STUDIES IN ANTIMALARIALS
SOME N^1-(8-QUINOLYL)-N^5-PHENYL-BIGUANIDES

ANTIMALARIALS of the amino-quinoline series[1,2,3] have been attaining great importance in view of their value in treating the various types of malaria. Plasmochin,[4] Pentaquin,[2] Aralen[5], all derivatives of amino-quinoline, exert definite curative and prophylactic action against malaria. Plasmochin, however, suffers from the disadvantage of being excessively toxic.[6]

In an effort to find out a better antimalarial, innumerable derivatives of amino-quinoline are, now-a-days, being prepared and their activity against malaria studied. The quest for an ideal antimalarial by Curd and Rose and their collaborators[7] resulted in the discovery of 'Paludrine',[8] a biguanide derivative, which is the least toxic and most potent of all existing antimalarials. With a view to combining the beneficial qualities of both these types of compounds, several derivatives of the quinolyl-biguanide, type (I), have now been synthesised.

The compounds were obtained by condensing 8-amino-quinoline hydrochloride with the appropriate aryl-cyano-guanidine in alcoholic or dioxane medium by refluxing for 8-12 hours. After treatment of the reaction mixture with dilute alkali solution the base was separated and purified. The hydrochloride or the acetate, as the case may be, of the base was prepared and characterised. While the hydrochlorides contain either two or three molecules of hydrochloric acid and one or two molecules of water of crystallisation, the acetates contain only one molecule of acetic acid and no water of crystallisation.

The compounds and their physical properties are given in Table I.

Type I

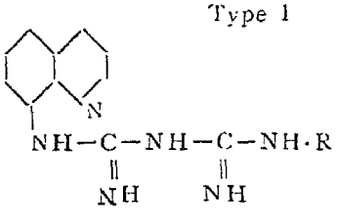

TABLE I
N^1-(8-Quinolyl)-N^5-R-biguanides

No.	R	M.P. of base °C.	Salt	M.P. of salt °C.
1	Phenyl-	190(d)	3HCl, H_2O	183(d)
2	*p*-Tolyl-	190–91(d)	2HCl, H_2O	196(d)
3	*p*-Anisyl-	179(d)	3HCl, H_2O	168(d)
4	*p*-NO_2-phenyl-	188–89(d)	2HCl, $2H_2O$	238(d)
5	*p*-AcNH-phenyl-	250(d)	CH_3COOH	237–38(d)
6	*p*-NH_2-phenyl-		CH_3COOH	151–52
7	*p*-Cl-phenyl-	191–92(d)	CH_3COOH	204–205(d)
8	*p*-Br-phenyl-	204–205(d)	CH_3COOH	212–13(d)
9	*p*-I-phenyl-	239(d)	CH_3COOH	213–14(d)

Full details will be published elsewhere.

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