115-117.
11. NEVEU-LEMAIRE (1936). Traité d'Helminthologie Médicale et Vétérinaire. Paris.
12. ONAT, A. R. (1932). Necatoriase. İstanbul.
13. OYTUN, H. Ş. (1949). Tıbbî Parazitoloji. Ankara.
14. OYTUN, H. Ş. (1953). Genel Parazitoloji ve Helmintoloji. Ankara.
15. OYTUN, H. Ş. (1953). Türkiyede Ancylostomiasis (Kancalı kurt) problemine dair araştırmalar. Türk İj. Tecr. Biyol. Derg. Cilt XIV. 1, 19-36.
16. OYTUN, H. Ş. (1954). The problem of Hookworm in Turkey. Acta med. turc. 5, 27-33.
17. ÖKTEM, Z. (1948). Ancylostomiasis ve Epidemiyolojisi. İstanbul Tıp Fak. Monografi. S. 4.
18. SPREHN, C. (1932). Lehrbuch der Helminthologie. Berlin.
19. STOLL, N. R. (1947). This wormy world. J. Parasit. 33, 1-19.
20. UNAT, E. K. (1953). Tıbbî Helmintoloji. Ders kitabı. İstanbul.
21. VASIF, H. (1928). Ankilostomiyaz, Nekatoriyaz. T.C. Sıhhiye ve Muaveneti İçtimaiye. No. 28. Ankara.
22. WATSON, J. M. (1953). Human Trichostrongylosis and its relationship to Ancylostomiasis in southern Irak, with comments on world incidence. Parasitology. 43, 102-109.